```
CLEAR STORAGE 1     ,008015,022026,030037,044,049,053053N000000N00001026                                  1
CLEAR STORAGE 2     L068116,105106,110117B101/I9Z#071029C029056B026/B001/0991,001/001117I0?                2
BOOTSTRAP           ,008015,022029,036040,047054,061068,072/061039              ,0010011040               3
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION TYPE	CARD
101		01	000	JOB	** IBM 1401 SORT 7 VERSION 2 ASSIGNMENT PHASE					
102		02		CTL	641111					
103		03		ORG	087 DEFINE INDEX REGISTERS				0087	
104		04	INDEX1	DCW	@000@		3	0089		4
105		05		ORG	092				0092	
106		06	INDEX2	DCW	@000@		3	0094		5
107		07		ORG	097				0097	
108		08	INDEX3	DCW	@000@		3	0099		6
109		09		ORG	83				0083	
110		10	BL	DCW	@ @ BLOCK LENGTH		3	0085		7
111		11	CNOP	DCW	@ @ NUMBER OF MOVES TO OUTPUT AREA		1	0086		7
112		12	*		NEEDED IN ADDITION TO NCF					
113		13		ORG	90				0090	
114		14	DESCND	DCW	@ @ COLLATING SEQUENCE OF OUTPUT		1	0090		8
115		15	FLR		@ @ RECORD FORMAT INDICATOR		1	0091		8
116		16		ORG	95				0095	
117		17	NCF	DCW	@ @ NUMBER OF CONTROL FIELDS		2	0096		9
118		18		ORG	183				0183	
119		19	BO	DCW	@ @ OUTPUT BLOCKING FACTOR		3	0185		10
120		20	URPI	DCW	@ @ UNREADABLE RECORD PROCEDURE		1	0186		10
121		21	LDI		@ @ DENSITY INDICATOR		1	0187		10
122		22	ITLI		@ @ INPUT TAPE LABEL INDICATOR		1	0188		10
123		23	OTLI	DCW	@ @ OUTPUT TAPE LABEL INDICATOR		1	0189		10
124		24	HTMO	DCW	@ @ TAPE MARK AFTER OUTPT HDR LBL		1	0190		10
125		25	TL		@ @ INPUT TRAILER LABEL INDICATOR		1	0191		10
126		26	TLO		@ @ TRAILER LABEL OPTION		1	0192		11
127		27	PI	DCW	@ @ PADDING INDICATOR		1	0193		11
128		28	RCDIST	DCW	@000@ 3 DIGIT POS OF RCC		3	0196		11
129		29	B		@ @ SORT BLOCKING FACTOR		3	0199		11
130		30		ORG	335				0335	
131		31	CFIRE	DCW	@001@ RIGHT EDGE OF CF1		3	0337		12
132		32	I1TUN	DCW	@ @ WORK TAPE UNIT NUMBERS		1	0338		12
133		33	I2TUN		@ @ 2ND INPUT TAPE UNIT		1	0339		12
134		34	I3TUN		@ @ 3RD INPUT TAPE UNIT		1	0340		12
135		35	MI1TUN		@ @ 1ST WORK TAPE UNIT		1	0341		12
136		36	MI2TUN		@ @ 2ND WORK TAPE UNIT		1	0342		12
137		37	MI3TUN		@ @ 3RD WORK TAPE UNIT		1	0343		12
138		38	MS		@ @ MACHINE SIZE		1	0344		13
139		39	L		@ @ RECORD LENGTH		3	0347		13
140		40	GPMARK		@I9Y@ GROUPMARK-WORDMARK LOCATION		3	0350		13
141		41	CF1SL		@ @ CONTROL FIELD STARTING LOCNS		3	0353		13
142		42	CF2SL		@ @ 3 CHAR HIGH ORDER POSITIONS		3	0356		13
143		43	CF3SL		@ @ TAKEN FROM CONTROL CARDS		3	0359		13
144		44	CF4SL		@ @		3	0362		13
145		45	CF5SL		@ @		3	0365		14
146		46	CF6SL		@ @		3	0368		14
147		47	CF7SL		@ @		3	0371		14

SEQ	PG	LIN	LABEL	OP	OPERANDS		SFX	CT	LOCN	INSTRUCTION TYPE	CARD
148		48	CF8SL		@ @			3	0374		14
149		49	CF9SL		@ @			3	0377		14
150		50	CF0SL		@ @			3	0380		14
151		51	IF1F2		@ @	DISTANCE BETWEEN CONTROL FIELDS		3	0383		14
152		52	IF2F3		@ @			3	0386		15
153		53	IF3F4		@ @			3	0389		15
154		54	IF4F5		@ @			3	0392		15
155		55	IF5F6		@ @			3	0395		15
156		56	IF6F7		@ @			3	0398		15
157		57	IF7F8		@ @			3	0401		15
158		58	IF8F9		@ @			3	0404		15
159		59	IF9F0		@ @			3	0407		16
160		60	TPAVLM		@ @	USER AREA ADDRESS PHASE 2		5	0412		16
161		61	LABELS	DCW	@ @	WORKTAPE LABEL INDICATOR		1	0413		16
162		62	LBBUCK	DCW	@ @			1	0414		16
163		63	CENSIG	DCW	@ @			1	0415		16
164		64	UNLOAD	DCW	@ @	REWIND AND UNLOAD OPTION		1	0416		16
165		65	WLBKT	DCW	@ @	WORK TAPE HEADER LABEL INDICATOR		1	0417		16
166		66	THLTMO	DCW	@ @	TAPEMARK INDICATOR -WORK TAPES		1	0418		17
167		67	OHLOP	DCW	@ @	OUTPUT HEADER CHECKING INDICATOR		1	0419		17
168		68	FLSROP	DCW	@ @	FILE SERIAL INDICATOR		1	0420		17
169		69	RLSQOP	DCW	@ @	REEL SEQUENCE UPDATE INDICATOR		1	0421		17
170		70	TPSROP	DCW	@ @	TAPE SERIAL ASSGMNT INDICATOR		1	0422		17
171		71	HDRTAG	DCW	@1HDR @	HEADER TAG OF OUTPUT HDR CARD		5	0427		17
172		72	TPSERL	DCW	#5	NEW TAPE SERIAL NO.		5	0432		17
173		73	FLSERL	DCW	#5	OUTPUT HEADER FILE SERIAL NO.		5	0437		18
174		74		DC	@-@			1	0438		18
175		75	REELSQ	DCW	#3	OUTPUT HDR REEL SEQUENCE NO.		3	0441		18
176		76		DC	@ @			1	0442		18
177		77	FLNAME	DC	#10	OUTPUT HEADER FILE NAME		10	0452		18
178		78	OHDATE	DC	@ @	OUTPUT HEADER DATE		5	0457		18
179		79		DC	@-@			1	0458		18
180		80	RTCYCL	DC	#3	RETENTION CYCLE BUCKET		3	0461		18
181		81		DC	@ @			1	0462		18
182		82		DCW	#1			1	0463		18
183		83	LBLBKT	DCW	#33	INPUT HEADER LABEL BUCKET		33	0496		19
184		84	DATE	DCW	#5	CURRENT DATE- YEAR AND DAY		5	0501		19
185		85		DCW	#25			25	0526		20
186		86	RCMKPI	DCW	@ @	RECORD MARK IN PADDING RECORDS		1	0527		20
187		87	CNSQ		@ @	SEQUENCE COUNT		6	0533		20
188		88	CTNR	DCW	@ @	RECORD COUNT		6	0539		20
189		89	CNOS1		@ @	TAPE SWITCH COUNT		6	0545		21
190		90	PDCPUT	DCW	000	PAD COUNT		3	0548		21
191		91	OUTMOD	DCW	@M@	OUTPUT MODE		1	0549		21
192		92	CSTCNS	DCW	@I7V@	PH2 3 POS. USER AREA		3	0552		21
193		93	STRTMP	ORG	*				0553	0553	
194		94	RTAIN	DCW	@ @	RETAIN RCC OPTION		1	0553		21
195		95	COMET	DCW	@ @			3	0556		21
196		96	COMETF	DCW	#3			3	0559		21
197		97	RLIIND	DCW	@ @			1	0560		22

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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
198    98   KRUNCH DCW   @ @              VLR LOAD MODE INPUT IND IF RLI      1  0561                    22
199    99   *              NOT IN FIRST RCD POS AND NOT CF
200  1 00   STPH2  ORG   *                                                    0562   0562
201  1 01   INMODE DCW   @M@              INPUT MODE-M- UNLESS SPECIFIED      1  0562                    22
202  1 02   LRG2G1 DCW   @   @                                               3  0565                    22
203  1 03   TPV1   DCW   #3               PH1 3 POS USER AREA                 3  0568                    22
204  1 04   INTOUT DCW   000                                                 3  0571                    22
205  1 05   LBLSAM DCW   @ @              IF 1 - INP HDR IS OPT HDR           1  0572                    22
206  1 06   CCB    DCW   @   @            16K COMPLEMENT OF SORT BL FAC       3  0575                    23
207  1 07   C16000       16000                                               5  0580                    23
208  1 08   K16000       16000                                               5  0585                    23
209  1 09   TCOMET DCW   @12100@                                             5  0590                    23
210  1 10   TCOMTF DCW   @12100@                                             5  0595                    23
211  1 11   KLTD         5520000                                             7  0602                    23
212  1 12   KTD          15350000                                            8  0610                    23
213  1 13   KHTD   DCW   @220800000@                                        8  0618                    24
214  1 14   KKK3   DCW   #1                                                  1  0619                    24
215  1 15   EXPAND SBR   CZONE&10          CONVERT THREE DIGIT ADDRESS        4  0620  H 657             24
216  1 16          MLC   CONVRT,CONSTX     TO FIVE DIGIT NUMBER               7  0624  M 698 679         24
217  1 17          MLC   @00   @,HOLD                                        7  0631  M 684 693         24
218  1 18          MLNS  CONVRT,HOLD                                        7  0638  D 698 693         24
219  1 19          MLNS                                                     1  0645  D                 24
220  1 20          MLNS                                                     1  0646  D                 25
221  1 21   CZONE  C     HOLD,CONSTX                                         7  0647  C 693 679         25
222  1 22          BE    0                                                  5  0654  B 000 S           25
223  1 23          MA    @?0?@,CONSTX                                       7  0659  # 687 679         25
224  1 24          A     @1@,HOLD-3                                         7  0666  A 688 690         25
225  1 25          B     CZONE                                              4  0673  B 647             25
226  1 26   CONSTX DCW   #3                                                  3  0679                    25
227  1 27          LTORG *                                                           0680
       217          DCW   @00   @                                          5  0684           LIT     26
                          @?0?@                                           3  0687           LIT     26
                          @1@                                             1  0688           LIT     26
228  1 28   HOLD   DCW   #5                                                 5  0693                    26
229  1 29   CONVRT DCW   #5                                                 5  0698                    26
230  1 30          ORG   3975                                                      3975
231  1 31   MFS    DCW   @       @        MAXIMUM FILE SIZE                  7  3981                    27
232  1 32   NOINTP DCW   @  @              NUMBER OF INPUT TAPES              2  3983                    27
233  1 33   BI           @   @            INPUT BLOCKING FACTOR              3  3986                    27
234  1 34   TLCF         #3               TOTAL LENGTH OF ALL CONTROL FLDS   3  3989                    27
235  1 35   MINREC       @   @            MINIMUM RECORD LENGTH              3  3992                    27
236  1 36   MAXBLK       @   @            MAXIMUM BLOCKING FACTOR            3  3995                    27
237  1 37   EFS          @       @        ESTIMATED FILE SIZE                7  4002                    27
238  1 38   COMPL        @   @            COMP OF L                          3  4005                    28
239  1 39   CMNREC       @   @            COMP OF MIN RECORD                 3  4008                    28
240  1 40   CMXBLK       @   @            COMP OF MX BLK SIZE                3  4011                    28
241  1 41   CF1RE        @   @            UNITS LOCATION OF CONTROL FIELD    3  4014                    28
242  1 42   CF2RE        @   @                                               3  4017                    28
243  1 43   CF3RE        @   @                                               3  4020                    28
244  1 44   CF4RE  DCW   @   @                                               3  4023                    28
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
245  1 45   CF5RE         @   @                                       3  4026                      29
246  1 46   CF6RE         @   @                                       3  4029                      29
247  1 47   CF7RE         @   @                                       3  4032                      29
248  1 48   CF8RE         @   @                                       3  4035                      29
249  1 49   CF9RE         @   @                                       3  4038                      29
250  1 50   CF0RE         @   @                                       3  4041                      29
251  1 51   CCCFRE        @   @                                       3  4044                      29
252  1 52   FSLST  DCW    CF2SL              ADD 3 TO THIS FOR EACH CTL FIELD  3  4047  356          30
253  1 53   K5TOK3 SBR    CMBCK&3            CONVERT FIVE DIGIT NUMBER  4  4048  H 06Z            30
254  1 54          MLZS   @1@,CONVRT         TO THREE DIGIT ADDRESS     7  4052  Y 12X 698        30
255  1 55   SUBBB  S      @1@,CONVRT-3                                   7  4059  S 12X 695        30
256  1 56   CMBCK  BM     0,CONVRT-3                                     8  4066  V 000 695 K      30
257  1 57          MA     @|00@,CONVRT                                  7  4074  # 13| 698        30
258  1 58          B      SUBBB                                         4  4081  B 05Z            31
259  1 59   PRMSX  DCW    @OVERSIZE INPUT BLOCKING-RESTART@            31  4115                     31
260  1 60   DELEXC DCW    @ @                                           1  4116                     31
261  1 61   PRMDIN DCW    @ @                INPUT MODE                 1  4117                     31
262  1 62   PRMDOT DCW    @ @                OUTPUT MODE                1  4118                     31
263  1 63   SLRCC  DCW    #3                                            3  4121                     32
264  1 64   UAPHZ1 DCW    #5                 USER AREA PHASE 1          5  4126                     32
265  1 65          LTORG  *                                                    4127
                   DCW    @1@                                           1  4127          LIT        32
                          @|00@                                         3  4130          LIT        32
266  1 66          ORG    700                                                  0700
267  1 67   READCC CS     80                                            4  0700  / 080            33
268  1 68          R                         READ CONTROL CARD #1       1  0704  1                33
269  1 69          CS     332                                           4  0705  / 332            33
270  1 70          CS                                                   1  0709  /                33
271  1 71          SW     201                                           4  0710  , 201            33
272  1 72          MLC    080,280                                       7  0714  M 080 280        33
273  1 73          W                         PRINT CONTENTS OF CONTROL CARD  1  0721  2            33
274  1 74          CC     K                                             2  0722  F K              34
275  1 75          BCE    NEXTST,027,4       CLEAR STORAGE ABOVE 8K     8  0724  B 779 027 4      34
276  1 76          BCE    NEXTST,27,                                    8  0732  B 779 027        34
277  1 77          BCE    CLR12,027,5                                   8  0740  B 768 027 5      34
278  1 78   CLR    CS     15999                                         4  0748  / I9I            34
279  1 79          SBR    CLR&3                                         4  0752  H 751            34
280  1 80          BWZ    NEXTST,CLR&3,S                                8  0756  V 779 751 S      35
281  1 81          B      CLR                                           4  0764  B 748            35
282  1 82   CLR12  SBR    CLR&3,11999                                   7  0768  H 751 I9R        35
283  1 83          B      CLR                                           4  0775  B 748            35
284  1 84   *                                  PLACE CONTROL CARD CONSTANTS
285  1 85   *                                  IN DEFINED AREAS
286  1 86   NEXTST MLC    57,FLR             FIXED OR VARIABLE LENGTH RECORDS  7  0779  M 057 091  35
287  1 87          MLC    75                 COLLATING SEQUENCE         4  0786  M 075            35
288  1 88          MLC    29,NCF             TOTAL NUMBER OF CONTROL FIELDS  7  0790  M 029 096  36
289  1 89          MLC    26,PI              PADDING INDICATOR CHARACTER  7  0797  M 026 193     36
290  1 90          MLC                       OUTPUT TR LAB INDICATOR    1  0804  M                36
291  1 91          MLC                       INPUT TRAILER LABEL BUCKET  1  0805  M               36
292  1 92          MLC                       TAPEMARK ON OUTPUT HDR LAB  1  0806  M               36
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SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
293  1 93           MLC                    OUTPUT HEADER LAB INDICATOR      1  0807  M                   36
294  1 94           MLC                    INPUT TAPE HEADER LABEL INDICATOR 1 0808  M                   36
295  1 95           MLC                    DENSITY INDICATOR                1  0809  M                   37
296  1 96           MLC                    UNREADABLE RECORD PROCEDURE      1  0810  M                   37
297  1 97           MLC                    OUTPUT BLOCKING FACTOR           1  0811  M                   37
298  1 98           SW    58,30                                             7  0812  , 058 030           37
299  1 99           MLC   61,CONVRT        CONVERT RCC TO 3 DIGIT           7  0819  M 061 698           37
300  2 00           B     K5TOK3                                            4  0826  B 04Y               37
301  2 01   IRENE   MLC   CONVRT,RCDIST                                     7  0830  M 698 196           37
302  2 02           MLC   27,MS            MACHINE SIZE                     7  0837  M 027 344           38
303  2 03           MLC   6                INITIALIZE TAPE BUCKETS          4  0844  M 006               38
304  2 04           MLC                    6 TO MI3TUN,5 TO MI2TUN          1  0848  M                   38
305  2 05           MLC                    4 TO MI1TUN, 3 TO I3TUN          1  0849  M                   38
306  2 06           MLC                    2 TO I2TUN, 1 TO I1TUN           1  0850  M                   38
307  2 07           MLC                                                     1  0851  M                   38
308  2 08           MLC                                                     1  0852  M                   38
309  2 09           MLC   12,L4            RECORD LENGTH                    7  0853  M 012 W4W           39
310  2 10           MLC   32,TLCF          TOTAL LENGTH OF CONTROL FIELDS   7  0860  M 032 I89           39
311  2 11           MLC   15               INPUT BLOCKING FACTOR            4  0867  M 015               39
312  2 12           MLC   8                NUMBER OF INPUT TAPES            4  0871  M 008               39
313  2 13           CW    58,30                                             7  0875  ) 058 030           39
314  2 14           MLC   69,MXBLK4        LARGEST INPUT BLOCK-VARIABLE     7  0882  M 069 W5U           39
315  2 15           MLC                    SMALLEST INPUT RECORD            1  0889  M                   39
316  2 16           MLC   46,EFS           ESTIMATED FILE SIZE              7  0890  M 046 00S           40
317  2 17           MLC   51,UAPHZ1        USER AREA PH1 STARTING ADDRESS   7  0897  M 051 12W           40
318  2 18           BCE   *&30,UAPHZ1,                                      8  0904  B 941 12W           40
319  2 19           B     *&8              THIS ROUTINE IS INITIALIZED FOR  4  0912  B 923               40
320  2 20           NOP   0,0              THE TAPE LOADABLE VERSION        7  0916  N 000 000           40
321  2 21           MLC   UAPHZ1,CONVRT                                     7  0923  M 12W 698           41
322  2 22           B     K5TOK3                                            4  0930  B 04Y               41
323  2 23           MLC   CONVRT,TPV1                                      7  0934  M 698 568           41
324  2 24           MLC   56,TPAVLM        STARTING ADDR USER AREA PH2      7  0941  M 056 412           41
325  2 25           MLC   39,NC1CF         FIRST CONTROL FIELD SPECIFIC.    7  0948  M 039 W1V           41
326  2 26           MLC                    STARTING LOCATION OF CF1         1  0955  M                   41
327  2 27           MLC   74,RCMKPI        RECORD MARK IN PADDING RECORDS   7  0956  M 074 527           42
328  2 28           MLC   73,MAXBLO        LARGEST OUTPUT BLOCK             7  0963  M 073 W7T           42
329  2 29           MLC   61,RCC4#4        RECORD COUNT LOW ORDER           7  0970  M 061 D1W           42
330  2 30           BCE   NXTINA,FLR,      BLANK-FIXED  1-VARIABLE          8  0977  B |47 091           42
331  2 31           C     015,@001@        001 IF UNBLOCKED VARIABLE INPUT  7  0985  C 015 D1Z           42
332  2 32           BU    SPCRLI           IF BLOCKED CHECK FOR RCC         5  0992  B R5T /             43
333  2 33           BCE   *&5,MXBLK4,      IF 66-69 BLANK  L4 LOADED        8  0997  B |09 W5U           43
334  2 34           B     *&8              INTO MXBLK4                      4  1005  B |16               43
335  2 35           MLC   L4,MXBLK4                                         7  1009  M W4W W5U           43
336  2 36   CKOT    C     018,@001@        001 IF UNBLOCKED OUTPUT          7  1016  C 018 D1Z           43
337  2 37           BU    NXTINA                                            5  1023  B |47 /             43
338  2 38           BCE   *&5,MAXBLO,      IF 70-73 BLANK   L4 LOADED       8  1028  B |40 W7T           44
339  2 39           B     *&8              INTO MAXBLO                      4  1036  B |47               44
340  2 40           MLC   L4,MAXBLO                                         7  1040  M W4W W7T           44
341  2 41   NXTINA  C     25,BLNK5         BLANK IF NO HEADER OR TRAILER    7  1047  C 025 C5V           44
342  2 42           BE    *&8              LABELS SPECIFIED ON CC1          5  1054  B |66 S             44
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
343  2 43           MLC   @1@,LABELS          SET LABEL INDICATOR      7  1059  M D2| 413           44
344  2 44           BCE   WDMKST,24,4                                  8  1066  B /04 024 4         45
345  2 45           BCE   WDMKST,24,3         CHECK FOR 120 CHARAC     8  1074  B /04 024 3         45
346  2 46           BCE   WDMKST,22,4                                  8  1082  B /04 022 4         45
347  2 47           BCE                                                1  1090  B                   45
348  2 48           BCE   WDMKST,22,3                                  8  1091  B /04 022 3         45
349  2 49           BCE                                                1  1099  B                   45
350  2 50           B     *&30                                         4  1100  B /33               45
351  2 51   WDMKST  CW    REELSQ-2,FLSERL-4                            7  1104  ) 439 433           46
352  2 52           CW    HDRTAG&1                                     4  1111  ) 428               46
353  2 53           MLC   @1@,LBBUCK                                  7  1115  M D2| 414           46
354  2 54           SW    FILNAM&1,FILESE&1                            7  1122  , 448 453           46
355  2 55           SW    SYSCRE&1                                     4  1129  , 458               46
356  2 56           SW    6,3                                          7  1133  , 006 003           46
357  2 57           SW                                                 1  1140  ,                   46
358  2 58           SW                                                 1  1141  ,                   47
359  2 59   *                             SCAN CONTROL CARD ONE FOR INVALID
360  2 60   *                             CHARACTERS
361  2 61           C     36,@0000@       CHECK COLUMNS 33-36          7  1142  C 036 D2U           47
362  2 62           BL    *&5             CF1 LOCATION CANNOT BE ZERO OR AN 5 1149  B /58 T           47
363  2 63           B     ERMCD           ALPHABETICAL CHARACTER       4  1154  B N6/               47
364  2 64           SBR   INDEX1,0                                     7  1158  H 089 000           47
365  2 65           SBR   INDEX2,1                                     7  1165  H 094 001           47
366  2 66           SBR   INDEX3,12                                    7  1172  H 099 012           47
367  2 67           MLC   @13-18@,ZQST                                7  1179  M D2Z C3Z           48
368  2 68           C     BI,@000@        CHECK COLUMNS 13-18          7  1186  C I86 D3S           48
369  2 69           BE    ERMCD                                        5  1193  B N6/ S             48
370  2 70           C     BO,@000@                                     7  1198  C 185 D3S           48
371  2 71           BE    ERMCD                                        5  1205  B N6/ S             48
372  2 72           BCE   RTOUR,FLR,                                   8  1210  B S73 091           48
373  2 73           C     15,@   @        BLANK IF BLOCKED VARIABLE INPUT 7 1218 C 015 D3V          49
374  2 74           BE    CM18TB                                       5  1225  B S42 S             49
375  2 75           C     15,@001@        UNBLOCKED VARIABLE RECORDS   7  1230  C 015 D1Z           49
376  2 76           BU    ERMCD                                        5  1237  B N6/ /             49
377  2 77   CM18TB  MLC   @000@,215                                    7  1242  M D3S 215           49
378  2 78           C     18,@   @        BLANK IF BLOCKED VARIABLE OUTPUT 7 1249 C 018 D3V          49
379  2 79           BE    RTOUR                                        5  1256  B S73 S             50
380  2 80           C     18,@001@        UNBLOCKED VARIABLE OUTPUT    7  1261  C 018 D1Z           50
381  2 81           BU    ERMCD                                        5  1268  B N6/ /             50
382  2 82   RTOUR   MLC   @000@,218                                    7  1273  M D3S 218           50
383  2 83           MLC   @0@,203                                      7  1280  M D3W 203           50
384  2 84           MLC   @0@,206                                      7  1287  M D3W 206           50
385  2 85           MLC   @0@,27                                       7  1294  M D3W 027           51
386  2 86           MLC   @01-06@,ZQST                                7  1301  M D4/ C3Z           51
387  2 87           BCE   ERMTP,2,          CHECK COLUMNS 1-6          8  1308  B P7/ 002           51
388  2 88           BCE                   COL 1,2,4,5 MUST BE SPECIFIED 1  1316  B                   51
389  2 89           BCE   ERMTP,5,        COL 3 MUST BE SPECIFIED IF 6 8  1317  B P7/ 005           51
390  2 90           BCE                   IS SPECIFIED.6 IS SPECIFIED FOR 1  1325  B                 51
391  2 91           BCE   ABZX,6,         3-WAY MERGE                  8  1326  B T46 006           52
392  2 92           BCE   ERMTP,3,                                     8  1334  B P7/ 003           52
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SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
393  2 93           B     BRXQ                                      4  1342  B T72               52
394  2 94   ABZX    BCE   *&5,3,                                    8  1346  B T58 003           52
395  2 95           B     ERMTP                                     4  1354  B P7/               52
396  2 96           MLC   @8@,3                                     7  1358  M D4S 003           52
397  2 97           MLC   @9@,6                                     7  1365  M D4T 006           53
398  2 98   BRXQ    C     1&X1,1&X2          CHECK FOR MULTIPLE USE 7  1372  C 0|1 0!1          53
399  2 99           BE    ERMTP              OF A TAPE DRIVE        5  1379  B P7/ S             53
400  3 00           C     1&X1,2&X2                                 7  1384  C 0|1 0!2          53
401  3 01           BE    ERMTP                                     5  1391  B P7/ S             53
402  3 02           C     1&X1,3&X2                                 7  1396  C 0|1 0!3          53
403  3 03           BE    ERMTP                                     5  1403  B P7/ S             54
404  3 04           C     1&X1,4&X2                                 7  1408  C 0|1 0!4          54
405  3 05           BE    ERMTP                                     5  1415  B P7/ S             54
406  3 06   CBC     C     1&X1,5&X2                                 7  1420  C 0|1 0!5          54
407  3 07           BE    ERMTP                                     5  1427  B P7/ S             54
408  3 08           MA    @001@,INDEX1                              7  1432  # D1Z 089           54
409  3 09           MA    @001@,INDEX2                              7  1439  # D1Z 094           55
410  3 10           MA    @I8H@,INDEX3                              7  1446  # D4W 099           55
411  3 11           MLC   @N@,CBC&X3                                7  1453  M D4X UB0           55
412  3 12           A     @1@,CNTER1#1                              7  1460  A D2| D4Y           55
413  3 13           C     CNTER1,@5@                                7  1467  C D4Y D4Z           55
414  3 14           BH    BRXQ                                      5  1474  B T72 U             56
415  3 15           MLC   @000@,INDEX1                              7  1479  M D3S 089           56
416  3 16           MLC   I3TUN,3                                   7  1486  M 340 003           56
417  3 17           MLC   MI3TUN,6                                  7  1493  M 343 006           56
418  3 18   RRDC    C     1&X1,@6@           CHECK FOR ANY DRIVE NUMBER 7  1500  C 0|1 D5|          56
419  3 19           BL    ERMTP              HIGHER THAN 6          5  1507  B P7/ T             56
420  3 20           MA    @001@,INDEX1                              7  1512  # D1Z 089           57
421  3 21           C     INDEX1,@6@                                7  1519  C 089 D5|           57
422  3 22           BH    RRDC                                      5  1526  B V00 U             57
423  3 23           MLC   @ 19  @,ZQST                              7  1531  M D5V C3Z           57
424  3 24           BCE   CQZ,19,C             CHECK COLUMN 19        8  1538  B W45 019 C         57
425  3 25           BCE   CQZ,19,P                                  8  1546  B W45 019 P         58
426  3 26           C     19,@0@                                    7  1554  C 019 D3W           58
427  3 27           BL    *&8                                       5  1561  B V73 T             58
428  3 28           MLC   @1@,SWP#1                                 7  1566  M D2| D5W           58
429  3 29           C     19,@7@                                    7  1573  C 019 D5X           58
430  3 30           BH    *&8                                       5  1580  B V92 U             58
431  3 31           MLC   @1@,SWP                                   7  1585  M D2| D5W           59
432  3 32           BCE   CQZ,URPI,                                 8  1592  B W45 186           59
433  3 33           SBR   INDEX1,0                                  7  1600  H 089 000           59
434  3 34   INDXUR  C     URPI,1&X1                                 7  1607  C 186 0|1           59
435  3 35           BU    ZZRQ               CK URPI WITH I/O TP UNITS 5  1614  B W26 /           59
436  3 36           MLC   @1@,ERM6SW#1                             7  1619  M D2| D5Y           60
437  3 37   ZZRQ    MA    @001@,INDEX1                              7  1626  # D1Z 089           60
438  3 38           C     INDEX1,@6@                                7  1633  C 089 D5|           60
439  3 39           BH    INDXUR                                    5  1640  B W07 U             60
440  3 40   CQZ     MLC   @0@,219                                   7  1645  M D3W 219           60
441  3 41           MLC   @58-73@,ZQST                              7  1652  M D6T C3Z           61
442  3 42           MLC   @000@,INDEX1       CHECK COLUMNS 58-73    7  1659  M D3S 089           61
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
443  3 43          MLC   @0@,227                                     7  1666  M D3W 227           61
444  3 44          SW    BLNK5-3                                     4  1673  , C5S               61
445  3 45  CMBLN   C     61&X1,BLNK5                                 7  1677  C 0W1 C5V           61
446  3 46          BU    *&8                                         5  1684  B W96 /             61
447  3 47          MLC   TSERO,261&X1                                7  1689  M C5| 2W1          62
448  3 48          MA    @004@,INDEX1                                7  1696  # D6W 089           62
449  3 49          C     INDEX1,@16@                                 7  1703  C 089 D6Y           62
450  3 50          BH    CMBLN                                       5  1710  B W77 U             62
451  3 51          CW    BLNK5-3                                     4  1715  ) C5S               62
452  3 52          MLC   @001@,INDEX1                                7  1719  M D1Z 089           62
453  3 53          MLC   @ 21  @,ZQST                               7  1726  M D7T C3Z           63
454  3 54          B     OKIND             CHECK COLUMNS 21-25       4  1733  B P0V               63
455  3 55          MLC   @22@,ZQST-2                                 7  1737  M D7V C3X           63
456  3 56          B     OKIND                                       4  1744  B P0V               63
457  3 57          MLC   @23@,ZQST-2                                 7  1748  M D7X C3X           63
458  3 58          MLC   @N@,BRNON4                                  7  1755  M D4X P4/           63
459  3 59          MLC   @N@,BRNON3                                  7  1762  M D4X P3T           64
460  3 60          MLC   @N@,BRNON2                                  7  1769  M D4X P2V           64
461  3 61          B     OKIND                                       4  1776  B P0V               64
462  3 62          MLC   @24@,ZQST-2                                 7  1780  M D7Z C3X           64
463  3 63          MLC   @B@,BRNON2                                  7  1787  M D8| P2V           64
464  3 64          MLC   @B@,BRNON3                                  7  1794  M D8| P3T           64
465  3 65          MLC   @B@,BRNON4                                  7  1801  M D8| P4/           65
466  3 66          B     OKIND                                       4  1808  B P0V               65
467  3 67          MLC   @25@,ZQST-2                                 7  1812  M D8S C3X           65
468  3 68          MLC   @N@,BRNON3                                  7  1819  M D4X P3T           65
469  3 69          MLC   @N@,BRNON4                                  7  1826  M D4X P4/           65
470  3 70          B     OKIND                                       4  1833  B P0V               65
471  3 71          MLC   @26@,ZQST-2                                 7  1837  M D8U C3X           66
472  3 72          MLC   @9@,BRNON2&7      CHECK COLUMN 26           7  1844  M D4T P3S           66
473  3 73          MLC   @N@,BRNON1                                  7  1851  M D4X P1X           66
474  3 74          B     OKIND                                       4  1858  B P0V               66
475  3 75          MLC   @57@,ZQST-2                                 7  1862  M D8W C3X           66
476  3 76          MLC   @B@,BRNON1        CHECK COLUMN 57           7  1869  M D8| P1X           66
477  3 77          MLC   @N@,BRNON2                                  7  1876  M D4X P2V           67
478  3 78          MA    @030@,INDEX1                                7  1883  # D8Z 089           67
479  3 79          B     OKIND                                       4  1890  B P0V               67
480  3 80          MLC   @74@,ZQST-2                                 7  1894  M D9/ C3X           67
481  3 81          MA    @016@,INDEX1                                7  1901  # D9U 089           67
482  3 82          B     OKIND             CHECK COLUMNS 74,75, AND 20  4  1908  B P0V               67
483  3 83          MLC   @75@,ZQST-2                                 7  1912  M D9W C3X           68
484  3 84          B     OKIND                                       4  1919  B P0V               68
485  3 85          MLC   @20@,ZQST-2                                 7  1923  M D9Y C3X           68
486  3 86          MA    @I4D@,INDEX1                                7  1930  # E0/ 089           68
487  3 87          MLC   @0@,BRNON&7                                 7  1937  M D3W P1W           68
488  3 88          MLC   @2@,BRNON2&7                                7  1944  M E0S P3S           68
489  3 89          MLC   @B@,BRNON2                                  7  1951  M D8| P2V           69
490  3 90          B     OKIND                                       4  1958  B P0V               69
491  3 91          MLC   @28-29@,ZQST                                7  1962  M E0X C3Z           69
492  3 92          C     NCF,@10@          CHECK COLUMNS 28-29       7  1969  C 096 E0Z           69
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
493  3 93           BL    ERMCF                                       5  1976  B Q1U T             69
494  3 94           C     NCF,@00@                                    7  1981  C 096 E1/           69
495  3 95           BE    ERMCF                                       5  1988  B Q1U S             70
496  3 96           BCE   ERMCF,NCF,                                 8  1993  B Q1U 096           70
497  3 97           BCE   ERMCF,NCF-1,                               8  2001  B Q1U 095           70
498  3 98           MLC   @07-08@,ZQST                               7  2009  M E1W C3Z           70
499  3 99           C     NOINTP,@00@       CHECK COLUMNS 7-8         7  2016  C I83 E1/           70
500  4 00           BE    ERMRL                                       5  2023  B Q2Z S             71
501  4 01           BCE   ERMRL,NOINTP,                              8  2028  B Q2Z I83           71
502  4 02           BCE   ERMRL,NOINTP-1,                            8  2036  B Q2Z I82           71
503  4 03           C     46,@       @      IS EXPECTED FL SZ KNOWN   7  2044  C 046 E2T           71
504  4 04           BU    *&8                                         5  2051  B !63 /             71
505  4 05           MLC   @00000000@,246                              7  2056  M E3| 246           72
506  4 06           MLC   @000@,INDEX1                                7  2063  M D3S 089           72
507  4 07  CMUSAR   C     51&X1,BLNK5                                 7  2070  C 0V1 C5V           72
508  4 08           BU    *&8                                         5  2077  B !89 /             72
509  4 09           MLC   TSERO,251&X1                                7  2082  M C5| 2V1           72
510  4 10           MA    @005@,INDEX1                                7  2089  # E3T 089           73
511  4 11           C     INDEX1,@2@                                  7  2096  C 089 E0S           73
512  4 12           BL    CMUSAR                                      5  2103  B !70 T             73
513  4 13           MLC   @000@,INDEX1                                7  2108  M D3S 089           73
514  4 14           MLC   @N@,QZWRT                                   7  2115  M D4X N8U           73
515  4 15           B     CSCAN                                       4  2122  B O5S               73
516  4 16           BCE   ERMDP,SWP,1                                 8  2126  B P8Z D5W 1         74
517  4 17  ZZGX     BCE   ERMS6,ERM6SW,1                              8  2134  B R2| D5Y 1         74
518  4 18  *                              ESTABLISH AVAILABLE PHASE 2 AREA
519  4 19  BTPVLM   BCE   DUMMY,TPAVLM,    BRANCH IF NO PH2 USER AREA  8  2142  B J79 412           74
520  4 20           MLC   TPAVLM,CONVRT                               7  2150  M 412 698           74
521  4 21           B     K5TOK3                                      4  2157  B 04Y               74
522  4 22           MLC   CONVRT,CSTCNS                               7  2161  M 698 552           75
523  4 23           MA    @I9I@,CSTCNS                                7  2168  # E3W 552           75
524  4 24           B     REWND1                                      4  2175  B K17               75
525  4 25  DUMMY    BCE   REWND1,MS,                                  8  2179  B K17 344           75
526  4 26           BCE   REWND1,MS,4                                 8  2187  B K17 344 4         75
527  4 27           MA    @00|@,CSTCNS                                7  2195  # E3Z 552           76
528  4 28           BCE   REWND1,MS,5                                 8  2202  B K17 344 5         76
529  4 29           MA    @00|@,CSTCNS                                7  2210  # E3Z 552           76
530  4 30  REWND1   MLC   I1TUN,*&4          REWIND TAPES              7  2217  M 338 K27           76
531  4 31           RWD   0                                           5  2224  U %U0 R             76
532  4 32           MLC   I2TUN,*&4                                   7  2229  M 339 K39           77
533  4 33           RWD   0                                           5  2236  U %U0 R             77
534  4 34           BSS   PLYIN1,C                                    5  2241  B K3W C             77
535  4 35           BCE   RWD2WY,MI3TUN,                             8  2246  B K78 343           77
536  4 36           MLC   I3TUN,*&4                                   7  2254  M 340 K64           77
537  4 37           RWD   0                                           5  2261  U %U0 R             77
538  4 38           MLC   MI3TUN,*&4                                  7  2266  M 343 K76           78
539  4 39           RWD   0                                           5  2273  U %U0 R             78
540  4 40  RWD2WY   MLC   MI1TUN,*&4                                  7  2278  M 341 K88           78
541  4 41           RWD   0                                           5  2285  U %U0 R             78
542  4 42           MLC   MI2TUN,*&4                                  7  2290  M 342 L00           78
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
543  4 43           RWD   0                                                    5  2297  U %U0 R             78
544  4 44           BCE   ONECF,NCF,1        BRANCH IF ONE CONTROL FIELD       8  2302  B N57 096 1         79
545  4 45   *
546  4 46   *                    READ THE SECOND CONTROL CARD
547  4 47   *
548  4 48           CS    80                 ONLY READ IF MORE THAN 1 CF       4  2310  / 080               79
549  4 49           R                                                          1  2314  1                   79
550  4 50           SW    1                                                    4  2315  , 001               79
551  4 51           CS    332                                                  4  2319  / 332               79
552  4 52           CS                                                         1  2323  /                   79
553  4 53           MLC   080,280                                              7  2324  M 080 280           79
554  4 54           W                                                          1  2331  2                   80
555  4 55           CC    K                                                    2  2332  F K                 80
556  4 56           MLC   63,70              SHIFT CONTROL CARD 7 POSITIONS    7  2334  M 063 070           80
557  4 57           MLC   NC1CF,7            MOVE FIRST CONTROL FIELD          7  2341  M W1V 007           80
558  4 58           MLC                      CONSTANTS TO READ AREA            1  2348  M                   80
559  4 59           SW    5                  WORD MARKS SET FOR CONTROL        4  2349  , 005               80
560  4 60           SW    8,12               FIELD POSITIONS AND LENGTHS       7  2353  , 008 012           80
561  4 61           SW    15,19                                                7  2360  , 015 019           81
562  4 62           SW    22,26                                                7  2367  , 022 026           81
563  4 63           SW    29,33                                                7  2374  , 029 033           81
564  4 64           SW    36,40                                                7  2381  , 036 040           81
565  4 65           SW    43,47                                                7  2388  , 043 047           81
566  4 66           SW    50,54                                                7  2395  , 050 054           82
567  4 67           SW    57,61                                                7  2402  , 057 061           82
568  4 68           SW    64,68                                                7  2409  , 064 068           82
569  4 69           SBR   INDEX1,0                                             7  2416  H 089 000           82
570  4 70           MLC   @2@,QRS                                             7  2423  M E0S B4S           82
571  4 71   ADDNCF  A     @1@,NCFCT          TEST FOR VALID NUMBER OF CFS      7  2430  A D2| C4/           83
572  4 72           A     @7@,CDLNG                                            7  2437  A D5X C4T           83
573  4 73           C     NCF,NCFCT                                            7  2444  C 096 C4/           83
574  4 74           BL    ADDNCF                                               5  2451  B M30 T             83
575  4 75           MLC   @NCF INVALIDLY SPECIFIED@,PRMCD                      7  2456  M E6S C2/           83
576  4 76           B     CSCAN                                                4  2463  B O5S               83
577  4 77           MLC   @OUT OF SEQUENCE       @,PRMCD                     7  2467  M E8V C2/           84
578  4 78   CHKCFL  C     NCF,CNTNCF         COMPUTE TOTAL LENGTH OF CON FIELD 7  2474  C 096 W2|           84
579  4 79           BE    CCTLCF                                               5  2481  B N11 S             84
580  4 80   ANCCF   A     7,CTLCF                                              7  2486  A 007 W1Y           84
581  4 81           MA    @007@,ANCCF&3                                        7  2493  # E8Y M89           84
582  4 82           A     @1@,CNTNCF                                           7  2500  A D2| W2|           85
583  4 83           B     CHKCFL                                               4  2507  B M74               85
584  4 84   CCTLCF  C     TLCF,CTLCF          COMPARE TOT LNGH OF CON FIELD    7  2511  C I89 W1Y           85
585  4 85           BE    CLTLCF              WITH COMPUTED VALUE              5  2518  B N69 S             85
586  4 86   ERRMS4  CS    332                                                  4  2523  / 332               85
587  4 87           CS                                                         1  2527  /                   85
588  4 88           MLC   PRMS4,244                                           7  2528  M Y2/ 244           85
589  4 89           W                                                          1  2535  2                   86
590  4 90           CC    1                                                    2  2536  F 1                 86
591  4 91           H     *&1                PRESS START TO ACCEPT COMPUTED    4  2538  . N42               86
592  4 92           B     CLTLCF             VALUE                             4  2542  B N69               86
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
593  4 93   CNOP1  MLC   @1@,CNOP                                            7  2546  M D2| 086          86
594  4 94          B     CRE                                                 4  2553  B O47               86
595  4 95   ONECF  C     TLCF,NC1CF                                          7  2557  C I89 W1V           86
596  4 96          BU    ERRMS4                                              5  2564  B N23 /             87
597  4 97   CLTLCF MLC   CTLCF,CTLCF4                                        7  2569  M W1Y A75           87
598  4 98          C     CTLCF4,L4                                           7  2576  C A75 W4W           87
599  4 99          BL    ERRMS5                                              5  2583  B Z6/ T             87
600  5 00          MLC   @  @,COUNT2                                        7  2588  M E9| W2S           87
601  5 01   CKURPI BCE   SNGLCF,NCF,1                                       8  2595  B J0T 096 1         87
602  5 02          SBR   INDEX1,0                                           7  2603  H 089 000           88
603  5 03          SBR   INDEX2,0                                           7  2610  H 094 000           88
604  5 04   CCFXSL ZA    4&X2,CONVRT         CONVERT STARTING LOCATION OF    7  2617  ? 0!4 698           88
605  5 05          B     K5TOK3              CONTROL FIELDS TO 3 DIGITS      4  2624  B 04Y               88
606  5 06          MLC   CONVRT,CF1SL&X1                                     7  2628  M 698 3V3           88
607  5 07          C     CONVRT,@001@        SEE IF A CTL FLD STARTS IN COL 1 7  2635  C 698 D1Z           88
608  5 08          BE    CNOP1                                               5  2642  B N46 S             89
609  5 09   CRE    MLC   CONVRT,CF1RE&X1     COMPUTE RIGHT EDGE              7  2647  M 698 0/U           89
610  5 10          MA    7&X2,CF1RE&X1       OF CONTROL FIELDS               7  2654  # 0!7 0/U           89
611  5 11          MA    @I9H@,CF1RE&X1                                      7  2661  # E9T 0/U           89
612  5 12          MLC   CF1RE&X1,CONVRT     EXPAND RIGHT EDGE TO 4 DIGITS   7  2668  M 0/U 698           89
613  5 13          B     EXPAND                                              4  2675  B 620               89
614  5 14          MLC   HOLD,CF1REX                                         7  2679  M 693 V6X           90
615  5 15          MA    @004@,*-7                                           7  2686  # D6W O85           90
616  5 16          MA    @0003@,FSLST                                        7  2693  # E9W 04X           90
617  5 17          MA    @0007@,INDEX2                                       7  2700  # E8Y 094           90
618  5 18          MA    @0003@,INDEX1                                       7  2707  # E9W 089           90
619  5 19          A     @1@,COUNT2                                          7  2714  A D2| W2S           91
620  5 20          C     NCF,COUNT2                                          7  2721  C 096 W2S           91
621  5 21          BL    CCFXSL                                              5  2728  B O17 T             91
622  5 22          MA    CF1RE,CFIRE                                         7  2733  # 01U 337           91
623  5 23          MLC   C16000,CONVRT                                       7  2740  M 580 698           91
624  5 24          S     CF1REX,CONVRT                                       7  2747  S V6X 698           92
625  5 25          B     K5TOK3                                              4  2754  B 04Y               92
626  5 26          MLC   CONVRT,CCCFRE                                       7  2758  M 698 04U           92
627  5 27          SW    LBLBKT-32,LBLBKT-30                                 7  2765  , 464 466           92
628  5 28          SW                                                        1  2772  ,                   92
629  5 29   *
630  5 30   *                    READ THIRD CONTROL CARD
631  5 31   *
632  5 32          B     *&8                 CC3 MAY BE OMITTED IF BLANK     4  2773  B P84               92
633  5 33   READC3 MLC   @1@,SW13                                           7  2777  M D2| C5Z           92
634  5 34          CS    080                                                 4  2784  / 080               93
635  5 35          R                                                         1  2788  1                   93
636  5 36          SBR   INDEX1,0                                           7  2789  H 089 000           93
637  5 37   VRE    BCE   RUTN,1,,            BRANCH IF BOOTSTRAP CARD READ   8  2796  B B47 001 ,         93
638  5 38          SW    1                                                   4  2804  , 001               93
639  5 39          MLCWA 80,280                                              7  2808  L 080 280           93
640  5 40          W                                                         1  2815  2                   93
641  5 41          CC    K                                                   2  2816  F K                 94
642  5 42          BCE   BRZAQ,SW13,1        TEST TO DETERMINE IF CONTROL    8  2818  B Q78 C5Z 1         94
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
643  5 43          C     TSINK,223          CARD IS 3,4, OR 5        7  2826  C D1/ 223           94
644  5 44          BU    CARYON                                      5  2833  B Q58 /             94
645  5 45          SW    221                                         4  2838  , 221               94
646  5 46          C     TSINK,250                                   7  2842  C D1/ 250           94
647  5 47          CW    221                                         4  2849  ) 221               94
648  5 48          BE    READC3                                      5  2853  B P77 S             95
649  5 49  CARYON  SW    224                                         4  2858  , 224               95
650  5 50          C     TSINK,250                                   7  2862  C D1/ 250           95
651  5 51          CW    224                                         4  2869  ) 224               95
652  5 52          BE    LBBQ               BRANCH IF CC3            5  2873  B R42 S             95
653  5 53  BRZAQ   C     TSINK,250                                   7  2878  C D1/ 250           95
654  5 54          BE    ERRCC                                       5  2885  B Q4U S             95
655  5 55          BCE   *&17,SW14,1                                 8  2890  B R14 C6| 1         96
656  5 56          BCE   RDIH,ITLI,2         BRANCH IF CONTROL CARD   8  2898  B /7T 188 2         96
657  5 57          BCE   RDIH,ITLI,4         #4 IS TO BE READ         8  2906  B /7T 188 4         96
658  5 58          BCE   *&17,SW15,1                                 8  2914  B R38 C6/ 1         96
659  5 59          BCE   RDOH,OTLI,2         BRANCH IF CONTROL CARD   8  2922  B S2W 189 2         97
660  5 60          BCE   RDOH,OTLI,4         #5 SHOULD BE PRESENT     8  2930  B S2W 189 4         97
661  5 61          B     ERRCC                                       4  2938  B Q4U               97
662  5 62  LBBQ    MLC   @3@,QRS            BEGIN CC3 ROUTINE HERE   7  2942  M E9X B4S           97
663  5 63          MLC   @23@,CDLNG                                  7  2949  M D7X C4T           97
664  5 64  LBBWZ   BWZ   *&5,201&X1,2                               8  2956  V R68 2|1 2         98
665  5 65          B     ERMCD                                       4  2964  B N6/               98
666  5 66          MA    @001@,INDEX1                                7  2968  # D1Z 089           98
667  5 67          C     INDEX1,CDLNG                                7  2975  C 089 C4T           98
668  5 68          BH    LBBWZ                                       5  2982  B R56 U             98
669  5 69          BCE   *&23,4,            BRANCH IF WORK TAPES DO NOT  8  2987  B ?17 004          98
670  5 70          MLC   @1@,LABELS         CONTAIN HEADER LABELS    7  2995  M D2| 413           99
671  5 71          BCE   *&8,4,1            CHECK FOR 120 CHARACTER LABELS 8  3002  B ?17 004 1       99
672  5 72          MLC   @1@,LBBUCK         ON INPUT TAPE            7  3010  M D2| 414           99
673  5 73          MLC   3,PRMDOT           MOVE CONSTANTS FROM CC#3 7  3017  M 003 11Y           99
674  5 74          MLC                      TO RESPECTIVE BUCKETS    1  3024  M                   99
675  5 75          BCE   MVCN2,PRMDIN,      BRANCH IF INPUT IN MOVE MODE 8  3025  B ?83 11X          99
676  5 76          MLC   @L@,INMODE                                  7  3033  M E9Y 562          100
677  5 77          BCE   MVCN2,FLR,         BRANCH IF FLR            8  3040  B ?83 091          100
678  5 78          BCE   MVCN2,RCC4,        BRANCH IF NO RLI         8  3048  B ?83 D1W          100
679  5 79          MLC   1,KKK3                                      7  3056  M 001 619          100
680  5 80          BCE   MVCN2,KKK3,3       RECORD CHARACTER COUNT MUST BE 8  3063  B ?83 619 3       100
681  5 81          BCE   MVCN2,KKK3,4       EITHER 3 OR 4 CHARACTERS 8  3071  B ?83 619 4       101
682  5 82          B     ERRLI                                       4  3079  B R9/              101
683  5 83  MVCN2   BCE   *&8,PRMDOT,         BRANCH OUTPUT IN MOVE MODE 8  3083  B ?98 11Y          101
684  5 84          MLC   @L@,OUTMOD                                  7  3091  M E9Y 549          101
685  5 85  TCD3    MLC   18,TPSROP          OUTPUT TAPE SERIAL OPTION 7  3098  M 018 422          101
686  5 86          MLC                      OUTPT HEADER REEL INCREMENT 1  3105  M                  101
687  5 87          MLC                      OUTPT HEADER FILE SERIAL 1  3106  M                   101
688  5 88          MLC                      OUTPT HEADER CHECKING    1  3107  M                   102
689  5 89          MLC   5                  WK TAPE HEADER LABEL TAPEMARK 4  3108  M 005             102
690  5 90          MLC   4                  WORK TAPE HEADER LABEL   4  3112  M 004             102
691  5 91          MLC   11                 UNLOAD OPTION            4  3116  M 011             102
692  5 92          MLC   10,DATE            RUN DATE INDICATED IN CC3 7  3120  M 010 501          102
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
693  5 93           MLC   12,RTAIN          RETENTION CYCLE FROM CC     7  3127  M 012 553          102
694  5 94           MLC   14,LBLBKT-30      REEL SEQUENCE INCREMENT OPTION 7 3134 M 014 466         102
695  5 95           MLC                     HEADER CHECK-ALL OPTION     1  3141  M                 103
696  5 96           BCE   *&12,LBBUCK,                                  8  3142  B A61 414          103
697  5 97           MLC   22,SYSCRE                                     7  3150  M 022 457          103
698  5 98           B     READC3                                        4  3157  B P77              103
699  5 99           MLC   23,TPSERL         NEW TAPE SERIAL NUMBERS     7  3161  M 023 432          103
700  6 00           B     READC3            READ NEXT CARD              4  3168  B P77              103
701  6 01  CTLCF4  DCW   @0000@                                        4  3175                     103
702  6 02  TEMP    DCW   @                    @                       21  3196                     104
703  6 03           DCW   0                                           1  3197                     104
704  6 04  DVR     DCW   @                   @                       20  3217                     105
705  6 05  DVD     DCW   @                    @                      21  3238                     106
706  6 06  QUOT    EQU   DVD                                             3238
707  6 07  NEW     DCW   @0@                                         1  3239                     106
708  6 08  QSS     DCW   @ @                                         1  3240                     106
709  6 09  RMDRSN  DCW   1                                           1  3241                     106
710  6 10  INDEX   DCW   0?                                          2  3243                     106
711  6 11  LOC     DSA   DVD-31                                      3  3246  B07                106
712  6 12  RUTN    BCE   *&17,SW11,1       CHECK TO SEE IF ALL CONTROL CARDS 8 3247 B B71 C5X 1   106
713  6 13           BCE   ERRLBL,ITLI,2     NEEDED HAVE BEEN READ PRIOR TO  8  3255  B Q6W 188 2  107
714  6 14           BCE   ERRLBL,ITLI,4     BOOTSTRAP CARD              8  3263  B Q6W 188 4        107
715  6 15           BCE   *&17,SW12,1                                   8  3271  B B95 C5Y 1        107
716  6 16           BCE   ERRLBL,OTLI,2                                8  3279  B Q6W 189 2        107
717  6 17           BCE   ERRLBL,OTLI,4                                8  3287  B Q6W 189 4        108
718  6 18           MLC   @B@,LDXQ                                     7  3295  M D8| K3S          108
719  6 19           MLC   @N@,SETWM                                    7  3302  M D4X K0Z          108
720  6 20           BCE   LAB120,LBBUCK,1                              8  3309  B T6S 414 1        108
721  6 21           BCE   *&8,DATE,          BRANCH IF NO DATE SPEC ON CC3 8 3317 B C32 501         108
722  6 22  DATE80   MLC   DATE,OHDATE                                  7  3325  M 501 457          109
723  6 23           BCE   MVOHDT,ITLI,                                8  3332  B C78 188          109
724  6 24           C     OTLI,@1@                                    7  3340  C 189 D2|          109
725  6 25           BU    *&8                                         5  3347  B C59 /            109
726  6 26           MLC   @1@,LBLSAM                                  7  3352  M D2| 572          109
727  6 27           C     OTLI,@3@          CONTROL PORTION OF 120 CHAR LABEL 7 3359 C 189 E9X     110
728  6 28           BU    *&8                                         5  3366  B C78 /            110
729  6 29           MLC   @1@,LBLSAM                                  7  3371  M D2| 572          110
730  6 30  MVOHDT   MLC   @-@,OHDATE&1                               7  3378  M E9Z 458          110
731  6 31           MLC   @-@,LBLBKT-24                               7  3385  M E9Z 472          110
732  6 32           MLC   @-@,LBLBKT-4                                7  3392  M E9Z 492          111
733  6 33           BCE   ADD4,FLR,                                   8  3399  B D15 091          111
734  6 34           BCE   AD4RLI,RCDIST,                              8  3407  B E67 196          111
735  6 35  ADD4     ZA    L4,CONVRT           CONVERT L, MAXBLK, MINREC TO 7 3415 ? W4W 698        111
736  6 36           B     K5TOK3              THREE DIGIT NUMBER      4  3422  B 04Y              111
737  6 37           MLC   CONVRT,L                                     7  3426  M 698 347          112
738  6 38           BCE   CMPLMT,FLR,         BRANCH IF FIXED LENGTH RECORDS 8 3433 B D93 091     112
739  6 39           BCE   TESTMX,MNREC4,                              8  3441  B D67 W5|          112
740  6 40           MLC   MNREC4,CONVRT                               7  3449  M W5| 698          112
741  6 41           B     K5TOK3                                      4  3456  B 04Y              112
742  6 42           MLC   CONVRT,MINREC                               7  3460  M 698 I92          113
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
743  6 43   TESTMX BCE   CMPLMT,MXBLK4,                                8  3467  B D93 W5U          113
744  6 44          MLC   MXBLK4,CONVRT                                 7  3475  M W5U 698          113
745  6 45          B     K5TOK3                                        4  3482  B 04Y              113
746  6 46          MLC   CONVRT,MAXBLK                                7  3486  M 698 I95          113
747  6 47   CMPLMT MLC   C16000,CONVRT       COMPUTE THREE DIGIT COMPLEMENT  7  3493  M 580 698          114
748  6 48          S     L4,CONVRT           OF L, MAXBLK, MINREC      7  3500  S W4W 698          114
749  6 49          B     K5TOK3                                        4  3507  B 04Y              114
750  6 50   ADD    MLC   CONVRT,COMPL                                 7  3511  M 698 00V          114
751  6 51          BCE   CMPTUP,FLR,         BRANCH IF FIXED LENGTH RECORDS  8  3518  B E89 091          114
752  6 52   MODAD  MA    @004@,CMPLMT&10                               7  3526  # D6W E03          115
753  6 53          MA    @003@,ADD&6                                   7  3533  # E9W E17          115
754  6 54          A     @1@,COUNT                                     7  3540  A D2| W2T          115
755  6 55   PAIN   BCE   NOPPN,MNREC4,                                8  3547  B E78 W5|          115
756  6 56          BCE   CMPTUP,COUNT,3                               8  3555  B E89 W2T 3        115
757  6 57          B     CMPLMT                                        4  3563  B D93              116
758  6 58   AD4RLI A     @4@,L4                                        7  3567  A F0| W4W          116
759  6 59          B     ADD4                                          4  3574  B D15              116
760  6 60   NOPPN  MLC   @N@,PAIN                                     7  3578  M D4X E47          116
761  6 61          B     MODAD                                         4  3585  B E26              116
762  6 62   CMPTUP BCE   MS4,MS,4            DETERMINE MACHINE SIZE    8  3589  B F36 344 4        116
763  6 63          BCE   MS5,MS,5                                     8  3597  B F54 344 5        117
764  6 64          BCE   MS6,MS,6                                     8  3605  B F79 344 6        117
765  6 65          CS    332                                           4  3613  / 332              117
766  6 66          CS                                                  1  3617  /                  117
767  6 67          MLC   PRMS1,238                                    7  3618  M X1Z 238          117
768  6 68          W                                                   1  3625  2                  117
769  6 69          CC    1                                             2  3626  F 1                117
770  6 70          MLC   @4@,MS                                       7  3628  M F0| 344          118
771  6 71          H                       MACHINE SIZE ERROR        1  3635  .                  118
772  6 72   MS4    ZA    @8000@,WKAREA                                 7  3636  ? F0U W0Y          118
773  6 73          ZA    @4775@,DVD                                    7  3643  ? F0Y B38          118
774  6 74          B     NUMRTR-8                                      4  3650  B G00              118
775  6 75   MS5    ZA    @12000@,WKAREA                                7  3654  ? F1T W0Y          118
776  6 76          ZA    @8775@,DVD                                    7  3661  ? F1X B38          119
777  6 77          MLC   @I9Q@,GPMARK                                 7  3668  M F2| 350          119
778  6 78          B     NUMRTR-8                                      4  3675  B G00              119
779  6 79   MS6    ZA    C16000,WKAREA                                 7  3679  ? 580 W0Y          119
780  6 80          ZA    @12775@,DVD                                   7  3686  ? F2V B38          119
781  6 81          MLC   @I9H@,GPMARK                                 7  3693  M E9T 350          119
782  6 82          BCE   *&27,TPAVLM,        COMPUTE THE UPPER LIMIT   8  3700  B G34 412          120
783  6 83   NUMRTR C     TPAVLM,WKAREA                                 7  3708  C 412 W0Y          120
784  6 84          BL    ERRTPV                                        5  3715  B O3U T            120
785  6 85          S     TPAVLM,WKAREA                                 7  3720  S 412 W0Y          120
786  6 86          S     WKAREA,DVD                                    7  3727  S W0Y B38          120
787  6 87          BCE   *&8,LABELS,                                   8  3734  B G49 413          121
788  6 88          S     @700@,DVD                                     7  3742  S F2Y B38          121
789  6 89          C     I3TUN,@0@                                     7  3749  C 340 D3W          121
790  6 90          BU    XYZ                                           5  3756  B G83 /            121
791  6 91          A     @410@,DVD                                     7  3761  A F3/ B38          121
792  6 92          BCE   *&8,LABELS,                                   8  3768  B G83 413          122
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
793  6 93           A     @300@,DVD                                   7  3776  A F3U B38          122
794  6 94   XYZ     MLC   @3@,DVR                                     7  3783  M E9X B17          122
795  6 95           MZ    @0@,DVD                                     7  3790  Y D3W B38          122
796  6 96           BCE   INIT,I3TUN,        BRANCH IF NOT 3-WAY MERGE  8  3797  B H12 340          122
797  6 97           MLC   @4@,DVR                                     7  3805  M F0| B17          123
798  6 98   INIT    ZA    @03@,INDEX                                  7  3812  ? F3W B43          123
799  6 99           S     @12@,DVD                                    7  3819  S F3Y B38          123
800  7 00           B     ED OP              BRANCH TO DIVISION SUBROUTINE  4  3826  B T8/              123
801  7 01           MLC   QUOT,UPLMT                                  7  3830  M B38 W5Y          123
802  7 02           BCE   CHECKQ,FLR,1       BRANCH IF VARIABLE LENGTH REC  8  3837  B H49 091 1        124
803  7 03           B     CNITQ                                       4  3845  B H88              124
804  7 04   CHECKQ  BCE   K3400,DESCND,1     BRANCH IF DESCENDING SEQUENCE  8  3849  B H65 090 1        124
805  7 05           BCE   CNITQ,NCF,1                                 8  3857  B H88 096 1        124
806  7 06   K3400   C     @3401@,UPLMT                                7  3865  C F4S W5Y          124
807  7 07           BL    CMPRLL-8                                    5  3872  B I07 T            125
808  7 08           MLC   @3400@,UPLMT                                7  3877  M F4W W5Y          125
809  7 09           B     CMPRLL-8                                    4  3884  B I07              125
810  7 10   CNITQ   C     @4000@,UPLMT                                7  3888  C F5| W5Y          125
811  7 11           BL    CMPRLL-8                                    5  3895  B I07 T            125
812  7 12           MLC   @3999@,UPLMT                                7  3900  M F5U W5Y          125
813  7 13           BCE   LFTOUT,FLR,1                               8  3907  B 15/ 091 1        126
814  7 14   CMPRLL  C     BI,@001@           CHECK RECORD LENGTH SPEC FOR  7  3915  C I86 D1Z          126
815  7 15           BU    CRLBCK             FIXED LENGTH RECORDS        5  3922  B 13V /            126
816  7 16           C     L4,@0013@                                   7  3927  C W4W F5Y          126
817  7 17           BH    ERRMS3             RECORD SIZE TOO SMALL       5  3934  B 22Z U            126
818  7 18           B     CMPRLU                                      4  3939  B 24Y              126
819  7 19           ORG   4135                                                   4135
820  7 20   CRLBCK  C     L4,@0010@                                   7  4135  C W4W F6S          127
821  7 21           BH    ERRMS3                                      5  4142  B 22Z U            127
822  7 22           B     CMPRLU                                      4  4147  B 24Y              127
823  7 23   LFTOUT  C     MXBLK4,UPLMT       CHECK RECORD LENGTH SPEC FOR  7  4151  C W5U W5Y          127
824  7 24           BL    NOSOAP             VARIABLE LENGTH RECORDS     5  4158  B 19/ T            127
825  7 25           C     MNREC4,@    @                               7  4163  C W5| F6W          127
826  7 26           BE    CMPRLL                                      5  4170  B I15 S            128
827  7 27           C     MNREC4,@0013@                               7  4175  C W5| F5Y          128
828  7 28           BH    ERRMS3                                      5  4182  B 22Z U            128
829  7 29           B     CMPRLL                                      4  4187  B I15              128
830  7 30   NOSOAP  CS    332                                         4  4191  / 332              128
831  7 31           CS                                                1  4195  /                  128
832  7 32           MLC   PRMS2A-1,223                                7  4196  M M3Y 223          128
833  7 33           W                                                 1  4203  2                  129
834  7 34           CC    1                                           2  4204  F 1                129
835  7 35           H     *-3                OVERSIZE INPUT BLOCK-VLR    4  4206  . 20W              129
836  7 36   ERRMS2  CS    332                                         4  4210  / 332              129
837  7 37           CS                                                1  4214  /                  129
838  7 38           MLC   PRMS2,0230                                  7  4215  M X4Z 230          129
839  7 39           W                                                 1  4222  2                  129
840  7 40           CC    1                                           2  4223  F 1                130
841  7 41           H     *-3                OVERSIZED RECORD LENGTH     4  4225  . 22V              130
842  7 42   ERRMS3  CS    332                                         4  4229  / 332              130
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
843  7 43           CS                                                1  4233  /                 130
844  7 44           MLC   PRMS3,0229                                 7  4234  M X7Y 229         130
845  7 45           W                                                 1  4241  2                 130
846  7 46           CC    1                                           2  4242  F 1               130
847  7 47           H     *-3                UNDERSIZED RECORD LENGTH 4  4244  . 24U             131
848  7 48  CMPRLU  C     L4,UPLMT                                    7  4248  C W4W W5Y         131
849  7 49           BL    ERRMS2                                      5  4255  B 21| T           131
850  7 50  CMPTBT  ZA    UPLMT,DVD          COMPUTE THEORETICAL B    7  4260  ? W5Y B38         131
851  7 51           ZA    L4,DVR                                      7  4267  ? W4W B17         131
852  7 52           ZA    @02@,INDEX                                  7  4274  ? F6Y B43         131
853  7 53           B     ED OP                                       4  4281  B T8/             132
854  7 54           MZ    @0@,QUOT                                    7  4285  Y D3W B38         132
855  7 55           MLC   QUOT,BT                                     7  4292  M B38 W2Y         132
856  7 56           BCE   VARBL,FLR,1                                 8  4299  B 47Z 091 1       132
857  7 57  CBIBT   C     BI,BT              TEST FOR OVERSIZE BI     7  4307  C I86 W2Y         132
858  7 58           BL    ERRMSX                                      5  4314  B 38W T           132
859  7 59  ADDBI   A     BI,B               COMPUTE B                7  4319  A I86 199         133
860  7 60           C     B,BT                                        7  4326  C 199 W2Y         133
861  7 61           BH    ADDBI                                       5  4333  B 31Z U           133
862  7 62           BE    *&8                                         5  4338  B 35| S           133
863  7 63           S     BI,B                                        7  4343  S I86 199         133
864  7 64           MZ    @0@,B                                       7  4350  Y D3W 199         133
865  7 65           MLC   C16000,CONVRT                               7  4357  M 580 698         134
866  7 66           S     B,CONVRT                                    7  4364  S 199 698         134
867  7 67           B     K5TOK3                                      4  4371  B 04Y             134
868  7 68           MLC   CONVRT,CCB                                 7  4375  M 698 575         134
869  7 69           B     CMPTBL                                      4  4382  B 43/             134
870  7 70  ERRMSX  CS    332                                         4  4386  / 332             134
871  7 71           CS                                                1  4390  /                 134
872  7 72           MLC   BT,PRMSX1-8                               7  4391  M W2Y M6U         135
873  7 73           MLC   PRMSX1,258                                  7  4398  M M7S 258         135
874  7 74           W                                                 1  4405  2                 135
875  7 75           CC    1                                           2  4406  F 1               135
876  7 76           H     *-3                OVERSIZE INPUT BLOCKING-FLR 4  4408  . 40Y           135
877  7 77  ERRMSQ  CS    332                                         4  4412  / 332             135
878  7 78           CS                                                1  4416  /                 135
879  7 79           MLC   PRMSQ,0220                                 7  4417  M M1V 220         136
880  7 80           W                                                 1  4424  2                 136
881  7 81           CC    1                                           2  4425  F 1               136
882  7 82           H     *-3                OVERSIZE OUTPUT BLOCK-VLR 4  4427  . 42X           136
883  7 83  CMPTBL  A     L4,BL4             COMPUTE BLOCK LENGTH     7  4431  A W4W W4S         136
884  7 84           A     @1@,COUNT3                                  7  4438  A D2| W3/         136
885  7 85           C     COUNT3,B                                    7  4445  C W3/ 199         136
886  7 86           BH    CMPTBL                                      5  4452  B 43/ U           137
887  7 87           ZA    BL4,CONVRT                                  7  4457  ? W4S 698         137
888  7 88           B     K5TOK3                                      4  4464  B 04Y             137
889  7 89           MLC   CONVRT,BL                                  7  4468  M 698 085         137
890  7 90           B     DNSTY                                       4  4475  B 82Y             137
891  7 91  VARBL   ZA    UPLMT,CONVRT                                7  4479  ? W5Y 698         137
892  7 92           B     K5TOK3                                      4  4486  B 04Y             137
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
893  7 93           MLC   CONVRT,BL                                   7  4490  M 698 085          138
894  7 94   ART     MLC   UPLMT,BL4                                   7  4497  M W5Y W4S          138
895  7 95           BCE   *&22,LABELS,1                               8  4504  B 53T 413 1        138
896  7 96           A     @700@,TCOMET                                7  4512  A F2Y 590          138
897  7 97           MLZS  @ @,TCOMET                                  7  4519  Y F6Z 590          138
898  7 98           MLC   TCOMET,TCOMTF                               7  4526  M 590 595          139
899  7 99           A     @100@,TCOMET                                7  4533  A F7S 590          139
900  8 00           MZ    BLNK1,TCOMET                                7  4540  Y D1S 590          139
901  8 01           S     UPLMT,TCOMET                                7  4547  S W5Y 590          139
902  8 02           A     L4,TCOMET                                   7  4554  A W4W 590          139
903  8 03           MZ    BLNK1,TCOMET                                7  4561  Y D1S 590          140
904  8 04           MLC   TCOMET,CONVRT                               7  4568  M 590 698          140
905  8 05           B     K5TOK3                                      4  4575  B 04Y              140
906  8 06           MLC   CONVRT,COMET                               7  4579  M 698 556          140
907  8 07           MLC   COMET,COMETF                               7  4586  M 556 559          140
908  8 08           BCE   XXX,MAXBLO,                                 8  4593  B 63T W7T          141
909  8 09           S     MAXBLO,TCOMTF                               7  4601  S W7T 595          141
910  8 10           A     L4,TCOMTF                                   7  4608  A W4W 595          141
911  8 11           MLC   TCOMTF,CONVRT                               7  4615  M 595 698          141
912  8 12           B     K5TOK3                                      4  4622  B 04Y              141
913  8 13           MLC   CONVRT,COMETF                              7  4626  M 698 559          142
914  8 14   XXX     C     BI,@ @                                      7  4633  C I86 F6Z          142
915  8 15           BU    CCC3BI                                      5  4640  B 71/ /            142
916  8 16           MLC   @10@,THIRTN                                7  4645  M E0Z Q6V          142
917  8 17           BCE   DVD10,MNREC4,                               8  4652  B 69X W5|          142
918  8 18           ZA    MXBLK4,DVD                                  7  4660  ? W5U B38          143
919  8 19           ZA    MNREC4,DVR                                  7  4667  ? W5| B17          143
920  8 20           ZA    @02@,INDEX                                  7  4674  ? F6Y B43          143
921  8 21           B     ED OP                                       4  4681  B T8/              143
922  8 22           MLNS  QUOT,BI                                     7  4685  D B38 I86          143
923  8 23           MLC                                               1  4692  M                  143
924  8 24           B     CCC3BI                                      4  4693  B 71/              143
925  8 25   DVD10   A     @9@,MXBLK4                                  7  4697  A D4T W5U          144
926  8 26           MLC   MXBLK4-1,BI                                 7  4704  M W5T I86          144
927  8 27   CCC3BI  S     BI,K16000                                   7  4711  S I86 585          144
928  8 28           S     BI,K16000                                   7  4718  S I86 585          144
929  8 29           S     BI,K16000                                   7  4725  S I86 585          144
930  8 30           MLC   K16000,CONVRT                               7  4732  M 585 698          145
931  8 31           B     K5TOK3                                      4  4739  B 04Y              145
932  8 32           MLC   CONVRT,LRG2G1                               7  4743  M 698 565          145
933  8 33           BCE   VARMFS,BO,                                  8  4750  B 80T 185          145
934  8 34           SBR   COUNT3,0                                    7  4758  H W3/ 000          145
935  8 35   CBOL    A     L4,BOLMAX          DETERMINE OUTPUT BLOCK LENGTH-VLR  7  4765  A W4W W3Y          146
936  8 36           A     @1@,COUNT3                                  7  4772  A D2| W3/          146
937  8 37           C     BO,COUNT3                                   7  4779  C 185 W3/          146
938  8 38           BL    CBOL                                        5  4786  B 76V T            146
939  8 39           C     UPLMT,BOLMAX                                7  4791  C W5Y W3Y          146
940  8 40           BH    ERRMSQ                                      5  4798  B 41S U            146
941  8 41   VARMFS  SBR   CMPMFS&27,BT                                7  4803  H 90T W2Y          147
942  8 42           ZA    NCF,DVR                                     7  4810  ? 096 B17          147
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SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
943  8 43           A     DVR                                       4  4817  A B17             147
944  8 44           MLC   @A@,CHNGOP                                7  4821  M F7T 91W         147
945  8 45   DNSTY   BCE   CMPMFS,LDI,1                             8  4828  B 87W 187 1       147
946  8 46           BCE   HIDNSY,LDI,2                            8  4836  B 86S 187 2       148
947  8 47           MLC   KLTD,KTD                                 7  4844  M 602 610         148
948  8 48           MLC   LDIRG,KIRG                              7  4851  M W7W W7Z         148
949  8 49           B     CMPMFS                                    4  4858  B 87W             148
950  8 50   HIDNSY  MLC   KHTD,KTD                                 7  4862  M 618 610         148
951  8 51           MLC   HDIRG,KIRG                              7  4869  M W8S W7Z         149
952  8 52   CMPMFS  MLC   @000@,COUNT3       COMPUTE MAXIMUM FILE SIZE  7  4876  M D3S W3/         149
953  8 53           A     KTD,MFSDVD                              7  4883  A 610 W6Z         149
954  8 54           A     @1@,COUNT3                              7  4890  A D2| W3/         149
955  8 55           C     COUNT3,B                                7  4897  C W3/ 199         149
956  8 56           BH    CMPMFS&7                                5  4904  B 88T U           150
957  8 57           ZA    MFSDVD,DVD                              7  4909  ? W6Z B38         150
958  8 58   CHNGOP  ZA    BL4,DVR                                 7  4916  ? W4S B17         150
959  8 59           A     KIRG,DVR                                7  4923  A W7Z B17         150
960  8 60           ZA    @07@,INDEX                              7  4930  ? F7V B43         150
961  8 61           B     ED OP                                   4  4937  B T8/             150
962  8 62           MLNS  QUOT,MFS                                7  4941  D B38 I81         151
963  8 63           MLC                                           1  4948  M                 151
964  8 64           BCE   *&5,I3TUN,                              8  4949  B 96/ 340         151
965  8 65   PLY111  A     MFS                                     4  4957  A I81             151
966  8 66           C     EFS,MFS                                 7  4961  C 00S I81         151
967  8 67           BL    MFSEXH                                  5  4968  B Y6V T           151
968  8 68           BCE   HUH,FLR,1                               8  4973  B Z9U 091 1       152
969  8 69           C     BO,B              CHECK BO SPECIFIED    7  4981  C 185 199         152
970  8 70           BL    ERRMSY                                  5  4988  B /4X T           152
971  8 71           BE    HUH                                     5  4993  B Z9U S           152
972  8 72           MLC   BO,BOSUBB                               7  4998  M 185 W3U         152
973  8 73   TM SHK  A     BO,BOSUBB                               7  5005  A 185 W3U         152
974  8 74           C     BOSUBB,B                                7  5012  C W3U 199         153
975  8 75           BH    TM SHK                                  5  5019  B |0V U           153
976  8 76           BE    HUH                                     5  5024  B Z9U S           153
977  8 77           CS    332                                     4  5029  / 332             153
978  8 78           CS                                            1  5033  /                 153
979  8 79           MLC   B,HLMN&4                                7  5034  M 199 L2V         153
980  8 80           S     BO,BOSUBB                               7  5041  S 185 W3U         153
981  8 81           MLZS  @ @,BOSUBB                              7  5048  Y F6Z W3U         154
982  8 82   AUGBI   A     BI,BISUBB#3                             7  5055  A I86 F7Y         154
983  8 83           C     BISUBB,BOSUBB                           7  5062  C F7Y W3U         154
984  8 84           BH    AUGBI                                   5  5069  B |5V U           154
985  8 85           MLC   @000@,BISUBB                            7  5074  M D3S F7Y         154
986  8 86           BE    WRITEA-7                                5  5081  B |9X S           154
987  8 87           MLC   PRMSZ1,302                              7  5086  M L3Z 302         155
988  8 88           B     WRITEA                                  4  5093  B /0U             155
989  8 89           MLC   PRMSZ,332                               7  5097  M L9U 332         155
990  8 90   WRITEA  W                       BO NOT SUBMULTIPLE OF B   1  5104  2                 155
991  8 91           CC    1                                       2  5105  F 1               155
992  8 92           H     HUH-14                                  4  5107  . Z8|             155
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
 993  8 93           MLC   BOSUBB,B           MAKE B A MULTIPLE OF BO          7  5111  M W3U 199          155
 994  8 94           MLC   @0000@,COUNT3      RECOMPUTE SORT BLOCK LENGTH AND  7  5118  M D3S W3/          156
 995  8 95           MLC   @0000@,BL4         MAXIMUM FILE SIZE                7  5125  M D2U W4S          156
 996  8 96           S     MFSDVD                                             4  5132  S W6Z              156
 997  8 97           MLZS  @ @,MFSDVD                                         7  5136  Y F6Z W6Z          156
 998  8 98           B     CMPTBL                                             4  5143  B 43/              156
 999  8 99   ERRMSY  CS    332                                                4  5147  / 332              156
1000  9 00           CS                                                       1  5151  /                  156
1001  9 01           MLC   B,PRMSY-53                                        7  5152  M 199 N0X          157
1002  9 02           MLC   PRMSY,288                                         7  5159  M N6| 288          157
1003  9 03           W                        BO GREATER THAN B               1  5166  2                  157
1004  9 04           CC    1                                                  2  5167  F 1                157
1005  9 05           H     HUH-14                                             4  5169  . Z8|              157
1006  9 06   *
1007  9 07   *                      READ THE INPUT HEADER CARD
1008  9 08   *
1009  9 09   RDIH    MLC   50,LBLBKT                                          7  5173  M 050 496          157
1010  9 10           MLC   @1@,SW11                                           7  5180  M D2| C5X          157
1011  9 11           MLC   @1@,SW14                                           7  5187  M D2| C6|          158
1012  9 12           SW    LBLBKT-4,LBLBKT-9                                  7  5194  , 492 487          158
1013  9 13           SW    LBLBKT-19,LBLBKT-23                                7  5201  , 477 473          158
1014  9 14           MLC   @1@,LBLBKT-32                                      7  5208  M D2| 464          158
1015  9 15           MLC   @1@,ITLI                                           7  5215  M D2| 188          158
1016  9 16           B     READC3                                             4  5222  B P77              158
1017  9 17   *
1018  9 18   *                      READ THE OUTPUT HEADER CARD
1019  9 19   *
1020  9 20   RDOH    BCE   RDO120,LBBUCK,1                                    8  5226  B S6W 414 1        159
1021  9 21           MLC   50,REELSQ&21                                       7  5234  M 050 462          159
1022  9 22           MLC   @1@,SW12                                           7  5241  M D2| C5Y          159
1023  9 23           MLC   @1@,SW15                                           7  5248  M D2| C6/          159
1024  9 24           MLC   25,FLSERL                                          7  5255  M 025 437          159
1025  9 25           B     READC3                                             4  5262  B P77              160
1026  9 26   RDO120  MLC   25,FILESE                                         7  5266  M 025 452          160
1027  9 27           SW    31,41                                              7  5273  , 031 041          160
1028  9 28           SW    47                                                 4  5280  , 047              160
1029  9 29           MLC   49,RETPER                                          7  5284  M 049 432          160
1030  9 30           MLC   45,CREATD                                          7  5291  M 045 437          160
1031  9 31           MLC   29,RESEQE                                          7  5298  M 029 461          161
1032  9 32           MLC   40,FILNAM                                          7  5305  M 040 447          161
1033  9 33           CW    31,41                                              7  5312  ) 031 041          161
1034  9 34           CW    47                                                 4  5319  ) 047              161
1035  9 35           MLC   @1@,SW12                                           7  5323  M D2| C5Y          161
1036  9 36           MLC   @1@,SW15                                           7  5330  M D2| C6/          161
1037  9 37           MLC   @N@,MVOHDT                                         7  5337  M D4X C78          162
1038  9 38           MLC   @N@,MVOHDT&7                                       7  5344  M D4X C85          162
1039  9 39           MLC   @N@,MVOHDT&14                                      7  5351  M D4X C92          162
1040  9 40           B     READC3                                             4  5358  B P77              162
1041  9 41   LAB120  BCE   *&8,DATE,                                         8  5362  B T7X 501          162
1042  9 42           MLC   DATE,CREATD                                        7  5370  M 501 437          163
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

1043  9 43          B     DATE80&7                                     4  5377  B C32              163
1044  9 44   ED OP  SBR   RETADD&3          DIVISION ROUTINE          4  5381  H V5V              163
1045  9 45          S     TEMP                                         4  5385  S A96              163
1046  9 46          MLC   @3@,TEMP-19                                 7  5389  M E9X A77          163
1047  9 47          S     INDEX,TEMP-18                                7  5396  S B43 A78          163
1048  9 48          A     LOC,TEMP-18                                  7  5403  A B46 A78          164
1049  9 49          MLNS  TEMP-18,SIGN&6                               7  5410  D A78 V5/          164
1050  9 50          MLC                                                1  5417  M                  164
1051  9 51          A     @1@,TEMP-18                                  7  5418  A D2| A78          164
1052  9 52          MLNS  TEMP-18,SUBTCT&6                             7  5425  D A78 U5V          164
1053  9 53          MLC                                                1  5432  M                  164
1054  9 54          MLNS  TEMP-18,OUT&6                                7  5433  D A78 U6S          164
1055  9 55          MLC                                                1  5440  M                  165
1056  9 56          MLNS  TEMP-18,GOPOS&6                              7  5441  D A78 V0W          165
1057  9 57          MLC                                                1  5448  M                  165
1058  9 58   SUBTCT S     DVR,000                                      7  5449  S B17 000          165
1059  9 59   OUT    BWZ   GOPOS,000,K                                  8  5456  V V0| 000 K       165
1060  9 60          BAV   *&1                                          5  5464  B U6Z Z            165
1061  9 61          A     @1@,NEW                                      7  5469  A D2| B39          165
1062  9 62          BAV   OVER                                         5  5476  B U8V Z            166
1063  9 63          B     SUBTCT                                       4  5481  B U4Z              166
1064  9 64   OVER   MLC   @9@,QSS                                     7  5485  M D4T B40          166
1065  9 65          A     QSS                                          4  5492  A B40              166
1066  9 66          B     RETADD                                       4  5496  B V5S              166
1067  9 67   GOPOS  A     DVR,000                                      7  5500  A B17 000          166
1068  9 68          MLC   NEW,TEMP                                    7  5507  M B39 A96          166
1069  9 69          ZA                                                 1  5514  ?                  167
1070  9 70          MLC   TEMP&1,NEW                                   7  5515  M A97 B39          167
1071  9 71          ZA                                                 1  5522  ?                  167
1072  9 72          S     @1@,INDEX                                    7  5523  S D2| B43          167
1073  9 73          BWZ   SUBTCT,INDEX,B                               8  5530  V U4Z B43 B        167
1074  9 74          MLZS  QSS,DVD                                      7  5538  Y B40 B38          167
1075  9 75   SIGN   MLZS  RMDRSN,0                                    7  5545  Y B41 000          167
1076  9 76   RETADD B     000                                          4  5552  B 000              168
1077  9 77   ONETWO BIN   SHINE,                                       5  5556  B J5T              168
1078  9 78   ADDRSS DSA   MAXBLK-3                                     3  5563  I92                168
1079  9 79   CF1REX DCW   @    @                                       4  5567                     168
1080  9 80   CF2REX       @    @                                       4  5571                     168
1081  9 81   CF3REX       @    @                                       4  5575                     168
1082  9 82   CF4REX       @    @                                       4  5579                     168
1083  9 83   CF5REX       @    @                                       4  5583                     169
1084  9 84   CF6REX       @    @                                       4  5587                     169
1085  9 85   CF7REX       @    @                                       4  5591                     169
1086  9 86   CF8REX       @    @                                       4  5595                     169
1087  9 87   CF9REX       @    @                                       4  5599                     169
1088  9 88   CF0REX       @    @                                       4  5603                     169
1089  9 89   WKAREA       @08000@                                      5  5608                     169
1090  9 90   CF1SLX       @    @                                       4  5612                     170
1091  9 91   NC1CF        @   @                                        3  5615                     170
1092  9 92   CTLCF        @   @                                        3  5618                     170
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 SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1093  9 93   CNTNCF        @  @                                                2  5620                    170
1094  9 94   COUNT2        @  @                                                2  5622                    170
1095  9 95   COUNT         @ @                                                 1  5623                    170
1096  9 96   NOOFCF        00                                                  2  5625                    170
1097  9 97   BT            @000@              THEORETICAL SORT BLOCKING FACTOR 3  5628                    171
1098  9 98   COUNT3        @000@                                               3  5631                    171
1099  9 99   BOSUBB        000                                                 3  5634                    171
1100 10 00   BOLMAX        0000                                                4  5638                    171
1101 10 01   BL4           0000               BLOCK LENGTH                     4  5642                    171
1102 10 02   L4            @0000@                                              4  5646                    171
1103 10 03   MNREC4        0000                                                4  5650                    171
1104 10 04   MXBLK4        0000                                                4  5654                    172
1105 10 05   UPLMT         0000                                                4  5658                    172
1106 10 06   MFSDVD        00000000000                                        11  5669                    172
1107 10 07   MAXBLO DCW    @    @                                              4  5673                    172
1108 10 08   LDIRG         150                                                 3  5676                    172
1109 10 09   KIRG          417                                                 3  5679                    172
1110 10 10   HDIRG  DCW    @600@                                               3  5682                    172
1111 10 11   PRMS1  DCW    @MACHINE SIZE ERROR-FOR 8K,PRESS START@            37  5719                    173
1112 10 12   PRMS2         @OVERSIZE RECORD LENGTH-RESTART@                   30  5749                    174
1113 10 13   PRMS3         @RECORD SIZE TOO SMALL-RESTART@                    29  5778                    175
1114 10 14   PRMS4  DCW    @CF LNGH ERROR-FOR COMPUTED TLCF,PRESS START@      43  5821                    177
1115 10 15   PRMS5         @TLCF GREATER THAN L@                              19  5840                    177
1116 10 16   PRMS6  DCW    @TAPE UNIT NOT AVAILABLE-@                         24  5864                    178
1117 10 17   MFSEXH CS     332                                                 4  5865  / 332             178
1118 10 18          CS                                                        1  5869  /                 178
1119 10 19          MLC    EFSMES,277                                         7  5870  M Z6| 277         178
1120 10 20          W                                                         1  5877  2                 178
1121 10 21          CC     1                                                  2  5878  F 1               178
1122 10 22          H      PLY111&16                                          4  5880  . 97T             179
1123 10 23          DCW    @EFFECTIVE FILE SIZE GREATER THAN @               33  5916                    179
1124 10 24          DC     @MAXIMUM FILE SIZE.  PRESS START TO @             35  5951                    180
1125 10 25   EFSMES DC     @CONTINUE.@                                        9  5960                    181
1126 10 26   ERRMS5 CS     0332                                               4  5961  / 332             181
1127 10 27          CS                                                        1  5965  /                 181
1128 10 28          MLC    PRMS5,0219                                         7  5966  M Y4| 219         181
1129 10 29          W                                                         1  5973  2                 181
1130 10 30          CC     1                                                  2  5974  F 1               182
1131 10 31          H      *-3                CF LENGTH GREATER THAN RECORD   4  5976  . Z7W             182
1132 10 32          MLC    B,BO                                               7  5980  M 199 185         182
1133 10 33          MLC    BL4,BOLMAX                                         7  5987  M W4S W3Y         182
1134 10 34   HUH    MLC    @01@,COUNT2                                        7  5994  M F8| W2S         182
1135 10 35   CIFXFY ZA     CF2REX,CONVRT       COMPUTE DISTANCE BETWEEN       7  6001  ? V7/ 698         182
1136 10 36          S      CF1REX,CONVRT      CONTROL FIELDS                  7  6008  S V6X 698         183
1137 10 37          BWZ    NEGIFD,CONVRT,K                                    8  6015  V !8V 698 K       183
1138 10 38          MZ     @ @,CONVRT                                         7  6023  Y F6Z 698         183
1139 10 39   BRANCH B      K5TOK3                                             4  6030  B 04Y             183
1140 10 40          MLC    CONVRT,IF1F2                                       7  6034  M 698 383         183
1141 10 41          A      @1@,COUNT2                                         7  6041  A D2| W2S         184
1142 10 42          MA     @004@,CIFXFY&3                                     7  6048  # D6W !0U         184
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

1143 10 43          MA    @004@,CIFXFY&10                               7  6055  # D6W !1/          184
1144 10 44          MA    @003@,BRANCH&10                               7  6062  # E9W !4|          184
1145 10 45          C     NCF,COUNT2                                    7  6069  C 096 W2S          184
1146 10 46          BL    CIFXFY                                        5  6076  B !0/ T            185
1147 10 47          B     DECBY1                                        4  6081  B J7S              185
1148 10 48   NEGIFD  A     C16000,CONVRT                                 7  6085  A 580 698          185
1149 10 49          MZ    @ @,CONVRT                                    7  6092  Y F6Z 698          185
1150 10 50          B     BRANCH                                        4  6099  B !3|              185
1151 10 51   SNGLCF ZA     CF1SLX,CONVRT       ROUTN FOR 1 CONTROL FIELD 7  6103  ? W1S 698          185
1152 10 52          B     K5TOK3                                        4  6110  B 04Y              185
1153 10 53          MLC   CONVRT,CF1SL                                  7  6114  M 698 353          186
1154 10 54          A     CF1SL,CF1RE                                   7  6121  A 353 01U          186
1155 10 55          MA    NC1CF,CF1RE                                   7  6128  # W1V 01U          186
1156 10 56          MLCWA ONETWO&4,HUH&4                                7  6135  L V6| Z9Y          186
1157 10 57          SBR   INDEX1,0                                      7  6142  H 089 000          186
1158 10 58          B     CRE&14                                        4  6149  B O61              186
1159 10 59   SHINE  C     CF1SLX,@0001@                                 7  6153  C W1S F8U          187
1160 10 60          BU    DECBY1                                        5  6160  B J7S /            187
1161 10 61          MLC   @1@,CNOP                                      7  6165  M D2| 086          187
1162 10 62   DECBY1 MA    @I9I@,CF1SL                                   7  6172  # E3W 353          187
1163 10 63          A     @1@,NOOFCF                                    7  6179  A D2| W2V          187
1164 10 64          C     NCF,NOOFCF                                    7  6186  C 096 W2V          188
1165 10 65          BE    *&12                                          5  6193  B K0Z S            188
1166 10 66          MA    @003@,DECBY1&6                                7  6198  # E9W J7Y          188
1167 10 67          B     DECBY1                                        4  6205  B J7S              188
1168 10 68   SETWM  CS    80                                            4  6209  / 080              188
1169 10 69          BSS   PLYIN2,C                                      5  6213  B K6/ C            188
1170 10 70          SW    24,56                                         7  6218  , 024 056          188
1171 10 71          SW    63,67                                         7  6225  , 063 067          189
1172 10 72   LDXQ   R     56                                            4  6232  1 056              189
1173 10 73   PLYIN1 MLC   @0@,MI3TUN          MULTIPHASE INITIALIZATION 7  6236  M D3W 343          189
1174 10 74          MLC   @0@,I3TUN                                     7  6243  M D3W 340          189
1175 10 75          MLC   @N@,PLY111                                    7  6250  M D4X 95X          189
1176 10 76          B     RWD2WY                                        4  6257  B K78              189
1177 10 77   PLYIN2 MLC   @ @,MI3TUN                                    7  6261  M F6Z 343          190
1178 10 78          MLC   @ @,I3TUN                                     7  6268  M F6Z 340          190
1179 10 79          B     SETWM&9                                       4  6275  B K1Y              190
1180 10 80   *
1181 10 81   *                    PROCESS THE INPUT HEADER CARD
1182 10 82   *
1183 10 83   HLMN   DCW   @BO NOT SUBMULTIPLE OF B, TO SET BO EQUAL TO@ 43  6321                     192
1184 10 84   PRMSZ1 DC    @     PRESS START. @                           18  6339                     192
1185 10 85          DC    @TO MAKE B A MULTIPLE OF BO, PRESS START/RESET @ 46  6385                  194
1186 10 86   PRMSZ  DC    @AND START@                                    9  6394                     194
1187 10 87   PRMSQ  DCW   @BOL TOO LARGE-RESTART@                       21  6415                     194
1188 10 88   PRMS2A DCW   @OVERSIZE INPUT BLOCKING,@                    24  6439                     195
1189 10 89   PRMSX1 DC    @ GREATEST POSSIBLE B     -RESTART@           33  6472                     196
1190 10 90          DCW   @BO GREATER THAN B, BO MAY EQUAL @           32  6504                     197
1191 10 91          DC    @    OR ANY SUBMULTIPLE OF IT.@              29  6533                     198
1192 10 92   PRMSY  DC    @ PRESS START FOR BO EQUAL B@                27  6560                     199
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

1193 10 93   ERMCD   CS    299                                               4  6561  / 299              199
1194 10 94           MLC   PRMCD,299                                         7  6565  M C2/ 299          199
1195 10 95           W                                                       1  6572  2                  199
1196 10 96           CS    299                                               4  6573  / 299              200
1197 10 97           MLC   PRMZQ,270                                         7  6577  M C3Z 270          200
1198 10 98   QZWRT   W                                                       1  6584  2                  200
1199 10 99           CC    1                                                 2  6585  F 1                200
1200 11 00           H     *-3                                               4  6587  . N8X              200
1201 11 01   PRMTPV  DCW   @USER AREA SPECIFIED ABOVE CORE SIZE-RESTART@     43  6633                     202
1202 11 02   ERRTPV  CS    299                                               4  6634  / 299              202
1203 11 03           MLC   PRMTPV,299                                        7  6638  M O3T 299          202
1204 11 04           W                                                       1  6645  2                  202
1205 11 05           CC    1                                                 2  6646  F 1                202
1206 11 06           H     *-3               USER AREA ABOVE CORE SIZE       4  6648  . O4Y              203
1207 11 07   CSCAN   SBR   RTEND&3           CONTROL CARD SCAN ROUTINE       4  6652  H P0U              203
1208 11 08           MLC   @000@,INDEX1                                      7  6656  M D3S 089          203
1209 11 09   CM201   C     201&X1,@0@                                         7  6663  C 2|1 D3W          203
1210 11 10           BH    ERMCD                                             5  6670  B N6/ U            203
1211 11 11           MA    @001@,INDEX1                                      7  6675  # D1Z 089          203
1212 11 12           C     INDEX1,CDLNG                                      7  6682  C 089 C4T          204
1213 11 13           BH    CM201                                             5  6689  B O6T U            204
1214 11 14           MLC   @00@,CDLNG                                        7  6694  M E1/ C4T          204
1215 11 15   RTEND   B     000                                               4  6701  B 000              204
1216 11 16   OKIND   SBR   RTFINI&3                                         4  6705  H P7|              204
1217 11 17   BRNON   BCE   RTOK,20&X1,                                      8  6709  B P5T 0S0          204
1218 11 18   BRNON1  BCE   RTOK,20&X1,1       CHECK FOR PROPER INFORMATION  8  6717  B P5T 0S0 1        205
1219 11 19   BRNON2  BCE   RTOK,20&X1,2       1,2,3,4, OR BLANK IN CC       8  6725  B P5T 0S0 2        205
1220 11 20   BRNON3  BCE   RTOK,20&X1,3                                      8  6733  B P5T 0S0 3        205
1221 11 21   BRNON4  BCE   RTOK,20&X1,4                                      8  6741  B P5T 0S0 4        205
1222 11 22           B     ERMCD                                             4  6749  B N6/              205
1223 11 23   RTOK    MLC   TSERO-4,220&X1                                    7  6753  M C4W 2S0          206
1224 11 24           MA    @001@,INDEX1                                      7  6760  # D1Z 089          206
1225 11 25   RTFINI  B     000                                               4  6767  B 000              206
1226 11 26   ERMTP   CS    299                                               4  6771  / 299              206
1227 11 27           MLC   PRMTP,299                                         7  6775  M ?4| 299          206
1228 11 28   QZWRIT  W                       TAPE UNIT INVALIDLY SPECIFIED   1  6782  2                  206
1229 11 29           CC    L                                                 2  6783  F L                206
1230 11 30           B     ERMCD                                             4  6785  B N6/              207
1231 11 31   ERMDP   CS    299                                               4  6789  / 299              207
1232 11 32           MLC   PRMDP,299                                         7  6793  M ?9W 299          207
1233 11 33           W                                                       1  6800  2                  207
1234 11 34           CC    1                                                 2  6801  F 1                207
1235 11 35           MLC   @P@,URPI                                          7  6803  M F8V 186          207
1236 11 36           H     ZZGX              UNREADABLE RECORD PROCEDURE ERROR 4  6810  . J34              207
1237 11 37   ERMCF   CS    299                                               4  6814  / 299              208
1238 11 38           MLC   PRMCF,299                                         7  6818  M A4| 299          208
1239 11 39           B     QZWRIT                                            4  6825  B P8S              208
1240 11 40   ERMRL   CS    299                                               4  6829  / 299              208
1241 11 41           MLC   PRMRL,299                                         7  6833  M A8/ 299          208
1242 11 42           B     QZWRIT                                            4  6840  B P8S              208
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1243 11 43   ERRCC  CS    299                                                  4  6844  / 299             208
1244 11 44          MLC   PRMCDX,299                                           7  6848  M B9U 299         209
1245 11 45          W                                                          1  6855  2                 209
1246 11 46          CC    1                                                    2  6856  F 1               209
1247 11 47          H     *-3               INVALID CONTROL CARD               4  6858  . Q5Y             209
1248 11 48   THIRTN DCW   0013                                                 4  6865                    209
1249 11 49   ERRLBL CS    299                                                  4  6866  / 299             209
1250 11 50          MLC   PRMLBL,299                                           7  6870  M R1Z 299         209
1251 11 51          W                                                          1  6877  2                 210
1252 11 52          CC    1                                                    2  6878  F 1               210
1253 11 53          H     *-3               CONTROL CARD 4 AND/OR 5 MISSING    4  6880  . Q8|             210
1254 11 54   PRMLBL DCW   @CONTROL CARD#4 AND/OR #5 ARE MISSING@              36  6919                    211
1255 11 55   ERMS6  CS    299                                                  4  6920  / 299             212
1256 11 56          SW    225                                                  4  6924  , 225             212
1257 11 57          MLC   PRMDP,252                                           7  6928  M ?9W 252         212
1258 11 58          MLC   PRMS6                                                4  6935  M Y6U             212
1259 11 59          W                                                          1  6939  2                 212
1260 11 60          CC    1                                                    2  6940  F 1               212
1261 11 61          MLC   @P@,URPI                                            7  6942  M F8V 186         212
1262 11 62          H     BTPVLM            DUMP TAPE NOT AVAILABLE            4  6949  . J42             213
1263 11 63   SPCRLI BCE   *&5,RCC4,         DETERMINE IF RLI IS SPECIFIED FOR  8  6953  B R6V D1W         213
1264 11 64          B     CKOT              VLR BLOCKED INPUT                  4  6961  B |16             213
1265 11 65          CS    299                                                  4  6965  / 299             213
1266 11 66          MLC   @58-61@,ZQST                                        7  6969  M F9| C3Z         213
1267 11 67          SW    201                                                  4  6976  , 201             213
1268 11 68          MLC   PRMRLI,233                                          7  6980  M B2Y 233         213
1269 11 69          B     QZWRT-7                                              4  6987  B N7X             214
1270 11 70   ERRLI  CS    299                                                  4  6991  / 299             214
1271 11 71          MLC   PRMRLI,280                                          7  6995  M B2Y 280         214
1272 11 72          W                                                          1  7002  2                 214
1273 11 73          CC    1                 RLI LENGTH NOT SPECIFIED FOR       2  7003  F 1               214
1274 11 74          H     *-3               VLR LOAD MODE INPUT                4  7005  . ?0V             214
1275 11 75   PRMTP  DCW   @TAPE UNIT IS INVALIDLY SPECIFIED@                  32  7040                    215
1276 11 76          DCW   @URPI IS INVALIDLY SPECIFIED-@                     28  7068                    216
1277 11 77   PRMDP  DC    @PRESS START FOR PUNCH OPTION@                     28  7096                    217
1278 11 78   PRMCF  DCW   @NO. OF CONTROL FIELDS IS INVALIDLY SPECIFIED@     44  7140                    219
1279 11 79   PRMRL  DCW   @NO. OF INPUT REELS IS INVALIDLY SPECIFIED@        41  7181                    221
1280 11 80   PRMRLI DCW   @THE LENGTH OF RCC IS NOT SPECIFIED FOR VARIABLE@ 47  7228                    223
1281 11 81   QRS    EQU   *&14                                                     7242
1282 11 82          DCW   @CONTROL CARD#1 INVALIDLY PUNCHED@                  32  7260                    224
1283 11 83   PRMCDX DCW   @AN INVALID CONTROL CARD IS PRESENT@               34  7294                    225
1284 11 84   PRMCD  DC    @ OR OUT OF SEQUENCE        @                      27  7321                    226
1285 11 85   ZQST   EQU   *&18                                                    7339
1286 11 86   PRMZQ  DCW   @CHECK COLUMN 33-36@                               18  7339                    227
1287 11 87   NCFCT  DCW   @01@               CONTROL FIELD COUNTER              2  7341                    227
1288 11 88   CDLNG  DCW   @75@                                                  2  7343                    227
1289 11 89   CSCNT  DCW   @00@                                                  2  7345                    227
1290 11 90   TSERO  DCW   @000000@                                              5  7350                    227
1291 11 91   BLNK5  DCW   @     @                                               5  7355                    227
1292 11 92   QZSW1  DCW   @ @                                                   1  7356                    227
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SEQ	PG	LIN	LABEL	OP	OPERANDS		SFX	CT	LOCN	INSTRUCTION TYPE	CARD
1293	11	93	SW11	DCW	#1			1	7357		228
1294	11	94	SW12	DCW	#1			1	7358		228
1295	11	95	SW13	DCW	#1			1	7359		228
1296	11	96	SW14	DCW	#1			1	7360		228
1297	11	97	SW15	DCW	#1			1	7361		228
1298	11	98	TSINK	DCW	#50			50	7411		230
1299	11	99	BLNK1	DCW	@ @			1	7412		230
1300	12	00	HERTAG	EQU	HDRTAG				0427		
1301	12	01	RETPER	EQU	TPSERL	RETENTION PERIOD			0432		
1302	12	02	CREATD	EQU	FLSERL	CREATION DATE			0437		
1303	12	03	FILNAM	EQU	FLNAME-5	FILE NAME BUCKET			0447		
1304	12	04	FILESE	EQU	FLNAME	FILE SERIAL NUMBER			0452		
1305	12	05	SYSCRE	EQU	OHDATE	CREATING SUSTEMS			0457		
1306	12	06	RESEQE	EQU	RTCYCL	REEL SEQUENCE NUMBER			0461		
		329	RCC4	DCW	#04			4	7416	AREA	230
					@001@			3	7419	LIT	230
					@1@			1	7420	LIT	230
					@00000@			4	7424	LIT	231
		367			@13-18@			5	7429	LIT	231
					@000@			3	7432	LIT	231
					@ @			3	7435	LIT	231
					@0@			1	7436	LIT	231
		386			@01-06@			5	7441	LIT	231
					@8@			1	7442	LIT	231
					@9@			1	7443	LIT	232
					@I8H@			3	7446	LIT	232
					@N@			1	7447	LIT	232
		412	CNTER1		#01			1	7448	AREA	232
					@5@			1	7449	LIT	232
					@6@			1	7450	LIT	232
		423			@ 19 @			5	7455	LIT	232
		428	SWP		#01			1	7456	AREA	233
					@7@			1	7457	LIT	233
		436	ERM6SW		#01			1	7458	AREA	233
		441			@58-73@			5	7463	LIT	233
					@004@			3	7466	LIT	233
					@16@			2	7468	LIT	233
		453			@ 21 @			5	7473	LIT	233
					@22@			2	7475	LIT	234
					@23@			2	7477	LIT	234
					@24@			2	7479	LIT	234
					@B@			1	7480	LIT	234
					@25@			2	7482	LIT	234
					@26@			2	7484	LIT	234
					@57@			2	7486	LIT	234
					@030@			3	7489	LIT	235
					@74@			2	7491	LIT	235
					@016@			3	7494	LIT	235
					@75@			2	7496	LIT	235
					@20@			2	7498	LIT	235

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
					@I4D@		3	7501		LIT	235
					@2@		1	7502		LIT	235
		491			@28-29@		5	7507		LIT	236
					@10@		2	7509		LIT	236
					@00@		2	7511		LIT	236
		498			@07-08@		5	7516		LIT	236
		503			@ @		7	7523		LIT	236
		505			@00000000@		7	7530		LIT	236
					@005@		3	7533		LIT	236
					@I9I@		3	7536		LIT	237
					@00|@		3	7539		LIT	237
		575			@NCF INVALIDLY SPECIFIED@		23	7562		LIT	237
		577			@OUT OF SEQUENCE @		23	7585		LIT	238
					@007@		3	7588		LIT	238
					@ @		2	7590		LIT	238
					@I9H@		3	7593		LIT	238
					@003@		3	7596		LIT	238
					@3@		1	7597		LIT	238
					@L@		1	7598		LIT	238
					@-@		1	7599		LIT	239
					@4@		1	7600		LIT	239
					@8000@		4	7604		LIT	239
					@4775@		4	7608		LIT	239
		775			@12000@		5	7613		LIT	239
					@8775@		4	7617		LIT	239
					@I9Q@		3	7620		LIT	239
		780			@12775@		5	7625		LIT	240
					@700@		3	7628		LIT	240
					@410@		3	7631		LIT	240
					@300@		3	7634		LIT	240
					@03@		2	7636		LIT	240
					@12@		2	7638		LIT	240
					@3401@		4	7642		LIT	240
					@3400@		4	7646		LIT	241
					@4000@		4	7650		LIT	241
					@3999@		4	7654		LIT	241
					@0013@		4	7658		LIT	241
					@0010@		4	7662		LIT	241
					@ @		4	7666		LIT	241
					@02@		2	7668		LIT	241
					@ @		1	7669		LIT	242
					@100@		3	7672		LIT	242
					@A@		1	7673		LIT	242
					@07@		2	7675		LIT	242
		982	BISUBB		#03		3	7678		AREA	242
					@01@		2	7680		LIT	242
					@0001@		4	7684		LIT	242
					@P@		1	7685		LIT	243
		1266			@58-61@		5	7690		LIT	243
1307	12	07		EX	READCC				B 700		244

SEQ PG LIN LABEL OP OPERANDS SFX CT LOCN INSTRUCTION TYPE CARD

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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1308 12 08           JOB   ** IBM 1401 SORT 7 VERSION 2  ASSIGNMENT PHASE
1309 12 09           ORG   700                                                  0700
1310 12 10   ENDAPH  BCE   CHECLA,LBBUCK,1                                 8  0700  B /55 414 1        247
1311 12 11           BCE   ENDMSG,FLR,1                                   8  0708  B 775 091 1        247
1312 12 12           MLC   L4,PRMS8-27        PRINT VALUES TO BE USED FOR  7  0716  M W4W T99          247
1313 12 13           MLC   B,PRMS8-19         FIXED LENGTH RECORD SORT     7  0723  M 199 U07          247
1314 12 14           MLC   BI,PRMS8-10                                     7  0730  M I86 U16          247
1315 12 15           MLC   BO,PRMS8-1                                      7  0737  M 185 U25          248
1316 12 16           MLC   BL4,PRMS8&9                                     7  0744  M W4S U35          248
1317 12 17           MLC   MFS,PRMS8&23                                    7  0751  M I81 U49          248
1318 12 18           CS    332                                             4  0758  / 332              248
1319 12 19           CS                                                    1  0762  /                  248
1320 12 20           MLC   PRMS8&23,0256                                   7  0763  M U49 256          248
1321 12 21           W                                                     1  0770  2                  248
1322 12 22           B     MESS9                                           4  0771  B 933              249
1323 12 23   ENDMSG  C     MNREC4,L4                                       7  0775  C W5| W4W          249
1324 12 24           BL    VLRER                                           5  0782  B |15 T            249
1325 12 25           BCE   AINT,RCDIST,                                   8  0787  B |34 196          249
1326 12 26           BCE   CST322,INMODE,M                                8  0795  B 899 562 M        249
1327 12 27           MLC   @000@,INDEX1                                    7  0803  M V13 089          249
1328 12 28   TSARNA  C     RCC4,CF1REX&X1                                  7  0810  C D1W VWX          250
1329 12 29           BE    CST322                                          5  0817  B 899 S            250
1330 12 30           MA    @004@,INDEX1                                    7  0822  # V16 089          250
1331 12 31           A     @1@,KRCNT#2                                     7  0829  A V17 V19          250
1332 12 32           C     KRCNT,NCF                                       7  0836  C V19 096          250
1333 12 33           BH    TSARNA                                          5  0843  B 810 U            250
1334 12 34           S     KKK3,RCC4                                       7  0848  S 619 D1W          251
1335 12 35           MLZS  @ @,RCC4                                        7  0855  Y V20 D1W          251
1336 12 36           C     RCC4,@0000@                                     7  0862  C D1W V24          251
1337 12 37           BE    CST322                                          5  0869  B 899 S            251
1338 12 38           MLC   @1@,KRUNCH                                      7  0874  M V17 561          251
1339 12 39           ZA    RCC4,CONVRT                                     7  0881  ? D1W 698          252
1340 12 40           B     K5TOK3                                          4  0888  B 04Y              252
1341 12 41           MLC   CONVRT,SLRCC                                    7  0892  M 698 12/          252
1342 12 42   CST322  CS    332               PRINT VALUES TO BE USED FOR   4  0899  / 332              252
1343 12 43           CS                      VARIABLE LENGTH RECORD SORT   1  0903  /                  252
1344 12 44           MLC   L4,PRMSU-28                                     7  0904  M W4W U82          252
1345 12 45           MLC   BL4,PRMSU-14                                    7  0911  M W4S U96          252
1346 12 46           MLC   MFS,PRMSU                                       7  0918  M I81 V10          253
1347 12 47           MLC   PRMSU,0238                                      7  0925  M V10 238          253
1348 12 48           W                                                     1  0932  2                  253
1349 12 49   MESS9   CS    322                                             4  0933  / 322              253
1350 12 50           CS                                                    1  0937  /                  253
1351 12 51           MLC   PRMS9,0223                                      7  0938  M U72 223          253
1352 12 52           CC    L                                               2  0945  F L                253
1353 12 53           W                       PRINT END OF ASSIGNMENT PHASE 1  0947  2                  254
1354 12 54           CC    1                                               2  0948  F 1                254
1355 12 55           SW    OHDATE-4                                        4  0950  , 453              254
1356 12 56           BCE   EXITAP,URPI,P                                   8  0954  B 982 186 P        254
1357 12 57           BCE   EXITAP,URPI,C                                   8  0962  B 982 186 C        254
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1358 12 58          MLC   URPI,*&4                                    7  0970  M 186 980          254
1359 12 59          RWD   0                                           5  0977  U %U0 R            254
1360 12 60   EXITAP NOP   0                   USERS EXIT              4  0982  N 000              255
1361 12 61          MLZS  *-6,CENSIG                                  7  0986  Y 986 415          255
1362 12 62          CS    80                                          4  0993  / 080              255
1363 12 63          SW    24,56                                       7  0997  , 024 056          255
1364 12 64          SW    63,67                                       7  1004  , 063 067          255
1365 12 65          R     56                LOAD PHASE ONE            4  1011  1 056              255
1366 12 66   VLRER  CS    332                                         4  1015  / 332              255
1367 12 67          CS                                                1  1019  /                  256
1368 12 68          MLC   VLRERM,253                                  7  1020  M T93 253          256
1369 12 69          W                                                 1  1027  2                  256
1370 12 70          CC    1                                           2  1028  F 1                256
1371 12 71          H     *-3                                         4  1030  . |30              256
1372 12 72   AINT   MLC   @1@,RLIIND                                  7  1034  M V17 560          256
1373 12 73          MLC   @ @,CNOP                                    7  1041  M V20 086          256
1374 12 74          MLC   @004@,RCDIST                               7  1048  M V16 196          257
1375 12 75          MA    @004@,CFIRE                                 7  1055  # V16 337          257
1376 12 76          MLC   @  @,COUNT2                                 7  1062  M V26 W2S          257
1377 12 77   ISSO   MA    @004@,CF1RE                                 7  1069  # V16 01U          257
1378 12 78          A     @1@,COUNT2                                  7  1076  A V17 W2S          257
1379 12 79          C     COUNT2,NCF                                  7  1083  C W2S 096          258
1380 12 80   NOMO   BE    SOS                                         5  1090  B /06 S            258
1381 12 81          MA    @003@,ISSO&6                                7  1095  # V29 |75          258
1382 12 82          B     ISSO                                        4  1102  B |69              258
1383 12 83   SOS    SBR   ISSO&6,CF1SL                                7  1106  H |75 353          258
1384 12 84          SBR   NOMO&3,UPDT                                7  1113  H |93 /24          258
1385 12 85          B     ISSO-7                                      4  1120  B |62              259
1386 12 86   UPDT   MA    @I9F@,CCCFRE                                7  1124  # V32 04U          259
1387 12 87          B     CST322                                      4  1131  B 899              259
1388 12 88          DCW   @RECORD LENGTH ERROR-@                     20  1154                     259
1389 12 89   CHECLA BCE   ERLAEL,TL,2                                 8  1155  B S07 191 2        260
1390 12 90          BCE   ERLAEL,TL,1                                 8  1163  B S07 191 1        260
1391 12 91          BCE   ERLAEL,OTLI,2                              8  1171  B S07 189 2        260
1392 12 92          BCE                                               1  1179  B                  260
1393 12 93          BCE   ERLAEL,OTLI,1                              8  1180  B S07 189 1        260
1394 12 94          BCE   *&8,ITLI,                                  8  1188  B S03 188          261
1395 12 95          MLC   @1@,ITLI                                    7  1196  M V17 188          261
1396 12 96          B     ENDAPH&8                                    4  1203  B 708              261
1397 12 97   ERLAEL CS    332                                         4  1207  / 332              261
1398 12 98          CS                                                1  1211  /                  261
1399 12 99          MLC   @INVALID LABEL SPECIFICATION@,228          7  1212  M V59 228          261
1400 13 00          W                                                 1  1219  2                  261
1401 13 01          CC    1                                           2  1220  F 1                262
1402 13 02          H     HTMGHT                                      4  1222  . S83              262
1403 13 03          C     TL,@3@                                      7  1226  C 191 V60          262
1404 13 04          BL    *&8                                         5  1233  B S45 T            262
1405 13 05          MLC   @3@,TL                                      7  1238  M V60 191          262
1406 13 06          C     OTLI,@3@                                    7  1245  C 189 V60          262
1407 13 07          BL    *&8                                         5  1252  B S64 T            262
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1408 13 08           MLC   @3@,OTLI                                    7  1257  M V60 189          263
1409 13 09           BCE   *&8,ITLI,                                   8  1264  B S79 188          263
1410 13 10           MLC   @1@,ITLI                                    7  1272  M V17 188          263
1411 13 11           B     ENDAPH&8                                    4  1279  B 708              263
1412 13 12   HTMGHT  C     TL,@2@                                      7  1283  C 191 V61          263
1413 13 13           BH    OTLGHT                                      5  1290  B T07 U            263
1414 13 14           BE    OTLGHT                                      5  1295  B T07 S            264
1415 13 15           MLC   @1@,TL                                      7  1300  M V17 191          264
1416 13 16   OTLGHT  C     OTLI,@2@                                    7  1307  C 189 V61          264
1417 13 17           BH    ITLGHT                                      5  1314  B T31 U            264
1418 13 18           BE    ITLGHT                                      5  1319  B T31 S            264
1419 13 19           MLC   @1@,OTLI                                    7  1324  M V17 189          264
1420 13 20   ITLGHT  C     ITLI,@2@                                    7  1331  C 188 V61          265
1421 13 21           BH    LBBGHT                                      5  1338  B T50 U            265
1422 13 22           MLC   @1@,ITLI                                    7  1343  M V17 188          265
1423 13 23   LBBGHT  MLC   @ @,LBBUCK                                  7  1350  M V20 414          265
1424 13 24           B     ENDAPH&8                                    4  1357  B 708              265
1425 13 25   VLRERM  DC    @MAXIMUM LESS THAN MINIMUM-RESTART@         33  1393                     266
1426 13 26   PRMS8   DCW   @L        B       BI       BO     @         33  1426                     267
1427 13 27           DC    @  BL        MFS        @                   23  1449                     268
1428 13 28   PRMS9   DCW   @END OF ASSIGNMENT PHASE@                   23  1472                     269
1429 13 29   PRMSU   DCW   @L MAX        BL MAX        MFS        @    38  1510                     270
                     DCW   @000@                                       3  1513          LIT        271
                           @004@                                       3  1516          LIT        271
                           @1@                                         1  1517          LIT        271
       1331  KRCNT         #02                                         2  1519          AREA       271
                           @ @                                         1  1520          LIT        271
                           @00000@                                     4  1524          LIT        271
                           @  @                                        2  1526          LIT        271
                           @003@                                       3  1529          LIT        272
                           @I9F@                                       3  1532          LIT        272
       1399                @INVALID LABEL SPECIFICATION@              27  1559          LIT        272
                           @3@                                         1  1560          LIT        272
                           @2@                                         1  1561          LIT        272
1430 13 30           EX    ENDAPH                                           B 700                  273
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1431 13 31          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
1432 13 32          ORG   87                                                                0087
1433 13 33   X1     DCW   @000@                                                  3  0089                     276
1434 13 34          ORG   92                                                                0092
1435 13 35   X2     DCW   @000@                                                  3  0094                     277
1436 13 36          ORG   97                                                                0097
1437 13 37   X3     DCW   @000@                                                  3  0099                     278
1438 13 38          ORG   7998                                                              7998
1439 13 39   GM     DCW   @}@                                                    1  7998                     279
1440 13 40          ORG   CCB&1                                                             0576
1441 13 41          ORG   *&124                                                             0700
1442 13 42   HERE   ORG   *                 BEGINNING OF REDUNDANT REC RTN          0700   0700
1443 13 43          ORG   *&135                                                             0835
1444 13 44   *
1445 13 45   PLYIN3 MLC   @|@,000                                               7  0835  M Q13 000          280
1446 13 46          B     NOSWCH                                                 4  0842  B T41              280
1447 13 47   K2FLD  DCW   00                                                     2  0847                     280
1448 13 48   BFRST3 DCW   @0|0@                                                  3  0850                     280
1449 13 49   PCOMPL DCW   000                                                    3  0853                     280
1450 13 50   K1BLNK DCW   @ @               BLANK TO REMOVE GM AFTER READ        1  0854                     280
1451 13 51   G      DCW   000                                                    3  0857                     280
1452 13 52          DC    0                                                      1  0858                     281
1453 13 53   P15999 DCW   @I9I@                                                  3  0861                     281
1454 13 54   LBMI3T DSA   MI3TUN                                                 3  0864  343                281
1455 13 55   LBI3T  DSA   I3TUN                                                  3  0867  340                281
1456 13 56   CPLITP DCW   @99@                                                   2  0869                     281
1457 13 57   THREEB DCW   0                                                      1  0870                     282
1458 13 58   NINE   DCW   @9@                                                    1  0871                     282
1459 13 59   NINTNN DCW   @99@                                                   2  0873                     282
1460 13 60   TWO    DCW   @002@                                                  3  0876                     282
1461 13 61   K2BLNK       @00@                                                   2  0878                     282
1462 13 62   MFSIZE DCW   0000000           MAXIMUM FILE SIZE                    7  0885                     282
1463 13 63   NOTAPS DCW   @4@                                                    1  0886                     282
1464 13 64   THREE  DCW   @003@                                                  3  0889                     283
1465 13 65   O1     DCW   000                                                    3  0892                     283
1466 13 66   G1     DCW   000                                                    3  0895                     283
1467 13 67   ONE    DCW   @001@                                                  3  0898                     283
1468 13 68   BLKCT1 DCW   @00000@                                                5  0903                     283
1469 13 69   ONERM  DCW   @|@                                                    1  0904                     283
1470 13 70   *
1471 13 71   CLRTN  SW    000               CLEAR WORDMARK ROUTINE               4  0905  , 000              283
1472 13 72          MLC   CDTO,X3                                                7  0909  M 953 099          284
1473 13 73   CLR1   S     0&X3              SUBTRACT TO WORDMARK                 4  0916  S 0?0              284
1474 13 74          SBR   X3                SAVE ADDRESS                         4  0920  H 099              284
1475 13 75          MA    ONE,X3                                                 7  0924  # 898 099          284
1476 13 76          CW    0&X3              CLEAR WORDMARK                       4  0931  ) 0?0              284
1477 13 77          C     ONPTAR,X3         INPUT AREA ALL CLEARED               7  0935  C P41 099          284
1478 13 78          BU    CLR1                                                   5  0942  B 916 /            284
1479 13 79          B     VLRGET            YES                                  4  0947  B Y13              285
1480 13 80   CDTO   DCW   #3                                                     3  0953                     285
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

1481 13 81          ORG   *&34                                                          0988
1482 13 82   *                  SET WORDMARK ROUTINE FOR VARIABLE
1483 13 83   *                  LENGTH RECORDS
1484 13 84   VARLNT SW    0&X2                                              4  0988  , 0!0                286
1485 13 85          SW    0&X2,0&X2                                         7  0992  , 0!0 0!0            286
1486 13 86          SW    0&X2,0&X2                                         7  0999  , 0!0 0!0            286
1487 13 87          SW    0&X2,0&X2                                         7  1006  , 0!0 0!0            286
1488 13 88          SW    0&X2,0&X2                                         7  1013  , 0!0 0!0            286
1489 13 89   STWMVL SW    0&X2,0&X2                                         7  1020  , 0!0 0!0            286
1490 13 90          SW    0&X2                                              4  1027  , 0!0                287
1491 13 91   CNVRSN ZA    15998&X2,X3                                       7  1031  ? IRH 099            287
1492 13 92          ZA    X3-2,X3                                           7  1038  ? 097 099            287
1493 13 93          MLZS  K1BLNK,X3                                         7  1045  Y 854 099            287
1494 13 94   CNVRS1 MLZS  TBLE&X3,15997&X2                                 7  1052  Y /I5 IRG            287
1495 13 95   B011TA A     ONE,CTNR                                          7  1059  A 898 539            287
1496 13 96          S     ONE,MFSIZE                                        7  1066  S 898 885            288
1497 13 97   B011T  MLC   X2,0                                              7  1073  M 094 000            288
1498 13 98   B011TH NOP   0,0                                               7  1080  N 000 000            288
1499 13 99   B011TB MA    15999&X2,X2                                       7  1087  # IRI 094            288
1500 14 00          MLC   LRG2G1,CMPLRG                                     7  1094  M 565 /88            288
1501 14 01          MA    B011T&6,CMPLRG                                    7  1101  # |79 /88            289
1502 14 02          BWZ   SETG1H,CMPLRG,2                                   8  1108  V /64 /88 2          289
1503 14 03   STMRWM MA    THREE,B011T&6                                     7  1116  # 889 |79            289
1504 14 04   STG1J  C     X2,X1                                             7  1123  C 094 089            289
1505 14 05   SETG1J BU    STWMVL                                            5  1130  B |20 /              289
1506 14 06   CLWMVL B     B013R                                             4  1135  B Y48                289
1507 14 07   SETG12 MA    @I9G@,B011T&6                                     7  1139  # Q16 |79            290
1508 14 08   SETG1  MLC   B011T&6,G1                                        7  1146  M |79 895            290
1509 14 09          MLC   K1BLNK,0&X1                                       7  1153  M 854 0|0            290
1510 14 10          B     B4SS5                                             4  1160  B R66                290
1511 14 11   SETG1H MLC   @N@,CLWMVL                                        7  1164  M Q17 /35            290
1512 14 12          B     STMRWM                                            4  1171  B /16                290
1513 14 13   LSTBLK MLC   @N@,CLWMVL                                        7  1175  M Q17 /35            291
1514 14 14   LSTBK1 B     STWMVL                                            4  1182  B |20                291
1515 14 15   CMPLRG DCW   000                                               3  1188                       291
1516 14 16   CMPCOW DCW   000                                               3  1191                       291
1517 14 17   CMPCOU DCW   000                                               3  1194                       291
1518 14 18   TBLE   DC    @9@                                               1  1195                       291
1519 14 19          DC    @Z@                                               1  1196                       291
1520 14 20          DC    @R@                                               1  1197                       291
1521 14 21          DC    @I@                                               1  1198                       291
1522 14 22          DC    @9@                                               1  1199                       291
1523 14 23   *
1524 14 24   *    S T E P   D O W N   R O U T I N E
1525 14 25   *
1526 14 26   *
1527 14 27   STPDNR MLC   O1FA-3,X1                                         7  1200  M P64 089            291
1528 14 28   LOADGM MLCWA GM,0                                              7  1207  L I9Y 000            291
1529 14 29          MLC   HOLDND,X3                                         7  1214  M T47 099            292
1530 14 30          A     ONE,CNSQ           SEQUENCE COUNT                 7  1221  A 898 533            292
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
1531 14 31   *               COMPARE LOWEST RECORD IN NEW G TO HIGHEST
1532 14 32   *               RECORD IN PREVIOUS G
1533 14 33   STPCMP  C     0,0                                          7  1228  C 000 000          292
1534 14 34   STPCM1  BL    NEXTTP            IF LOW-SWITCH OUTPUT TAPES 5  1235  B S71 T            292
1535 14 35   STPCM2  BE    EQUALS            IF EQUAL-TEST SECONDARY CFS 5  1240  B S49 S            292
1536 14 36   *               IF ALL CONTROL FIELDS ARE EQUAL OR IF
1537 14 37   *               RECORD IS HIGH-KEEP OUTPUT BLOCKS OF NEW G ON
1538 14 38   *               SAME OUTPUT TAPE UNIT AS WAS USED FOR
1539 14 39   *               PREVIOUS G
1540 14 40           B     NOSWCH                                       4  1245  B T41              292
1541 14 41   EQUALS  MA    ONE,X3                                       7  1249  # 898 099          293
1542 14 42           SBR   B04EQ&3,STPCM2&5                            7  1256  H V33 S45          293
1543 14 43           SBR   B03EQ&3                                      4  1263  H V28              293
1544 14 44           B     EQLRTN                                       4  1267  B U92              293
1545 14 45   NEXTTP  MLC   MI2TUN,TPBKT                                7  1271  M 342 T48          293
1546 14 46   NXTTP1  C     NEXTTP&3,&MI2TUN                             7  1278  C S74 Q20          293
1547 14 47           BE    CYCLE                                        5  1285  B T01 S            294
1548 14 48           MA    ONE,NEXTTP&3                                 7  1290  # 898 S74          294
1549 14 49           B     CYCLE1                                       4  1297  B T08              294
1550 14 50   CYCLE   SBR   NEXTTP&3,MI1TUN                            7  1301  H S74 341          294
1551 14 51   CYCLE1  MLC   TPBKT,B201W&3                              7  1308  M T48 W64          294
1552 14 52           MLC   TPBKT,TAPERW&3                             7  1315  M T48 X54          294
1553 14 53           MLC   TPBKT,B203W&3                              7  1322  M T48 X86          295
1554 14 54           A     ONE,CNOS1         SWITCH TAPE COUNT        7  1329  A 898 545          295
1555 14 55           BSS   PLYIN3,C                                   5  1336  B 835 C            295
1556 14 56   NOSWCH  B     BP000                                        4  1341  B T49              295
1557 14 57   HOLDND  DCW   000                                          3  1347                     295
1558 14 58   TPBKT   DCW   0                 OUTPUT TAPE NUMBER       1  1348                     295
1559 14 59   *
1560 14 60   *               PUT ROUTINE
1561 14 61   *
1562 14 62   BP000   SBR   B212W&3,BP2200                              7  1349  H W94 T63          295
1563 14 63   B2200   MLC   O1FA-3,B2000&3    GET ADDR OF 1ST REC FROM ADDR 7  1356  M P64 U01          296
1564 14 64   BP2200  MLC   0,B2001&6         TABLE                    7  1363  M 000 U15          296
1565 14 65   B2201V  B     B2000                                        4  1370  B T98              296
1566 14 66           DC    @   @                                        3  1376                     296
1567 14 67   B220VL  MLC   0,X1                                         7  1377  M 000 089          296
1568 14 68           MA    P15999,X1                                    7  1384  # 861 089          296
1569 14 69   B2201   MA    L,B2001&6                                    7  1391  # 347 U15          297
1570 14 70   B2000   MLC   0,X1              ADDR OF RECORD TO BE MOVED TO X1 7  1398  M 000 089      297
1571 14 71   PUTEXT  NOP   0                 USERS EXIT               4  1405  N 000              297
1572 14 72   B2001   MLCWA 15999&X1,0        CHAIN MOVE RECORD TO OUTPUT AREA 7  1409  L IZI 000      297
1573 14 73           NOP                     THESE NOPS ARE CHANGED TO L 1  1416  N                  297
1574 14 74           NOP                     ACCORDING TO THE NUMBER OF  1  1417  N                  297
1575 14 75           NOP                     CONTROL FIELDS SPECIFIED BY THE 1  1418  N              297
1576 14 76           NOP                     USER IN CC1 &2              1  1419  N                  298
1577 14 77           NOP                                                 1  1420  N                  298
1578 14 78           NOP                                                 1  1421  N                  298
1579 14 79           NOP                                                 1  1422  N                  298
1580 14 80           NOP                                                 1  1423  N                  298
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
1581 14 81           NOP                                                1  1424  N                  298
1582 14 82           NOP                                                1  1425  N                  298
1583 14 83           NOP                                                1  1426  N                  299
1584 14 84   B2211D  NOP   0,0                                          7  1427  N 000 000          299
1585 14 85   B2211B  C     B2000&3,G1          HAVE G RECORDS BEEN MOVED TO  7  1434  C U01 895          299
1586 14 86   B2202   MA    THREE,B2000&3       OUTPUT AREA                   7  1441  # 889 U01          299
1587 14 87   B2202A  BU    B2211               NO-IS WRITE REQUIRED          5  1448  B U57 /            299
1588 14 88   B2211C  B     BP001               YES-WRITE FINAL BLK OF G RECS 4  1453  B W14              299
1589 14 89   B2211   C     B2001&6,COUNTR      TEST-IS WRITE REQUIRED        7  1457  C U15 Y12          299
1590 14 90   B2212   BU    B2201               NO-BR TO MOVE NEXT REC TO OUTPUT 5  1464  B T91 /          300
1591 14 91           B     BP002                                             4  1469  B W21              300
1592 14 92           DC    @      @                                          6  1478                     300
1593 14 93           B     B2201V                                            4  1479  B T70              300
1594 14 94   N       DCW   @N@                                               1  1483                     300
1595 14 95   *       E  Q  U  A  L        R  O  U  T  I  N  E
1596 14 96   EQUAL   SBR   B04EQ&3             STORE THE B REGISTER TO RETURN 4  1484  H V33              300
1597 14 97           SBR   B03EQ&3             TO THE COMPARE LOOP MAINLINE   4  1488  H V28              300
1598 14 98   EQLRTN  SBR   B00EQ&3,BSCBSC      MOVE ADDRESS OF 2ND-3RD-ETC CF 7  1492  H V02 V62          300
1599 14 99   B00EQ   MLC   0,B01EQ&6           TO COMPARE INSTRUCTION         7  1499  M 000 V12          301
1600 15 00   B01EQ   C     0,0                 COMPARE SECONDARY CONT FLDS    7  1506  C 000 000          301
1601 15 01           BE    B07EQ               BRANCH TO ALTER COMPARE        5  1513  B V34 S            301
1602 15 02           MA    @I9?@,B03EQ&3                                      7  1518  # Q23 V28          301
1603 15 03   B03EQ   BL    0                   BR LOW TO MAINLINE BR LOW INSTR 5  1525  B 000 T            301
1604 15 04   B04EQ   B     0000                BR HI TO MAINLINE BR HI INSTR  4  1530  B 000              301
1605 15 05   B07EQ   C     B00EQ&3,LAST        TEST FOR OTHER CF IF EQ COMPARE 7  1534  C V02 W13          302
1606 15 06           BE    B04EQ               ALL CF HAVE BEEN COMPARED      5  1541  B V30 S            302
1607 15 07           MA    @006@,B00EQ&3       ALTER COMPARE INSTRUCTION      7  1546  # Q26 V02          302
1608 15 08           B     B00EQ               BR TO COMPARE NEXT CF          4  1553  B U99              302
1609 15 09   BSCBSC  DCW   000000              THESE 6 CHARACTER BUCKETS      6  1562                     302
1610 15 10           DCW   000000              CONTAIN THE POSITION WITHIN    6  1568                     302
1611 15 11           DCW   000000              THE RECORD OF THE SECOND THRU  6  1574                     303
1612 15 12           DCW   000000              TENTH CONTROL FIELD IF MULTIPLE 6  1580                     303
1613 15 13           DCW   000000              CONTROL FIELDS ARE PRESENT     6  1586                     303
1614 15 14           DCW   000000                                           6  1592                     303
1615 15 15           DCW   000000                                           6  1598                     303
1616 15 16           DCW   000000                                           6  1604                     303
1617 15 17           DCW   000000                                           6  1610                     304
1618 15 18   LAST    DCW   000                 ADDR OF LAST 6 CHAR DCW        3  1613                     304
1619 15 19   *
1620 15 20   *                    WRITE ROUTINE
1621 15 21   *
1622 15 22   BP001   SBR   B212W&3,B010R                                    7  1614  H W94 Y41          304
1623 15 23   BP002   S     B,MFSIZE                                          7  1621  S 199 885          304
1624 15 24           BWZ   MAXFS,MFSIZE,K                                   8  1628  V X96 885 K        304
1625 15 25   WRTFL1  A     B,CTNR                                            7  1636  A 199 539          304
1626 15 26   WRITFL  MLC   @80@,CNTR50                                       7  1643  M Q28 Y09          305
1627 15 27   B211W   MLC   @N@,B202W                                        7  1650  M Q17 X56          305
1628 15 28   RITEXT  NOP   0                   USERS EXIT                    4  1657  N 000              305
1629 15 29   B201W   WT    %U4,0                                             8  1661  M %U4 000 W        305
1630 15 30           BAV   *&1                                              5  1669  B W74 Z            305
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
1631 15 31           BER   TAPERW                                             5  1674  B X51 L           305
1632 15 32           BEF   EOFW                                               5  1679  B W95 K           306
1633 15 33   PLYIN4  NOP   K1BLNK,000                                        7  1684  N 854 000         306
1634 15 34   B212W   B     B2201                                            4  1691  B T91             306
1635 15 35   EOFW    SBR   OLGA&3                                           4  1695  H X50             306
1636 15 36   EOFW2   NOP   EOFWND                                          4  1699  N X21             306
1637 15 37           MLC   @B@,EOFW2                                        7  1703  M Q29 W99         306
1638 15 38           SBR   NOSWCH&3,NORSIF                                  7  1710  H T44 X32         306
1639 15 39           B     NEXTTP                                           4  1717  B S71             307
1640 15 40   EOFWND  MLC   @B@,CNTR                                         7  1721  M Q29 P43         307
1641 15 41           B     TSTFPD                                           4  1728  B P88             307
1642 15 42   NORSIF  MLC   @ @,STPCMP&4                                     7  1732  M Q30 S32         307
1643 15 43           MLC   &BP000                                           4  1739  M Q33             307
1644 15 44           MLC   @B@                                              4  1743  M Q29             307
1645 15 45   OLGA    B     0                                                4  1747  B 000             307
1646 15 46   TAPERW  BSP   %U4                                              5  1751  U %U4 B           308
1647 15 47   B202W   B     ERSRTN                                           4  1756  B X71             308
1648 15 48           MLC   @B@,B202W                                        7  1760  M Q29 X56         308
1649 15 49           B     B201W                                            4  1767  B W61             308
1650 15 50   ERSRTN  A     ONE,CNTR50                                       7  1771  A 898 Y09         308
1651 15 51           BAV   HLTWTR                                           5  1778  B X92 Z           308
1652 15 52   B203W   SKP   %U4                                              5  1783  U %U4 E           308
1653 15 53           B     B211W                                            4  1788  B W50             309
1654 15 54   HLTWTR  H     WRITFL                                           4  1792  . W43             309
1655 15 55   MAXFS   MLC   NOP,BP002&7                                      7  1796  M Y07 W28         309
1656 15 56           H     WRTFL1                                           4  1803  . W36             309
1657 15 57   NOP     DCW   @N@                                             1  1807                    309
1658 15 58   CNTR50  DCW   00                                               2  1809                    309
1659 15 59   COUNTR  DCW   000                                              3  1812                    309
1660 15 60   *                              16000 - SIZE OF B - 1  IF VLR
1661 15 61   *
1662 15 62   *                    GET ROUTINE
1663 15 63   *
1664 15 64   VLRGET  MLC   @B@,CLWMVL                                       7  1813  M Q29 /35         310
1665 15 65           MLC   O1FA-3,B011T&6                                   7  1820  M P64 |79         310
1666 15 66           MLC   ONPTAR,X2                                        7  1827  M P41 094         310
1667 15 67   B010RI  NOP   K4,X1                                            7  1834  N P50 089         310
1668 15 68   B010R   MLC   ONPTAR,X1          MOVE BEGINNING OF INPUT TO X1 7  1841  M P41 089         310
1669 15 69   B013R   MLC   X1,X3                                           7  1848  M 089 099         311
1670 15 70   B000R   MLC   ONE,CNTR           INITIALIZE ERROR COUNTER      7  1855  M 898 P43         311
1671 15 71           A     ONE,BLKCT1         ADD 1 TO # OF BLOCKS READ     7  1862  A 898 903         311
1672 15 72           MLC   CENSIG,13&X1       MOVE CENT SIGN TO 14TH POSITION 7  1869  M 415 0/3         311
1673 15 73   *                                 OF INPUT AREA FOR NOISE TEST
1674 15 74   B011R   MLC   K1BLNK,0&X1        BLANK GROUPMARK AT END OF RECORD 7  1876  M 854 0|0         311
1675 15 75   B001R   RT    %U1,0&X1           READ INPUT BLOCK              8  1883  M %U1 0|0 R       312
1676 15 76           SBR   X1                                               4  1891  H 089             312
1677 15 77           MA    P15999,X1                                        7  1895  # 861 089         312
1678 15 78           BEF   EOFRD              TEST-END OF FILE ON READ      5  1902  B !74 K           312
1679 15 79   CKNOIS  BCE   NOISRT,13&X3,      BRANCH IF CENT SIGN STILL PRESENT 8  1907  B !43 0A3         312
1680 15 80           BER   TAPERD             TEST-TAPE TRANSMISSION ERROR  5  1915  B K35 L           312
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
1681 15 81   GETEXT NOP   0                 USERS EXIT                 4  1920  N 000             313
1682 15 82   *               AT THIS POINT USER MAY BRANCH TO HIS OWN ROUTINE
1683 15 83   *               IF ADDITIONAL MANIPULATION OF RECORDS IS
1684 15 84   *               DESIRED--CONTENTS OF INDEX REGISTERS MUST BE SAVED
1685 15 85   *               AND RESTORED BEFORE RETURNING TO SORT PROGRAM.
1686 15 86   ***
1687 15 87   RNGLNQ BCE   ACCEPT-7,0&X3,}      CHECK RECORD LENGTH OF FIXED  8  1924  B Z37 0?0 }       313
1688 15 88   *                                   LENGTH RECORDS
1689 15 89   RNGL1Q H                                                      1  1932  .                 313
1690 15 90   RNGL2Q B     HERE                                             4  1933  B 700             313
1691 15 91          MLC   K1BLNK,0&X1        THE GROUPMARK IS REMOVED FROM THE  7  1937  M 854 0|0         313
1692 15 92   ACCEPT C     X1,COWNTR          IS INPUT AREA FILLED          7  1944  C 089 P46         313
1693 15 93          BU    B013R              RETURN TO READ ANOTHER BLOCK  5  1951  B Y48 /           313
1694 15 94   B002R  B     B4SS5              BRANCH TO SEQUENCE RECORDS    4  1956  B R66             314
1695 15 95          DC    @     @                                          5  1964                    314
1696 15 96   RLINO  B     RLIYES                                           4  1965  B !26             314
1697 15 97          DC    @   @                                          3  1971                    314
1698 15 98          MLC   X1,CONVRT          DETERMINE LENGTH OF VARIABLE LNG  7  1972  M 089 698         314
1699 15 99          B     EXPAND             RECORDS WITH NO RLI SPECIFIED  4  1979  B 620             314
1700 16 00          MLCWA HOLD,RLI                                         7  1983  L 693 !42         314
1701 16 01          MLC   X3,CONVRT                                        7  1990  M 099 698         315
1702 16 02          B     EXPAND                                           4  1997  B 620             315
1703 16 03          S     HOLD,RLI                                         7  2001  S 693 !42         315
1704 16 04          MLZS  K1BLNK,RLI                                       7  2008  Y 854 !42         315
1705 16 05          SW    RLI-3                                            4  2015  , !39             315
1706 16 06          MLCWA RLI,3&X2                                         7  2019  L !42 0!3         315
1707 16 07   RLIYES BWZ   LSTBLK,CMPCOW,2                                 8  2026  V /75 /91 2       316
1708 16 08   B002RA B     STWMVL                                           4  2034  B |20             316
1709 16 09   RLI    DCW   00000                                            5  2042                    316
1710 16 10   NOISRT MLC   K1BLNK,13&X3       CLEAR NOISE RECORD            7  2043  M 854 0A3         316
1711 16 11          MLC                                                    1  2050  M                 316
1712 16 12          MLC                                                    1  2051  M                 316
1713 16 13          MLC                                                    1  2052  M                 316
1714 16 14          MLC                                                    1  2053  M                 317
1715 16 15          MLC                                                    1  2054  M                 317
1716 16 16          MLC                                                    1  2055  M                 317
1717 16 17          MLC                                                    1  2056  M                 317
1718 16 18          MLC                                                    1  2057  M                 317
1719 16 19          MLC                                                    1  2058  M                 317
1720 16 20          MLC                                                    1  2059  M                 317
1721 16 21          MLC                                                    1  2060  M                 318
1722 16 22          MLC                                                    1  2061  M                 318
1723 16 23          MLC                                                    1  2062  M                 318
1724 16 24          MLC   X3,X1              RESTORE INDEX REGISTERS       7  2063  M 099 089         318
1725 16 25          B     B011R-7                                          4  2070  B Y69             318
1726 16 26   EOFRD  BAV   *&1                                              5  2074  B !79 Z           318
1727 16 27          S     ONE,BLKCT1                                       7  2079  S 898 903         318
1728 16 28          MLZS  K2BLNK,BLKCT1                                    7  2086  Y 878 903         319
1729 16 29          BCE   *&5,TL,              TEST FOR TRAILER LABEL        8  2093  B J05 191         319
1730 16 30   LSTCHK B     TRLENT             BR TO PROC TRAILER LABEL      4  2101  B N84             319
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
1731 16 31           S     BLKCT1              ZERO BLOCK COUNT          4  2105  S 903               319
1732 16 32           MLZS  K2BLNK,BLKCT1                               7  2109  Y 878 903           319
1733 16 33           BSS   EOFRWD,D                                     5  2116  B J28 D             319
1734 16 34           MLC   @R@,EOFRWD&4                                7  2121  M Q34 J32           320
1735 16 35   EOFRWD  RWU   0                                           5  2128  U %U0 U             320
1736 16 36           A     ONE,CPLITP          ADD 1 TO NO OF REELS PROC 7  2133  A 898 869           320
1737 16 37           BAV   TSTFPD              TEST-MORE REELS TO PROC   5  2140  B P88 Z             320
1738 16 38   SWCTAP  MLC   K1BLNK,0&X1                                 7  2145  M 854 0|0           320
1739 16 39           SBR   X1                                          4  2152  H 089               320
1740 16 40           BSS   TAPRD1,B                                    5  2156  B K31 B             321
1741 16 41   SWCHTP  MLC   I1TUN,ITPBKT      SWITCH TAPES              7  2161  M 338 P47           321
1742 16 42   SCHTP1  C     SWCHTP&3,&I2TUN                             7  2168  C J64 Q37           321
1743 16 43           BE    CICLE                                       5  2175  B J91 S             321
1744 16 44           MA    ONE,SWCHTP&3                                7  2180  # 898 J64           321
1745 16 45           B     CICLE1                                      4  2187  B J98               321
1746 16 46   CICLE   SBR   SWCHTP&3,I1TUN                             7  2191  H J64 338           322
1747 16 47   CICLE1  MLC   ITPBKT,B001R&3                             7  2198  M P47 Y86           322
1748 16 48           MLC   ITPBKT,EOFRWD&3                             7  2205  M P47 J31           322
1749 16 49           MLC   ITPBKT,TAPRD2&3                             7  2212  M P47 K55           322
1750 16 50   TSTLBL  BCE   HDRENT,ITLI,1      TEST FOR HEADER LABEL     8  2219  B K68 188 1         322
1751 16 51           B     CHKPNT                                      4  2227  B V8S               323
1752 16 52   TAPRD1  H     SWCHTP              HALT BEFORE SWITCHING INPUT TPS 4  2231  . J61         323
1753 16 53   TAPERD  BAV   *&1                                         5  2235  B K40 Z             323
1754 16 54           A     ONE,CNTR                                    7  2240  A 898 P43           323
1755 16 55           BAV   HERE                                        5  2247  B 700 Z             323
1756 16 56   TAPRD2  BSP   1                                           5  2252  U %U1 B             323
1757 16 57           MLC   X3,X1                                       7  2257  M 099 089           323
1758 16 58           B     B001R-14                                    4  2264  B Y69               324
1759 16 59   *                       80 CHARACTER HEADER-TRAILER ROUTINE
1760 16 60   *
1761 16 61   HDRENT  SBR   HDREXT&3            INITIALIZE LABEL ROUTINE  4  2268  H N10               324
1762 16 62           MLC   ITPBKT,RDHDRL&3                             7  2272  M P47 L29           324
1763 16 63           MLC   ITPBKT,RDTPMK&3                             7  2279  M P47 M88           324
1764 16 64           MLC   ITPBKT,BGET1&3                             7  2286  M P47 N05           324
1765 16 65           MLC   K2BLNK-1,CNTR                               7  2293  M 877 P43           324
1766 16 66           MLC   ITPBKT,*&4                                  7  2300  M P47 L10           325
1767 16 67   BCKHDR  RWD   %U0                REWIND UNIT               5  2307  U %U0 R             325
1768 16 68   RDHD1   MLCWA GM,281              LOAD GROUPMARK            7  2312  L I9Y 281           325
1769 16 69           MLC   CENSIG,214                                   7  2319  M 415 214           325
1770 16 70   RDHDRL  RTW   0,201              READ HEADER LABEL IN LOAD MODE 8  2326  L %U0 201 R       325
1771 16 71           SW    201                                         4  2334  , 201               325
1772 16 72   LABNOS  BCE   NOISEL,214,        CHECK FOR NOISE RECORD    8  2338  B N27 214           326
1773 16 73           BER   REREAD             TAPE ERROR CHECK          5  2346  B N11 L             326
1774 16 74           BCE   *&8,LBLSAM,                                  8  2351  B L66 572           326
1775 16 75           MLCWA 240,RTCYCL&1       SAVE FIRST 40 POSITIONS OF LABEL 7  2359  L 240 462     326
1776 16 76           MLC   @N@,*-13                                    7  2366  M Q17 L59           326
1777 16 77           NOP   000,000                                     7  2373  N 000 000           327
1778 16 78           NOP   000,000                                     7  2380  N 000 000           327
1779 16 79           BEF   *&1                RESET INDICATOR           5  2387  B L92 K             327
1780 16 80           W                                                 1  2392  2                   327
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
1781 16 81           CC    L                                           2  2393  F L                327
1782 16 82           BCE   EXIT7,LBLBKT-32,   IS LABEL TO BE CHECKED    8  2395  B M81 464          327
1783 16 83           BCE   FNAME,LBLBKT-31,   YES-ALL VALUES OR FILE NAME ONLY  8  2403  B M47 465  327
1784 16 84           C     215,LBLBKT-25      COMPARE FILE SERIAL NUMBER  7  2411  C 215 471          328
1785 16 85           BU    ERRHDR                                      5  2418  B N35 /            328
1786 16 86           C     235,LBLBKT-5       COMPARE CREATION DATE       7  2423  C 235 491          328
1787 16 87           BU    ERRHDR                                      5  2430  B N35 /            328
1788 16 88           C     210,LBLBKT-20      COMPARE REEL SEQUENCE NUMBER  7  2435  C 210 476        328
1789 16 89           BU    ERRHDR                                      5  2442  B N35 /            328
1790 16 90   FNAME   C     230,LBLBKT-10      COMPARE FILE NAMES          7  2447  C 230 486          329
1791 16 91           BU    ERRHDR                                      5  2454  B N35 /            329
1792 16 92           BCE   EXIT7-7,LBLBKT-30,                          8  2459  B M74 466          329
1793 16 93           A     ONE,LBLBKT-21      UPDATE REEL SEQ NO          7  2467  A 898 475          329
1794 16 94           MLCWA GM,281                                      7  2474  L I9Y 281          329
1795 16 95   EXIT7   NOP   000                USERS EXIT                  4  2481  N 000              329
1796 16 96   RDTPMK  RTW   0,240              READ TAPEMARK               8  2485  L %U0 240 R        330
1797 16 97           CS    299                                         4  2493  / 299              330
1798 16 98           BEF   HDREXT                                      5  2497  B N07 K            330
1799 16 99   BGET1   BSP   %U0                NO TAPE MARK PRESENT        5  2502  U %U0 B            330
1800 17 00   HDREXT  B     000                                         4  2507  B 000              330
1801 17 01   REREAD  A     ONE,CNTR                                    7  2511  A 898 P43          330
1802 17 02           BAV   STOPH                                       5  2518  B N61 Z            330
1803 17 03           B     BCKHDR                                      4  2523  B L07              331
1804 17 04   NOISEL  CS    220                                         4  2527  / 220              331
1805 17 05           B     RDHDRL-7                                    4  2531  B L19              331
1806 17 06   ERRHDR  CS    332                                         4  2535  / 332              331
1807 17 07           CS                                                1  2539  /                  331
1808 17 08           MLC   UCMSG,215                                   7  2540  M N83 215          331
1809 17 09           MLC   LBLBKT,255         MOVE CONTROL CARD CONSTANTS TO  7  2547  M 496 255     331
1810 17 10           MLC                      PRINT AREA                  1  2554  M                  332
1811 17 11           MLC                                                1  2555  M                  332
1812 17 12           MLC                                                1  2556  M                  332
1813 17 13           MLC                                                1  2557  M                  332
1814 17 14           W                                                  1  2558  2                  332
1815 17 15           CC    1                                           2  2559  F 1                332
1816 17 16   STOPH   H     EXIT7-22                                    4  2561  . M59              332
1817 17 17           B     BCKHDR-14                                   4  2565  B K93              333
1818 17 18   UCMSG   DCW   @ERROR-SHOULD BE@                          15  2583                     333
1819 17 19   TRLENT  SBR   TRLEXT&3                                    4  2584  H O87              333
1820 17 20           MLC   ITPBKT,RDTRLL&3                             7  2588  M P47 O19          333
1821 17 21           MLC   ITPBKT,BCKTRL&3                             7  2595  M P47 P03          333
1822 17 22           MLC   K2BLNK-1,CNTR                               7  2602  M 877 P43          334
1823 17 23   RDTL1   MLCWA GM,281             LOAD GROUPMARK              7  2609  L I9Y 281          334
1824 17 24   RDTRLL  RTW   0,201              READ TRAILER LABEL          8  2616  L %U0 201 R        334
1825 17 25           BEF   *&1                RESET INDICATOR             5  2624  B O29 K            334
1826 17 26           BER   RERD               TAPE ERROR CHECK            5  2629  B O88 L            334
1827 17 27           W                                                  1  2634  2                  334
1828 17 28           CC    L                                           2  2635  F L                334
1829 17 29           BCE   EXIT6,TL,1         IS LABEL TO BE CHECKED      8  2637  B O80 191 1        335
1830 17 30           C     210,BLKCT1                                  7  2645  C 210 903          335
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1831 17 31          BU    ERRTRL                                      5  2652  B P09 /            335
1832 17 32          C     220,CNTR                                    7  2657  C 220 P43          335
1833 17 33          BE    EXIT6                                       5  2664  B O80 S            335
1834 17 34          SBR   EREINE&3,CNTR      PLACE RECORD COUNT IN MESSAGE  7  2669  H P24 P43          335
1835 17 35          B     ERRTRL                                      4  2676  B P09              336
1836 17 36   EXIT6  NOP   000                 USERS EXIT                  4  2680  N 000              336
1837 17 37   TRLEXT B     000                                         4  2684  B 000              336
1838 17 38   RERD   A     ONE,CNTR                                    7  2688  A 898 P43          336
1839 17 39          BAV   STOPT                                       5  2695  B P35 Z            336
1840 17 40   BCKTRL BSP   %U0                                        5  2700  U %U0 B            336
1841 17 41          B     RDTRLL                                      4  2705  B O16              336
1842 17 42   ERRTRL CS    332                 PRINT UNEQUAL COMPARE MESSAGE  4  2709  / 332              337
1843 17 43          CS                                                1  2713  /                  337
1844 17 44          MLC   UCMSG,215                                   7  2714  M N83 215          337
1845 17 45   EREINE MLC   BLKCT1,230                                  7  2721  M 903 230          337
1846 17 46          W                                                 1  2728  2                  337
1847 17 47          CC    1                                           2  2729  F 1                337
1848 17 48          H     EXIT6                                       4  2731  . O80              337
1849 17 49   STOPT  H     TRLEXT                                      4  2735  . O84              338
1850 17 50   ONPTAR DCW   000                 FIRST POSITION OF G AREA    3  2741               338
1851 17 51   CNTR   DCW   00                                          2  2743                     338
1852 17 52   COWNTR DCW   000                                         3  2746                     338
1853 17 53   *                                  16K - LAST POS G & MXBLKSIZ--VLR
1854 17 54   ITPBKT DCW   0                                           1  2747                     338
1855 17 55   K4     DCW   @004@                                       3  2750                     338
1856 17 56   *
1857 17 57   *      B I N A R Y     S E A R C H
1858 17 58   *
1859 17 59   ZERO   DCW   &000                                       3  2753                     338
1860 17 60   HALF   DCW   &5                                        1  2754                     339
1861 17 61   D      DCW   000                                       3  2757                     339
1862 17 62   E      DCW   0000                                      4  2761                     339
1863 17 63   O1FA   DCW   000000                                    6  2767                     339
1864 17 64   G/4    DCW   000                                       3  2770                     339
1865 17 65          DC    00                                        2  2772                     339
1866 17 66   LORCRD DCW   @ @                                       1  2773                     339
1867 17 67   SONED  DCW   @SXXXXXX@                                 7  2780                     339
1868 17 68   *
1869 17 69   HLTMFS MLC   @N@,CNTR                                  7  2781  M Q17 P43          340
1870 17 70   TSTFPD CS    080                                       4  2788  / 080              340
1871 17 71          SW    24,56                                     7  2792  , 024 056          340
1872 17 72          SW    63,67                                     7  2799  , 063 067          340
1873 17 73          R     056                                       4  2806  1 056              340
1874 17 74   Z      DCW   000                                       3  2812                     340
1875 17 75          LTORG *                                                   2813
                    DCW   @|@                                       1  2813            LIT    340
                          @I9G@                                     3  2816            LIT    341
                          @N@                                       1  2817            LIT    341
      1546                &MI2TUN                                   3  2820  342       ADCON  341
                          @I9?@                                     3  2823            LIT    341
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

                          @0006@                                    3  2826              LIT    341
                          @80@                                      2  2828              LIT    341
                          @B@                                       1  2829              LIT    341
                          @ @                                       1  2830              LIT    342
       1643               &BP000                                    3  2833  T49         ADCON  342
                          @R@                                       1  2834              LIT    342
       1742               &I2TUN                                    3  2837  339         ADCON  342
1876 17 76   *
1877 17 77   HPNDPM DCW   000                                       3  2840                     342
1878 17 78   TPCNPM DCW   @D99@                                     3  2843                     342
1879 17 79   CLEARS NOP   0,0                                       7  2844  N 000 000          342
1880 17 80   STRTCL CS    15999              CLEAR CORE             4  2851  / I9I              343
1881 17 81          SBR   STRTCL&3                                 4  2855  H Q54              343
1882 17 82          C     STRTCL&3,TPCNPM                         7  2859  C Q54 Q43          343
1883 17 83          BU    STRTCL                                  5  2866  B Q51 /            343
1884 17 84   LOADTB SW    0                                       4  2871  , 000              343
1885 17 85   LODTB1 MLC   ADRLRD,0                                7  2875  M A05 000          343
1886 17 86   LODTB2 MLC   0,0                                     7  2882  M 000 000          343
1887 17 87   LODTB3 CW    0                                       4  2889  ) 000              344
1888 17 88          NOP   @|@,000                                 7  2893  N A15 000          344
1889 17 89   MAX    MLC   GM,0                                    7  2900  M I9Y 000          344
1890 17 90          BCE   NITTAP,FLR,1                           8  2907  B ?99 091 1        344
1891 17 91          MLC   TPCNPM,X1                               7  2915  M Q43 089          344
1892 17 92          MLC   K1BLNK,1&X1                             7  2922  M 854 0|1          345
1893 17 93   LDBKPM MLC   K1BLNK,0&X1        CLEAR BY MOVING BLANKS 7  2929  M 854 0|0          345
1894 17 94          SBR   X1                                      4  2936  H 089              345
1895 17 95          CW    1&X1                                    4  2940  ) 0|1              345
1896 17 96          C     X1,HPNDPM          IS THE INPUT AREA CLEARED 7  2944  C 089 Q40      345
1897 17 97          BU    LDBKPM                                  5  2951  B R29 /            345
1898 17 98          MA    ONPTAR,SETWMK&3    SET WORD MARKS       7  2956  # P41 R80          346
1899 17 99   STWMK1 MLC   NCF,K2FLD                               7  2963  M 096 847          346
1900 18 00          MLC   @000@,X3                               7  2970  M A18 099          346
1901 18 01   SETWMK SW    0&X3                                    4  2977  , 0?0              346
1902 18 02   INSWIN MLC   CF1SL,X3                               7  2981  M 353 099          346
1903 18 03          MA    THREE,INSWIN&3                          7  2988  # 889 R84          346
1904 18 04          A     NINTNN,K2FLD                            7  2995  A 873 847          347
1905 18 05          BAV   SETWMK                                  5  3002  B R77 Z            347
1906 18 06          SBR   INSWIN&3,CF1SL                         7  3007  H R84 353          347
1907 18 07          MA    L,SETWMK&3                              7  3014  # 347 R80          347
1908 18 08          A     K999,GCNTR                              7  3021  A A14 A11          347
1909 18 09          BAV   STWMK1                                  5  3028  B R63 Z            347
1910 18 10          C     G,ONE                G EQUALS ONE       7  3033  C 857 898          348
1911 18 11          BU    SETWM1                                  5  3040  B ?52 /            348
1912 18 12          SBR   B002R&3,STPDNR                         7  3045  H Z59 S00          348
1913 18 13   SETWM1 MLC   O1,X3                                   7  3052  M 892 099          348
1914 18 14          MLC   ONPTAR,ONPTRI                          7  3059  M P41 A08          348
1915 18 15   ADRTBL MLC   ONPTRI,0&X3    SET UP TABLE OF ADDRESSES 7  3066  M A08 0?0          349
1916 18 16          MA    L,ONPTRI                                7  3073  # 347 A08          349
1917 18 17          C     X3,G1                                   7  3080  C 099 895          349
1918 18 18          MA    THREE,X3                                7  3087  # 889 099          349
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1919 18 19          BU    ADRTBL                                                5  3094  B ?66 /            349
1920 18 20   NITTAP B     056                                                   4  3099  B 056              349
1921 18 21   ADRLRD DSA   LORCRD                                                3  3105  P73                350
1922 18 22   ONPTRI DCW   000                                                   3  3108                     350
1923 18 23   GCNTR  DCW   000                                                   3  3111                     350
1924 18 24   K999   DCW   @999@                                                 3  3114                     350
1925 18 25          LTORG *                                                            3115
                    DCW   @|@                                                   1  3115             LIT    350
                          @000@                                                 3  3118             LIT    350
1926 18 26          ORG   *&1                                                          3120
1927 18 27   B002B  MLC   3&X2,X3           ENTER SORT LOOP HERE WHEN             7  3120  M 0!3 099          351
1928 18 28          C     0&X3,0&X1         SORTING 2ND RECORD                    7  3127  C 0?0 0|0          351
1929 18 29          BL    B4S07                                                 5  3134  B ?13 T            351
1930 18 30          BE    EQUAL                                                 5  3139  B U84 S            351
1931 18 31   B700B  MA    B002B&3,X2                                            7  3144  # A23 094          351
1932 18 32   P003   B     B4S07                                                 4  3151  B ?13              351
1933 18 33   B004B  MLC   6&X2,X3           ENTER SORT LOOP HERE WHEN             7  3155  M 0!6 099          352
1934 18 34          C     0&X3,0&X1         SORTING 3RD OR 4TH RECORD             7  3162  C 0?0 0|0          352
1935 18 35          BL    B002B                                                 5  3169  B A20 T            352
1936 18 36          BE    EQUAL                                                 5  3174  B U84 S            352
1937 18 37   B701B  MLC   9&X2,X3                                               7  3179  M 0!9 099          352
1938 18 38          C     0&X3,0&X1                                             7  3186  C 0?0 0|0          352
1939 18 39          BL    B712B                                                 5  3193  B B14 T            353
1940 18 40          BE    EQUAL                                                 5  3198  B U84 S            353
1941 18 41   B702B  MA    B701B&3,X2                                            7  3203  # A82 094          353
1942 18 42          B     B4S07                                                 4  3210  B ?13              353
1943 18 43   B712B  MA    B004B&3,X2                                            7  3214  # A58 094          353
1944 18 44   P009   B     B4S07                                                 4  3221  B ?13              353
1945 18 45   B008B  MLC   12&X2,X3          ENTER SORT LOOP HERE WHEN             7  3225  M 0J2 099          353
1946 18 46          C     0&X3,0&X1         SORTING RECORDS 5 THRU 8              7  3232  C 0?0 0|0          354
1947 18 47          BL    B004B                                                 5  3239  B A55 T            354
1948 18 48          BE    EQUAL                                                 5  3244  B U84 S            354
1949 18 49   B703B  MLC   18&X2,X3                                              7  3249  M 0J8 099          354
1950 18 50          C     0&X3,0&X1                                             7  3256  C 0?0 0|0          354
1951 18 51          BL    B715B                                                 5  3263  B C19 T            354
1952 18 52          BE    EQUAL                                                 5  3268  B U84 S            355
1953 18 53   B705B  MLC   21&X2,X3                                              7  3273  M 0K1 099          355
1954 18 54          C     0&X3,0&X1                                             7  3280  C 0?0 0|0          355
1955 18 55          BL    B716B                                                 5  3287  B C08 T            355
1956 18 56          BE    EQUAL                                                 5  3292  B U84 S            355
1957 18 57   B706B  MA    B705B&3,X2                                            7  3297  # B76 094          355
1958 18 58          B     B4S07                                                 4  3304  B ?13              356
1959 18 59   B716B  MA    B703B&3,X2                                            7  3308  # B52 094          356
1960 18 60          B     B4S07                                                 4  3315  B ?13              356
1961 18 61   B715B  MLC   15&X2,X3                                              7  3319  M 0J5 099          356
1962 18 62          C     0&X3,0&X1                                             7  3326  C 0?0 0|0          356
1963 18 63          BL    B714B                                                 5  3333  B C54 T            356
1964 18 64          BE    EQUAL                                                 5  3338  B U84 S            356
1965 18 65   B704B  MA    B715B&3,X2                                            7  3343  # C22 094          357
1966 18 66          B     B4S07                                                 4  3350  B ?13              357
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
1967 18 67   B714B  MA    B008B&3,X2                                     7  3354  # B28 094          357
1968 18 68   P021   B     B4S07                                          4  3361  B ?13              357
1969 18 69   B016B  MLC   24&X2,X3          ENTER SORT LOOP HERE WHEN    7  3365  M 0K4 099          357
1970 18 70          C     0&X3,0&X1         SORTING RECORDS 9 THRU 16    7  3372  C 0?0 0|0          357
1971 18 71          BL    B008B                                          5  3379  B B25 T            358
1972 18 72          BE    EQUAL                                          5  3384  B U84 S            358
1973 18 73   B600B  MA    B016B&3,X2                                     7  3389  # C68 094          358
1974 18 74   P024   B     B008B                                          4  3396  B B25              358
1975 18 75   B032B  MLC   48&X2,X3          ENTER SORT LOOP HERE WHEN    7  3400  M 0M8 099          358
1976 18 76          C     0&X3,0&X1         SORTING RECORDS 17 THRU 32   7  3407  C 0?0 0|0          358
1977 18 77          BL    B016B                                          5  3414  B C65 T            359
1978 18 78          BE    EQUAL                                          5  3419  B U84 S            359
1979 18 79   B601B  MLC   72&X2,X3                                      7  3424  M 0P2 099          359
1980 18 80          C     0&X3,0&X1                                      7  3431  C 0?0 0|0          359
1981 18 81          BL    B612B                                          5  3438  B D59 T            359
1982 18 82          BE    EQUAL                                          5  3443  B U84 S            359
1983 18 83   B602B  MA    B601B&3,X2                                     7  3448  # D27 094          360
1984 18 84          B     B008B                                          4  3455  B B25              360
1985 18 85   B612B  MA    B032B&3,X2                                     7  3459  # D03 094          360
1986 18 86   P072   B     B008B                                          4  3466  B B25              360
1987 18 87   B064B  MLC   96&X2,X3          ENTER SORT LOOP HERE WHEN    7  3470  M 0R6 099          360
1988 18 88          C     0&X3,0&X1         SORTING RECORDS 33 THRU 64   7  3477  C 0?0 0|0          360
1989 18 89          BL    B032B                                          5  3484  B D00 T            361
1990 18 90          BE    EQUAL                                          5  3489  B U84 S            361
1991 18 91   B603B  MLC   144&X2,X3                                     7  3494  M 1M4 099          361
1992 18 92          C     0&X3,0&X1                                      7  3501  C 0?0 0|0          361
1993 18 93          BL    B615B                                          5  3508  B E64 T            361
1994 18 94          BE    EQUAL                                          5  3513  B U84 S            361
1995 18 95   B605B  MLC   168&X2,X3                                     7  3518  M 1O8 099          362
1996 18 96          C     0&X3,0&X1                                      7  3525  C 0?0 0|0          362
1997 18 97          BL    B616B                                          5  3532  B E53 T            362
1998 18 98          BE    EQUAL                                          5  3537  B U84 S            362
1999 18 99   B606B  MA    B605B&3,X2                                     7  3542  # E21 094          362
2000 19 00          B     B008B                                          4  3549  B B25              362
2001 19 01   B616B  MA    B603B&3,X2                                     7  3553  # D97 094          363
2002 19 02          B     B008B                                          4  3560  B B25              363
2003 19 03   B615B  MLC   120&X2,X3                                     7  3564  M 1K0 099          363
2004 19 04          C     0&X3,0&X1                                      7  3571  C 0?0 0|0          363
2005 19 05          BL    B614B                                          5  3578  B E99 T            363
2006 19 06          BE    EQUAL                                          5  3583  B U84 S            363
2007 19 07   B604B  MA    B615B&3,X2                                     7  3588  # E67 094          364
2008 19 08          B     B008B                                          4  3595  B B25              364
2009 19 09   B614B  MA    B064B&3,X2                                     7  3599  # D73 094          364
2010 19 10   P144   B     B008B                                          4  3606  B B25              364
2011 19 11   B128B  MLC   192&X2,X3          ENTER SORT LOOP HERE WHEN    7  3610  M 1R2 099          364
2012 19 12          C     0&X3,0&X1         SORTING RECORDS 65 THRU 128  7  3617  C 0?0 0|0          364
2013 19 13          BL    B064B                                          5  3624  B D70 T            365
2014 19 14          BE    EQUAL                                          5  3629  B U84 S            365
2015 19 15   B500B  MA    B128B&3,X2                                     7  3634  # F13 094          365
2016 19 16   P192   B     B064B                                          4  3641  B D70              365
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2017 19 17   B256B  MLC   384&X2,X3          ENTER SORT LOOP HERE WHEN     7  3645  M 3Q4 099          365
2018 19 18          C     0&X3,0&X1          SORTING RECORDS 129 THRU 256  7  3652  C 0?0 0|0          365
2019 19 19          BL    B128B                                            5  3659  B F10 T            366
2020 19 20          BE    EQUAL                                            5  3664  B U84 S            366
2021 19 21   B501B  MLC   576&X2,X3                                       7  3669  M 5P6 099          366
2022 19 22          C     0&X3,0&X1                                        7  3676  C 0?0 0|0          366
2023 19 23          BL    B522B                                            5  3683  B G04 T            366
2024 19 24          BE    EQUAL                                            5  3688  B U84 S            366
2025 19 25   B502B  MA    B501B&3,X2                                       7  3693  # F72 094          367
2026 19 26          B     B064B                                            4  3700  B D70              367
2027 19 27   B522B  MA    B256B&3,X2                                       7  3704  # F48 094          367
2028 19 28   P576   B     B064B                                            4  3711  B D70              367
2029 19 29   B512B  MLC   768&X2,X3          ENTER SORT LOOP HERE WHEN     7  3715  M 7O8 099          367
2030 19 30          C     0&X3,0&X1          SORTING RECORDS 257 THRU 512  7  3722  C 0?0 0|0          367
2031 19 31          BL    B256B                                            5  3729  B F45 T            368
2032 19 32          BE    EQUAL                                            5  3734  B U84 S            368
2033 19 33   B503B  MLC   1152&X2,X3                                      7  3739  M /N2 099          368
2034 19 34          C     0&X3,0&X1                                        7  3746  C 0?0 0|0          368
2035 19 35          BL    B515B                                            5  3753  B H09 T            368
2036 19 36          BE    EQUAL                                            5  3758  B U84 S            368
2037 19 37   B505B  MLC   1344&X2,X3                                      7  3763  M TM4 099          369
2038 19 38          C     0&X3,0&X1                                        7  3770  C 0?0 0|0          369
2039 19 39          BL    B516B                                            5  3777  B G98 T            369
2040 19 40          BE    EQUAL                                            5  3782  B U84 S            369
2041 19 41   B506B  MA    B505B&3,X2                                       7  3787  # G66 094          369
2042 19 42          B     B064B                                            4  3794  B D70              369
2043 19 43   B516B  MA    B503B&3,X2                                       7  3798  # G42 094          370
2044 19 44          B     B064B                                            4  3805  B D70              370
2045 19 45   B515B  MLC   960&X2,X3                                       7  3809  M 9O0 099          370
2046 19 46          C     0&X3,0&X1                                        7  3816  C 0?0 0|0          370
2047 19 47          BL    B514B                                            5  3823  B H44 T            370
2048 19 48          BE    EQUAL                                            5  3828  B U84 S            370
2049 19 49   B504B  MA    B515B&3,X2                                       7  3833  # H12 094          371
2050 19 50          B     B064B                                            4  3840  B D70              371
2051 19 51   B514B  MA    B512B&3,X2                                       7  3844  # G18 094          371
2052 19 52   P1344  B     B064B                                            4  3851  B D70              371
2053 19 53          DCW   @ @                                              1  3855                     371
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

2054 19 54          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
2055 19 55   *
2056 19 56   *
2057 19 57   *
2058 19 58          LTORG *                                                          3856
2059 19 59   *
2060 19 60   *
2061 19 61   *                      80 CHARACTER WORK LABEL ROUTINE
2062 19 62   *
2063 19 63          ORG   4175                                                       4175
2064 19 64   WLAREA DCW   @1HDR 00000SORT7LABEL         @                     30  4204                    372
2065 19 65          DC    #50                                                   50  4254                    374
2066 19 66   WLGM   DCW   @  @                                                   2  4256                    374
2067 19 67   INTIAL BCE   TWLABL,MS,4                                            8  4257  B 31/ 344 4       374
2068 19 68          MLC   GPMARK,INTAL1&6                                       7  4265  M 350 27Y         374
2069 19 69   INTAL1 MLCWA GM,0                                                   7  4272  L I9Y 000         374
2070 19 70          CW    GM                                                    4  4279  ) I9Y             375
2071 19 71          MLC   GPMARK,RDHD1&3                                       7  4283  M 350 L15         375
2072 19 72          MLC   GPMARK,RDTL1&3                                       7  4290  M 350 O12         375
2073 19 73          MLC   GPMARK,EXIT7-4                                       7  4297  M 350 M77         375
2074 19 74          MLC   GPMARK,LOADGM&3                                      7  4304  M 350 S10         375
2075 19 75   TWLABL BCE   NXTINT,LBBUCK,1    CHECK FOR 120 CHARACTER LABELS    8  4311  B 79X 414 1       376
2076 19 76          MLC   CENSIG,LABNOS&7    PRIME NOISE TEST WITH CENT SIGN   7  4319  M 415 L45         376
2077 19 77          BCE   NXBYPS,LABELS,                                       8  4326  B 78U 413         376
2078 19 78   EXIT0  NOP   0                  USER EXIT BEFORE READING WORK LBL 4  4334  N 000             376
2079 19 79   SWKLB  MLC   MI1TUN,TPWKBK      MOVE 1ST WORK TP NO TO BUCKET     7  4338  M 341 98X         376
2080 19 80          MLC   TPWKBK,WLAREA-20                                     7  4345  M 98X 18U         377
2081 19 81          MLC   CENSIG,WKENOI&7    PRIME NOISE RECORD TEST           7  4352  M 415 44X         377
2082 19 82          MLC   @00@,CRYBU1                                          7  4359  M 99V 61S         377
2083 19 83          MA    ONE,SWKLB&3                                          7  4366  # 898 34/         377
2084 19 84          MLC   GPMARK,*&4                                           7  4373  M 350 38T         377
2085 19 85          MLCWA GM,WLGM-1                                            7  4380  L I9Y 25V         378
2086 19 86          BCE   NOWL,WLBKT,        NO LABEL-CREATE TEMP LABEL        8  4387  B 88Z 417         378
2087 19 87          MLC   K1BLNK,CNTR        RESET COUNTER                     7  4395  M 854 P43         378
2088 19 88          MLC   TPWKBK,*&4         INITIALIZE REWIND INSTRUCTION     7  4402  M 98X 41S         378
2089 19 89          RWD   %U0                REWIND UNIT                       5  4409  U %U0 R           378
2090 19 90   RDWL   MLC   CENSIG,WLAREA-16   LOAD CENT SIGN FOR NOISE TEST     7  4414  M 415 18Y         379
2091 19 91          MLC   TPWKBK,*&4                                           7  4421  M 98X 43/         379
2092 19 92          RTW   %U0,WLAREA-29      READ WORK LABEL                   8  4428  L %U0 17V R       379
2093 19 93          SBR   HDRBKT                                              4  4436  H 99T             379
2094 19 94   WKENOI BCE   NOISEW,WLAREA-16,    IS CENT SIGN STILL PRESENT     8  4440  B 81Z 18Y         379
2095 19 95          BER   RERDWL             CHECK TAPE TRANS ERROR            5  4448  B 84Z L           379
2096 19 96          BEF   *&1                RESET INDICATOR                   5  4453  B 45Y K           380
2097 19 97          A     ONE,TBC                                              7  4458  A 898 98Y         380
2098 19 98          BCE   EXIT5-12,WLBKT,0   0 IF HDR BUT NO CHK CC3COL4      8  4465  B 64Z 417 0       380
2099 19 99   *                    RETENTION CYCLE CHECK
2100 20 00          ZA    WLAREA&9,CRTCYL    MOVE TAPE INFORMATION TO CHECK    7  4473  ? 21T 64Y         380
2101 20 01          MLC                      BUCKET                            1  4480  M                 380
2102 20 02          MLC                                                        1  4481  M                 380
2103 20 03          SW    OHDATE-2                                             4  4482  , 455             380
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

2104 20 04   CLWL   C     OHDATE-3,CRTCYL-7  COMPARE YEAR           7  4486  C 454 64/          381
2105 20 05          BU    MODYR                                    5  4493  B 56Y /            381
2106 20 06          A     CRTCYL-4,CRTCYL    ADD TAPE DAYS TO RT CYL 7  4498  A 64U 64Y          381
2107 20 07          S     OHDATE,CRTCYL      SUB CONT DAYS FROM RT CYL 7  4505  S 457 64Y          381
2108 20 08          CW    OHDATE-2                                 4  4512  ) 455              381
2109 20 09          BWZ   EXIT5-12,CRTCYL,K  CAN WE WRITE ON TAPE   8  4516  V 64Z 64Y K        381
2110 20 10          CS    332                NO-PRINT MESSAGE INDICATING 4  4524  / 332          382
2111 20 11          CS                       DAYS TAPE IS TO BE RETAINED 1  4528  /              382
2112 20 12          MLC   SAVMSG,226                               7  4529  M 63Z 226          382
2113 20 13          MLNS  CRTCYL,221                             7  4536  D 64Y 221          382
2114 20 14          MLNS                                         1  4543  D                  382
2115 20 15          MLNS                                         1  4544  D                  382
2116 20 16          MLC   SAVMS1                                 4  4545  M 63U              382
2117 20 17          MLC   TPWKBK                                 4  4549  M 98X              383
2118 20 18          MLC   SAVMS2                                 4  4553  M 62Z              383
2119 20 19          W                                            1  4557  2                  383
2120 20 20          CC    1                                      2  4558  F 1                383
2121 20 21          H     EXIT5-12           HIT START TO ACCEPT TAPE 4  4560  . 64Z          383
2122 20 22          B     RDWL-5             START RESET-START TO RECHECK 4  4564  B 40Z          383
2123 20 23   MODYR  S     TSF,CRTCYL         SUBTRACT 365 FROM RT CYL 7  4568  S 61X 64Y          383
2124 20 24          A                        AND ADD 1 TO TAPE YEARS  1  4575  A                  384
2125 20 25          A                                            1  4576  A                  384
2126 20 26          A     @1@,CRYBU1                             7  4577  A 99W 61S          384
2127 20 27          BCE   HLCRY1,CRYBU1-1,3                      8  4584  B 59W 61/ 3        384
2128 20 28          B     CLWL                                   4  4592  B 48W              384
2129 20 29   HLCRY1 H     EXIT5-12                               4  4596  . 64Z              384
2130 20 30          MLC   @00@,CRYBU1                            7  4600  M 99V 61S          384
2131 20 31          B     CLWL                                   4  4607  B 48W              385
2132 20 32   CRYBU1 DCW   @  @                                   2  4612                     385
2133 20 33          DCW   @1@                                    1  4613                     385
2134 20 34          DCW   @0@                                    1  4614                     385
2135 20 35   TSF    DCW   @365@                                  3  4617                     385
2136 20 36   SAVMS2 DCW   @RETAIN TAPE @                         12  4629                     385
2137 20 37   SAVMS1 DCW   @ FOR @                                5  4634                     385
2138 20 38   SAVMSG DCW   @ DAYS@                                5  4639                     386
2139 20 39          DCW   #2                                     2  4641                     386
2140 20 40          DCW   #3                                     3  4644                     386
2141 20 41   CRTCYL DCW   #4                                     4  4648                     386
2142 20 42          MLC   TPWKBK,*&4                             7  4649  M 98X 65Z          386
2143 20 43          RWD   %U0                REWIND UNIT         5  4656  U %U0 R            386
2144 20 44   EXIT5  NOP   000                USER EXIT AFTER READING LABEL 4  4661  N 000          386
2145 20 45   *                                 OR BEFORE WRITING NEW WORK TAPE
2146 20 46   *                                 LABEL
2147 20 47          MLC   TPWKBK,*&4                             7  4665  M 98X 67V          387
2148 20 48   WTWL   WT    %U0,WLAREA-29      WRITE WORK HEADER LABEL 8  4672  M %U0 17V W        387
2149 20 49          BER   EWWKL                                  5  4680  B 90| L            387
2150 20 50          BEF   *&1                                    5  4685  B 69| K            387
2151 20 51          BCE   EXIT9,THLTMO,      TP MARK AFTER HEADER LABEL 8  4690  B 71| 418        387
2152 20 52          MLC   TPWKBK,*&4         YES                 7  4698  M 98X 70Y          388
2153 20 53          WTM   %U0                WRITE TAPE MARK     5  4705  U %U0 M            388
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

2154 20 54   EXIT9  NOP   000               USER EXIT AFT WRITING WKLBL     4  4710  N 000             388
2155 20 55          BCE   TOOWA,MI3TUN,     3 WAY MERGE                   8  4714  B 73Y 343         388
2156 20 56          C     TBC,@3@           YES                           7  4722  C 98Y 99X         388
2157 20 57          BU    SWKLB                                           5  4729  B 33Y /           388
2158 20 58          B     NXBYPS                                          4  4734  B 78U             389
2159 20 59   TOOWA  C     TBC,@2@           2 WAY MERGE                   7  4738  C 98Y 99Y         389
2160 20 60          BU    SWKLB                                           5  4745  B 33Y /           389
2161 20 61          BCE   NXBYPS,URPI,P                                   8  4750  B 78U 186 P       389
2162 20 62          BCE   NXBYPS,URPI,C                                   8  4758  B 78U 186 C       389
2163 20 63          SBR   EXIT9&7,NXBYPS                                 7  4766  H 71X 78U         389
2164 20 64          MLC   URPI,TPWKBK                                     7  4773  M 186 98X         390
2165 20 65          B     SWKLB&7                                         4  4780  B 34V             390
2166 20 66   NXBYPS R                                                     1  4784  1                 390
2167 20 67          BCE   NXTINT,68,B                                     8  4785  B 79X 068 B       390
2168 20 68          B     NXBYPS                                          4  4793  B 78U             390
2169 20 69   NXTINT CS    080                                             4  4797  / 080             390
2170 20 70          SW    24,56                                           7  4801  , 024 056         390
2171 20 71          SW    63,67                                           7  4808  , 063 067         391
2172 20 72          R     056                                             4  4815  1 056             391
2173 20 73   NOISEW MLC   HDRBKT,X3                                       7  4819  M 99T 099         391
2174 20 74          MLC   K2BLNK,0&X3                                     7  4826  M 878 0?0         391
2175 20 75          CHAIN 12                                                                MACRO
2176                MLC                                                   1  4833  M           GEN   391
2177                MLC                                                   1  4834  M           GEN   391
2178                MLC                                                   1  4835  M           GEN   391
2179                MLC                                                   1  4836  M           GEN   392
2180                MLC                                                   1  4837  M           GEN   392
2181                MLC                                                   1  4838  M           GEN   392
2182                MLC                                                   1  4839  M           GEN   392
2183                MLC                                                   1  4840  M           GEN   392
2184                MLC                                                   1  4841  M           GEN   392
2185                MLC                                                   1  4842  M           GEN   392
2186                MLC                                                   1  4843  M           GEN   393
2187                MLC                                                   1  4844  M           GEN   393
2188 20 76          B     RDWL                                            4  4845  B 41U             393
2189 20 77   RERDWL A     ONE,CNTR                                        7  4849  A 898 P43         393
2190 20 78          BAV   STOPW                                           5  4856  B 86V Z           393
2191 20 79          B     RDWL-5                                          4  4861  B 40Z             393
2192 20 80   STOPW  H     ACPLB             ERR ON READING WK LABEL       4  4865  . 87T             393
2193 20 81          B     RDWL-5            HIT START TO ACCEPT AS READ   4  4869  B 40Z             394
2194 20 82   *                                HIT START RESET-START-TO REREAD
2195 20 83   ACPLB  BEF   *&1                                             5  4873  B 87Y K           394
2196 20 84          A     ONE,TBC                                         7  4878  A 898 98Y         394
2197 20 85          B     EXIT5-12                                        4  4885  B 64Z             394
2198 20 86   NOWL   A     ONE,TBC           NO WORK LABEL-CREATE TEMP     7  4889  A 898 98Y         394
2199 20 87          B     EXIT5                                           4  4896  B 66/             394
2200 20 88   EWWKL  A     ONE,CFIFTY        WRITE ERROR ROUTINE           7  4900  A 898 99|         394
2201 20 89          MLC   TPWKBK,*&4                                      7  4907  M 98X 91X         395
2202 20 90          BSP   %U0                                             5  4914  U %U0 B           395
2203 20 91          BAV   H50                                             5  4919  B 97W Z           395
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

2204 20 92          MLC   TPWKBK,*&4                               7  4924  M 98X 93U          395
2205 20 93          WT    %U0,WLAREA-29                            8  4931  M %U0 17V W        395
2206 20 94          BER   *&5                                      5  4939  B 94Y L            395
2207 20 95          B     WTWL&13                                  4  4944  B 68V              396
2208 20 96          MLC   TPWKBK,*&4                               7  4948  M 98X 95Y          396
2209 20 97          BSP   %U0                                     5  4955  U %U0 B            396
2210 20 98          MLC   TPWKBK,*&4                               7  4960  M 98X 97|          396
2211 20 99          SKP   %U0                                     5  4967  U %U0 E            396
2212 21 00          B     WTWL                                     4  4972  B 67S              396
2213 21 01  H50     MLC   @80@,CFIFTY                             7  4976  M |0| 99|         396
2214 21 02          H     WTWL-7            TRIED TO WRITE WORK LABEL 20  4  4983  . 66V      397
2215 21 03  *                                 TIMES-HIT START TO TRY AGAIN
2216 21 04  TPWKBK DCW   @ @                                      1  4987                     397
2217 21 05  TBC    DCW   @0@                                      1  4988                     397
2218 21 06  CFIFTY DCW   @80@                                     2  4990                     397
2219 21 07  HDRBKT DCW   @000@                                    3  4993                     397
2220 21 08          LTORG *                                                4994
                    DCW   @00@                                     2  4995          LIT    397
                          @1@                                      1  4996          LIT    397
                          @3@                                      1  4997          LIT    398
                          @2@                                      1  4998          LIT    398
                          @80@                                     2  5000          LIT    398
2221 21 09          EX    INTIAL                                          B 25X              399
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

2222 21 10          JOB   ** IBM 1401 SORT 7 VERSION 2 PHASE 1
2223 21 11   *
2224 21 12   *
2225 21 13   *
2226 21 14   *              120 CHARACTER HEADER TRAILER ROUTINE
2227 21 15   *
2228 21 16          ORG   HDRENT                                                2268
2229 21 17   HDRANT SBR   HDRAXT&3            INITIALIZE LABEL ROUTINE        4  2268  H N10             402
2230 21 18          MLC   ITPBKT,REHDRL&3     PRIME TAPE READ INSTRUCTION     7  2272  M P47 L29         402
2231 21 19          MLC   ITPBKT,RETPMK&3     PRIME READ TAPEMARK ROUTINE     7  2279  M P47 M88         402
2232 21 20          MLC   ITPBKT,CGET1&3      PRIME BACKSPACE COMMAND         7  2286  M P47 N05         402
2233 21 21          MLC   ITPBKT,*&4          PRIME REWIND INSTRUCTION        7  2293  M P47 L03         402
2234 21 22   BCKHER RWD   0                   REWIND TAPE UNIT PRIOR TO READ  5  2300  U %U0 R           402
2235 21 23          MLC   K1BLNK,CNTR         PRIME ERROR COUNTER             7  2305  M 854 P43         403
2236 21 24   REHD2  MLCWA GM,321              LOAD GROUPMARK INTO LABEL AREA  7  2312  L I9Y 321         403
2237 21 25          MLC   CENSIG,214          PRIME NOISE RECORD TEST         7  2319  M 415 214         403
2238 21 26   REHDRL RTW   0,201               READ HEADER LABEL IN LOAD MODE  8  2326  L %U0 201 R       403
2239 21 27          SW    201                 SET A WODRMARK TO LOAD RECORD   4  2334  , 201             403
2240 21 28   ANOSCK BCE   NOISBL,214,         CHECK FOR NOISE RECORD          8  2338  B N27 214         404
2241 21 29          BER   REDOLB              REDUNDANT RECORD ON TAPE READ   5  2346  B N11 L           404
2242 21 30          BCE   *&29,LBLSAM,        BRANCH IF LABEL IS NOT TO BE    8  2351  B L87 572         404
2243 21 31   *                                 SAVED
2244 21 32          MLC   240,RESEQE&1        ONLY THE LABEL IS SAVED         7  2359  M 240 462         404
2245 21 33          MLCWA 230,FILESE                                          7  2366  L 230 452         404
2246 21 34          SBR   *-18,2500                                           7  2373  H L61 N00         405
2247 21 35          SBR   *-18,2500                                           7  2380  H L68 N00         405
2248 21 36          BEF   *&1                 RESET END OF FILE INDICATOR     5  2387  B L92 K           405
2249 21 37          W                                                         1  2392  2                 405
2250 21 38          CC    L                                                   2  2393  F L               405
2251 21 39          BCE   USEXT7,LBLBKT-32,     IS LABEL TO BE CHECKED       8  2395  B M81 464         405
2252 21 40          BCE   NAMFIL,LBLBKT-31,    ALL VALUES OR FILE NAME ONLY  8  2403  B M47 465         405
2253 21 41          C     230,LBLBKT-25       COMPARE FILE SERIAL NUMBER      7  2411  C 230 471         406
2254 21 42          BU    FRRHDR              UNEQUAL-BRANCH TO ERROR MESSAGE 5  2418  B N35 /           406
2255 21 43          C     215,LBLBKT-5        COMPARE CREATION DATE           7  2423  C 215 491         406
2256 21 44          BU    FRRHDR              UNEQUAL-BRANCH TO ERROR ROUTINE 5  2430  B N35 /           406
2257 21 45          C     240,LBLBKT-20       COMPARE REEL SEQUENCE NUMBER    7  2435  C 240 476         406
2258 21 46          BU    FRRHDR              UNEQUAL-BRANCH TO ERROR ROUTINE 5  2442  B N35 /           406
2259 21 47   NAMFIL C     225,LBLBKT-10       COMPARE RREL NAMES              7  2447  C 225 486         407
2260 21 48          BU    FRRHDR                                              5  2454  B N35 /           407
2261 21 49          BCE   USEXT7-7,LBLBKT-30,                                 8  2459  B M74 466         407
2262 21 50          A     ONE,LBLBKT-21                                       7  2467  A 898 475         407
2263 21 51          MLCWA GM,321                                              7  2474  L I9Y 321         407
2264 21 52   USEXT7 NOP   000                 USER EXIT FOR FURTHER CHECKING  4  2481  N 000             407
2265 21 53   *                                 OF INPUT HEADER LABELS.LABEL WILL
2266 21 54   *                                 BE NOW FOUND IN RLAREA&80
2267 21 55   RETPMK RTW   0,319               READ TAPEMARK                   8  2485  L %U0 319 R       408
2268 21 56          CS    332                                                 4  2493  / 332             408
2269 21 57          BEF   HDRAXT                                              5  2497  B N07 K           408
2270 21 58   CGET1  BSP   0                   NO TAPE MARK IS PRESENT         5  2502  U %U0 B           408
2271 21 59   HDRAXT B     0                                                   4  2507  B 000             408
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
2272 21 60   REDOLB A     ONE,CNTR           REDUNDANT LABEL DETECTED          7  2511  A 898 P43          408
2273 21 61          BAV   STOPIH                                            5  2518  B N62 Z            408
2274 21 62          B     BCKHER             REATTEMPT READ OPERATION       4  2523  B L00              409
2275 21 63   NOISBL CS    220                CLEAR NOISE RECORD             4  2527  / 220              409
2276 21 64          B     REHDRL-7                                          4  2531  B L19              409
2277 21 65   FRRHDR CS    332                                               4  2535  / 332              409
2278 21 66          CS                                                      1  2539  /                  409
2279 21 67          MLC   UCMESG,215                                       7  2540  M N84 215          409
2280 21 68          MLC   LBLBKT,255         MOVE CONSTANTS FROM CONTROL CARD  7  2547  M 496 255          409
2281 21 69          MLC                      TO PRINT AREA                  1  2554  M                  410
2282 21 70          MLC                                                     1  2555  M                  410
2283 21 71          MLC                                                     1  2556  M                  410
2284 21 72          MLC                                                     1  2557  M                  410
2285 21 73          MLC                                                     1  2558  M                  410
2286 21 74          W                                                       1  2559  2                  410
2287 21 75          CC    1                                                 2  2560  F 1                410
2288 21 76   STOPIH H     USEXT7-22                                         4  2562  . M59              411
2289 21 77          B     BCKHER-14                                         4  2566  B K86              411
2290 21 78   UCMESG DCW   @ERROR-SHOULD BE@                                15  2584                     411
2291 21 79   *                                TRAILER LABEL ROUTINE
2292 21 80   TRLANT SBR   TRLAXT&3                                          4  2585  H O65              411
2293 21 81          MLC   ITPBKT,RDTRAL&3                                  7  2589  M P47 O20          411
2294 21 82          MLC   ITPBKT,BAKTRL&3                                  7  2596  M P47 O81          412
2295 21 83          MLC   K2BLNK-1,CNTR                                     7  2603  M 877 P43          412
2296 21 84   RDTL2  MLCWA GM,321             LOAD GROUPMARK                 7  2610  L I9Y 321          412
2297 21 85   RDTRAL RTW   0,201              READ TRAILER INTO LABEL AREA   8  2617  L %U0 201 R        412
2298 21 86          BEF   *&1                                               5  2625  B O30 K            412
2299 21 87          BER   RAREAT                                            5  2630  B O66 L            412
2300 21 88          W                                                       1  2635  2                  413
2301 21 89          CC    L                                                 2  2636  F L                413
2302 21 90          BCE   USEXT6,TL,3                                      8  2638  B O58 191 3        413
2303 21 91          C     272,BLKCT1         CHECK BLOCK COUNT              7  2646  C 272 903          413
2304 21 92          BU    ERETRL                                            5  2653  B O87 /            413
2305 21 93   USEXT6 NOP   0        USER EXIT AFTER TRAILER READ            4  2658  N 000              413
2306 21 94   TRLAXT B     000                                               4  2662  B 000              413
2307 21 95   RAREAT A     ONE,CNTR                                          7  2666  A 898 P43          414
2308 21 96          BAV   STOPIT                                            5  2673  B P13 Z            414
2309 21 97   BAKTRL BSP   0                                                 5  2678  U %U0 B            414
2310 21 98          B     RDTRAL             TRY TO REREAD LABEL            4  2683  B O17              414
2311 21 99   ERETRL CS    332                PRINT UNEQUAL BLOCK COUNT MESSAGE  4  2687  / 332          414
2312 22 00          CS                                                      1  2691  /                  414
2313 22 01          MLC   UCMESG,215                                       7  2692  M N84 215          414
2314 22 02          MLC   BLKCT1,230                                       7  2699  M 903 230          415
2315 22 03          W                                                       1  2706  2                  415
2316 22 04          CC    1                                                 2  2707  F 1                415
2317 22 05          H     USEXT6                                            4  2709  . O58              415
2318 22 06   STOPIT H     TRLAXT             BYPASS TRAILER READ            4  2713  . O62              415
2319 22 07   *
2320 22 08   *               120 CHARACTER WORK LABEL ROUTINE
2321 22 09          ORG   4175                                                      4175
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
2322 22 10           DCW   @1HDR          SORT7LABEL     @                    30  4204                    416
2323 22 11           DC    @00000@                                            5  4209                    416
2324 22 12           DC    #45                                               45  4254                    418
2325 22 13           DC    #40                                               40  4294                    420
2326 22 14   MAGMWL  DCW   @  @                                               2  4296                    420
2327 22 15   WORTEN  MLC   MI1TUN,TPWRBK                                      7  4297  M 341 97S         420
2328 22 16           MLC   CENSIG,ANOSCK&7                                    7  4304  M 415 L45         420
2329 22 17           MLC   GPMARK,USEXT7-4                                    7  4311  M 350 M77         420
2330 22 18           MLC   CENSIG,OTWNOI&7                                    7  4318  M 415 44V         421
2331 22 19           MLC   GPMARK,REHD2&3                                     7  4325  M 350 L15         421
2332 22 20           SBR   LSTCHK&3,TRLANT                                    7  4332  H J04 N85         421
2333 22 21           MLC   GPMARK,RDTL2&3                                     7  4339  M 350 O13         421
2334 22 22           MLC   @00@,CRYBU2                                        7  4346  M 98| 61|         421
2335 22 23           MLC   TPWRBK,WLAREA&5                                    7  4353  M 97S 20Z         422
2336 22 24           MA    ONE,WORTEN&3                                       7  4360  # 898 30|         422
2337 22 25           MLC   GPMARK,*&4                                         7  4367  M 350 37X         422
2338 22 26           MLCWA GM,MAGMWL-1        LOAD GROUPMARK FOR TAPE OPERATION  7  4374  L I9Y 29V         422
2339 22 27   USEXT0  NOP   000      USERS EXIT PRIOR TO READ LABEL              4  4381  N 000             422
2340 22 28           BCE   NYETWL,WLBKT,      NO LABEL CREAT TEMP LABEL         8  4385  B 87U 417         423
2341 22 29           MLC   TPWRBK,DARAWL&3                                    7  4393  M 97S 42Z         423
2342 22 30           MLC   K1BLNK,CNTR        RESET COUNTER                     7  4400  M 854 P43         423
2343 22 31           MLC   TPWRBK,*&4                                         7  4407  M 97S 41X         423
2344 22 32           RWD   0                  REWIND TAPE UNIT                  5  4414  U %U0 R           423
2345 22 33           MLC   CENSIG,WLAREA-16   PRIME NOISE ROUTINE TEST          7  4419  M 415 18Y         424
2346 22 34   DARAWL  RTW   0,WLAREA-29        READ WORK TAPE LABEL              8  4426  L %U0 17V R       424
2347 22 35           SBR   HERBKT                                              4  4434  H 97V             424
2348 22 36   OTWNOI  BCE   NOISOW,WLAREA-16,    CHECK NOISE RECORD             8  4438  B 80U 18Y         424
2349 22 37           BER   OERDWL                                             5  4446  B 83U L           424
2350 22 38           BEF   *&1                                                5  4451  B 45W K           424
2351 22 39           A     ONE,OTW0BC                                         7  4456  A 898 97W         425
2352 22 40           BCE   USEXT5-12,WLBKT,0  00 IF HEADER BUT NO CHECK CC3COL4  8  4463  B 64X 417 0       425
2353 22 41   *                    RETENTION CYCLE CHECKING
2354 22 42           MLC   WLAREA-15,YEACHK                                    7  4471  M 18Z 64W         425
2355 22 43           MLC                                                      1  4478  M                 425
2356 22 44           MLC                                                      1  4479  M                 425
2357 22 45           SW    CREATD-2                                           4  4480  , 435             425
2358 22 46   CULLES  C     CREATD-3,YEACHK-3  COMPARE YEAR                    7  4484  C 434 64T         425
2359 22 47           BU    CHNGYR                                             5  4491  B 56W /           426
2360 22 48           A     YEACHK,YEACHK-5    ADD TAPE DAYS TO RETENTION CYCLE  7  4496  A 64W 64/         426
2361 22 49           S     CREATD,YEACHK-5    SUBTRACT CONT DAS FROM RET CYL    7  4503  S 437 64/         426
2362 22 50           CW    CREATD-2                                           4  4510  ) 435             426
2363 22 51           BWZ   USEXT5-12,YEACHK-5,K  CAN WE WRITE ON TAPE         8  4514  V 64X 64/ K       426
2364 22 52           CS    332                N/ PRINT MESSAGE INDICATING NUM   4  4522  / 332             426
2365 22 53           CS                       OF DAYS TAPE IS TO BE RETAINED    1  4526  /                 426
2366 22 54           MLC   SAVMES,226                                         7  4527  M 63X 226         427
2367 22 55           MLNS  YEACHK-5,221                                       7  4534  D 64/ 221         427
2368 22 56           MLNS                                                     1  4541  D                 427
2369 22 57           MLNS                                                     1  4542  D                 427
2370 22 58           MLC   SVMES1                                             4  4543  M 63S             427
2371 22 59           MLC   TPWRBK                                             4  4547  M 97S             427
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
2372 22 60           MLC   SVMES2                                        4  4551  M 62X              427
2373 22 61           W                                                   1  4555  2                  428
2374 22 62           CC    1                                             2  4556  F 1                428
2375 22 63           H     USEXT5-12          HIT START TO ACCEPT TAPE   4  4558  . 64X              428
2376 22 64           B     USEXT0-7                                      4  4562  B 37U              428
2377 22 65   CHNGYR  A     REOYRE,YEACHK-5    SUBTRACT 365 FROM RETENTION CYL  7  4566  A 61V 64/      428
2378 22 66           A                        AND ADD 1 TO TAPE YEARS    1  4573  A                  428
2379 22 67           S                                                   1  4574  S                  428
2380 22 68           A     @1@,CRYBU2                                    7  4575  A 98/ 61|          429
2381 22 69           BCE   HLCRY2,CRYBU2-1,3                            8  4582  B 59U 60Z 3        429
2382 22 70           B     CULLES                                        4  4590  B 48U              429
2383 22 71   HLCRY2  H     USEXT5-12                                     4  4594  . 64X              429
2384 22 72           MLC   @00@,CRYBU2                                   7  4598  M 98| 61|          429
2385 22 73           B     CULLES                                        4  4605  B 48U              429
2386 22 74   CRYBU2  DCW   @  @                                          2  4610                     429
2387 22 75           DCW   @365@                                        3  4613                     430
2388 22 76           DCW   @1@                                          1  4614                     430
2389 22 77   REOYRE  DCW   @0@                                          1  4615                     430
2390 22 78   SVMES2  DCW   @RETAIN TAPE @                              12  4627                     430
2391 22 79   SVMES1  DCW   @ FOR @                                      5  4632                     430
2392 22 80   SAVMES  DCW   @ DAYS@                                      5  4637                     430
2393 22 81           DCW   #4                 RETENTION CYCLE BUCKET     4  4641                     430
2394 22 82           DCW   #2                 YEAR                       2  4643                     431
2395 22 83   YEACHK  DCW   #3                 DAY                        3  4646                     431
2396 22 84           MLC   TPWRBK,*&4                                    7  4647  M 97S 65X          431
2397 22 85           RWD   0                  REWIND UNIT                5  4654  U %U0 R            431
2398 22 86   USEXT5  NOP   0                  USER EXIT PRIOR TO WRITING 4  4659  N 000              431
2399 22 87   *                                 HEADER LABEL ON WORK TAPE
2400 22 88           MLC   TPWRBK,*&4                                    7  4663  M 97S 67T          431
2401 22 89   WETWIL  WT    0,WLAREA-29        WRITE WORK HEADER LABEL    8  4670  M %U0 17V W        431
2402 22 90           BER   EEWWKL                                       5  4678  B 88V L            432
2403 22 91           BEF   *&1                                          5  4683  B 68Y K            432
2404 22 92           BCE   USEXT9,THLTMO,     TAPEMARK AFTER HDR LABEL CHECK  8  4688  B 70Y 418      432
2405 22 93           MLC   TPWRBK,*&4         YES                        7  4696  M 97S 70W          432
2406 22 94           WTM   0                  WRITE TAPEMARK             5  4703  U %U0 M            432
2407 22 95   USEXT9  NOP   0                  USER EXIT AFTER WRITNIG HEADER  4  4708  N 000          432
2408 22 96   *                                 LABEL ON WORK TAPE
2409 22 97           BCE   ZWEWAY,MI3TUN,      THREEWAY MERGE            8  4712  B 73W 343          433
2410 22 98           C     OTW0BC,@3@         YES                        7  4720  C 97W 98S          433
2411 22 99           BU    WORTEN                                        5  4727  B 29X /            433
2412 23 00           B     LEVWLR                                        4  4732  B 78S              433
2413 23 01   ZWEWAY  C     OTW0BC,@2@         TWOWAY MERGE               7  4736  C 97W 98T          433
2414 23 02           BU    WORTEN                                        5  4743  B 29X /            433
2415 23 03           BCE   LEVWLR,URPI,P                                 8  4748  B 78S 186 P        434
2416 23 04           BCE   LEVWLR,URPI,C                                 8  4756  B 78S 186 C        434
2417 23 05           SBR   USEXT9&7,LEVWLR                              7  4764  H 71V 78S          434
2418 23 06           MLC   URPI,TPWRBK                                   7  4771  M 186 97S          434
2419 23 07           B     WORTEN&7                                      4  4778  B 30U              434
2420 23 08   LEVWLR  CS    80                                            4  4782  / 080              434
2421 23 09           SW    24,56                                         7  4786  , 024 056          435
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2422 23 10           SW    63,67                                       7  4793  , 063 067          435
2423 23 11           R     56                                          4  4800  1 056              435
2424 23 12   NOISOW  MLC   HERBKT,X3                                   7  4804  M 97V 099          435
2425 23 13           MLC   K2BLNK,0&X3                                 7  4811  M 878 0?0          435
2426 23 14           CHAIN 12                                                                MACRO
2427                 MLC                                               1  4818  M            GEN   435
2428                 MLC                                               1  4819  M            GEN   435
2429                 MLC                                               1  4820  M            GEN   436
2430                 MLC                                               1  4821  M            GEN   436
2431                 MLC                                               1  4822  M            GEN   436
2432                 MLC                                               1  4823  M            GEN   436
2433                 MLC                                               1  4824  M            GEN   436
2434                 MLC                                               1  4825  M            GEN   436
2435                 MLC                                               1  4826  M            GEN   436
2436                 MLC                                               1  4827  M            GEN   437
2437                 MLC                                               1  4828  M            GEN   437
2438                 MLC                                               1  4829  M            GEN   437
2439 23 15           B     DARAWL                                      4  4830  B 42W              437
2440 23 16   OERDWL  A     ONE,CNTR                                    7  4834  A 898 P43          437
2441 23 17           BAV   OSTOPW                                      5  4841  B 85| Z            437
2442 23 18           B     DARAWL-12                                   4  4846  B 41U              437
2443 23 19   OSTOPW  H     OACPLB          ERROR ON READING WORK LABEL 4  4850  . 85Y              438
2444 23 20           B     DARAWL-12       HIT START TO ACCEPT AS READ 4  4854  B 41U              438
2445 23 21   *                              HIT START RESET&START TO REREAD
2446 23 22   OACPLB  BEF   *&1                                         5  4858  B 86T K            438
2447 23 23           A     ONE,OTW0BC                                  7  4863  A 898 97W          438
2448 23 24           B     USEXT5-12                                   4  4870  B 64X              438
2449 23 25   NYETWL  A     ONE,OTW0BC      NO WORK LABEL CREATE TEMPORARY 7  4874  A 898 97W          438
2450 23 26           B     USEXT5                                      4  4881  B 65Z              438
2451 23 27   EEWWKL  A     ONE,YFIFTY      WRITE ERROR ROUTINE         7  4885  A 898 97Y          439
2452 23 28           MLC   TPWRBK,*&4                                  7  4892  M 97S 90S          439
2453 23 29           BSP   0                                           5  4899  U %U0 B            439
2454 23 30           BAV   OTW050                                      5  4904  B 96/ Z            439
2455 23 31           MLC   TPWRBK,*&4                                  7  4909  M 97S 91Z          439
2456 23 32           WT    0,WLAREA-29                                 8  4916  M %U0 17V W        439
2457 23 33           BER   *&5                                         5  4924  B 93T L            440
2458 23 34           B     WETWIL&13       RETURN TO NORMAL ROUTINE    4  4929  B 68T              440
2459 23 35           MLC   TPWRBK,*&4                                  7  4933  M 97S 94T          440
2460 23 36           BSP   0                                           5  4940  U %U0 B            440
2461 23 37           MLC   TPWRBK,*&4                                  7  4945  M 97S 95V          440
2462 23 38           SKP   0                                           5  4952  U %U0 E            440
2463 23 39           B     WETWIL                                      4  4957  B 67|              440
2464 23 40   OTW050  MLC   @80@,YFIFTY     TRIED TO WRITE WORK LABEL 20 7  4961  M 98V 97Y          441
2465 23 41           H     WETWIL-7        TIMES HIT START TO TRY AGAIN 4  4968  . 66T              441
2466 23 42   TPWRBK  DCW   @ @                                         1  4972                     441
2467 23 43   HERBKT  DCW   @000@                                       3  4975                     441
2468 23 44   OTW0BC  DCW   @ @                                         1  4976                     441
2469 23 45   YFIFTY  DCW   @  @                                        2  4978                     441
2470 23 46           LTORG *                                                  4979
                     DCW   @00@                                        2  4980             LIT   441
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
					@1@		1	4981		LIT	442
					@3@		1	4982		LIT	442
					@2@		1	4983		LIT	442
					@80@		2	4985		LIT	442
2471	23	47		DCW	@3@		1	4986			442
2472	23	48		EX	WORTEN				B 29X		443

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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

2473 23 49           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
2474 23 50    *
2475 23 51    *          I N I T I A L I Z A T I O N   P H A S E
2476 23 52    *
2477 23 53           ORG   4175                                                    4175
2478 23 54    *                              MULTIPHASE INITIALIZATION
2479 23 55    PLYIN5 MLC   ONPTAR,B201W&6                                 7  4175  M P41 W67          446
2480 23 56           MA    @001@,ONPTAR                                  7  4182  # L9| P41         446
2481 23 57           MLC   ONPTAR,INTOUT                                 7  4189  M P41 571          446
2482 23 58           SW    B201W&4                                       4  4196  , W65              446
2483 23 59           MLC   B201W&6,PLYIN4&6                            7  4200  M W67 W90          446
2484 23 60           MLC   PLYIN5,PLYIN4                                 7  4207  M 17V W84          446
2485 23 61           MLC   B201W&6,PLYIN3&6                            7  4214  M W67 841          447
2486 23 62           MLC   B201W&6,LODTB3&10                           7  4221  M W67 Q99          447
2487 23 63           MLC   @M@,LODTB3&4                                7  4228  M L9/ Q93          447
2488 23 64           CW    B201W&4                                       4  4235  ) W65              447
2489 23 65           B     INSRT5&19                                     4  4239  B 99T              447
2490 23 66    ATEK   MLC   &INTOUT,BP2200&3                            7  4243  M L9U T66          447
2491 23 67           MLC   CENSIG,CKNOIS&7    INITIALIZE NOISE ROUTINE   7  4250  M 415 Z14          448
2492 23 68           MLC   GPMARK,LDGM&3                               7  4257  M 350 |3Y          448
2493 23 69           MA    CF1RE,BFRST3                                  7  4264  # 01U 850          448
2494 23 70           BCE   *&15,UNLOAD,                                 8  4271  B 29T 416          448
2495 23 71           MLC   @N@,EOFRWD-7                                 7  4279  M L9V J21          448
2496 23 72           MLC   @U@,EOFRWD&4                                7  4286  M L9W J32          449
2497 23 73           BCE   PTCHB1,MI3TUN,                               8  4293  B 32S 343          449
2498 23 74           MLC   &LBMI3T,NXTTP1&6                           7  4301  M L9Z S84          449
2499 23 75           MLC   &LBI3T,SCHTP1&6                            7  4308  M M0S J74          449
2500 23 76           MLC   @6@,NOTAPS                                  7  4315  M M0T 886          449
2501 23 77    PTCHB1 MLC   NOTAPS,NOTAPG                               7  4322  M 886 W3T          450
2502 23 78    PTCHBR BCE   VLTHRU,FLR,1                                8  4329  B 39| 091 1       450
2503 23 79    *                              DETERMINE G BASED ON B FOR FLR
2504 23 80           MLC   @B@,L10                                     7  4337  M M0U 38W          450
2505 23 81           MLC   @B@,L102                                    7  4344  M M0U 58U          450
2506 23 82           A     B,G                                         7  4351  A 199 857          450
2507 23 83    G2TMS  A     G                                           4  4358  A 857              451
2508 23 84    SETMXG C     G,@512@                                     7  4362  C 857 M0X          451
2509 23 85           BH    SETG                                        5  4369  B 53Y U            451
2510 23 86           BE    SETG                                        5  4374  B 53Y S            451
2511 23 87           MLC   @N@,DUBLGL                                  7  4379  M L9V /6V          451
2512 23 88    L10    B     L103                                        4  4386  B 51T              451
2513 23 89    VLTHRU BCE   VLTHR2,MINREC,                              8  4390  B 48X I92          452
2514 23 90           MLC   BL,CONVRT                                   7  4398  M 085 698          452
2515 23 91           B     EXPAND                                      4  4405  B 620              452
2516 23 92           MLC   HOLD,HOLDGL                                7  4409  M 693 50S          452
2517 23 93    DBLVLG A     HOLDGL                                      4  4416  A 50S              452
2518 23 94           BCE   VLTHR3,MI3TUN,                              8  4420  B 43V 343          452
2519 23 95    GL3VL  A     HOLD,HOLDGL                                 7  4428  A 693 50S          453
2520 23 96    VLTHR3 MLC   MINREC,CONVRT                               7  4435  M I92 698          453
2521 23 97           B     EXPAND                                      4  4442  B 620              453
2522 23 98    VLTHR1 S     HOLD,HOLDGL                                 7  4446  S 693 50S          453
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2523 23 99           A     ONE,G                                       7  4453  A 898 857           453
2524 24 00           BWZ   VLTHR1,HOLDGL,B                           8  4460  V 44W 50S B         454
2525 24 01           MA    @I9I@,G                                     7  4468  # M1| 857           454
2526 24 02           C     G,@512@                                     7  4475  C 857 M0X           454
2527 24 03           BH    THRU                                        5  4482  B 78W U             454
2528 24 04   VLTHR2  MLC   @512@,G                                    7  4487  M M0X 857           454
2529 24 05           B     THRU                                        4  4494  B 78W               454
2530 24 06   HOLDGL  DCW   00000                                       5  4502                      455
2531 24 07   VLBL    DCW   000                                         3  4505                      455
2532 24 08           MLC   @N@,GL3NXT                                 7  4506  M L9V /8U           455
2533 24 09   L103    MLC   @N@,L10                                     7  4513  M L9V 38W           455
2534 24 10           S     B,G                                         7  4520  S 199 857           455
2535 24 11           MLZS  K1BLNK,G                                    7  4527  Y 854 857           455
2536 24 12           B     SETMXG                                      4  4534  B 36S               456
2537 24 13   SETG    MLC   G,FIRSTG                                    7  4538  M 857 K3U           456
2538 24 14           BCE   THRU,NOTAPS,4                              8  4545  B 78W 886 4         456
2539 24 15   G3TMS   A     B,G                                         7  4553  A 199 857           456
2540 24 16   SETMG2  C     G,@512@                                     7  4560  C 857 M0X           456
2541 24 17           BH    SETGFR                                      5  4567  B 62| U             456
2542 24 18           BE    SETGFR                                      5  4572  B 62| S             457
2543 24 19           MLC   @N@,GL3NXT                                 7  4577  M L9V /8U           457
2544 24 20   L102    B     L104                                        4  4584  B 59V               457
2545 24 21           MLC   @N@,DUBLGL                                 7  4588  M L9V /6V           457
2546 24 22   L104    MLC   @N@,L102                                   7  4595  M L9V 58U           457
2547 24 23           S     B,G                                         7  4602  S 199 857           457
2548 24 24           MLZS  K1BLNK,G                                    7  4609  Y 854 857           458
2549 24 25           B     SETMG2                                      4  4616  B 56|               458
2550 24 26   SETGFR  MLC   G,FIRSTG                                    7  4620  M 857 K3U           458
2551 24 27           BCE   THRU,EFS,        DETERMINE G FOR EXPECTED FILE SIZE  8  4627  B 78W 00S           458
2552 24 28           MLC   EFS,EFSTRT                                  7  4635  M 00S K4S           458
2553 24 29   LOG3    MLC   EFSTRT,EFSCPT                               7  4642  M K4S K6S           459
2554 24 30           A     EFSCPT                                      4  4649  A K6S               459
2555 24 31           A     EFSTRT,EFSCPT                               7  4653  A K4S K6S           459
2556 24 32           MLC   @6@,BUCKET                                  7  4660  M M0T K6T           459
2557 24 33   DIVTHR  A     EFSCPT,EFSTPT                               7  4667  A K6S K7X           459
2558 24 34           MA    P15999,DIVTHR&6                             7  4674  # 861 67T           459
2559 24 35           A     NINE,BUCKET                                 7  4681  A 871 K6T           460
2560 24 36           BAV   DIVTHR                                      5  4688  B 66X Z             460
2561 24 37           ZA    EFSTPT-7,EFSTRT                             7  4693  ? K7| K4S           460
2562 24 38           MLZS  K1BLNK,EFSTRT                               7  4700  Y 854 K4S           460
2563 24 39           A     ONE,EFSTRT                                  7  4707  A 898 K4S           460
2564 24 40           C     EFSTRT,G                                    7  4714  C K4S 857           461
2565 24 41           S     EFSTPT                                      4  4721  S K7X               461
2566 24 42           MA    @007@,DIVTHR&6                              7  4725  # M1T 67T           461
2567 24 43           BL    LOG3                                        5  4732  B 64S T             461
2568 24 44           S     B,G                                         7  4737  S 199 857           461
2569 24 45           MLZS  K1BLNK,G                                    7  4744  Y 854 857           461
2570 24 46           C     EFSTRT,G                                    7  4751  C K4S 857           462
2571 24 47           BL    ADDBLF                                      5  4758  B 77Z T             462
2572 24 48           BE    ADDBLF                                      5  4763  B 77Z S             462
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2573 24 49           MLC   @N@,GL3NXT                                 7  4768  M L9V /8U          462
2574 24 50           B     THRU                                       4  4775  B 78W              462
2575 24 51   ADDBLF  A     B,G                                        7  4779  A 199 857          462
2576 24 52   THRU    A     INTGLG                                     4  4786  A K8/              462
2577 24 53   CMTGLG  C     INTGLG,G                                   7  4790  C K8/ 857          463
2578 24 54           BH    THRU                                       5  4797  B 78W U            463
2579 24 55           MLC   MFS,MFSIZE                                 7  4802  M I81 885          463
2580 24 56   DETPRM  MA    @I9C@,DTPRM1&3                             7  4809  # M1W 81Z          463
2581 24 57   DTPRM1  C     PRGMSZ&7,INTGLG                            7  4816  C V5| K8/          463
2582 24 58           SAR   MVNDPM&3                                   4  4823  Q 83V              463
2583 24 59           BU    DETPRM                                     5  4827  B 80Z /            464
2584 24 60   MVNDPM  MLC   0,NDFPGM                                   7  4832  M 000 L1U          464
2585 24 61           MLC   NDFPGM,HPNDPM                             7  4839  M L1U Q40          464
2586 24 62           BCE   CMPT52,DESCND,1                           8  4846  B 86Z 090 1        464
2587 24 63           MA    @I9I@,HPNDPM                               7  4854  # M1| Q40          464
2588 24 64           BCE   CMPT5G,NCF,1                               8  4861  B 87W 096 1        465
2589 24 65   CMPT52  MA    L,HPNDPM                                   7  4869  # 347 Q40          465
2590 24 66   CMPT5G  A     INTGLG,HLD3G                               7  4876  A K8/ K8Z          465
2591 24 67           MA    G,THREEG                                   7  4883  # 857 K8V          465
2592 24 68           A     NINE,HOLD2                                 7  4890  A 871 L1/          465
2593 24 69           BAV   CMPT5G                                     5  4897  B 87W Z            466
2594 24 70           MLC   HLD3G,HLD34G                               7  4902  M K8Z L0U          466
2595 24 71           A     HLD34G                                     4  4909  A L0U              466
2596 24 72           A     HLD34G                                     4  4913  A L0U              466
2597 24 73           A     HLD3G,HLD34G                               7  4917  A K8Z L0U          466
2598 24 74           MLC   HLD34G-1,TREQRG&1                          7  4924  M L0T L1|          466
2599 24 75           A     TREQRG&1                                   4  4931  A L1|              466
2600 24 76           A     TREQRG&1                                   4  4935  A L1|              467
2601 24 77           A     HLD34G-1,TREQRG&1                          7  4939  A L0T L1|          467
2602 24 78           MLC   INTGLG,G/4INT                              7  4946  M K8/ V5W          467
2603 24 79           MA    ONE,HPNDPM                                 7  4953  # 898 Q40          467
2604 24 80           MLC   HPNDPM,ONPTAR                              7  4960  M Q40 P41          467
2605 24 81           MA    ONE,ONPTAR                                 7  4967  # 898 P41          467
2606 24 82   INSRT5  BSS   PLYIN5,C                                   5  4974  B 17V C            468
2607 24 83   *                          DETERMINE ADDRESSES OF I/O AREAS
2608 24 84           MLC   ONPTAR,INTOUT                              7  4979  M P41 571          468
2609 24 85           MLC   ONPTAR,B201W&6                            7  4986  M P41 W67          468
2610 24 86           MA    BL,ONPTAR                                  7  4993  # 085 P41          468
2611 24 87           MLC   ONPTAR,HOLDND                              7  5000  M P41 T47          468
2612 24 88           MA    COMPL,HOLDND                               7  5007  # 00V T47          469
2613 24 89           MLC   ONPTAR,LOADGM&6                            7  5014  M P41 S13          469
2614 24 90           MLC   ONPTAR,COUNTR                              7  5021  M P41 Y12          469
2615 24 91           MA    @I9I@,COUNTR                               7  5028  # M1| Y12          469
2616 24 92   LDGM    MLCWA GM,333                                     7  5035  L I9Y 333          469
2617 24 93           MLC   ONPTAR,X                                   7  5042  M P41 L1X          470
2618 24 94           MA    ONE,X                                      7  5049  # 898 L1X          470
2619 24 95           MLC   X,Y                                        7  5056  M L1X L2|          470
2620 24 96           MA    TREQRG,Y                                   7  5063  # L0Z L2|          470
2621 24 97           MA    @I9I@,Y                                    7  5070  # M1| L2|          470
2622 24 98           MLC   Y,O1                                       7  5077  M L2| 892          471
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
2623 24 99           MA    THREE,O1                                  7  5084  # 889 892          471
2624 25 00           MLC   O1,G1                                     7  5091  M 892 895          471
2625 25 01           MA    THREEG,G1                                 7  5098  # K8V 895          471
2626 25 02           MA    @I9G@,G1                                  7  5105  # M1Z 895          471
2627 25 03           MLC   O1,O1FA                                   7  5112  M 892 P67          472
2628 25 04           MLC   O1                                        4  5119  M 892              472
2629 25 05           MA    @003@,O1FA                                7  5123  # M2S P67          472
2630 25 06           MLC   O1,STPDNR&3                              7  5130  M 892 S03          472
2631 25 07           MLC   G1,ONPTAR                                 7  5137  M 895 P41          472
2632 25 08           MA    ONE,ONPTAR                                7  5144  # 898 P41          472
2633 25 09           MLC   ONPTAR,Z                                 7  5151  M P41 Q12          473
2634 25 10           MLC   BL,GL                                     7  5158  M 085 L3/          473
2635 25 11   DUBLGL  MA    GL                                        4  5165  # L3/              473
2636 25 12           MA    GL,Z                                      7  5169  # L3/ Q12          473
2637 25 13   GL3     BCE   *&8,NOTAPS,4                             8  5176  B /9/ 886 4        473
2638 25 14   GL3NXT  MA    BL,Z                                      7  5184  # 085 Q12          474
2639 25 15   GL1111  BWZ   SBTRCB,Z,2          DETERMINE IF INPUT AREA  8  5191  V S3X Q12 2        474
2640 25 16   GL1112  MLC   Z,CONVRT            ALLOCATED IS SUFFICIENT  7  5199  M Q12 698          474
2641 25 17           B     EXPAND                                    4  5206  B 620              474
2642 25 18           MLC   HOLD,Z5DIGT                               7  5210  M 693 W3Y          474
2643 25 19           BCE   TPPSBL,UAPHZ1,                            8  5217  B T5T 12W          475
2644 25 20   CTPAVL  C     Z5DIGT,UAPHZ1                             7  5225  C W3Y 12W          475
2645 25 21           BH    DUBLG                                     5  5232  B W8Y U            475
2646 25 22   SBTRCB  A     @7@,NOTAPG                                7  5237  A M2T W3T          475
2647 25 23           MLC   @16000@,SXTNTH                            7  5244  M M2Y K5/          475
2648 25 24           BAV   RPCHBR                                    5  5251  B T7V Z            475
2649 25 25           CS    332                                       4  5256  / 332              476
2650 25 26           CS                                              1  5260  /                  476
2651 25 27           MLC   PRMSG7,250                                7  5261  M W2Z 250          476
2652 25 28           W                                               1  5268  2                  476
2653 25 29           CC    1                                         2  5269  F 1                476
2654 25 30           H     *&1                                       4  5271  . S7V              476
2655 25 31           MLC   GPMARK,TPV1                              7  5275  M 350 568          476
2656 25 32           MLC   @#@,GL3NXT                                7  5282  M M2Z /8U          477
2657 25 33           MLC   @#@,DUBLGL                                7  5289  M M2Z /6V          477
2658 25 34           MLC   @A@,DBLVLG                                7  5296  M M3| 41W          477
2659 25 35           MLC   @A@,GL3VL                                 7  5303  M M3| 42Y          477
2660 25 36           MLC   @#@,G3TMS                                 7  5310  M M2Z 55T          477
2661 25 37           MLC   @#@,G2TMS                                 7  5317  M M2Z 35Y          478
2662 25 38           MLC   GPMARK,CONVRT                             7  5324  M 350 698          478
2663 25 39           B     EXPAND                                    4  5331  B 620              478
2664 25 40           MLC   HOLD,UAPHZ1                              7  5335  M 693 12W          478
2665 25 41           MLC   FIRSTG,G                                  7  5342  M K3U 857          478
2666 25 42           B     INRPCH                                    4  5349  B U2W              478
2667 25 43   TPPSBL  MLC   GPMARK,CONVRT                             7  5353  M 350 698          479
2668 25 44           B     EXPAND                                    4  5360  B 620              479
2669 25 45           MLC   HOLD,UAPHZ1                              7  5364  M 693 12W          479
2670 25 46           B     CTPAVL                                    4  5371  B S2V              479
2671 25 47   RPCHBR  MLC   @N@,DUBLGL                                7  5375  M L9V /6V          479
2672 25 48           MLC   @N@,DBLVLG                                7  5382  M L9V 41W          479
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
2673 25 49          MLC   @N@,G2TMS                                           7  5389  M L9V 35Y          480
2674 25 50          NOP                                                       1  5396  N                  480
2675 25 51   BCLWMK  B     CLWMK                                             4  5397  B U2S              480
2676 25 52          MLC   @N@,GL3NXT                                         7  5401  M L9V /8U          480
2677 25 53          MLC   @N@,GL3VL                                          7  5408  M L9V 42Y          480
2678 25 54          MLC   @N@,G3TMS                                          7  5415  M L9V 55T          480
2679 25 55   CLWMK  CW    BCLWMK                                            4  5422  ) T9X              480
2680 25 56   INRPCH MLC   @0002@,INTGLG                                     7  5426  M M3U K8/          481
2681 25 57          S     EFSTRT                                            4  5433  S K4S              481
2682 25 58          MLC   @0000@,G&1                                        7  5437  M M3Y 858          481
2683 25 59          MLC   &PRGMSZ&7,DTPRM1&3                               7  5444  M M4/ 81Z          481
2684 25 60          S     HLD3G                                             4  5451  S K8Z              481
2685 25 61          MLC   @000@,THREEG                                      7  5455  M M4U K8V          481
2686 25 62          MLC   TWO,HOLD2                                         7  5462  M 876 L1/          482
2687 25 63          S     HLD34G                                            4  5469  S L0U              482
2688 25 64          S     TREQRG&1                                          4  5473  S L1|              482
2689 25 65          B     PTCHBR                                            4  5477  B 32Z              482
2690 25 66          DCW   &P1344&4                                         3  5483  H55                482
2691 25 67          DC    0512                                              4  5487                     482
2692 25 68          DCW   &P576&4                                          3  5490  G15                482
2693 25 69          DC    0256                                              4  5494                     482
2694 25 70          DCW   &P192&4                                          3  5497  F45                482
2695 25 71          DC    0128                                              4  5501                     483
2696 25 72          DCW   &P144&4                                          3  5504  F10                483
2697 25 73          DC    0064                                              4  5508                     483
2698 25 74          DCW   &P072&4                                          3  5511  D70                483
2699 25 75          DC    0032                                              4  5515                     483
2700 25 76          DCW   &P024&4                                          3  5518  D00                483
2701 25 77          DC    0016                                              4  5522                     483
2702 25 78          DCW   &P021&4                                          3  5525  C65                483
2703 25 79          DC    0008                                              4  5529                     484
2704 25 80          DCW   &P009&4                                          3  5532  B25                484
2705 25 81          DC    0004                                              4  5536                     484
2706 25 82          DCW   &P003&4                                          3  5539  A55                484
2707 25 83   PRGMSZ DC    0002                                              4  5543                     484
2708 25 84   KTWO   DCW   @ @                                               1  5544                     484
2709 25 85   TWO2   DCW   @002@                                             3  5547                     484
2710 25 86   CMPRNS DCW   000000                                            6  5553                     485
2711 25 87   G/4INT DCW   000                                               3  5556                     485
2712 25 88   SEVEN  DCW   @7@                                               1  5557                     485
2713 25 89   ISONED S     ONE,D                                             7  5558  S 898 P57          485
2714 25 90   THRWSZ DCW   @109@                                             3  5567                     485
2715 25 91   BTRUTN DCW   @998@                                             3  5570                     485
2716 25 92   TPRUTN DCW   @|98@                                             3  5573                     485
2717 25 93   EQRTSZ DCW   @127@                                             3  5576                     486
2718 25 94   MODADR DSA   15001                                             3  5579  ?0A                486
2719 25 95   PRMSG7 DCW   @PATCH PROGRAM TOO LARGE PRESS START - IGNORE PATCH@  50  5629               488
2720 25 96   CMPLBL DCW   000                                               3  5632                     488
2721 25 97   NOTAPG DCW   0                                                 1  5633                     488
2722 25 98   Z5DIGT DCW   00000                                             5  5638                     488
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2723 25 99   NOEQL   MLC   @N@,STPCM2                                   7  5639  M L9V S40          488
2724 26 00           B     STCMP4                                      4  5646  B Z3Y              489
2725 26 01   BILRGM  CS    332                                         4  5650  / 332              489
2726 26 02           CS                                                1  5654  /                  489
2727 26 03           MLC   PRMSX,231                                   7  5655  M 11V 231          489
2728 26 04           W                                                 1  5662  2                  489
2729 26 05           CS    231                                         4  5663  / 231              489
2730 26 06           MLC   @G@,201                                     7  5667  M M4V 201          489
2731 26 07           MLC   G,205                                       7  5674  M 857 205          490
2732 26 08           W                                                 1  5681  2                  490
2733 26 09           CC    1                                           2  5682  F 1                490
2734 26 10           H     *-3                                         4  5684  . W8U              490
2735 26 11   DUBLG   MLC   Z,COWNTR                                    7  5688  M Q12 P46          490
2736 26 12           C     G,BI                                        7  5695  C 857 I86          490
2737 26 13           BH    BILRGM                                      5  5702  B W5| U            490
2738 26 14   DUBLG2  MLC   Y,H13H10-3                                  7  5707  M L2| L3X          491
2739 26 15           MA    @I9G@,Y                                     7  5714  # M1Z L2|          491
2740 26 16           MLC   Y,H13H10                                    7  5721  M L2| L4|          491
2741 26 17           MLC   X,LOADTB&3                                 7  5728  M L1X Q74          491
2742 26 18           MLC   Y,LODTB3&3                                 7  5735  M L2| Q92          491
2743 26 19           MLC   H13H10,LODTB2&6                           7  5742  M L4| Q88          492
2744 26 20           MLC   H13H10-3,LODTB1&6                         7  5749  M L3X Q81          492
2745 26 21   DUBLG1  MA    CCCFRE,ADRLRD                               7  5756  # 04U A05          492
2746 26 22           BCE   DUBLG3,DESCND,     DESCENDING               8  5763  B X9S 090          492
2747 26 23           MLC   @5@,ASCNDN&6       YES-INITIALIZE COMPARE BUCKETS  7  5771  M M4W Y5Z  492
2748 26 24           MLC   @2@,ASCNDN&13      FOR DESCENDING           7  5778  M M4X Y6W          493
2749 26 25           MA    @003@,ASCNDG&6                              7  5785  # M2S Z5V          493
2750 26 26   DUBLG3  BCE   NOEQL,NCF,1        TEST FOR NUM OF CONTROL FIELDS  8  5792  B W3Z 096 1  493
2751 26 27           MLC   NDFPGM,ADRLRD                              7  5800  M L1U A05          493
2752 26 28           MA    ONE,ADRLRD                                  7  5807  # 898 A05          493
2753 26 29           MLC   NCF,POT                                     7  5814  M 096 K3/          494
2754 26 30           S     TWO,POT                                     7  5821  S 876 K3/          494
2755 26 31           MLC   &CF2RE,X1          INITIALIZE EQUAL ROUTINE  7  5828  M M5| 089          494
2756 26 32           MLC   &BSCBSC-6,X2       CONSTANTS IF SECONDARY CONTROL  7  5835  M M5T 094    494
2757 26 33   STNEQL  MLC   0&X1,6&X2          FIELDS ARE PRESENT       7  5842  M 0|0 0!6          494
2758 26 34           MLC   0&X1                                        4  5849  M 0|0              494
2759 26 35   ASCNDN  MLZS  @A@,2&X2                                    7  5853  Y M3| 0!2          495
2760 26 36           MLZS  @Z@,5&X2                                    7  5860  Y M5U 0!5          495
2761 26 37           MA    @0006@,X2                                   7  5867  # M5X 094          495
2762 26 38           MA    @003@,X1                                    7  5874  # M2S 089          495
2763 26 39           BAV   *&1                                         5  5881  B Y8W Z            495
2764 26 40           A     NINTNN,POT                                  7  5886  A 873 K3/          496
2765 26 41           BAV   STNEQL                                     5  5893  B Y4S Z            496
2766 26 42           MA    X2,LAST                                     7  5898  # 094 W13          496
2767 26 43           MLC   @6@,BKET                                   7  5905  M M0T K4W          496
2768 26 44   MVNEQL  MLC   @N@,STCMPR&7                               7  5912  M L9V Z7|          496
2769 26 45           MA    @014@,MVNEQL&6                              7  5919  # M6| Z1Y          497
2770 26 46           A     NINE,BKET                                   7  5926  A 871 K4W          497
2771 26 47           BAV   MVNEQL                                     5  5933  B Z1S Z            497
2772 26 48   STCMP4  MLC   BFRST3,CMPRNS                               7  5938  M 850 V5T          497
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2773 26 49           MLC   BFRST3                                      4  5945  M 850             497
2774 26 50   ASCNDG  MLZS  @A@,CMPRNS-4                                7  5949  Y M3| V4Z         497
2775 26 51           MLC   @013@,X1                                    7  5956  M M6T 089         498
2776 26 52   STCMPR  MLC   CMPRNS,B002B&X1    INITIALIZE COMPARE INSTRUCTIONS  7  5963  M V5T AS0  498
2777 26 53           MLC   @N@,B002B&6&X1     IN MAINLINE WITH RIGHT EDGE OF   7  5970  M L9V AS6  498
2778 26 54           MLC   CMPRNS,B004B&X1    MAJOR CONTROL FIELD              7  5977  M V5T AV5  498
2779 26 55           MLC   @N@,B004B&6&X1                                7  5984  M L9V AW1         498
2780 26 56           MLC   CMPRNS,B701B&X1                               7  5991  M V5T AX9         499
2781 26 57           MLC   @N@,B701B&6&X1                               7  5998  M L9V AY5         499
2782 26 58           MLC   CMPRNS,B008B&X1                               7  6005  M V5T BS5         499
2783 26 59           MLC   @N@,B008B&6&X1                               7  6012  M L9V BT1         499
2784 26 60           MLC   CMPRNS,B703B&X1                               7  6019  M V5T BU9         499
2785 26 61           MLC   @N@,B703B&6&X1                               7  6026  M L9V BV5         500
2786 26 62           MLC   CMPRNS,B705B&X1                               7  6033  M V5T BX3         500
2787 26 63           MLC   @N@,B705B&6&X1                               7  6040  M L9V BX9         500
2788 26 64           MLC   CMPRNS,B715B&X1                               7  6047  M V5T C/9         500
2789 26 65           MLC   @N@,B715B&6&X1                               7  6054  M L9V CS5         500
2790 26 66   STCMP5  MA    @245@,X1                                     7  6061  # M6W 089         501
2791 26 67           C     KTWO,@2@                                     7  6068  C V4U M4X         501
2792 26 68           A     ONE,KTWO                                     7  6075  A 898 V4U         501
2793 26 69           BU    STCMPR                                       5  6082  B Z6T /           501
2794 26 70   CMPTGC  MLC   G,GCNTR                                      7  6087  M 857 A11         501
2795 26 71           S     ONE,GCNTR                                    7  6094  S 898 A11         502
2796 26 72           S     NOINTP,CPLITP                                7  6101  S I83 869         502
2797 26 73           A     ONE,CPLITP                                   7  6108  A 898 869         502
2798 26 74   CMPTG4  MLC   G/4INT,G/4&2                                 7  6115  M V5W P72         502
2799 26 75           A     G/4&2                                        4  6122  A P72             502
2800 26 76           A     G/4INT,G/4&1                                 7  6126  A V5W P71         502
2801 26 77           A     G/4&2                                        4  6133  A P72             503
2802 26 78           A     G/4INT,G/4&2                                 7  6137  A V5W P72         503
2803 26 79           MLC   B008B&13,STPCMP&6                            7  6144  M B38 S34         503
2804 26 80           MLC   ISONED&6,SONED                               7  6151  M V6U P80         503
2805 26 81           CS    80                                           4  6158  / 080             503
2806 26 82           SW    24,56                                        7  6162  , 024 056         503
2807 26 83           SW    63,67                                        7  6169  , 063 067         504
2808 26 84           R     56                                           4  6176  1 056             504
2809 26 85           DCW   @ @                                         1  6180                    504
2810 26 86           ORG   6200                                                    6200
2811 26 87   PRMSG9  DCW   @PHASE 1 INP       OUT      @              27  6226                    505
2812 26 88   GCMPLT  DCW   @999@                                        3  6229                    505
2813 26 89   POT     DCW   00                                           2  6231                    505
2814 26 90   FIRSTG  DCW   000                                          3  6234                    505
2815 26 91   EFSTRT  DCW   00000000                                     8  6242                    506
2816 26 92   BLCMPT  DCW   000                                          3  6245                    506
2817 26 93   BKET    DCW   0                                            1  6246                    506
2818 26 94   SXTNTH  DCW   @16000@                                      5  6251                    506
2819 26 95   VLRRTN  DCW   000                                          3  6254                    506
2820 26 96   EFSCPT  DCW   00000000                                     8  6262                    506
2821 26 97   BUCKET  DCW   0                                            1  6263                    506
2822 26 98   EFSTPT  DCW   00000000000000                              14  6277                    507
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 SEQ PG LIN  LABEL  OP    OPERANDS                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

2823 26 99   INTGLG DCW   @00002@                             4  6281                      507
2824 27 00   THREEG DCW   0000                                4  6285                      507
2825 27 01   HLD3G  DCW   0000                                4  6289                      507
2826 27 02   HOLDG  DCW   000                                 3  6292                      507
2827 27 03   MOVPUT MLC   X2,HOLDND                           7  6293  M 094 T47           507
2828 27 04   HLD34G DCW   00000                               5  6304                      508
2829 27 05   TREQRG DCW   00000                               5  6309                      508
2830 27 06          DC    0                                   1  6310                      508
2831 27 07   HOLD2  DCW   @2@                                 1  6311                      508
2832 27 08   NDFPGM DCW   @?00@                               3  6314                      508
2833 27 09   X      DCW   000                                 3  6317                      508
2834 27 10   Y      DCW   000                                 3  6320                      508
2835 27 11   NINEG  DCW   @009@                               3  6323                      508
2836 27 12   CMPGLG DCW   @XXX@                               3  6326                      509
2837 27 13   GL     DCW   00000                               5  6331                      509
2838 27 14   NTOTVL DCW   000                                 3  6334                      509
2839 27 15   H13H10 DCW   000000                              6  6340                      509
2840 27 16   PHZ1MG DCW   @PHASE 1  INTERNAL SORT@           22  6362                      509
2841 27 17   CHKPRT DCW   @CHECKPOINT ON TAPE UNIT #@        25  6387                      510
2842 27 18          LTORG *                                       6388
                    DCW   @001@                               3  6390              LIT     510
                          @M@                                 1  6391              LIT     510
       2490               &INTOUT                             3  6394  571         ADCON   510
                          @N@                                 1  6395              LIT     510
                          @U@                                 1  6396              LIT     510
       2498               &LBMI3T                             3  6399  864         ADCON   510
       2499               &LBI3T                              3  6402  867         ADCON   511
                          @6@                                 1  6403              LIT     511
                          @B@                                 1  6404              LIT     511
                          @512@                               3  6407              LIT     511
                          @I9I@                               3  6410              LIT     511
                          @007@                               3  6413              LIT     511
                          @I9C@                               3  6416              LIT     511
                          @I9G@                               3  6419              LIT     512
                          @003@                               3  6422              LIT     512
                          @7@                                 1  6423              LIT     512
       2647               @16000@                             5  6428              LIT     512
                          @#@                                 1  6429              LIT     512
                          @A@                                 1  6430              LIT     512
                          @0002@                              4  6434              LIT     512
                          @0000@                              4  6438              LIT     513
       2683               &PRGMSZ&7                           3  6441  V5|         ADCON   513
                          @000@                               3  6444              LIT     513
                          @G@                                 1  6445              LIT     513
                          @5@                                 1  6446              LIT     513
                          @2@                                 1  6447              LIT     513
       2755               &CF2RE                              3  6450  01X         ADCON   513
       2756               &BSCBSC-6                           3  6453  V56         ADCON   514
                          @Z@                                 1  6454              LIT     514
                          @006@                               3  6457              LIT     514
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
					@014@		3	6460		LIT	514
					@013@		3	6463		LIT	514
					@245@		3	6466		LIT	514
2843	27	19		EX	ATEK				B 24T		515

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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
2844 27 20          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
2845 27 21          ORG   4175                                                      4175
2846 27 22   FXCHEK BCE   FLRRTN,FLR,        FIXED LENGTH RECORDS BRANCH        8  4175  B |1U 091          518
2847 27 23          MLC   @ @,RNGLNQ&4       INITIALIZE MAINLINE ROUTINES FOR   7  4183  M W0U Z28          518
2848 27 24          MLC   &B2211B,BTOHAS&3   VARIABLE LENGTH RECORDS            7  4190  M W0X |1T          518
2849 27 25          MA    BFRST3,B011TH&3                                      7  4197  # 850 |83          518
2850 27 26          MA    RCDIST,CNVRSN&3                                      7  4204  # 196 |34          518
2851 27 27          MA    RCDIST,CNVRS1&6                                      7  4211  # 196 |58          519
2852 27 28          MA    RCDIST,B011TB&3                                      7  4218  # 196 |90          519
2853 27 29          MLC   @N@,BP002                                            7  4225  M W0Y W21          519
2854 27 30          MLC   @N@,B2211D                                           7  4232  M W0Y U27          519
2855 27 31          MLC   &VLRGET,BP001&6                                      7  4239  M W1/ W20          519
2856 27 32          BCE   CNTVL1,DESCND,1                                      8  4246  B 34/ 090 1        520
2857 27 33          MA    ONE,STPCMP&3                                         7  4254  # 898 S31          520
2858 27 34          B     CNTVLR                                               4  4261  B 34Y              520
2859 27 35   NORLIN MLC   @M@,B010RI                                          7  4265  M W1S Y34          520
2860 27 36          MLC   @#@,B010R                                            7  4272  M W1T Y41          520
2861 27 37          MLC   @N@,STG1J                                           7  4279  M W0Y /23          521
2862 27 38          MLC   @N@,SETG1J                                          7  4286  M W0Y /30          521
2863 27 39          MLC   @N@,SETG1&7                                         7  4293  M W0Y /53          521
2864 27 40          MLCWA RLINO2&6,RLINO&6                                    7  4300  L 32W Z71          521
2865 27 41          MLCWA RLINO1&6                                            4  4307  L 33T              521
2866 27 42          B     CNTVL3                                              4  4311  B 47S              521
2867 27 43   CON16T DCW   @16000@                                             5  4319                     522
2868 27 44   RLINO2 MA    K4,X1                                               7  4320  # P50 089          522
2869 27 45   RLINO1 MLC   K1BLNK,0&X1                                         7  4327  M 854 0|0          522
2870 27 46   MLTIBL MA    K4,X2                                               7  4334  # P50 094          522
2871 27 47   CNTVL1 MA    ONE,STPCMP&6                                        7  4341  # 898 S34          522
2872 27 48   CNTVLR CW    B2212&5                                             4  4348  ) U69              522
2873 27 49          CW    B002R                                               4  4352  ) Z56              523
2874 27 50          MLCWA MLTIBL&6,B002R&8                                    7  4356  L 34| Z64          523
2875 27 51          MLC   &CMPCOW                                            4  4363  M W1W              523
2876 27 52          MLC   @089@                                              4  4367  M W1Z              523
2877 27 53          MLC   @#@                                                4  4371  M W1T              523
2878 27 54          MLC   &CMPCOW                                            4  4375  M W2S              523
2879 27 55          MLC   &COWNTR                                            4  4379  M W2V              523
2880 27 56          MLC   @M@                                                4  4383  M W1S              524
2881 27 57          MLC   @0!1@,WRTFL1&6                                      7  4387  M W2Y W42          524
2882 27 58          MLC   GPMARK                                              4  4394  M 350              524
2883 27 59          MLC   @L@                                                4  4398  M W2Z              524
2884 27 60          MLC   @2@,B2212&14                                        7  4402  M W3| U78          524
2885 27 61          MLC   &CMPCOU                                            4  4409  M W3T              524
2886 27 62          MLC   &BP002                                             4  4413  M W3W              524
2887 27 63          MLCWA @V@                                                4  4417  L W3X              525
2888 27 64          MLC   &CMPCOU                                            4  4421  M W4|              525
2889 27 65          MLC   @094@                                              4  4425  M W4T              525
2890 27 66          MLC   @#@                                                4  4429  M W1T              525
2891 27 67          MLC   &CMPCOU                                            4  4433  M W4W              525
2892 27 68          MLC   &COUNTR                                            4  4437  M W4Z              525
2893 27 69          MLC   @M@                                                4  4441  M W1S              525
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
2894 27 70          C     BI,@001@          CHECK FOR UNBLOCKED INPUT    7  4445  C I86 W5S          526
2895 27 71          BU    CNTVL3                                         5  4452  B 47S /            526
2896 27 72          BCE   NORLIN,RLIIND,1                               8  4457  B 26V 560 1        526
2897 27 73          MLCWA RLINO&6,RLINO-1                              7  4465  L Z71 Z64          526
2898 27 74   CNTVL3 MLC   &B220VL&3,B2200&6                           7  4472  M W5V T62          526
2899 27 75          MLC   &B220VL&3,B2202&6                           7  4479  M W5Y U47          527
2900 27 76          MLC   &B220VL&3,B2211B&3                          7  4486  M W6/ U37          527
2901 27 77          MLC   @0!0@,B2001&6                               7  4493  M W6U U15          527
2902 27 78          MLC   @0|0@                                       4  4500  M W6X              527
2903 27 79          MLC   RCDIST,B2000&3                              7  4504  M 196 U01          527
2904 27 80          MLCWA @#@                                        4  4511  L W1T              527
2905 27 81          MLZS  @S@,B2000&2                                7  4515  Y W6Y U00          528
2906 27 82          MLC   @094@,B2201&6                              7  4522  M W4T T97          528
2907 27 83          MLC   RCDIST                                     4  4529  M 196              528
2908 27 84          MLC   @#@                                        4  4533  M W1T              528
2909 27 85          MLZS  @S@,B2201&2                                7  4537  Y W6Y T93          528
2910 27 86          MLCWA MOVPUT&6,B2201V&6                          7  4544  L K9Z T76          528
2911 27 87          MLC   @094@                                      4  4551  M W4T              529
2912 27 88          MLC   @L@,B201W                                  7  4555  M W2Z W61          529
2913 27 89          MLC   @L@,B001R                                  7  4562  M W2Z Y83          529
2914 27 90          MLC   L,CONVRT                                   7  4569  M 347 698          529
2915 27 91          B     EXPAND                                     4  4576  B 620              529
2916 27 92          C     @00999@,HOLD      CHECK RECORD LENGTH      7  4580  C W7T 693          529
2917 27 93          BH    BRMAX                                      5  4587  B 59Z U            530
2918 27 94          MLCWA BRMAXL&4,CNVRSN&4                          7  4592  L 96V |35          530
2919 27 95   BRMAX  MA    G1,LRG2G1                                  7  4599  # 895 565          530
2920 27 96          MLC   LRG2G1,CONVRT                              7  4606  M 565 698          530
2921 27 97          B     EXPAND                                     4  4613  B 620              530
2922 27 98          MLC   CON16T,CONVRT                             7  4617  M 31Z 698          530
2923 27 99          S     HOLD,CONVRT                                7  4624  S 693 698          531
2924 28 00          MLZS  K1BLNK,CONVRT                              7  4631  Y 854 698          531
2925 28 01          B     K5TOK3                                     4  4638  B 04Y              531
2926 28 02          MLC   CONVRT,LRG2G1                             7  4642  M 698 565          531
2927 28 03          MLC   UAPHZ1,CONVRT                             7  4649  M 12W 698          531
2928 28 04          S     @004@,CONVRT                               7  4656  S W7W 698          531
2929 28 05          MLZS  K1BLNK,CONVRT                              7  4663  Y 854 698          532
2930 28 06          B     K5TOK3                                     4  4670  B 04Y              532
2931 28 07          MLC   CONVRT,COWNTR                             7  4674  M 698 P46          532
2932 28 08          MA    CMXBLK,COWNTR                              7  4681  # 01/ P46          532
2933 28 09          MLC   COWNTR,CONVRT                             7  4688  M P46 698          532
2934 28 10          B     EXPAND                                     4  4695  B 620              532
2935 28 11          MLC   CON16T,CONVRT                             7  4699  M 31Z 698          533
2936 28 12          S     HOLD,CONVRT                                7  4706  S 693 698          533
2937 28 13          MLZS  K1BLNK,CONVRT                              7  4713  Y 854 698          533
2938 28 14          B     K5TOK3                                     4  4720  B 04Y              533
2939 28 15          MLC   CONVRT,COWNTR                             7  4724  M 698 P46          533
2940 28 16          MA    COMPL,COUNTR                               7  4731  # 00V Y12          533
2941 28 17          MA    ONE,COUNTR                                 7  4738  # 898 Y12          534
2942 28 18          MLC   COUNTR,CONVRT                             7  4745  M Y12 698          534
2943 28 19          B     EXPAND                                     4  4752  B 620              534
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
2944 28 20           MLC   CON16T,CONVRT                             7  4756  M 31Z 698          534
2945 28 21           S     HOLD,CONVRT                               7  4763  S 693 698          534
2946 28 22           MLZS  K1BLNK,CONVRT                             7  4770  Y 854 698          534
2947 28 23           B     K5TOK3                                    4  4777  B 04Y              535
2948 28 24           MLC   CONVRT,COUNTR                            7  4781  M 698 Y12          535
2949 28 25           BCE   *&8,KRUNCH,         DETERMINE IF RLI REQUIRES THE  8  4788  B 80T 561          535
2950 28 26           MA    SLRCC,STWMVL&10     SETTING OF A WORDMARK          7  4796  # 12/ |30          535
2951 28 27           MLC   @000@,X1                                  7  4803  M W7Z 089          535
2952 28 28           BCE   INVLWM,CNOP,1                            8  4810  B 82V 086 1        536
2953 28 29           MA    @003@,INVLWM&3                            7  4818  # W8S 82Y          536
2954 28 30   INVLWM  MLC   INVLST&X1,X3        INITIALIZE SET WORDMARK ROUTINE  7  4825  M 9X| 099          536
2955 28 31           MA    CF1SL&X1,0&X3       FOR VARIABLE LENGTH RECORDS    7  4832  # 3V3 0?0          536
2956 28 32           MA    @003@,X1                                  7  4839  # W8S 089          536
2957 28 33           C     X1,@030@                                  7  4846  C 089 W8V          537
2958 28 34           BU    INVLWM                                    5  4853  B 82V /            537
2959 28 35           MLC   NCF,NCFTOP                                7  4858  M 096 |0T          537
2960 28 36           MLC   &STWMVL,X2                                7  4865  M W8Y 094          537
2961 28 37           BCE   INVLW1,CNOP,1                           8  4872  B 88X 086 1        537
2962 28 38           A     ONE,NCFTOP                                7  4880  A 898 |0T          538
2963 28 39   INVLW1  C     NCFTOP,KTHREE                             7  4887  C |0T 96X          538
2964 28 40           BH    INVLW2                                    5  4894  B 91X U            538
2965 28 41           MA    @I9C@,X2                                  7  4899  # W9/ 094          538
2966 28 42           A     @02@,KTHREE                               7  4906  A W9T 96X          538
2967 28 43           B     INVLW1                                    4  4913  B 88X              538
2968 28 44   INVLW2  C     NCFTOP,@11@                               7  4917  C |0T W9V          539
2969 28 45           BU    INVLW3                                    5  4924  B 93W /            539
2970 28 46           MLC   &STWMVL-32,X2                             7  4929  M W9Y 094          539
2971 28 47   INVLW3  MLC   X2,SETG1J&3                              7  4936  M 094 /33          539
2972 28 48           MLC   X2,B002RA&3                               7  4943  M 094 !37          539
2973 28 49           MLC   X2,LSTBK1&3                               7  4950  M 094 /85          540
2974 28 50           B     INSTP                                     4  4957  B |9W              540
2975 28 51   BRMAXL  B     B011TA                                    4  4961  B |59              540
2976 28 52           DC    @ @                                       1  4965                     540
2977 28 53   KTHREE  DCW   @03@                                      2  4967                     540
2978 28 54   INVLST  DC    &STWMVL&3                                 3  4970  |23                540
2979 28 55           &STWMVL&6                                       3  4973  |26                540
2980 28 56           &STWMVL-1                                       3  4976  |19                540
2981 28 57           &STWMVL-4                                       3  4979  |16                540
2982 28 58           &STWMVL-8                                       3  4982  |12                540
2983 28 59           &STWMVL-11                                      3  4985  |09                540
2984 28 60           &STWMVL-15                                      3  4988  |05                540
2985 28 61           &STWMVL-18                                      3  4991  |02                541
2986 28 62           &STWMVL-22                                      3  4994  998                541
2987 28 63           &STWMVL-25                                      3  4997  995                541
2988 28 64           &STWMVL-29                                      3  5000  991                541
2989 28 65   NCFTOP  DCW   @   @                                     3  5003                     541
2990 28 66   NCFPUT  DCW   00                                        2  5005                     541
2991 28 67   EMM     DCW   @L@                                       1  5006                     541
2992 28 68   QOUNTR  DCW   000                                       3  5009                     541
2993 28 69   BTOHAS  B     B2211D                                    4  5010  B U27              542
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
2994 28 70   FLRRTN MA    L,INTOUT                                    7  5014  # 347 571          542
2995 28 71          MA    L,B2001&3                                   7  5021  # 347 U12          542
2996 28 72          MLC   &EQUAL,STPCM2&3                            7  5028  M X0/ S43          542
2997 28 73   QBACK  MA    L,RNGLNQ&6                                  7  5035  # 347 Z30          542
2998 28 74          A     @1@,QOUNTR                                  7  5042  A X0S |0Z          542
2999 28 75          C     QOUNTR,BI                                   7  5049  C |0Z I86          543
3000 28 76          BU    QBACK                                       5  5056  B |3V /            543
3001 28 77          MLC   @N@,VLRGET                                  7  5061  M W0Y Y13          543
3002 28 78          MLC   @N@,VLRGET&7                                7  5068  M W0Y Y20          543
3003 28 79          MLC   @N@,VLRGET&14                               7  5075  M W0Y Y27          543
3004 28 80          MLC   &B4SS5,B002R&3                            7  5082  M X0V Z59          544
3005 28 81          MLC   BFRST3,B2211D&3                           7  5089  M 850 U30          544
3006 28 82   INSTP  MA    @I9I@,INTOUT                                7  5096  # X0Y 571          544
3007 28 83          MLC   MI1TUN,B201W&3                             7  5103  M 341 W64          544
3008 28 84          MLC   MI1TUN,B203W&3                             7  5110  M 341 X86          544
3009 28 85          MLC   MI1TUN,TAPERW&3                           7  5117  M 341 X54          545
3010 28 86          BCE   ANNENC,CNOP,1                               8  5124  B V3T 086 1        545
3011 28 87   CTOL   S     CNOP,NCF                                    7  5132  S 086 096          545
3012 28 88          S     ONE,NCF                                     7  5139  S 898 096          545
3013 28 89          MLZS  K1BLNK,NCF                                  7  5146  Y 854 096          545
3014 28 90          MLC   NCF,NCFPUT                                 7  5153  M 096 |0V          546
3015 28 91          BCE   *&8,KRUNCH,                                8  5160  B /7V 561          546
3016 28 92          A     @1@,NCFPUT                                  7  5168  A X0S |0V          546
3017 28 93          MLC   @001@,X1                                    7  5175  M W5S 089          546
3018 28 94   SETPUT MLCWA EMM,B2001&6&X1     INITIALIZE CHAINED MOVE IN  7  5182  L |0W U/5          546
3019 28 95          A     @1@,X1            PUT ROUTINE BASED ON THE NUMBER  7  5189  A X0S 089  547
3020 28 96          A     NINTNN,NCFPUT     OF CONTROL FIELDS           7  5196  A 873 |0V          547
3021 28 97          BAV   SETPUT                                      5  5203  B /8S Z            547
3022 28 98          C     NCF,@05@                                    7  5208  C 096 X1|          547
3023 28 99          BL    SBCNOP                                      5  5215  B S2X T            547
3024 29 00          MLCWA BTOHAS&3,B2001&9&X1                         7  5220  L |1T U/8          547
3025 29 01   SBCNOP A     CNOP,NCF                                    7  5227  A 086 096          548
3026 29 02          A     ONE,NCF                                     7  5234  A 898 096          548
3027 29 03   CTLAGN MLC   COMPL,PCOMPL                               7  5241  M 00V 853          548
3028 29 04          MA    @I9I@,HPNDPM                                7  5248  # X0Y Q40          548
3029 29 05          MA    @I9I@,NDFPGM                                7  5255  # X0Y L1U          548
3030 29 06          MLC   HPNDPM-2,TPCNPM-2                          7  5262  M Q38 Q41          549
3031 29 07          MLZS  HPNDPM,TPCNPM                               7  5269  Y Q40 Q43          549
3032 29 08          MLC   G,HOLDG                                     7  5276  M 857 K9S          549
3033 29 09          C     HPNDPM,TPCNPM                               7  5283  C Q40 Q43          549
3034 29 10          BU    *&8                                         5  5290  B T0S /            549
3035 29 11          MLC   BR&4,MAX&19                                 7  5295  M T7/ R19          550
3036 29 12   CKPTCR BCE   GPMRK,UAPHZ1,                              8  5302  B T3S 12W          550
3037 29 13          MLC   UAPHZ1,CONVRT                               7  5310  M 12W 698          550
3038 29 14          B     K5TOK3                                      4  5317  B 04Y              550
3039 29 15          MA    CONVRT,STRTCL&3                             7  5321  # 698 Q54          550
3040 29 16          B     CHECK                                       4  5328  B T3Z              550
3041 29 17   GPMRK  MA    GPMARK,STRTCL&3                             7  5332  # 350 Q54          551
3042 29 18   CHECK  CS    332                                         4  5339  / 332              551
3043 29 19          CS                                                1  5343  /                  551
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 SEQ PG LIN  LABEL  OP    OPERANDS                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
3044 29 20          C     HPNDPM,TPCNPM                7  5344  C Q40 Q43          551
3045 29 21          BU    DETS                         5  5351  B T7S /            551
3046 29 22          MLC   BR&4,MAX&19                  7  5356  M T7/ R19          551
3047 29 23          B     DETS                         4  5363  B T7S              551
3048 29 24   BR     BIN   STWMK1-7,                    5  5367  B R56              552
3049 29 25   DETS   BCE   REVRS5,DESCND,1              8  5372  B T9S 090 1        552
3050 29 26          BCE   SWCHTP,NCF,1                 8  5380  B J61 096 1        552
3051 29 27          B     CMPTNC                       4  5388  B U6Z              552
3052 29 28   REVRS5 MA    NDFPGM,REVRS3&3              7  5392  # L1U U0S          552
3053 29 29   REVRS3 SW    1                            4  5399  , 001              552
3054 29 30          MLC   HPNDPM,X1                    7  5403  M Q40 089          553
3055 29 31          MLCWA NINE,1&X1                    7  5410  L 871 0|1          553
3056 29 32   REVRS4 MLC   1&X1,0&X1                    7  5417  M 0|1 0|0          553
3057 29 33          SBR   X1                           4  5424  H 089              553
3058 29 34          CW    1&X1                         4  5428  ) 0|1              553
3059 29 35          C     X1,NDFPGM                    7  5432  C 089 L1U          553
3060 29 36          BU    REVRS4                       5  5439  B U1X /            554
3061 29 37          MLC   K1BLNK,1&X1                  7  5444  M 854 0|1          554
3062 29 38          MLC   NDFPGM,ADRLRD                7  5451  M L1U A05          554
3063 29 39          MA    TWO,ADRLRD                   7  5458  # 876 A05          554
3064 29 40          B     SWCHTP                       4  5465  B J61              554
3065 29 41   CMPTNC MA    NDFPGM,*&4                   7  5469  # L1U U7Z          554
3066 29 42          SW    1                            4  5476  , 001              555
3067 29 43          MLC   HPNDPM,X1                    7  5480  M Q40 089          555
3068 29 44   LDNINE MLCWA K1BLNK,1&X1                  7  5487  L 854 0|1          555
3069 29 45   LDBLNK MLCWA 1&X1,0&X1                    7  5494  L 0|1 0|0          555
3070 29 46          SBR   X1                           4  5501  H 089              555
3071 29 47          BCE   *&5,DESCND,                  8  5505  B V1X 090          555
3072 29 48          CW    3&X1                         4  5513  ) 0|3              556
3073 29 49          C     X1,NDFPGM                    7  5517  C 089 L1U          556
3074 29 50          BU    LDBLNK                       5  5524  B U9U /            556
3075 29 51          B     SWCHTP                       4  5529  B J61              556
3076 29 52   ANNENC BCE   *&5,NCF,1                   8  5533  B V4V 096 1        556
3077 29 53          B     CTOL                         4  5541  B /3S              556
3078 29 54          BCE   CTLAG6,KRUNCH,               8  5545  B V7/ 561          557
3079 29 55          MLC   EMM,B2001&7                  7  5553  M |0W U16          557
3080 29 56          MLCWA BTOHAS&3,B2001&11            7  5560  L |1T U20          557
3081 29 57          B     CTLAG6&7                     4  5567  B V7Y              557
3082 29 58   CTLAG6 MLCWA BTOHAS&3,B2001&10            7  5571  L |1T U19          557
3083 29 59          B     CTLAGN                       4  5578  B S4/              557
3084 29 60   CHKPNT CS    80                           4  5582  / 080              558
3085 29 61          SW    24,56                        7  5586  , 024 056          558
3086 29 62          SW    63,67                        7  5593  , 063 067          558
3087 29 63          R     056                          4  5600  1 056              558
                    DCW   @ @                          1  5604             LIT     558
       2848               &B2211B                     3  5607  U34        ADCON   558
                          @N@                         1  5608             LIT     558
       2855               &VLRGET                     3  5611  Y13        ADCON   559
                          @M@                         1  5612             LIT     559
                          @#@                         1  5613             LIT     559
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
		2875			&CMPCOW		3	5616	/91	ADCON	559
					@089@		3	5619		LIT	559
		2878			&CMPCOW		3	5622	/91	ADCON	559
		2879			&COWNTR		3	5625	P46	ADCON	559
					@0!1@		3	5628		LIT	560
					@L@		1	5629		LIT	560
					@2@		1	5630		LIT	560
		2885			&CMPCOU		3	5633	/94	ADCON	560
		2886			&BP002		3	5636	W21	ADCON	560
					@V@		1	5637		LIT	560
		2888			&CMPCOU		3	5640	/94	ADCON	560
					@094@		3	5643		LIT	561
		2891			&CMPCOU		3	5646	/94	ADCON	561
		2892			&COUNTR		3	5649	Y12	ADCON	561
					@001@		3	5652		LIT	561
		2898			&B220VL&3		3	5655	T80	ADCON	561
		2899			&B220VL&3		3	5658	T80	ADCON	561
		2900			&B220VL&3		3	5661	T80	ADCON	561
					@0!0@		3	5664		LIT	562
					@0|0@		3	5667		LIT	562
					@S@		1	5668		LIT	562
		2916			@00999@		5	5673		LIT	562
					@004@		3	5676		LIT	562
					@000@		3	5679		LIT	562
					@003@		3	5682		LIT	562
					@030@		3	5685		LIT	563
		2960			&STWMVL		3	5688	|20	ADCON	563
					@I9C@		3	5691		LIT	563
					@02@		2	5693		LIT	563
					@11@		2	5695		LIT	563
		2970			&STWMVL-32		3	5698	988	ADCON	563
		2996			&EQUAL		3	5701	U84	ADCON	563
					@1@		1	5702		LIT	564
		3004			&B4SS5		3	5705	R66	ADCON	564
					@I9I@		3	5708		LIT	564
					@05@		2	5710		LIT	564
3088	29	64		EX	FXCHEK				B 17V		565

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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

3089 29 65          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
3090 29 66   *
3091 29 67   *                    BYPASS OR LOAD IN ROUTINE TO HANDLE FIXED
3092 29 68   *                    LENGTH RECORDS READ IN THE LOAD MODE
3093 29 69   *
3094 29 70          ORG   5000                                                 5000
3095 29 71   TESTML BCE   TML,FLR,1                                  8  5000  B |5Y 091 1          568
3096 29 72          BCE   BPSS,INMODE,M                             8  5008  B |4V 562 M          568
3097 29 73   LCRD   CS    80                                        4  5016  / 080                568
3098 29 74          SW    24,56                                     7  5020  , 024 056            568
3099 29 75          SW    63,67                                     7  5027  , 063 067            568
3100 29 76          R     056                                       4  5034  1 056                568
3101 29 77          MLC   @L@,B001R                                 7  5038  M /2V Y83            569
3102 29 78   BPSS   R                                               1  5045  1                    569
3103 29 79          BCE   LCRD,68,B                                 8  5046  B |1W 068 B          569
3104 29 80          B     BPSS                                      4  5054  B |4V               569
3105 29 81   TML    BCE   BPSS-7,INMODE,L                          8  5058  B |3Y 562 L          569
3106 29 82          BCE   *&12,TPV1,                                8  5066  B |8V 568            569
3107 29 83          MLC   TPV1,CDTO                                 7  5074  M 568 953            570
3108 29 84          B     *&8                                       4  5081  B |9S               570
3109 29 85          MLC   GPMARK,CDTO                               7  5085  M 350 953            570
3110 29 86          MA    @I9I@,CDTO                                7  5092  # /2Y 953            570
3111 29 87          MLC   ONPTAR,CLRTN&3                            7  5099  M P41 908            570
3112 29 88          MLC   @M@,B001R                                 7  5106  M /2Z Y83            570
3113 29 89          MLC   &CLRTN,BP001&6                            7  5113  M /3S W20            571
3114 29 90          B     BPSS                                      4  5120  B |4V               571
3115 29 91          DCW   #1                                        1  5124                       571
                    DCW   @L@                                       1  5125            LIT        571
                          @I9I@                                     3  5128            LIT        571
                          @M@                                       1  5129            LIT        571
       3113               &CLRTN                                    3  5132  905       ADCON      571
3116 29 92          EX    TESTML                                         B |0|                      572
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

3117 29 93          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
3118 29 94   *
3119 29 95   *              SET WORD MARK ROUTINE FOR FIXED LENGTH
3120 29 96   *                  RECORDS READ IN THE LOAD MODE
3121 29 97   *
3122 29 98          ORG   VARLNT                                          0988
3123 29 99          MLC   G,GCNT7                                   7  0988  M 857 /33          575
3124 30 00          MA    P15999,GCNT7                              7  0995  # 861 /33          575
3125 30 01          MLC   @0?0@,SET7&3                              7  1002  M /38 |33          575
3126 30 02          MA    ONPTAR,SET7&3                             7  1009  # P41 |33          575
3127 30 03   SET71  MLC   NCF,NCF7                                  7  1016  M 096 /35          575
3128 30 04          MLC   @000@,X3                                  7  1023  M /41 099          576
3129 30 05   SET7   SW    0&X3                                      4  1030  , 0?0              576
3130 30 06   INSWN7 MLC   CF1SL,X3                                  7  1034  M 353 099          576
3131 30 07          MA    THREE,INSWN7&3                            7  1041  # 889 |37          576
3132 30 08          BAV   *&1                                       5  1048  B |53 Z            576
3133 30 09          A     NINTNN,NCF7                               7  1053  A 873 /35          576
3134 30 10          BAV   SET7                                      5  1060  B |30 Z            577
3135 30 11          SBR   INSWN7&3,CF1SL                            7  1065  H |37 353          577
3136 30 12          MA    L,SET7&3                                  7  1072  # 347 |33          577
3137 30 13          A     @999@,GCNT7                               7  1079  A /44 /33          577
3138 30 14          BAV   SET71                                     5  1086  B |16 Z            577
3139 30 15          B     B4SS5                                     4  1091  B R66              577
3140 30 16   INSWF  MLC   @L@,B001R                                 7  1095  M /45 Y83          578
3141 30 17          MLC   &VARLNT,B002R&3                           7  1102  M /48 Z59          578
3142 30 18          CS    80                                        4  1109  / 080              578
3143 30 19          SW    24,56                                     7  1113  , 024 056          578
3144 30 20          SW    63,67                                     7  1120  , 063 067          578
3145 30 21          R     056                                       4  1127  1 056              578
3146 30 22   GCNT7  DCW   #3                                        3  1133                     578
3147 30 23   NCF7   DCW   #2                                        2  1135                     579
3148 30 24          LTORG *                                               1136
                    DCW   @0?0@                                     3  1138            LIT    579
                          @000@                                     3  1141            LIT    579
                          @999@                                     3  1144            LIT    579
                          @L@                                       1  1145            LIT    579
       3141               &VARLNT                                   3  1148  988       ADCON  579
3149 30 25          EX    INSWF                                           B |95            580
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

3150 30 26           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
3151 30 27   *
3152 30 28   *                    WRITE CHECKPOINT ROUTINE
3153 30 29   *
3154 30 30           ORG   5000                                                    5000
3155 30 31   CHKPT1  CW    333                WRITE CHECKPOINT          4  5000  ) 333              583
3156 30 32           SW    1,5                                          7  5004  , 001 005          583
3157 30 33           MLC   &RESTRT                                      4  5011  M U4Y              583
3158 30 34           MLC   @B@                                          4  5015  M U4Z              583
3159 30 35           MLC   MI1TUN,WRTCHK&3                             7  5019  M 341 |4T          583
3160 30 36           MLC   @80@,CNTR50                                 7  5026  M U5/ Y09          583
3161 30 37   RTCHK1  MLC   @N@,BRNCHK                                  7  5033  M U5S /0W          584
3162 30 38   WRTCHK  WTW   0,1                                          8  5040  L %U0 001 W        584
3163 30 39           BER   ERRCHK                                       5  5048  B |9U L            584
3164 30 40           BEF   EOFCHK                                       5  5053  B /5T K            584
3165 30 41   RTCHK2  MLC   Z,MAX&6                                      7  5058  M Q12 R06          584
3166 30 42           MLC   GPMARK                                       4  5065  M 350              584
3167 30 43           MLC   GPMARK,LDG333&3                              7  5069  M 350 |7Z          585
3168 30 44   LDG333  MLCWA GM,333                                      7  5076  L I9Y 333          585
3169 30 45           MLC   &B013R,TSTLBL&11                             7  5083  M U5V K30          585
3170 30 46           B     MPZ1                                         4  5090  B S6U              585
3171 30 47   ERRCHK  MN    WRTCHK&3,ERCHK1&3                            7  5094  D |4T /0U          585
3172 30 48   ERCHK1  BSP   0                                            5  5101  U %U0 B            585
3173 30 49   BRNCHK  B     ERSCHK                                       4  5106  B /2/              586
3174 30 50           MLC   @B@,BRNCHK                                  7  5110  M U4Z /0W          586
3175 30 51           B     WRTCHK                                       4  5117  B |4|              586
3176 30 52   ERSCHK  A     ONE,CNTR50                                   7  5121  A 898 Y09          586
3177 30 53           BAV   HLTCHK                                      5  5128  B /4Z Z            586
3178 30 54           MLNS  WRTCHK&3,ERSHK1&3                            7  5133  D |4T /4T          586
3179 30 55   ERSHK1  SKP   0                                            5  5140  U %U0 E            586
3180 30 56           B     RTCHK1                                       4  5145  B |3T              587
3181 30 57   HLTCHK  H     CHKPNT                                       4  5149  . V8S              587
3182 30 58   EOFCHK  H     RTCHK2                                       4  5153  . |5Y              587
3183 30 59   RESTRT  MLC   GPMARK,X1           RESTART                  7  5157  M 350 089          587
3184 30 60           RWD   1                                            5  5164  U %U1 R            587
3185 30 61           CS    332                                          4  5169  / 332              587
3186 30 62           CS                                                 1  5173  /                  587
3187 30 63           SW    0&X1                                         4  5174  , 0|0              588
3188 30 64           MLC   @,@,PRMSG9-1                                 7  5178  M U5W K2V          588
3189 30 65           MLC   MI2TUN                                       4  5185  M 342              588
3190 30 66           MLC   @,@                                          4  5189  M U5W              588
3191 30 67           MLC   MI1TUN                                       4  5193  M 341              588
3192 30 68           BCE   TOWYMG,NOTAPS,4                              8  5197  B S2W 886 4        588
3193 30 69           MLC   MI3TUN,PRMSG9                                7  5205  M 343 K2W          588
3194 30 70           MLC   I3TUN,PRMSG9-10                              7  5212  M 340 K1W          589
3195 30 71           MLZS  *-6,CENSIG                                   7  5219  Y S1Z 415          589
3196 30 72   TOWYMG  MLC   @,@,PRMSG9-11                               7  5226  M U5W K1V          589
3197 30 73           MLC   I2TUN                                        4  5233  M 339              589
3198 30 74           MLC   @,@                                          4  5237  M U5W              589
3199 30 75           MLC   I1TUN                                        4  5241  M 338              589
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
3200 30 76           RWD   1                                         5  5245  U %U1 R           589
3201 30 77           MLC   PRMSG9,227                                7  5250  M K2W 227         590
3202 30 78           W                                               1  5257  2                 590
3203 30 79           CC    1                                         2  5258  F 1               590
3204 30 80   NDRSTT  H     CHKPT1                                    4  5260  . |0|             590
3205 30 81   MPZ1    CS    299                                       4  5264  / 299             590
3206 30 82           MLC   PHZ1MG,222                                7  5268  M L6S 222         590
3207 30 83           W                                               1  5275  2                 590
3208 30 84           CS    299                                       4  5276  / 299             591
3209 30 85           MLC   MI1TUN,226                                7  5280  M 341 226         591
3210 30 86           MLC   CHKPRT                                    4  5287  M L8X             591
3211 30 87           W                                               1  5291  2                 591
3212 30 88           BCE   ENDPRT,FLR,1                              8  5292  B T4Y 091 1       591
3213 30 89   CMPT3B  A     ONE,THREEB                                7  5300  A 898 870         591
3214 30 90           S     B,HOLDG                                   7  5307  S 199 K9S         591
3215 30 91           BWZ   CMPT3B,HOLDG,B                           8  5314  V T0| K9S B       592
3216 30 92           S     ONE,THREEB                                7  5322  S 898 870         592
3217 30 93           CS    226                                       4  5329  / 226             592
3218 30 94           MLC   @G@,201                                   7  5333  M U5X 201         592
3219 30 95           MLC   G,205                                     7  5340  M 857 205         592
3220 30 96           W                                               1  5347  2                 592
3221 30 97   ENDPRT  CC    1                                         2  5348  F 1               592
3222 30 98   RDURLD  CS    080                                       4  5350  / 080             593
3223 30 99           SW    24,56                                     7  5354  , 024 056         593
3224 31 00           SW    63,67                                     7  5361  , 063 067         593
3225 31 01   WHICH   BCE   STURPI,URPI,P                            8  5368  B T9V 186 P       593
3226 31 02           BCE   STURPI,URPI,C                            8  5376  B T9V 186 C       593
3227 31 03           MLC   @T@,DECIDE&7                             7  5384  M U5Y U1|         594
3228 31 04           B     DECIDE-1                                  4  5391  B U0S             594
3229 31 05   STURPI  MLC   URPI,DECIDE&7      DETERMINE REDUNDANCY ROUTINE  7  5395  M 186 U1|         594
3230 31 06           R                       REQUESTED BY USER       1  5402  1                 594
3231 31 07   DECIDE  BCE   056,079,          LOAD IT AND BYPASS OTHERS 8  5403  B 056 079         594
3232 31 08           R     DECIDE                                    4  5411  1 U0T             594
3233 31 09   FRED    CS    080                                       4  5415  / 080             594
3234 31 10           SW    24,56                                     7  5419  , 024 056         595
3235 31 11           SW    63,67                                     7  5426  , 063 067         595
3236 31 12           R                                               1  5433  1                 595
3237 31 13           BCE   CLEARS,079,                               8  5434  B Q44 079         595
3238 31 14           R     *-11                                      4  5442  1 U3U             595
       3157          DCW   &RESTRT                                  3  5448  /5X          ADCON  595
                            @B@                                     1  5449                LIT    595
                            @80@                                    2  5451                LIT    596
                            @N@                                     1  5452                LIT    596
       3169                 &B013R                                  3  5455  Y48           ADCON  596
                            @,@                                     1  5456                LIT    596
                            @G@                                     1  5457                LIT    596
                            @T@                                     1  5458                LIT    596
3239 31 15           EX    CHKPT1                                          B |0|                    597
```

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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

3240 31 16          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1  CORRECT URPI
3241 31 17          ORG   HERE                                                      0700
3242 31 18          SBR   MOVUR&3,0&X3                                        7  0700  H 722 0?0          600
3243 31 19          CS    332                                                4  0707  / 332              600
3244 31 20          CS                                                       1  0711  /                  600
3245 31 21          SBR   MOVUR&13,201                                       7  0712  H 732 201          600
3246 31 22   MOVUR  MLC   0,CNTR1                                           7  0719  M 000 791          600
3247 31 23          MLC   CNTR1,201                                          7  0726  M 791 201          600
3248 31 24          MA    ONE,MOVUR&3                                        7  0733  # 898 722          601
3249 31 25          MA    ONE,MOVUR&13                                       7  0740  # 898 732          601
3250 31 26          C     MOVUR&3,X1                                         7  0747  C 722 089          601
3251 31 27          BE    CRLNLR                                             5  0754  B 775 S            601
3252 31 28          BCE   JDYLNR,MOVUR&11,3                                 8  0759  B 771 730 3        601
3253 31 29          B     MOVUR                                              4  0767  B 719              601
3254 31 30   JDYLNR W     MOVUR-12           PRINT UNREADABLE INPUT BLOCK    4  0771  2 707              602
3255 31 31   CRLNLR W                                                       1  0775  2                  602
3256 31 32          CC    1                                                  2  0776  F 1                602
3257 31 33   TSTSSG H     WRLERT                                             4  0778  . 792              602
3258 31 34          BSS   TAPRD2,G                                           5  0782  B K52 G            602
3259 31 35          B     ACCEPT                                             4  0787  B Z44              602
3260 31 36   CNTR1  DCW   @ @                                                1  0791                     602
3261 31 37   WRLERT MLC   K1BLNK,0&X1                                       7  0792  M 854 0|0          603
3262 31 38          MLC   X3,X1                                              7  0799  M 099 089          603
3263 31 39   WRGSET MLCWA GM,0                                               7  0806  L I9Y 000          603
3264 31 40          B     B000R                                              4  0813  B Y55              603
3265 31 41          DCW   @ @                                                1  0817                     603
3266 31 42          ORG   5000                                                      5000
3267 31 43   CORINI MLC   GPMARK,WRGSET&3                                     7  5000  M 350 809          604
3268 31 44          MLC   Z,WRGSET&6                                          7  5007  M Q12 812          604
3269 31 45          B     FRED                                               4  5014  B U1V              604
3270 31 46          DCW   @ @                                                1  5018                     604
3271 31 47          EX    CORINI                                                   B |0|                605
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
3272 31 48          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1  TAPE URPI
3273 31 49          ORG   HERE                                                    0700
3274 31 50          BWZ   NOLNZG,0&X1,1                                    8  0700  V 719 0|0 1        608
3275 31 51          MLC   CLR1&15,CLWMGM                                  7  0708  M 931 748          608
3276 31 52          B     WTWTT-4                                          4  0715  B 726              608
3277 31 53   NOLNZG MLC   @N@,CLWMGM                                      7  0719  M 829 748          608
3278 31 54          SW    0&X1                                             4  0726  , 0|0              608
3279 31 55   WTWTT  WT    0,0&X3            WRITE UNREADABLE INPUT BLOCK ON 8  0730  M %U0 0?0 W        608
3280 31 56          BEF   HOUT              DUMP TAPE                        5  0738  B 799 K            609
3281 31 57          BER   ETND                                             5  0743  B 785 L            609
3282 31 58   CLWMGM CW    0&X1                                             4  0748  ) 0|0              609
3283 31 59          MLC   *-6,0&X1                                        7  0752  M 752 0|0          609
3284 31 60          CS    332                                              4  0759  / 332              609
3285 31 61          CS                                                     1  0763  /                  609
3286 31 62          MLC   TURMSG,226                                       7  0764  M 828 226          609
3287 31 63          W                                                      1  0771  2                  610
3288 31 64          CC    1                                                2  0772  F 1                610
3289 31 65          MLC   X3,X1                                           7  0774  M 099 089          610
3290 31 66          B     B011R                                            4  0781  B Y76              610
3291 31 67   ETND   BSP   %U0                                             5  0785  U %U0 B            610
3292 31 68          SKP   %U0                                              5  0790  U %U0 E            610
3293 31 69          B     WTWTT                                            4  0795  B 730              610
3294 31 70   HOUT   H     WTWTT                                            4  0799  . 730              611
3295 31 71   TURMSG DCW   @UNREAD BLK WRITTEN ON TU  @                     26  0828                     611
3296 31 72          LTORG *                                                        0829
                    DCW   @N@                                              1  0829          LIT     611
3297 31 73          ORG   5000                                                     5000
3298 31 74   INTTER MLC   URPI,WTWTT&3       SET DUMP TAPE UNIT NUM           7  5000  M 186 733          612
3299 31 75          MLC   URPI,ETND&3                                       7  5007  M 186 788          612
3300 31 76          MLC   URPI,ETND&8                                       7  5014  M 186 793          612
3301 31 77          MLC   URPI,TURMSG                                      7  5021  M 186 828          612
3302 31 78          B     FRED                                             4  5028  B U1V              612
3303 31 79          DCW   @ @                                              1  5032                     612
3304 31 80          EX    INTTER                                                   B |0|              613
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

3305 31 81          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1  PUNCH URPI
3306 31 82          ORG   HERE                                                      0700
3307 31 83          MLC   X3,CTBL                                             7  0700  M 099 815          616
3308 31 84          MLC   @0?0@,PBDBK3&3                                      7  0707  M 819 735          616
3309 31 85   PBDBK1 SBR   PBDBK3&13,100                                       7  0714  H 745 100          616
3310 31 86          CS    180                                                 4  0721  / 180              616
3311 31 87   PBDBK2 MA    ONE,PBDBK3&13                                       7  0725  # 898 745          616
3312 31 88   PBDBK3 MLC   0&X3,CNTR2                                         7  0732  M 0?0 816          616
3313 31 89          MLC   CNTR2,0                                             7  0739  M 816 000          617
3314 31 90          MA    ONE,CTBL                                            7  0746  # 898 815          617
3315 31 91          MA    ONE,PBDBK3&3                                        7  0753  # 898 735          617
3316 31 92          C     CTBL,X1                                             7  0760  C 815 089          617
3317 31 93          BE    PBDBK4                                              5  0767  B 784 S            617
3318 31 94          BCE   PBDBK5,PBDBK3&12,8                                 8  0772  B 809 744 8        618
3319 31 95          B     PBDBK2                                              4  0780  B 725              618
3320 31 96   PBDBK4 MLCWA GM,0                                                 7  0784  L I9Y 000          618
3321 31 97          MLC   K1BLNK,0&X1                                         7  0791  M 854 0|0          618
3322 31 98          MLC   X3,X1                                              7  0798  M 099 089          618
3323 31 99          P     B011R              PUNCH UNREADABLE INPUT BLOCK     4  0805  4 Y76              618
3324 32 00   PBDBK5 P     PBDBK1                                              4  0809  4 714              619
3325 32 01   CTBL   DCW   @000@                                               3  0815                     619
3326 32 02   CNTR2  DCW   @ @                                                 1  0816                     619
3327 32 03          LTORG *                                                         0817
                    DCW   @0?0@                                               3  0819            LIT   619
3328 32 04          ORG   5000                                                      5000
3329 32 05   PUNINI MLC   GPMARK,PBDBK4&3                                     7  5000  M 350 787          620
3330 32 06          MLC   Z,PBDBK4&6                                          7  5007  M Q12 790          620
3331 32 07          B     FRED                                                4  5014  B U1V              620
3332 32 08          DCW   @ @                                                 1  5018                     620
3333 32 09          EX    PUNINI                                                    B |0|                621
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
3334 32 10           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
3335 32 11           ORG   HPNDPM-2                                          2838
3336 32 12   B4S10    C     E-1,G/4                                    7  2838  C P60 P70          624
3337 32 13           MA    THREE,PLC1&3                               7  2845  # 889 ?76          624
3338 32 14           BH    B4S10A                                     5  2852  B Q86 U            624
3339 32 15           MLC   B4S10A&3,*&11                            7  2857  M Q89 Q74          624
3340 32 16           MLCWA N,B4S18A&4                                 7  2864  L U83 ?84          624
3341 32 17           MLC   0                                          4  2871  M 000              624
3342 32 18           MLC   @B@,B4S18A                                 7  2875  M ?99 ?80          625
3343 32 19           B     B4S21                                      4  2882  B ?59              625
3344 32 20   B4S10A  MLC   BRNCH,BBS10&3                            7  2886  M R65 ?90          625
3345 32 21           SAR   B4S10A&3                                  4  2893  Q Q89              625
3346 32 22           A     E                                          4  2897  A P61              625
3347 32 23           ZA    E-1,D                                      7  2901  ? P60 P57          625
3348 32 24           B     B4S21                                      4  2908  B ?59              625
3349 32 25   PLCFRF  DSA   15994                                      3  2914  I9D                626
3350 32 26           DSA   15988                                      3  2917  I8H                626
3351 32 27           DSA   15976                                      3  2920  I7F                626
3352 32 28           DSA   15952                                      3  2923  I5B                626
3353 32 29           DSA   15904                                      3  2926  I0D                626
3354 32 30           DSA   15808                                      3  2929  H0H                626
3355 32 31           DSA   15616                                      3  2932  F1F                626
3356 32 32           DSA   15232                                      3  2935  B3B                627
3357 32 33           DSA   14464                                      3  2938  M6D                627
3358 32 34           DCW   &B512B                                     3  2941  G15                627
3359 32 35                 &B256B                                     3  2944  F45                627
3360 32 36                 &B128B                                     3  2947  F10                627
3361 32 37                 &B064B                                     3  2950  D70                627
3362 32 38                 &B032B                                     3  2953  D00                627
3363 32 39                 &B016B                                     3  2956  C65                628
3364 32 40                 &B008B                                     3  2959  B25                628
3365 32 41                 &B004B                                     3  2962  A55                628
3366 32 42   BRNCH  DCW   &B002B                                     3  2965  A20                628
3367 32 43   *
3368 32 44   *                    THIS ROUTINE DETERMINES WHICH RECORD OF G
3369 32 45   *                    RECORDS IS BEING SORTED AND AT WHICH LOCATION
3370 32 46   *                    TO ENTER THE COMPARE LOOP
3371 32 47   *                    HAVING DETERMINED WHERE LAST RECORD SORTED
3372 32 48   *                    IS TO BE PLACED-INSERT ITS ADDRESS IN THE
3373 32 49   *                    TABLE OF ADDRESSES
3374 32 50   B4SS5   MLC   O1FA-3,O1                                  7  2966  M P64 892          628
3375 32 51           MLC   O1FA,B4S08&6                              7  2973  M P67 ?23          628
3376 32 52           ZA    HALF,E                                     7  2980  ? P54 P61          628
3377 32 53           MLC                                              1  2987  M                  629
3378 32 54           SBR   B4S10A&3,BRNCH                           7  2988  H Q89 R65          629
3379 32 55           SBR   PLC1&3,PLCFRF-3                          7  2995  H ?76 R11          629
3380 32 56           MLCWA SONED,B4S18A&6                             7  3002  L P80 ?86          629
3381 32 57           B     B4S19                                      4  3009  B ?46              629
3382 32 58   B4S07   SW    0&X2                                       4  3013  , 0!0              629
3383 32 59   B4S08   MLC   0,0                                       7  3017  M 000 000          629
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 SEQ PG LIN  LABEL   OP    OPERANDS                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
3384 32 60           MA    THREE,B4S08&6                7  3024  # 889 ?23          630
3385 32 61           MA    THREE,B4S08&3                7  3031  # 889 ?20          630
3386 32 62           MLC   X1,3&X2                     7  3038  M 089 0!3          630
3387 32 63           CW                                 1  3045  )                  630
3388 32 64   B4S19    C     O1,G1                       7  3046  C 892 895          630
3389 32 65   B4S18    MA                                1  3053  #                  630
3390 32 66   B4S20    BE    STPDNR                      5  3054  B S00 S            630
3391 32 67   B4S21    MLC   O1,X2                      7  3059  M 892 094          631
3392 32 68           MLC   0&X2,X1                     7  3066  M 0!0 089          631
3393 32 69   PLC1     MA    PLCFRF-3,X2                 7  3073  # R11 094          631
3394 32 70   B4S18A   S     ONE,D                       7  3080  S 898 P57          631
3395 32 71   BBS10    BWZ   0000,D,B                   8  3087  V 000 P57 B        631
3396 32 72   BBS100   B     B4S10                       4  3095  B Q38              632
                      DCW   @B@                         1  3099              LIT    632
3397 32 73   *
3398 32 74           EX    VLRGET                           B Y13              633
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
3399 32 75          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 1
3400 32 76          ORG   VLRGET                                              1813
3401 32 77   EOFMFS BWZ   NOPMFS,CNTR,2                               8  1813  V Y69 P43 2        636
3402 32 78          BCE   EOFRIT,CNTR,B                               8  1821  B Y29 P43 B        636
3403 32 79   EOFRIT CS    332                                         4  1829  / 332              636
3404 32 80          CS                                                1  1833  /                  636
3405 32 81          MLC   EOFPNT,221                                  7  1834  M Y68 221          636
3406 32 82          W                                                 1  1841  2                  636
3407 32 83          CC    1                                           2  1842  F 1                636
3408 32 84          H     *-3                                         4  1844  . Y44              637
3409 32 85   EOFPNT DCW   @EOR ON 2 OUTPUT TAPES@                    21  1868                     637
3410 32 86   NOPMFS MLC   @N@,BP002&7                                 7  1869  M M21 W28          637
3411 32 87   PADVLR MA    X1,PDCHCK          PADDING ROUTINE          7  1876  # 089 K21          637
3412 32 88          BCE   CPDON,FLR,                                  8  1883  B Z10 091          638
3413 32 89          BCE   *&5,RLIIND,1                                8  1891  B Z03 560 1        638
3414 32 90          B     *&8                                         4  1899  B Z10              638
3415 32 91          MA    @I9F@,PDCHCK                                7  1903  # M24 K21          638
3416 32 92   CPDON  C     PDCHCK,ONPTAR                               7  1910  C K21 P41          638
3417 32 93          BE    OPNGRT                                      5  1917  B K42 S            638
3418 32 94          BCE   VLRPAD,FLR,1                               8  1922  B J79 091 1        639
3419 32 95          SW    0&X3                                        4  1930  , 0?0              639
3420 32 96          MA    @I9H@,Z                                     7  1934  # M27 Q12          639
3421 32 97          MA    @I9I@,PDCHCK                                7  1941  # M30 K21          639
3422 32 98          MLC   Z,X2                                        7  1948  M Q12 094          639
3423 32 99          MLC   PI,1&X2                                    7  1955  M 193 0!1          640
3424 33 00   PDEXIT NOP   0                                           4  1962  N 000              640
3425 33 01   MVPADG MLC   1&X2,0&X2                                   7  1966  M 0!1 0!0          640
3426 33 02          SBR   X2                                          4  1973  H 094              640
3427 33 03          C     X2,PDCHCK                                   7  1977  C 094 K21          640
3428 33 04          BU    PDEXIT                                      5  1984  B Z62 /            640
3429 33 05          MA    ONE,Z                                       7  1989  # 898 Q12          641
3430 33 06   PADRTN MA    PCOMPL,Z                                    7  1996  # 853 Q12          641
3431 33 07          BCE   QNRCMK,RCMKPI,                              8  2003  B !25 527          641
3432 33 08          MA    L,X2                                        7  2011  # 347 094          641
3433 33 09          MLC   ONERM,0&X2                                  7  2018  M 904 0!0          641
3434 33 10   QNRCMK A     ONE,PDCPUT                                  7  2025  A 898 548          642
3435 33 11          C     Z,PDCHCK                                    7  2032  C Q12 K21          642
3436 33 12          BU    PADRTN                                      5  2039  B Z96 /            642
3437 33 13          MLC   &NSHKFZ,B212W&3                            7  2044  M M33 W94          642
3438 33 14          MLC   @N@,BP000                                   7  2051  M M21 T49          642
3439 33 15          MLC   @N@,BP001                                   7  2058  M M21 W14          643
3440 33 16          MLC   &PADBO1,B2200&3                            7  2065  M M36 T59          643
3441 33 17          MLC   O1FA-3,PADBO1                              7  2072  M P64 K18          643
3442 33 18          BCE   SHKFZ,DESCND,                              8  2079  B !94 090          643
3443 33 19          MLC   @ @,SHKFZD&7                              7  2087  M M37 J23          643
3444 33 20   SHKFZ  S     B,PDCPUT                                    7  2094  S 199 548          644
3445 33 21          BWZ   ADDB,PDCPUT,K                             8  2101  V J49 548 K        644
3446 33 22          S     ONE,THREEB                                  7  2109  S 898 870          644
3447 33 23   SHKFZD BCE   SHKFZ,PI,9                                 8  2116  B !94 193 9        644
3448 33 24          MA    B,PADBO1                                    7  2124  # 199 K18          644
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
3449 33 25           MA    B,PADBO1                                    7  2131  # 199 K18          645
3450 33 26           MA    B,PADBO1                                    7  2138  # 199 K18          645
3451 33 27           B     SHKFZ                                       4  2145  B !94             645
3452 33 28   ADDB    A     B,PDCPUT                                    7  2149  A 199 548          645
3453 33 29           MLZS  K1BLNK,PDCPUT                               7  2156  Y 854 548          645
3454 33 30           BCE   ENDPAD,INMODE,M                           8  2163  B J75 562 M        646
3455 33 31           B     VARLNT                                      4  2171  B 988              646
3456 33 32   ENDPAD  B     B4SS5                                       4  2175  B R66              646
3457 33 33   VLRPAD  MLC   EOPNGT,BP001&6                             7  2179  M J95 W20          646
3458 33 34           B     SETG12                                      4  2186  B /39              646
3459 33 35   COPNGT  DCW   &EOPNGT                                     3  2192  J95                646
3460 33 36   EOPNGT  DCW   &OPNGRT                                     3  2195  K42                646
3461 33 37   NDFZ1   DCW   @END OF INTERNAL SORT@                    20  2215                     647
3462 33 38   PADBO1  DCW   000                                         3  2218                     647
3463 33 39   PDCHCK  DCW   @I9I@                                       3  2221                     647
3464 33 40   PLZERO  DCW   &0                                          1  2222                     647
3465 33 41   NSHKFZ  S     ONE,THREEB                                  7  2223  S 898 870          647
3466 33 42           C     PLZERO,THREEB                               7  2230  C K22 870          648
3467 33 43           BU    BP2200                                      5  2237  B T63 /            648
3468 33 44   OPNGRT  MLC   MI1TUN,*&4                                  7  2242  M 341 K52          648
3469 33 45           WTM   1                                           5  2249  U %U1 M            648
3470 33 46           CW    333                                         4  2254  ) 333              648
3471 33 47           BCE   *&22,UNLOAD,                               8  2258  B K87 416          648
3472 33 48           MLC   @U@,URTAPE-24                             7  2266  M M38 591          649
3473 33 49           MLC   @U@,URTAPE-48                             7  2273  M M38 567          649
3474 33 50           MLC   @U@,URTAPE&36                             7  2280  M M38 651          649
3475 33 51   *                              REWIND OUTPUT TAPES
3476 33 52           MLC   MI1TUN,*&4                                  7  2287  M 341 K97          649
3477 33 53           RWD   1                                           5  2294  U %U1 R            649
3478 33 54           MLC   MI2TUN,*&4                                  7  2299  M 342 L09          650
3479 33 55           WTM   1                                           5  2306  U %U1 M            650
3480 33 56           MLC   MI2TUN,*&4                                  7  2311  M 342 L21          650
3481 33 57           RWD   1                                           5  2318  U %U1 R            650
3482 33 58           BCE   ENDE,URPI,P                                8  2323  B L31 186 P        650
3483 33 62   ENDE    BCE   RDCARD,NOTAPS,4                           8  2331  B L63 886 4        651
3484 33 63           MLC   MI3TUN,*&4                                  7  2339  M 343 L49          651
3485 33 64           WTM   1                                           5  2346  U %U1 M            651
3486 33 65           MLC   MI3TUN,*&4                                  7  2351  M 343 L61          651
3487 33 66           RWD   1                                           5  2358  U %U1 R            651
3488 33 67   RDCARD  CS    332                                         4  2363  / 332              651
3489 33 68           CS                                                1  2367  /                  651
3490 33 69           MLC   NDFZ1,220                                   7  2368  M K15 220          652
3491 33 70           W                              PRINT END OF INTERNAL SORT  1  2375  2          652
3492 33 71           CC    1                                           2  2376  F 1                652
3493 33 72           BCE   SKEIGT,LBBUCK,1     120 CHARACTER LABEL BYPASS  8  2378  B M08 414 1        652
3494 33 73   TWNEXT  CS    80                  READ NEXT OVERLAY         4  2386  / 080              652
3495 33 74           SW    24,56                                       7  2390  , 024 056          652
3496 33 75           SW    63,67                                       7  2397  , 063 067          652
3497 33 76           R     056                                         4  2404  1 056              653
3498 33 77   SKEIGT  R                       BYPASS 80 CHARACTER ROUTINE  1  2408  1                653
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SEQ	PG	LIN	LABEL	OP	OPERANDS		SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
3499	33	78		BCE	TWNEXT,68,B	CHECK FOR EX CARD		8	2409	B L86 068 B		653
3500	33	79		B	SKEIGT			4	2417	B M08		653
				DCW	@N@			1	2421		LIT	653
					@I9F@			3	2424		LIT	653
					@I9H@			3	2427		LIT	653
					@I9I@			3	2430		LIT	654
		3437			&NSHKFZ			3	2433	K23	ADCON	654
		3440			&PADBO1			3	2436	K18	ADCON	654
					@ @			1	2437		LIT	654
					@U@			1	2438		LIT	654
3501	33	80		EX	EOFMFS					B Y13		655

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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

3502 33 81          JOB   ** IBM 1401 SORT 7 VERSION 2 WORK LABEL ROUTINE,80
3503 33 82   *
3504 33 83   *                  PROCESS HEADER LABELS ON ALL PHASE I WORK TAPES
3505 33 84   *                  PRIOR TO INITIATING PASS
3506 33 85   *                  THIS ROUTINE INCLUDES THE SENSE SWITCH D HALT
3507 33 86   *                  OPTION WHICH ALLOWS THE USER TO MOUNT WORK
3508 33 87   *                  TAPES ON THE PHASE 1 INPUT DRIVES
3509 33 88   *
3510 33 89   SWKLBA EQU   700                RT-WT H.L.AREA                          0700
3511 33 90          ORG   780                                                                0780
3512 33 91          DCW   @}@                                                    1  0780                    658
3513 33 92          ORG   600                                                                0600
3514 33 59          BCE   ENDE,URPI,C                                            8  0600  B L31 186 C        659
3515 33 60          MLC   URPI,URTAPE&3                                          7  0608  M 186 618          659
3516 33 61   URTAPE WTM   1                  TAPE MARK DUMP TAPE                 5  0615  U %U1 M            659
3517 33 93   *
3518 33 94   PREPH1 MLC   @99@,PREPC3                                            7  0620  M W74 W94          659
3519 33 95          H     PREOTX             BRANCH TO ACCEPT                    4  0627  . T08              659
3520 33 96          B     PREST2             BRANCH TO RETRY                     4  0631  B |15              659
3521 33 97   *                  READ REDUNDANCY WHILE READING LABEL ON PASS 1
3522 33 98   *                  OUTPUT TAPES  %SPECIFIED IN COL 1-3 CTL CD 1)
3523 33 99   *                 DEPRESS  - START -  TO ACCEPT THE LABEL AS READ
3524 34 00   *                            -BYPASS RETENTION CYCLE CHECK
3525 34 01   *                  DEPRESS  - START RESET -  THEN  - START -
3526 34 02   *                  TO REREAD 99 MORE TIMES . TO OPEN A NEW TAPE
3527 34 03   *                  LOAD IT IN PLACE OF THE ONE IN ERROR AND
3528 34 04   *                  DEPRESS  - START RESET -  AND  - START -
3529 34 05   *
3530 34 06   PREPH2 H     PREST2             BRANCH TO OPEN A NEW TAPE           4  0635  . |15              659
3531 34 07          MLC   @10@,PREPC4        RESET ERROR COUNTER                 7  0639  M W76 W97          660
3532 34 08          B     PAREXT-5           BRANCH TO RETRY WRITE               4  0646  B W46              660
3533 34 09   *
3534 34 10   *                  A WRITE REDUNDANCY HAS OCCURRED WHILE TRYING
3535 34 11   *                  TO WRITE THE HEADER LABEL ON THE PASS 1 OUTPUT
3536 34 12   *                  TAPE.  9 SKIP CYCLES HAVE BEEN MADE .
3537 34 13   *                  DEPRESS  - START - TO OPEN NEW TAPE
3538 34 14   *                  DEPRESS START RESET THEN START TO RETRY
3539 34 15   *
3540 34 16   PREPH3 H     PREOTX             BRANCH TO ACCEPT                    4  0650  . T08              660
3541 34 17          B     PREST2             BRANCH TO OPEN NEW REEL             4  0654  B |15              660
3542 34 18   *
3543 34 19   *                  RETENTION CYCLE ON OUTPUT TAPE INDICATES
3544 34 20   *                  TAPE SHOULD BE RETAINED
3545 34 21   *                  DEPRESS - START- TO ACCEPT TAPE AS WORK TAPE
3546 34 22   *                  DEPRESS -START RESET- THEN -START- IF A NEW
3547 34 23   *                  TAPE HAS BEEN MOUNTED
3548 34 24   *
3549 34 25   PREPH4 H     *-3                NO T/M AFTER H.L.-WITH              4  0658  . 658              660
3550 34 26   *                                 A 1 IN COL.5 CC3
3551 34 27   *                                 RESTART PROG.
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
3552 34 28   *
3553 34 29   PREPH5 H     PREIPX          PRESS START TO BY PASS          4  0662  . |90             660
3554 34 30   *                          UNREADABLE H.L.-INPUT
3555 34 31           B     PREST2          PRESS RESET START AND START     4  0666  B |15             660
3556 34 32   *                        TO TRY READING UP TO 99 MORE TIMES
3557 34 33   *
3558 34 34           DCW   @ @                                             1  0670                    661
3559 34 35           ORG   800                                                    0800                
3560 34 36   PREPC1  DCW   @B@             2-WAY CONST                     1  0800                    662
3561 34 37   PREPC2  DCW   @B@             2-WAY CONST                     1  0801                    662
3562 34 38   PREST0  BCE   *&15,I3TUN,     IF 2 WAY                        8  0802  B 824 340         662
3563 34 39           MLC   @C@,PREPC1      ALTER CONST.S FOR 3-WAY         7  0810  M W77 800         662
3564 34 40           MLC   @C@,PREPC2                                      7  0817  M W77 801         662
3565 34 41           MLC   &I1TUN,X1       ADDR OF PH2 OUTP TAPE NO.S      7  0824  M W80 089         662
3566 34 42   EXDTAP  NOP   0               DUMP TAPE H.L.EXIT              4  0831  N 000             662
3567 34 43           BSS   *&5,D                                           5  0835  B 844 D           663
3568 34 44           B     RWDINP                                          4  0840  B 863             663
3569 34 45           CS    332                                             4  0844  / 332             663
3570 34 46           CS                                                    1  0848  /                 663
3571 34 47           MLC   PRMSF,228       TAPE SAVE MESSAGE               7  0849  M V73 228         663
3572 34 48           W                                                     1  0856  2                 663
3573 34 49           CC    1                                               2  0857  F 1               663
3574 34 50           H     *&1                                             4  0859  . 863             664
3575 34 51   RWDINP  MLNS  MI1TUN,*&4       REWIND PH2 INPUT TAPES          7  0863  D 341 873         664
3576 34 52           RWD   0                                               5  0870  U %U0 R           664
3577 34 53           MLNS  MI2TUN,*&4                                      7  0875  D 342 885         664
3578 34 54           RWD   0                                               5  0882  U %U0 R           664
3579 34 55           BCE   PREST1-16,MI3TUN,                              8  0887  B 907 343         664
3580 34 56           MLNS  MI3TUN,*&4                                      7  0895  D 343 905         665
3581 34 57           RWD   0                                               5  0902  U %U0 R           665
3582 34 58           BCE   PRERDR,LABELS,  NO LABELS BRANCH               8  0907  B U01 413         665
3583 34 59           BCE   RETNOP,LBBUCK,1                                 8  0915  B U28 414 1       665
3584 34 60   PREST1  S     &1,PREPC1                                       7  0923  S W81 800         665
3585 34 61           BM    PREIRT,PREPC1   INIT FOR PH2 INPUT TAPES        8  0930  V T47 800 K       666
3586 34 62           MLNS  0&X1,PREST2&21                                  7  0938  D 0|0 |36         666
3587 34 63           MN    0&X1,PRERTI&3                                   7  0945  D 0|0 |63         666
3588 34 64           MN    0&X1,PREOTX&7                                   7  0952  D 0|0 T15         666
3589 34 65           MN    0&X1,PREOTX&12                                  7  0959  D 0|0 T20         666
3590 34 66           MN    0&X1,PREPSW-2                                   7  0966  D 0|0 W06         667
3591 34 67           MN    0&X1,PAREXT-2                                   7  0973  D 0|0 W49         667
3592 34 68           MN    0&X1,PREIPX&15                                  7  0980  D 0|0 /05         667
3593 34 69           MN    0&X1,PREOTX&33                                  7  0987  D 0|0 T41         667
3594 34 70           MN    0&X1,SAVM2                                      7  0994  D 0|0 S97         667
3595 34 71           MA    @001@,X1        UP DATE FOR NEXT TAPE NO        7  1001  # W84 089         668
3596 34 72           MLC   @00@,CRYBU4                                     7  1008  M W86 S79         668
3597 34 73   PREST2  MLC   @99@,PREPC3                                     7  1015  M W74 W94         668
3598 34 74           MLC   @10@,PREPC4                                     7  1022  M W76 W97         668
3599 34 75           CS    779                                             4  1029  / 779             668
3600 34 76           RWD   0                                               5  1033  U %U0 R           668
3601 34 77           BCE   SORTWL,WLBKT,   IF FIRST PASS-PH2 OUTP         8  1038  B U51 417         669
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
3602 34 78   *                              TAPES HAVE SORT 7                                            
3603 34 79   *                              H.LABELS-COL.4 CC.3 IS                                       
3604 34 80   *                              A BLANK                                                      
3605 34 81           MLC   CENSIG,SWKLBA&13     MOVE CENT SIGN FOR NOISE TEST       7  1046  M 415 713          669
3606 34 82           MLC   CENSIG,WLANOI&7                                         7  1053  M 415 |75          669
3607 34 83   PRERTI  RTW   0,SWKLBA                                               8  1060  L %U0 700 R        669
3608 34 84   WLANOI  BCE   PRENOS,SWKLBA&13,    CHECK FOR CENT SIGN               8  1068  B /19 713          669
3609 34 85           BEF   *&1                                                   5  1076  B |81 K            670
3610 34 86           BER   PREPRT                                               5  1081  B V74 L            670
3611 34 87           B     PRERCT                                               4  1086  B /27              670
3612 34 88   PREIPX  NOP   0                  PH2 INPUT H.L. EXIT               4  1090  N 000              670
3613 34 89           BCE   PREST1,THLTMO,     IF NO T/M AFTER H.L.              8  1094  B 923 418          670
3614 34 90           RT    0,SWKLBA           READ T/M                          8  1102  M %U0 700 R        670
3615 34 91           BEF   PREST1             IF SENSED A T/M                   5  1110  B 923 K            670
3616 34 92           B     PREPH4             T/M WAS NOT SENSED-ERROR          4  1115  B 658              671
3617 34 93   PRENOS  CS    730                                                  4  1119  / 730              671
3618 34 94           B     PRERTI-14                                            4  1123  B |46              671
3619 34 95   PRERCT  BCE   PRECT1,WLBKT,1                                       8  1127  B /48 417 1        671
3620 34 96           B     PREOTX                                               4  1135  B T08              671
3621 34 97           DCW   #2                                                   2  1140                     671
3622 34 98           DCW   #3                                                   3  1143                     671
3623 34 99   CRTCY   DCW   #4                                                   4  1147                     672
3624 35 00   PRECT1  ZA    SWKLBA&39,CRTCY    MOVE TAPE INFO TO CHECK BUCKET    7  1148  ? 739 /47          672
3625 35 01           MLC                                                        1  1155  M                  672
3626 35 02           MLC                                                        1  1156  M                  672
3627 35 03           SW    OHDATE-2                                             4  1157  , 455              672
3628 35 04   CLW     C     OHDATE-3,CRTCY-7   COMPARE YEAR                     7  1161  C 454 /40          672
3629 35 05           BU    MODY                                                 5  1168  B S35 /            672
3630 35 06           A     CRTCY-4,CRTCY      ADD TAPE DAYS TO RT CYCLE         7  1173  A /43 /47          673
3631 35 07           S     OHDATE,CRTCY       SUB CONT DAYS FROM RT CYCLE       7  1180  S 457 /47          673
3632 35 08           CW    OHDATE-2                                             4  1187  ) 455              673
3633 35 09           BWZ   PREOTX,CRTCY,K     CAN WE WRITE ON TAPE              8  1191  V T08 /47 K        673
3634 35 10           CS    332                NO-PRINT MESSAGE                  4  1199  / 332              673
3635 35 11           CS                       INDICATING DAYS TAPE              1  1203  /                  673
3636 35 12           MLC   SAVMS,227          IS TO BE RETAINED                 7  1204  M T07 227          673
3637 35 13           MLNS  CRTCY,222                                            7  1211  D /47 222          674
3638 35 14           MLNS                                                       1  1218  D                  674
3639 35 15           MLNS                                                       1  1219  D                  674
3640 35 16           MLC   SAVM1                                               4  1220  M T02              674
3641 35 17           MLC   SAVM2                                               4  1224  M S97              674
3642 35 18           W                                                          1  1228  2                  674
3643 35 19           CC    1                                                    2  1229  F 1                674
3644 35 20           B     PREPH3                                               4  1231  B 650              675
3645 35 21   MODY    S     TSF1,CRTCY         SUBTRACT 365 FROM                 7  1235  S S84 /47          675
3646 35 22           A                        RT CYCLE AND ADD 1 TO             1  1242  A                  675
3647 35 23           A                        TAPE YEARS                        1  1243  A                  675
3648 35 24           A     @1@,CRYBU4                                           7  1244  A W87 S79          675
3649 35 25           BCE   HLCRY4,CRYBU4-1,3                                    8  1251  B S63 S78 3        675
3650 35 26           B     CLW                                                  4  1259  B /61              675
3651 35 27   HLCRY4  H     PREOTX                                               4  1263  . T08              676
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
3652 35 28          MLC   @00@,CRYBU4                                       7  1267  M W86 S79          676
3653 35 29          B     CLW                                              4  1274  B /61              676
3654 35 30   CRYBU4 DCW   @  @                                            2  1279                     676
3655 35 31          DCW   @1@                                              1  1280                     676
3656 35 32          DCW   @0@                                              1  1281                     676
3657 35 33   TSF1   DCW   @365@                                           3  1284                     676
3658 35 34   SAVM2  DCW   @RETAIN TAPE  @                                13  1297                     677
3659 35 35   SAVM1  DCW   @ FOR @                                         5  1302                     677
3660 35 36   SAVMS  DCW   @ DAYS@                                         5  1307                     677
3661 35 37   PREOTX NOP   0                  WT. H.L.EXIT FOR OUTPUT      4  1308  N 000              677
3662 35 38          RWD   0                                              5  1312  U %U0 R            677
3663 35 39          WT    0,SWKLBA                                       8  1317  M %U0 700 W        678
3664 35 40          BER   PREPWT                                         5  1325  B W55 L            678
3665 35 41          BCE   PREST1,THLTMO,    IF T/M IS NOT TO BE WRITTEN  8  1330  B 923 418          678
3666 35 42          WTM   0                                              5  1338  U %U0 M            678
3667 35 43          B     PREST1                                         4  1343  B 923              678
3668 35 44   PREIRT SBR   PREST1&10,PRERDR                               7  1347  H 933 U01          678
3669 35 45          SBR   PREST1&13,PREPC2                              7  1354  H 936 801          679
3670 35 46          SBR   PREST1&6,PREPC2                               7  1361  H 929 801          679
3671 35 47          MLC   @N@,PRERTI-22                                 7  1368  M W88 |38          679
3672 35 48          MLC   @N@,PREIPX-4                                  7  1375  M W88 |86          679
3673 35 49          SBR   PREPRT&24,PREPH5                              7  1382  H V98 662          679
3674 35 50          MLC   &MI1TUN,X1                                    7  1389  M W91 089          680
3675 35 51          B     PREST1                                         4  1396  B 923              680
3676 35 52          DCW   @ @                                            1  1400                     680
3677 35 53   PRERDR CS    1599                                           4  1401  / V99              680
3678 35 54          CS    1299                                           4  1405  / S99              680
3679 35 55          CS                                                   1  1409  /                  680
3680 35 56          CS                                                   1  1410  /                  680
3681 35 57          CS                                                   1  1411  /                  681
3682 35 58          CS                                                   1  1412  /                  681
3683 35 59          CS                                                   1  1413  /                  681
3684 35 60          CS                                                   1  1414  /                  681
3685 35 61   BYLAPS R                                                    1  1415  1                  681
3686 35 62          BCE   RETNOP,68,B                                    8  1416  B U28 068 B        681
3687 35 63          B     BYLAPS                                         4  1424  B U15              681
3688 35 64   RETNOP CS    80                                             4  1428  / 080              682
3689 35 65          SW    24,56                                          7  1432  , 024 056          682
3690 35 66          SW    63,67                                          7  1439  , 063 067          682
3691 35 67          R     056                                            4  1446  1 056              682
3692 35 68          DCW   @ @                                            1  1450                     682
3693 35 69   SORTWL MN    PRERTI&3,SORTRP&10  TAPE # INTO TAPE SERIAL #  7  1451  D |63 U79          682
3694 35 70          MLC   SORTLB,779                                     7  1458  M V49 779          682
3695 35 71          B     PREOTX                                         4  1465  B T08              683
3696 35 72   SORTRP DCW   @ @                                            1  1469                     683
3697 35 73          DCW   @1HDR 00000SORT7LABEL          @             30  1499                     683
3698 35 74   SORTLB DC    #50                                           50  1549                     685
3699 35 75   PRMSF  DCW   @INPUT TAPES MAY BE SAVED@                     24  1573                     685
3700 35 76   *
3701 35 77   *    HEADER LABEL ERROR ROUTINE
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

3702 35 78   *
3703 35 79   PREPRT SBR   PAREXT&3,PRERTI-14       READ ENTRANCE      7  1574  H W54 |46          686
3704 35 80          MLC   @B@,PREPSW                                 7  1581  M W92 W08          686
3705 35 81          S     &1,PREPC3#2                                7  1588  S W81 W94          686
3706 35 82          BM    PREPH1,PREPC3      UNREADABLE BLK          8  1595  V 620 W94 K        686
3707 35 83          BSP   0                                         5  1603  U %U0 B            686
3708 35 84   PREPSW B     PAREXT             NOP IF WRITE            4  1608  B W51              686
3709 35 85          BCE   *&5,PREPC3,G       IF TIME TO SKIP         8  1612  B W24 W94 G        687
3710 35 86          B     PAREXT                                     4  1620  B W51              687
3711 35 87          MLC   @9@,PREPC3                                 7  1624  M W95 W94          687
3712 35 88          S     &1,PREPC4#2                                7  1631  S W81 W97          687
3713 35 89          BM    PREPH2,PREPC4      BAD TAPE                8  1638  V 635 W97 K        687
3714 35 90          SKP   0                                         5  1646  U %U0 E            687
3715 35 91   PAREXT B     0                                         4  1651  B 000              688
3716 35 92   PREPWT SBR   PAREXT&3,PREOTX&9                         7  1655  H W54 T17          688
3717 35 93          MLC   @N@,PREPSW                                7  1662  M W88 W08          688
3718 35 94          B     PREPRT&14                                  4  1669  B V88              688
3719 35 95          LTORG *                                                   1673
                    DCW   @99@                                      2  1674            LIT    688
                          @10@                                      2  1676            LIT    688
                          @C@                                       1  1677            LIT    688
       3565               &I1TUN                                    3  1680  338       ADCON  689
                          &1                                        1  1681            LIT    689
                          @001@                                     3  1684            LIT    689
                          @00@                                      2  1686            LIT    689
                          @1@                                       1  1687            LIT    689
                          @N@                                       1  1688            LIT    689
       3674               &MI1TUN                                   3  1691  341       ADCON  689
                          @B@                                       1  1692            LIT    690
       3705  PREPC3       #02                                       2  1694            AREA   690
                          @9@                                       1  1695            LIT    690
       3712  PREPC4       #02                                       2  1697            AREA   690
3720 35 96          EX    PREST0                                             B 802              691
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

3721 35 97           JOB   ** IBM 1401 SORT 7 VERSION 2 WORK LABEL ROUTINE 120
3722 35 98   *               PROCESS HEADER LABELS ON ALL PHASE I WORK TAPES
3723 35 99   *               PRIOR TO INITIALIZATION PASS
3724 36 00   *               THIS ROUTINE INCLUDES THE SSW D HALT
3725 36 01   *               OPTION WHICH ALLOWS THE USER TO MOUNT WORK
3726 36 02   *               TAPES ON PHASE 1 INPUT DRIVES
3727 36 03   SWKLBB EQU     700                 RT-WT HL AREA               0700
3728 36 04           ORG     820                                                 0820
3729 36 05           DCW     @}@                                         1  0820                    694
3730 36 06           ORG     600                                                 0600
3731 36 07   PRAPH1 MLC     @99@,PREPC3                                 7  0600  M X11 W94         695
3732 36 08           H       PRAOTX              BRANCH TO ACCEPT        4  0607  . T19             695
3733 36 09           B       PRAST2              BRANCH TO RETRY         4  0611  B |28             695
3734 36 10   *
3735 36 11   *               READ REDUNDANCY WHILE READING LABEL ON PASS 1
3736 36 12   *               OUTPUT TAPES SPECIFIED IN COL 1-3 CTL CD 1
3737 36 13   *               PRESS-START-TO ACCEPT THE LABEL AS READ
3738 36 14   *                           -BYPASS RETENTION CYCLE CHECK
3739 36 15   *               PRESS START RESET-THEN START-TO REREAD 99 MORE
3740 36 16   *               TIMES.TO OPEN A NEW TAPE LOAD IT IN PLACE OF THE
3741 36 17   *               ONE IN ERROR AND PRESS START RESET AND START
3742 36 18   PRAPH2 H       PRAST2              BRANCH TO OPEN A NEW TAPE   4  0615  . |28             695
3743 36 19           MLC     @10@,PRAPC4         RESET ERROR COUNTER         7  0619  M X13 X34       695
3744 36 20           B       PARAXT-5            BRANCH TO RETRY WRITE       4  0626  B W83             695
3745 36 21   *
3746 36 22   *               A WRITE REDUNDANCY HAS OCCURRED WHILE TRYING
3747 36 23   *               TO WRITE THE HEADER LABEL ON THE PASS 1 OUTPUT
3748 36 24   *               TAPE. 9 SKIP CYCLES HAVE BEEN MADE.PRESS START TO
3749 36 25   *               OPEN NEW TAPE PRESS START RESET & START TO RETRY
3750 36 26   PRAPH3 H       PRAOTX              BRANCH TO ACCEPT        4  0630  . T19             695
3751 36 27           B       PRAST2              BRANCH TO OPEN NEW REEL     4  0634  B |28             696
3752 36 28   *
3753 36 29   *               RETENTION CYCLE ON OUTPUT TAPE INDICATES TAPE SHOULD
3754 36 30   *               BE RETAINED.PRESS START TO ACCEPT TAPE AS WORK TAPE
3755 36 31   *               PRESS START RESET THEN START IF A NEW TAPE HAS BEEN
3756 36 32   *               MOUNTED
3757 36 33   *
3758 36 34   PRAPH4 H       *-3                 NO TAPEMARK AFTER HEADER LABEL  4  0638  . 638             696
3759 36 35   *                                   WITH A -1- IN COLUMN 5 OF CC3
3760 36 36   *                                   RESTART THE PROGRAM
3761 36 37   *
3762 36 38   PRAPH5 H       PRAIPX              PRESS START TO BYPASS       4  0642  . /04             696
3763 36 39   *                                   UNREADABLE HEADER LABEL-INPUT
3764 36 40           B       PRAST2              PRESS START RESET AND START 4  0646  B |28             696
3765 36 41   *                                TO TRY READING UP TO 99 MORE TIMES
3766 36 42   *
3767 36 43           DCW     @ @                                         1  0650                    696
3768 36 44           ORG     821                                                 0821
3769 36 45   PRAPC1 DCW     @B@                 TWO WAY CONST               1  0821                    697
3770 36 46   PRAPC2 DCW     @B@                 TWO WAY CONST               1  0822                    697
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
3771 36 47   PRASTO BCE   *&15,I3TUN,         BRANCH IF TWO WAY          8  0823  B 845 340          697
3772 36 48          MLC   @C@,PRAPC1          ALTER CONST.S FOR 3-WAY    7  0831  M X14 821          697
3773 36 49          MLC   @C@,PRAPC2                                     7  0838  M X14 822          697
3774 36 50          MLC   &I1TUN,X1                                      7  0845  M X17 089          697
3775 36 51   EXETAP NOP   0                 DUMP TAPE HEADER LABEL EXIT  4  0852  N 000              697
3776 36 52          BSS   *&5,D                                         5  0856  B 865 D            698
3777 36 53          B     RWDJNP                                        4  0861  B 884              698
3778 36 54          CS    332                                           4  0865  / 332              698
3779 36 55          CS                                                  1  0869  /                  698
3780 36 56          MLC   PRMSEF,228         TAPE SAVE MESSAGE          7  0870  M W10 228          698
3781 36 57          W                                                   1  0877  2                  698
3782 36 58          CC    1                                             2  0878  F 1                698
3783 36 59          H     *&1                                           4  0880  . 884              699
3784 36 60   RWDJNP MLNS  MI1TUN,*&4                                    7  0884  D 341 894          699
3785 36 61          RWD   0                                             5  0891  U %U0 R            699
3786 36 62          MLNS  MI2TUN,*&4                                    7  0896  D 342 906          699
3787 36 63          RWD   0                                             5  0903  U %U0 R            699
3788 36 64          BCE   PRAST1-8,MI3TUN,                             8  0908  B 928 343          699
3789 36 65          MLNS  MI3TUN,*&4                                    7  0916  D 343 926          700
3790 36 66          RWD   0                                             5  0923  U %U0 R            700
3791 36 67          BCE   PRARDR,LABELS,      NO LABELS BRANCH           8  0928  B U12 413          700
3792 36 68   PRAST1 S     &1,PRAPC1                                     7  0936  S X18 821          700
3793 36 69          BM    PRAIRT,PRAPC1       INIT FOR PH2 INPUT TAPES   8  0943  V T58 821 K        700
3794 36 70          MLNS  0&X1,PRARTI-24                                7  0951  D 0|0 |50          701
3795 36 71          MLNS  0&X1,PRARTI&3                                 7  0958  D 0|0 |77          701
3796 36 72          MLNS  0&X1,PRAOTX&7                                 7  0965  D 0|0 T26          701
3797 36 73          MLNS  0&X1,PRAOTX&12                                7  0972  D 0|0 T31          701
3798 36 74          MLNS  0&X1,PRAPSW-2                                 7  0979  D 0|0 W43          701
3799 36 75          MLNS  0&X1,PARAXT-2                                 7  0986  D 0|0 W86          702
3800 36 76          MLNS  0&X1,PRAIPX&15                                7  0993  D 0|0 /19          702
3801 36 77          MLNS  0&X1,PRAOTX&33                                7  1000  D 0|0 T52          702
3802 36 78          MLNS  0&X1,SAVMB2                                   7  1007  D 0|0 T08          702
3803 36 79          MA    @001@,X1          UPDATE FOR NEXT TAPE NO.    7  1014  # X21 089          702
3804 36 80          MLC   @00@,CRYBU3                                   7  1021  M X23 S91          703
3805 36 81   PRAST2 MLC   @99@,PRAPC3                                   7  1028  M X11 X31          703
3806 36 82          MLC   @10@,PRAPC4                                   7  1035  M X13 X34          703
3807 36 83          CS    819                                           4  1042  / 819              703
3808 36 84          CS                                                  1  1046  /                  703
3809 36 85          RWD   0                                             5  1047  U %U0 R            703
3810 36 86          BCE   SRTWLB,WLBKT,       IF FIRST PASS PH2 OUTPUT TAPES  8  1052  B U49 417          703
3811 36 87   *                                  HAVE SORT 7 120 CHARACTER HEADER
3812 36 88   *                                  LABELS-COLUMN 4 CC3 IS BLANK
3813 36 89          MLC   CENSIG,SWKLBB&13                              7  1060  M 415 713          704
3814 36 90          MLC   CENSIG,WLBNOI&7                              7  1067  M 415 |89          704
3815 36 91   PRARTI RTW   0,SWKLBB                                      8  1074  L %U0 700 R        704
3816 36 92   WLBNOI BCE   PRANOS,SWKLBB&13,                            8  1082  B /33 713          704
3817 36 93          BEF   *&1                                           5  1090  B |95 K            704
3818 36 94          BER   PRAPRT                                        5  1095  B W11 L            705
3819 36 95          B     PRARCT                                        4  1100  B /41              705
3820 36 96   PRAIPX NOP   0                 PHASE 2 INPUT HEADER LABEL EXIT  4  1104  N 000          705
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
3821 36 97          BCE   PRAST1,THLTMO,                                8  1108  B 936 418          705
3822 36 98          RT    0,SWKLBB            READ TAPEMARK             8  1116  M %U0 700 R        705
3823 36 99          BEF   PRAST1              BRANCH IF TAPEMARK IS SENSED  5  1124  B 936 K        705
3824 37 00          B     PRAPH4              NO TM SENSED - ERROR      4  1129  B 638              705
3825 37 01   PRANOS CS    730                                           4  1133  / 730              706
3826 37 02          B     PRARTI-14                                     4  1137  B |60              706
3827 37 03   PRARCT BCE   PRACT1,WLBKT,1                                8  1141  B /62 417 1        706
3828 37 04          B     PRAOTX                                        4  1149  B T19              706
3829 37 05          DCW   #4                                           4  1156                     706
3830 37 06          DCW   #2                                           2  1158                     706
3831 37 07   CRTCYB DCW   #3                                           3  1161                     706
3832 37 08   PRACT1 ZA    SWKLBB&14,CRTCYB    MOVE TAPE INFORMATION INTO    7  1162  ? 714 /61          707
3833 37 09          MLC                       CHECK BUCKET              1  1169  M                  707
3834 37 10          MLC                                                 1  1170  M                  707
3835 37 11          SW    CREATD-2                                      4  1171  , 435              707
3836 37 12   CLWOTW C     CREATD-3,CRTCYB-3    COMPARE YEAR             7  1175  C 434 /58          707
3837 37 13          BU    MODIFY                                        5  1182  B S42 /            707
3838 37 14          S     CREATD,CRTCYB-5                               7  1187  S 437 /56          707
3839 37 15          CW    CREATD-2                                      4  1194  ) 435              708
3840 37 16          BWZ   PRAOTX,CRTCYB-5,K   CAN WE WRITE ON TAPE      8  1198  V T19 /56 K        708
3841 37 17          CS    332                 NO-PRINT MESSAGE INDICATING DAYS  4  1206  / 332          708
3842 37 18          CS                        TAPE IS TO BE RETAINED    1  1210  /                  708
3843 37 19          MLC   SAVMBS,227                                    7  1211  M T18 227          708
3844 37 20          MLNS  CRTCYB-5,222                                  7  1218  D /56 222          708
3845 37 21          MLNS                                                1  1225  D                  708
3846 37 22          MLNS                                                1  1226  D                  709
3847 37 23          MLC   SAVMB1                                        4  1227  M T13              709
3848 37 24          MLC   SAVMB2                                        4  1231  M T08              709
3849 37 25          W                                                   1  1235  2                  709
3850 37 26          CC    1                                             2  1236  F 1                709
3851 37 27          B     PRAPH3                                        4  1238  B 630              709
3852 37 28   MODIFY S     TESFB1,CRTCYB-5    SUBTRACT 365 FROM RETENTION CYCLE  7  1242  S S95 /56      709
3853 37 29          A     TESFB1-3,CRTCYB-3   AND ADDD 1 TO TAPE YEARS  7  1249  A S92 /58          710
3854 37 30          A     @1@,CRYBU3                                    7  1256  A X24 S91          710
3855 37 31          BCE   HLCRY3,CRYBU3-1,3                            8  1263  B S75 S90 3        710
3856 37 32          B     CLWOTW                                        4  1271  B /75              710
3857 37 33   HLCRY3 H     PRAOTX                                        4  1275  . T19              710
3858 37 34          MLC   @00@,CRYBU3                                  7  1279  M X23 S91          710
3859 37 35          B     CLWOTW                                        4  1286  B /75              711
3860 37 36   CRYBU3 DCW   @  @                                         2  1291                     711
3861 37 37          DCW   @1@                                         1  1292                     711
3862 37 38   TESFB1 DCW   @365@                                        3  1295                     711
3863 37 39   SAVMB2 DCW   @RETAIN TAPE  @                             13  1308                     711
3864 37 40   SAVMB1 DCW   @ FOR @                                      5  1313                     711
3865 37 41   SAVMBS DCW   @ DAYS@                                      5  1318                     711
3866 37 42   PRAOTX NOP   0                   WT HDR LBL EXIT FOR OUTPUT  4  1319  N 000              712
3867 37 43          RWD   0                                           5  1323  U %U0 R            712
3868 37 44          WT    0,SWKLBB                                      8  1328  M %U0 700 W        712
3869 37 45          BER   PRAPWT                                        5  1336  B W92 L            712
3870 37 46          BCE   PRAST1,THLTMO,     BRANCH IF NO TM IS TO BE WRITTEN  8  1341  B 936 418          712
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
3871 37 47          WTM   0                                          5  1349  U %U0 M            712
3872 37 48          B     PRAST1                                     4  1354  B 936              712
3873 37 49   PRAIRT  SBR   PRAST1&10,PRARDR                          7  1358  H 946 U12          713
3874 37 50          SBR   PRAST1&13,PRAPC2                          7  1365  H 949 822          713
3875 37 51          SBR   PRAST1&6,PRAPC2                           7  1372  H 942 822          713
3876 37 52          MLC   @N@,PRARTI-22                             7  1379  M X25 |52          713
3877 37 53          MLC   @N@,PRAIPX-4                              7  1386  M X25 /00          713
3878 37 54          SBR   PRAPRT&24,PRAPH5                         7  1393  H W35 642          714
3879 37 55          MLC   &MI1TUN,X1                               7  1400  M X28 089          714
3880 37 56          B     PRAST1                                     4  1407  B 936              714
3881 37 57          DCW   @ @                                      1  1411                     714
3882 37 58   PRARDR CS    1599                                       4  1412  / V99              714
3883 37 59          CS    1299                                       4  1416  / S99              714
3884 37 60          CS                                               1  1420  /                  714
3885 37 61          CS                                               1  1421  /                  715
3886 37 62          CS                                               1  1422  /                  715
3887 37 63          CS                                               1  1423  /                  715
3888 37 64          CS                                               1  1424  /                  715
3889 37 65          CS                                               1  1425  /                  715
3890 37 66          CS    080                                        4  1426  / 080              715
3891 37 67          SW    24,56                                      7  1430  , 024 056          715
3892 37 68          SW    63,67                                      7  1437  , 063 067          716
3893 37 69          R     56                                         4  1444  1 056             716
3894 37 70          DCW   @ @                                      1  1448                     716
3895 37 71   SRTWLB MLNS  PRARTI&3,SBRTRP                           7  1449  D |77 V01          716
3896 37 72          MLC   SBRTLB,819                                7  1456  M V86 819          716
3897 37 73          B     PRAOTX                                     4  1463  B T19              716
3898 37 74          DCW   @1HDR          SORT7LABEL     @          30  1496                     717
3899 37 75   SBRTRP DC    @000000@                                   5  1501                     717
3900 37 76          DC    #45                                       45  1546                     719
3901 37 77   SBRTLB DC    #40                                       40  1586                     721
3902 37 78   PRMSEF DCW   @INPUT TAPES MAY BE SAVED@                24  1610                     721
3903 37 79   *
3904 37 80   *              HEADER LABEL ERROR ROUTINE
3905 37 81   *
3906 37 82   PRAPRT SBR   PARAXT&3,PRARTI-14     READ ENTRANCE          7  1611  H W91 |60          721
3907 37 83          MLC   @B@,PRAPSW                                 7  1618  M X29 W45          721
3908 37 84          S     &1,PRAPC3#2                                7  1625  S X18 X31          722
3909 37 85          BM    PRAPH1,PRAPC3       UNREADABLE BLOCK       8  1632  V 600 X31 K        722
3910 37 86          BSP   0                                          5  1640  U %U0 B            722
3911 37 87   PRAPSW B     PARAXT              NOP IF WRITE           4  1645  B W88              722
3912 37 88          BCE   *&5,PRAPC3,G        IS IT TIME TO SKIP     8  1649  B W61 X31 G        722
3913 37 89          B     PARAXT                                     4  1657  B W88              722
3914 37 90          MLC   @9@,PRAPC3                                7  1661  M X32 X31          723
3915 37 91          S     &1,PRAPC4#2                                7  1668  S X18 X34          723
3916 37 92          BM    PRAPH2,PRAPC4       BAD TAPE               8  1675  V 615 X34 K        723
3917 37 93          SKP   0                                          5  1683  U %U0 E            723
3918 37 94   PARAXT B     0                                          4  1688  B 000              723
3919 37 95   PRAPWT SBR   PARAXT&3,PRAOTX&9                         7  1692  H W91 T28          723
3920 37 96          MLC   @N@,PRAPSW                                7  1699  M X25 W45          724
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

3921 37 97          B     PRAPRT&14                                4  1706  B W25             724
3922 37 98          LTORG *                                                 1710
                    DCW   @99@                                     2  1711              LIT   724
                          @10@                                     2  1713              LIT   724
                          @C@                                      1  1714              LIT   724
       3774               &I1TUN                                   3  1717  338         ADCON 724
                          &1                                       1  1718              LIT   724
                          @001@                                    3  1721              LIT   725
                          @00@                                     2  1723              LIT   725
                          @1@                                      1  1724              LIT   725
                          @N@                                      1  1725              LIT   725
       3879               &MI1TUN                                  3  1728  341         ADCON 725
                          @B@                                      1  1729              LIT   725
       3908  PRAPC3       #02                                      2  1731              AREA  725
                          @9@                                      1  1732              LIT   726
       3915  PRAPC4       #02                                      2  1734              AREA  726
3923 37 99          EX    PRASTO                                          B 823             727
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

3924 38 00          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2 ENTRY
3925 38 01          ORG   575                                                  0575
3926 38 02  TEST C  BSS   ENTMLT,C          TEST SENSE SWITCH C          5  0575  B 602 C           730
3927 38 03          CS    80                NOT ON  LOAD BALANCED MERGE  4  0580  / 080             730
3928 38 04          SW    24,56                                          7  0584  , 024 056         730
3929 38 05          SW    63,67                                          7  0591  , 063 067         730
3930 38 06          R     56                                             4  0598  1 056             730
3931 38 07  ENTMLT  R                       ON  BYPASS BALANCED MERGE AND  1  0602  1                 730
3932 38 08          C     10,CONMLT         LOAD MULTIPHASE MERGE        7  0603  C 010 628         730
3933 38 09          BE    040                                            5  0610  B 040 S           731
3934 38 10          B     ENTMLT                                         4  0615  B 602             731
3935 38 11  CONMLT  DCW   @MULTIPHASE@                                  10  0628                    731
3936 38 12          EX    TEST C                                               B 575               732
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
3937 38 13          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
3938 38 14          ORG   STPH2                                          0562
3939 38 15   REMTS  MLC   CSTCNS,CLPH1&3     CLEAR PHASE ONE        7  0562  M 552 576          735
3940 38 16          CS    180                                     4  0569  / 180              735
3941 38 17   CLPH1  CS    0                                       4  0573  / 000              735
3942 38 18          SBR   CLPH1&3                                 4  0577  H 576              735
3943 38 19          C     CLPH1&3,@699@                           7  0581  C 576 617          735
3944 38 20          BU    CLPH1                                   5  0588  B 573 /            735
3945 38 21          CS    080                                     4  0593  / 080              735
3946 38 22          SW    24,56                                   7  0597  , 024 056          736
3947 38 23          SW    63,67                                   7  0604  , 063 067          736
3948 38 24          R     056                                     4  0611  1 056              736
                    DCW   @699@                                   3  0617             LIT   736
3949 38 25          EX    REMTS                                        B 562                  737
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

3950 38 26           JOB   ** IBM 1401 SORT 7 VERSION 2 PHASE 2
3951 38 27           ORG   STPH2                                                  0562
3952 38 28   I1TUHA  DCW   @ @                                        1  0562                    740
3953 38 29   I2TUHA        @ @                                        1  0563                    740
3954 38 30   I3TUHA        @ @                                        1  0564                    740
3955 38 31   O1TUHA        @ @                                        1  0565                    740
3956 38 32   O2TUHA        @ @                                        1  0566                    740
3957 38 33   O3TUHA        @ @                                        1  0567                    740
3958 38 34   CNMP          @00@                                       2  0569                    740
3959 38 35   NMPL          @  @                                       2  0571                    741
3960 38 36   CNTRA         @ @                                        1  0572                    741
3961 38 37   CNTRB         @ @                                        1  0573                    741
3962 38 38   STREND  DCW   @000@             END OF CURRENT INPUT BLOCK 3  0576                    741
3963 38 39   PTCHP2  DA    1X100,C                                       0577   0676             744
3964 38 40   NXTPS   EQU   GMSET                                         0677
3965 38 41   GMSET   LCA   0,0               SET GM FOR CHECK POINT     7  0677  L 000 000         744
3966 38 42   RDCPT   RTW   0,1               READ CHECKPOINT            8  0684  L %U0 001 R       744
3967 38 43           BER   RREDCP-4                                     5  0692  B 706 L           744
3968 38 44           BEF   EOFCP                                        5  0697  B L1V K           745
3969 38 45           B     STPASS                                       4  0702  B 37Z             745
3970 38 46           H     STPASS                                       4  0706  . 37Z             745
3971 38 47   RREDCP  BSP   0                                           5  0710  U %U0 B           745
3972 38 48           B     RDCPT                                        4  0715  B 684             745
3973 38 49   LGMEOA  LCA   0,0               SET GMKS IN I/O AREAS      7  0719  L 000 000         745
3974 38 50           LCA   0,0                                          7  0726  L 000 000         745
3975 38 51           LCA   0,0                                          7  0733  L 000 000         746
3976 38 52           LCA   0,0                                          7  0740  L 000 000         746
3977 38 53   READTP  B     READ1-14                                     4  0747  B S55             746
3978 38 54   GO      SBR   READ1&15,EORA                                7  0751  H S84 !27         746
3979 38 55           SBR   READ2&15,EORB                                7  0758  H T94 !38         746
3980 38 56           SBR   READTP&2,2500                                7  0765  H 749 N00         746
3981 38 57           SBR   FSTRD1&2                                     4  0772  H T16             747
3982 38 58           SBR   FSTRD2&2                                     4  0776  H U26             747
3983 38 59           SBR   FSTRD3&2                                     4  0780  H V36             747
3984 38 60   RUNOUT  B     SKIP1             RUNOUT SWITCH              4  0784  B 788             747
3985 38 61   SKIP1   B     COMPAB            BYPASS SWITCH              4  0788  B 792             747
3986 38 62   COMPAB  C     0,0               COMPARE A&B                7  0792  C 000 000         747
3987 38 63           BL    SKIP2             B LT A                     5  0799  B 813 T           747
3988 38 64           BH    SKIP3             A LT B                     5  0804  B 838 U           748
3989 38 65           B     EQU                                          4  0809  B P42             748
3990 38 66   SKIP2   B     COMPBC            BYPASS SWITCH              4  0813  B 817             748
3991 38 67   COMPBC  C     0,0               COMPARE B&C                7  0817  C 000 000         748
3992 38 68           BL    CLOW-7                                       5  0824  B 963 T           748
3993 38 69           BH    BLOW-7                                       5  0829  B 913 U           748
3994 38 70           B     EQU                                          4  0834  B P42             748
3995 38 71   SKIP3   B     COMPAC            BYPASS SWITCH              4  0838  B 842             749
3996 38 72   COMPAC  C     0,0               COMPARE A&C                7  0842  C 000 000         749
3997 38 73           BL    CLOW-7                                       5  0849  B 963 T           749
3998 38 74           BH    ALOW-7                                       5  0854  B 863 U           749
3999 38 75           B     EQU                                          4  0859  B P42             749
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
4000 38 76          NOP   0,L                                       7  0863  N 000 347          749
4001 38 77   ALOW    MZ    *-6,MTOA&2                                7  0870  Y 870 |19          749
4002 38 78          MA    L,MTOA&6                                  7  0877  # 347 |23          750
4003 38 79          NOP   0,0              REM ZONE IN VARY         7  0884  N 000 000          750
4004 38 80          NOP   0&X1,BLKCT       GENERATE BLK COUNT       7  0891  N 0|0 P29          750
4005 38 81   INCR1   MA    L,IREG1                                   7  0898  # 347 089          750
4006 38 82          B     IMOVE                                     4  0905  B |13              750
4007 38 83          B     ISAMT                                     4  0909  B S36              750
4008 38 84          NOP   0,L                                       7  0913  N 000 347          751
4009 38 85   BLOW    MZ    WRITE,MTOA&2                              7  0920  Y /03 |19          751
4010 38 86          MA    L,MTOA&6                                  7  0927  # 347 |23          751
4011 38 87          NOP   0,0              REM ZONE IN VARY         7  0934  N 000 000          751
4012 38 88          NOP   0&X2,BLKCT       GENERATE BLK COUNT       7  0941  N 0!0 P29          751
4013 38 89   INCR2   MA    L,IREG2                                   7  0948  # 347 094          752
4014 38 90          B     IMOVE                                     4  0955  B |13              752
4015 38 91          B     ISBMT                                     4  0959  B T46              752
4016 38 92          NOP   0,L                                       7  0963  N 000 347          752
4017 38 93   CLOW    MZ    RUNOUT,MTOA&2                             7  0970  Y 784 |19          752
4018 38 94          MA    L,MTOA&6                                  7  0977  # 347 |23          752
4019 38 95          NOP   0,0              REM ZONE IN VARY         7  0984  N 000 000          753
4020 38 96          NOP   0&X3,BLKCT       GENERATE BLK COUNT       7  0991  N 0?0 P29          753
4021 38 97   INCR3   MA    L,IREG3                                   7  0998  # 347 099          753
4022 38 98          B     IMOVE                                     4  1005  B |13              753
4023 38 99          B     ISCMT                                     4  1009  B U56              753
4024 39 00   IMOVE   SBR   RETURN#3          MOVE RECORD TO OUTPUT    4  1013  H Q78              753
4025 39 01   MTOA    MLC   0,0               MOVE TO OUTPUT ROUTINE   7  1017  M 000 000          754
4026 39 02          MLC                                             1  1024  M                  754
4027 39 03          MLC                                             1  1025  M                  754
4028 39 04          MLC                                             1  1026  M                  754
4029 39 05          MLC                                             1  1027  M                  754
4030 39 06          MLC                                             1  1028  M                  754
4031 39 07          MLC                                             1  1029  M                  754
4032 39 08          MLC                                             1  1030  M                  755
4033 39 09          MLC                                             1  1031  M                  755
4034 39 10          MLC                                             1  1032  M                  755
4035 39 11   LMV     MLC                                             1  1033  M                  755
4036 39 12          NOP                                             1  1034  N                  755
4037 39 13          MZ    *-6,SJA                                   7  1035  Y |35 P18          755
4038 39 14   ADDTO   NOP   BLKCT,0           MOVE BLOCK COUNT TO OUTPUT AREA  7  1042  N P29 000  755
4039 39 15   VARYCT  NOP   @1@,0                                     7  1049  N Q79 000          756
4040 39 16          MLC   SDCMPV,LSTSD       INCR STEPDOWN CHECK      7  1056  M P06 P09          756
4041 39 17          MA    L,SDCMPV                                  7  1063  # 347 P06          756
4042 39 18   CKOUT   C     0,ARELO                                   7  1070  C 000 O85          756
4043 39 19          BE    WRITE                                     5  1077  B /03 S            756
4044 39 20   VARYSD  B     RTRN1-7                                   4  1082  B |92              756
4045 39 21          DC    @      @                                  6  1091                     757
4046 39 22          MLC   RETURN,RTRN1&3                           7  1092  M Q78 /02          757
4047 39 23   RTRN1   B     0                                         4  1099  B 000              757
4048 39 24   WRITE   MLC   AREFO,MTOA&6       RESET MOVE TO OUTPUT     7  1103  M P15 |23          757
4049 39 25          MLC   SDCOMP,SDCMPV      RESET SD COMPARE         7  1110  M P03 P06          757
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
4050 39 26           MZ    BLANK,SJA                                    7  1117  Y N70 P18          758
4051 39 27           NOP   0                 SWITCH- WRITE TAPE         4  1124  N 000              758
4052 39 28   KOWNT   A     B,0                                          7  1128  A 199 000          758
4053 39 29   PDSW    B     WOBR-11                                      4  1135  B /71              758
4054 39 30   BPADQ8  BCE   WOBR-11,0,1                                  8  1139  B /71 000 1        758
4055 39 31   AWAY    C     0,PADCT#6                                    7  1147  C 000 Q85          758
4056 39 32           BL    RTRN2-7                                      5  1154  B S25 T            759
4057 39 33   REPL    BE    RTRN2-7                                      5  1159  B S25 S            759
4058 39 34   BPADQ7  MLC   @N@,SPADQ6                                  7  1164  M Q86 R34          759
4059 39 35   EXIT1   NOP   0                 USERS EXIT                 4  1171  N 000              759
4060 39 36           MLC   BLANK2,CNRR                                  7  1175  M N72 N69          759
4061 39 37   WOBR    WT    0,0               WRITE OUTPUT BLOCK         8  1182  M %U0 000 W        759
4062 39 38           SBR   RMVRGM&6                                     4  1190  H S19              760
4063 39 39           BER   WORED                                        5  1194  B N73 L            760
4064 39 40           NOP   @1@,TAPBLC#5                                 7  1199  N Q79 Q91          760
4065 39 41   SETBAK  NOP   @4@,0               RESET BLOCK COUNT          7  1206  N Q92 000          760
4066 39 42   RMVRGM  NOP   REKMKS,0                                     7  1213  N P17 000          760
4067 39 43           BEF   EOFW1                                        5  1220  B N49 K            760
4068 39 44           MLC   RETURN,RTRN2&3                               7  1225  M Q78 S35          761
4069 39 45   RTRN2   B     0                                            4  1232  B 000              761
4070 39 46   ISAMT   C     IREG1,ENDRA1      ARE WE READY TO READ A     7  1236  C 089 O76          761
4071 39 47           BU    RUNOUT                                       5  1243  B 784 /            761
4072 39 48   OKRD1   MLC   INPUT1,IREG1                                 7  1248  M O67 089          761
4073 39 49           MLC   BLANK2,CNRR                                 7  1255  M N72 N69          761
4074 39 50           MLC   CENSIG,13&X1                                7  1262  M 415 0/3          762
4075 39 51   READ1   RT    0,0               READ NEXT A BLOCK          8  1269  M %U0 000 R        762
4076 39 52           SBR   STREND                                      4  1277  H 576              762
4077 39 53           BEF   EOF1                                        5  1281  B N45 K            762
4078 39 54           MZ    *-6,SJA                                      7  1286  Y S86 P18          762
4079 39 55           B     NOISE                                        4  1293  B V95              762
4080 39 56           B     RIDGM1                                       4  1297  B W29              762
4081 39 57           B     CLRGMP                                       4  1301  B V66              763
4082 39 58           BER   RED                                        5  1305  B M75 L            763
4083 39 59   EXIT2   NOP   0                 USERS EXIT                 4  1310  N 000              763
4084 39 60   FSTRD1  B     READ2-14                                     4  1314  B T65              763
4085 39 61   *              STEPDOWN TEST FOR TAPE A
4086 39 62           MLC   LSTSD,STEPA&3                               7  1318  M P09 T28          763
4087 39 63   STEPA   C     0,0               TEST SD OF A               7  1325  C 000 000          763
4088 39 64           BL    EOSA              STEPDOWN EXISTS            5  1332  B W88 T            763
4089 39 65           BH    RUNOUT            NO STEPDOWN                5  1337  B 784 U            764
4090 39 66           B     EQU                                          4  1342  B P42              764
4091 39 67   ISBMT   C     IREG2,ENDRA2      ARE WE READY TO READ B     7  1346  C 094 O79          764
4092 39 68           BU    RUNOUT                                       5  1353  B 784 /            764
4093 39 69   OKRD2   MLC   INPUT2,IREG2                                 7  1358  M O70 094          764
4094 39 70           MLC   BLANK2,CNRR                                 7  1365  M N72 N69          764
4095 39 71           MLC   CENSIG,13&X2                                7  1372  M 415 0J3          765
4096 39 72   READ2   RT    0,0               READ NEXT B BLOCK          8  1379  M %U0 000 R        765
4097 39 73           SBR   STREND                                      4  1387  H 576              765
4098 39 74           BEF   EOF2                                        5  1391  B N34 K            765
4099 39 75           MZ    @N@,SJA                                      7  1396  Y Q86 P18          765
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
4100 39 76           B     NOISE                                     4  1403  B V95             765
4101 39 77           B     RIDGM2                                    4  1407  B W40             765
4102 39 78           B     CLRGMP                                    4  1411  B V66             766
4103 39 79           BER   RED                                       5  1415  B M75 L           766
4104 39 80   EXIT3   NOP   0                 USERS EXIT              4  1420  N 000             766
4105 39 81   FSTRD2  B     READ3-14                                  4  1424  B U75             766
4106 39 82   *               STEPDOWN CHECK FOR TAPE B
4107 39 83           MLC   LSTSD,STEPB&3                            7  1428  M P09 U38         766
4108 39 84   STEPB   C     0,0               TEST SD OF B            7  1435  C 000 000         766
4109 39 85           BL    EOSB              STEPDOWN EXISTS         5  1442  B W99 T           766
4110 39 86           BH    RUNOUT            NO STEPDOWN             5  1447  B 784 U           767
4111 39 87           B     EQU                                       4  1452  B P42             767
4112 39 88   ISCMT   C     IREG3,ENDRA3      ARE WE READY TO READ C  7  1456  C 099 O82         767
4113 39 89           BU    RUNOUT                                    5  1463  B 784 /           767
4114 39 90   OKRD3   MLC   INPUT3,IREG3                             7  1468  M O73 099         767
4115 39 91           MLC   BLANK2,CNRR                             7  1475  M N72 N69         767
4116 39 92           MLC   CENSIG,13&X3                           7  1482  M 415 0A3         768
4117 39 93   READ3   RT    0,0               READ NEXT C BLOCK       8  1489  M %U0 000 R       768
4118 39 94           SBR   STREND                                   4  1497  H 576             768
4119 39 95           BEF   EORC                                      5  1501  B !49 K           768
4120 39 96           MZ    COMPAB,SJA                                7  1506  Y 792 P18         768
4121 39 97           B     NOISE                                     4  1513  B V95             768
4122 39 98           B     RIDGM3                                    4  1517  B W51             768
4123 39 99           B     CLRGMP                                    4  1521  B V66             769
4124 40 00           BER   RED                                       5  1525  B M75 L           769
4125 40 01   EXIT4   NOP   0                 USERS EXIT              4  1530  N 000             769
4126 40 02   FSTRD3  B     GO                BR ON 1ST RD            4  1534  B 751             769
4127 40 03   *               STEPDOWN CHECK FOR TAPE C
4128 40 04           MLC   LSTSD,STEPC&3                            7  1538  M P09 V48         769
4129 40 05   STEPC   C     0,0               TEST SD OF C            7  1545  C 000 000         769
4130 40 06           BL    EOSC              STEPDOWN EXISTS         5  1552  B X10 T           769
4131 40 07           BH    RUNOUT            NO STEPDOWN             5  1557  B 784 U           770
4132 40 08           B     EQU                                       4  1562  B P42             770
4133 40 09   CLRGMP  SBR   RTN1&3                                    4  1566  H V94             770
4134 40 10           MA    I99,STREND                                7  1570  # O49 576         770
4135 40 11           MLC   STREND,*&7                               7  1577  M 576 V90         770
4136 40 12           MLC   REKMKS-1,0                              7  1584  M P16 000         770
4137 40 13   RTN1    B     0                                         4  1591  B 000             770
4138 40 14   NOISE   SBR   NSE&3             CHECK FOR NOISE RECORDS 4  1595  H W13             771
4139 40 15           SBR   NSERTN&3                                  4  1599  H W28             771
4140 40 16           MZ    SJA,NSE&5                                 7  1603  Y P18 W15         771
4141 40 17   NSE     BCE   0,13,}            BRANCH FOR NOISE RECORD 8  1610  B 000 013 }       771
4142 40 18           MA    @004@,NSERTN&3                            7  1618  # Q95 W28         771
4143 40 19   NSERTN  B     0                 RETURN TO CLEAR GPMK    4  1625  B 000             771
4144 40 20   RIDGM1  SBR   RTREAD&3,READ1-7     INITIALIZE RETURN    7  1629  H W87 S62         772
4145 40 21           B     RIDGM                                     4  1636  B W58             772
4146 40 22   RIDGM2  SBR   RTREAD&3,READ2-7                          7  1640  H W87 T72         772
4147 40 23           B     RIDGM                                     4  1647  B W58             772
4148 40 24   RIDGM3  SBR   RTREAD&3,READ3-7                          7  1651  H W87 U82         772
4149 40 25   RIDGM   MZ    SJA,*&6           MOVE IN ZONE FOR INDEXING 7  1658  Y P18 W70         772
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
4150 40 26           MN    *,13               START CLEARING 13 POSITIONS    7  1665  D W71 013         773
4151 40 27           MN                                                  1  1672  D                 773
4152 40 28           MN                                                  1  1673  D                 773
4153 40 29           MN                                                  1  1674  D                 773
4154 40 30           MN                                                  1  1675  D                 773
4155 40 31           MN                                                  1  1676  D                 773
4156 40 32           MN                                                  1  1677  D                 773
4157 40 33           MN                                                  1  1678  D                 774
4158 40 34           MN                                                  1  1679  D                 774
4159 40 35           MN                                                  1  1680  D                 774
4160 40 36           MN                                                  1  1681  D                 774
4161 40 37           MN                                                  1  1682  D                 774
4162 40 38           MN                                                  1  1683  D                 774
4163 40 39   RTREAD  B     0                                             4  1684  B 000             774
4164 40 40   EOSA    A     @1@,CNTRB          END OF SEQ A               7  1688  A Q79 573         775
4165 40 41           B     EOSTST                                        4  1695  B X17             775
4166 40 42   EOSB    A     @2@,CNTRB          END OF SEQ B               7  1699  A Q96 573         775
4167 40 43           B     EOSTST                                        4  1706  B X17             775
4168 40 44   EOSC    A     @4@,CNTRB          END OF SEQ C               7  1710  A Q92 573         775
4169 40 45   EOSTST  BCE   GO,READTP,B                                   8  1717  B 751 747 B       775
4170 40 46           BCE   SDALL,CNTRB,7      TEST EOS ON ALL TAPES      8  1725  B X85 573 7       776
4171 40 47           BCE   SDAC,CNTRB,5       TEST EOS ON A&C            8  1733  B Y25 573 5       776
4172 40 48           BCE   SDAB,CNTRB,3       TEST EOS ON A&B            8  1741  B Y44 573 3       776
4173 40 49           BCE   SDBC,CNTRB,6       TEST EOS ON B&C            8  1749  B Y63 573 6       776
4174 40 50           BCE   SDA,CNTRB,1        TEST EOS ON A ALONE        8  1757  B Y82 573 1       777
4175 40 51           BCE   SDB,CNTRB,2        TEST EOS ON B ALONE        8  1765  B Z17 573 2       777
4176 40 52           BCE   SDC,CNTRB,4        TEST EOS ON C ALONE        8  1773  B Z52 573 4       777
4177 40 53           B     RUNOUT                                        4  1781  B 784             777
4178 40 54   SDALL   SBR   RUNOUT&3,SKIP1                               7  1785  H 787 788         777
4179 40 55           MLC   BLANK,CNTRB                                   7  1792  M N70 573         778
4180 40 56           BCE   SWOT,I3TUN,                                   8  1799  B L73 340         778
4181 40 57           SBR   COMPAB&10,SKIP2                               7  1807  H 802 813         778
4182 40 58           SBR   COMPAB&15,SKIP3                               7  1814  H 807 838         778
4183 40 59           B     SWOT                                          4  1821  B L73             778
4184 40 60   SDAC    BCE   SDALL,CNTRA,2          STEPDOWN ON A&C        8  1825  B X85 572 2       779
4185 40 61           SBR   RUNOUT&3,BLOW-7                               7  1833  H 787 913         779
4186 40 62           B     RUNOUT                                        4  1840  B 784             779
4187 40 63   SDAB    BCE   SDALL,CNTRA,4          STEPDOWN ON A&B        8  1844  B X85 572 4       779
4188 40 64           SBR   RUNOUT&3,CLOW-7                               7  1852  H 787 963         779
4189 40 65           B     RUNOUT                                        4  1859  B 784             779
4190 40 66   SDBC    BCE   SDALL,CNTRA,1          STEPDOWN ON B&C        8  1863  B X85 572 1       780
4191 40 67           SBR   RUNOUT&3,ALOW-7                               7  1871  H 787 863         780
4192 40 68           B     RUNOUT                                        4  1878  B 784             780
4193 40 69   SDA     BCE   SDALL,CNTRA,6          STEPDOWN ON A          8  1882  B X85 572 6       780
4194 40 70           BCE   RNOUTB,CNTRA,4                                8  1890  B Z94 572 4       780
4195 40 71           BCE   RNOUTC,CNTRA,2                                8  1898  B !16 572 2       781
4196 40 72           SBR   RUNOUT&3,SKIP2                               7  1906  H 787 813         781
4197 40 73           B     RUNOUT                                        4  1913  B 784             781
4198 40 74   SDB     BCE   SDALL,CNTRA,5          STEPDOWN ON B          8  1917  B X85 572 5       781
4199 40 75           BCE   RNOUTA,CNTRA,4                                8  1925  B !05 572 4       781
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
4200 40 76           BCE   RNOUTC,CNTRA,1                            8  1933  B !16 572 1        782
4201 40 77           SBR   RUNOUT&3,COMPAC                           7  1941  H 787 842          782
4202 40 78           B     RUNOUT                                    4  1948  B 784              782
4203 40 79    SDC    BCE   SDALL,CNTRA,3          STEPDOWN ON C      8  1952  B X85 572 3        782
4204 40 80           BCE   RNOUTA,CNTRA,2                            8  1960  B !05 572 2        782
4205 40 81           BCE   RNOUTB,CNTRA,1                            8  1968  B Z94 572 1        783
4206 40 82           SBR   COMPAB&15,ALOW-7                          7  1976  H 807 863          783
4207 40 83           SBR   COMPAB&10,BLOW-7                          7  1983  H 802 913          783
4208 40 84           B     RUNOUT                                    4  1990  B 784              783
4209 40 85    RNOUTB SBR   RUNOUT&3,BLOW-7                           7  1994  H 787 913          783
4210 40 86           B     RUNOUT                                    4  2001  B 784              783
4211 40 87    RNOUTA SBR   RUNOUT&3,ALOW-7                           7  2005  H 787 863          784
4212 40 88           B     RUNOUT                                    4  2012  B 784              784
4213 40 89    RNOUTC SBR   RUNOUT&3,CLOW-7                           7  2016  H 787 963          784
4214 40 90           B     RUNOUT                                    4  2023  B 784              784
4215 40 91    EORA   A     @1@,CNTRA          END OF FILE A          7  2027  A Q79 572          784
4216 40 92           B     EOFTST                                    4  2034  B !56              784
4217 40 93    EORB   A     @2@,CNTRA          END OF FILE B          7  2038  A Q96 572          785
4218 40 94           B     EOFTST                                    4  2045  B !56              785
4219 40 95    EORC   A     @4@,CNTRA          END OF FILE C          7  2049  A Q92 572          785
4220 40 96    EOFTST BCE   EOFBC,CNTRA,6      TEST EOF ON B&C        8  2056  B K93 572 6        785
4221 40 97           BCE   EOFAC,CNTRA,5      TEST EOF ON A&C        8  2064  B L04 572 5        785
4222 40 98           BCE   EOFC,CNTRA,4       TEST EOF ON C          8  2072  B L15 572 4        786
4223 40 99           BCE   EOFAB,CNTRA,3      TEST EOF ON A&B        8  2080  B L33 572 3        786
4224 41 00           BCE   EOFB,CNTRA,2       TEST EOF ON B          8  2088  B L44 572 2        786
4225 41 01           BCE   EOFA,CNTRA,1       TEST EOF ON A          8  2096  B L62 572 1        786
4226 41 02    ENDPAS NOP   QTRL,SJA,2         EOF ON ALL             8  2104  N J16 P18 2        787
4227 41 03           NOP   LASTWT                                    4  2112  N K22              787
4228 41 04    QTRL   NOP   LPTRS1                                    4  2116  N G13              787
4229 41 05    OUTTM  WTM   0                                         5  2120  U %U0 M            787
4230 41 06           WTM   0                                         5  2125  U %U0 M            787
4231 41 07    REWIND RWD   0                                         5  2130  U %U0 R            787
4232 41 08           RWD   0                                         5  2135  U %U0 R            787
4233 41 09           RWD   0                                         5  2140  U %U0 R            788
4234 41 10           RWD   0                                         5  2145  U %U0 R            788
4235 41 11           BCE   *&16,I3TUN,                               8  2150  B J73 340          788
4236 41 12    THDTP  WTM   0                                         5  2158  U %U0 M            788
4237 41 13           RWD   0                                         5  2163  U %U0 R            788
4238 41 14           RWD   0                                         5  2168  U %U0 R            788
4239 41 15           SBR   CLINP2&3,HDTRS0&4   ENTER FROM MAIN LINE  7  2173  H K21 A34          789
4240 41 16           B     *&8                                       4  2180  B J91              789
4241 41 17           SBR   CLINP2&3,INWM12-15                        7  2184  H K21 I30          789
4242 41 18    CLSTX1 SW    4300                                      4  2191  , 30|              789
4243 41 19           CS    0                                         4  2195  / 000              789
4244 41 20           SBR   CLSTX1&7                                  4  2199  H J98              789
4245 41 21           BWZ   CLSTX1&4,4300,1                           8  2203  V J95 30| 1        789
4246 41 22           MLC   CSTCNS,CLSTX1&7                           7  2211  M 552 J98          790
4247 41 23    CLINP2 B     0                                         4  2218  B 000              790
4248 41 24    LASTWT SBR   RETURN,QTRL                              7  2222  H Q78 J16          790
4249 41 25           B     SETGM                                     4  2229  B K60              790
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
4250 41 26   LSTOUT A     @1@,CNTBO1                                    7  2233  A Q79 P41          790
4251 41 27          C     CNTBO1,BO                                     7  2240  C P41 185          790
4252 41 28          BU    RTRN1-7                                       5  2247  B |92 /            791
4253 41 29          MLC   BLANK2,CNTBO1                                 7  2252  M N72 P41          791
4254 41 30          MLC                                                 1  2259  M                  791
4255 41 31   SETGM  SW    GPMK&4                                        4  2260  , K86              791
4256 41 32          MLC   MTOA&6,GPMK&6                                 7  2264  M |23 K88          791
4257 41 33          CW    GPMK&4                                        4  2271  ) K86              791
4258 41 34          MA    @001@,GPMK&6                                  7  2275  # Q99 K88          791
4259 41 35   GPMK   LCA   7998,0             LOAD GROUPMARK AT END OF OUTPUT  7  2282  L I9Y 000      792
4260 41 36          B     WRITE                                         4  2289  B /03              792
4261 41 37   EOFBC  SBR   SKIP1&3,ALOW-7                                7  2293  H 791 863          792
4262 41 38          B     EOSTST                                        4  2300  B X17              792
4263 41 39   EOFAC  SBR   SKIP1&3,BLOW-7                                7  2304  H 791 913          792
4264 41 40          B     EOSTST                                        4  2311  B X17              792
4265 41 41   EOFC   SBR   SKIP3&3,ALOW-7                                7  2315  H 841 863          793
4266 41 42          SBR   SKIP2&3,BLOW-7                                7  2322  H 816 913          793
4267 41 43          B     EOSTST                                        4  2329  B X17              793
4268 41 44   EOFAB  SBR   SKIP1&3,CLOW-7                                7  2333  H 791 963          793
4269 41 45          B     EOSTST                                        4  2340  B X17              793
4270 41 46   EOFB   SBR   SKIP1&3,SKIP3                                7  2344  H 791 838          793
4271 41 47          SBR   SKIP2&3,CLOW-7                                7  2351  H 816 963          794
4272 41 48          B     EOSTST                                        4  2358  B X17              794
4273 41 49   EOFA   SBR   SKIP1&3,SKIP2      END OF FILE ON A            7  2362  H 791 813          794
4274 41 50          B     EOSTST                                        4  2369  B X17              794
4275 41 51   *             SWITCH OUTPUT TAPES
4276 41 52   SWOT   MLC   O2TUHA,SLOT1#1                                7  2373  M 566 R00          794
4277 41 53   CNTSW  A     @1@,0               INCREMENT COUNTER         7  2380  A Q79 000          794
4278 41 54          NOP   RUNOUT                                        4  2387  N 784              795
4279 41 55   NOSW   NOP   @B@,CNTSW&7                                   7  2391  N R01 L87          795
4280 41 56          C     SWOT&3,&O3TUHA      READY TO CYCLE            7  2398  C L76 R04          795
4281 41 57          BU    SETNOS              NO                        5  2405  B M21 /            795
4282 41 58          SBR   SWOT&3,O1TUHA      REINITIALIZE FOR FIRST TAPE  7  2410  H L76 565          795
4283 41 59          B     MNO                                           4  2417  B M28              795
4284 41 60   SETNOS MA    @001@,SWOT&3        UPDATE WRITE ROUTINES FOR 7  2421  # Q99 L76          796
4285 41 61   MNO    MLC   SLOT1,WOBR&3       NEXT OUTPUT TAPE UNIT     7  2428  M R00 /85          796
4286 41 62          MLC   SLOT1,WORED&3                                 7  2435  M R00 N76          796
4287 41 63          MLC   SLOT1,ERTAPE&3                               7  2442  M R00 O15          796
4288 41 64   EOFRTN NOP   FRAN                                          4  2449  N M57              796
4289 41 65          B     RUNOUT                                        4  2453  B 784              796
4290 41 66   FRAN   MLC   @M@,NOSW                                     7  2457  M R05 L91          797
4291 41 67          MLC   @N@,EOFRTN                                    7  2464  M Q86 M49          797
4292 41 68          B     RTRN2-7                                       4  2471  B S25              797
4293 41 69   *             REDUNDANCY SUB-ROUTINE
4294 41 70   RED    SBR   RETN&3              STORE RETURN TO MAINLINE  4  2475  H N33              797
4295 41 71          SBR   TUNOS&3                                       4  2479  H N21              797
4296 41 72          SBR   SOMORE&3                                      4  2483  H ?39              797
4297 41 73          MA    @I5B@,RETN&3                                  7  2487  # R08 N33          797
4298 41 74          MA    @I6B@,TUNOS&3                                 7  2494  # R11 N21          798
4299 41 75          BAV   *&1                                          5  2501  B N06 Z            798
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
4300 41 76           A     @1@,CNRR                                          7  2506  A Q79 N69          798
4301 41 77           BAV   BBP2              DUMP TAPE RCD IF 100 TRIAL READS  5  2513  B R26 Z            798
4302 41 78   TUNOS   MN    0,BACKSP&3                                        7  2518  D 000 N28          798
4303 41 79   BACKSP  BSP   0                 BACKSPACE TAPE                    5  2525  U %U0 B            798
4304 41 80   RETN    B     0                 RETURN TO REREAD RECORD           4  2530  B 000              799
4305 41 81   EOF2    A     @2@,CNTRA         EOF ON SECOND INPUT TAPE          7  2534  A Q96 572          799
4306 41 82           B     READ3-14                                          4  2541  B U75              799
4307 41 83   EOF1    H     *-3               EOF ON FIRST INPUT TAPE           4  2545  . N45              799
4308 41 84   EOFW1   BCE   LPTRS1,QTRL,B     END OF REEL ON WRITE              8  2549  B G13 J16 B        799
4309 41 85           MLC   @B@,EOFRTN                                        7  2557  M R01 M49          799
4310 41 86           B     SWOT                                              4  2564  B L73              799
4311 41 87   CNRR    DCW   @00@                                             2  2569                     800
4312 41 88   BLANK   DCW   @ @                                             1  2570                     800
4313 41 89   BLANK2  DCW   @00@                                             2  2572                     800
4314 41 90   *               WRITE REDUNDANCY ROUTINE
4315 41 91   WORED   BSP   0                 BACKSPACE TAPE                    5  2573  U %U0 B            800
4316 41 92           BCE   ERASE,CNRR,1      SECOND TRY                        8  2578  B N97 N69 1        800
4317 41 93           A     @1@,CNRR                                          7  2586  A Q79 N69          800
4318 41 94           B     WOBR              BRANCH TO WRITE SECOND TIME       4  2593  B /82              800
4319 41 95   ERASE   A     @1@,CNEOR         INCREMENT COUNTER                 7  2597  A Q79 O34          801
4320 41 96           BCE   HWRED,CNEOR-1,1   TWENTY TRIES ON THIS TAPE         8  2604  B O21 O33 1        801
4321 41 97   ERTAPE  SKP   0                 NO-ERASE FORWARD                  5  2612  U %U0 E            801
4322 41 98           B     WOBR-7            BRANCH TO WRITE                   4  2617  B /75              801
4323 41 99   ***             USER MAY LOAD ANOTHER TAPE OR PRESS START
4324 42 00   ***             TO TRY WRITING 20 MORE TIMES
4325 42 01   HWRED   H                                                       1  2621  .                  801
4326 42 02           MLC   BLANK2,CNEOR      BLANK COUNTER                     7  2622  M N72 O34          801
4327 42 03           B     ERTAPE                                            4  2629  B O12              801
4328 42 04   CNEOR   DCW   @  @                                             2  2634                     802
4329 42 05   ARELBO  DCW   @   @                                            3  2637                     802
4330 42 06   AGMEOA  DCW   #3                                               3  2640                     802
4331 42 07   AGMEBO  DCW   @   @                                            3  2643                     802
4332 42 08   AO2THA  DSA   O2TUHA                                           3  2646  566                802
4333 42 09   I99     DSA   16000-1                                         3  2649  I9I                802
4334 42 10   AOWA    DSA   3900                                            3  2652  I00                802
4335 42 11   NOZNE   DCW   @   @                                           3  2655                     803
4336 42 12   AIRA1   DCW   @   @                                           3  2658                     803
4337 42 13   AIRA2   DCW   @   @                                           3  2661                     803
4338 42 14   AIRA3   DCW   @   @                                           3  2664                     803
4339 42 15   INPUT1  DCW   @   @                                           3  2667                     803
4340 42 16   INPUT2  DCW   @   @                                           3  2670                     803
4341 42 17   INPUT3  DCW   @   @                                           3  2673                     803
4342 42 18   ENDRA1  DCW   @   @                                           3  2676                     804
4343 42 19   ENDRA2        @   @                                           3  2679                     804
4344 42 20   ENDRA3        @   @                                           3  2682                     804
4345 42 21   ARELO         @   @                                           3  2685                     804
4346 42 22   COMP11        @   @                                           3  2688                     804
4347 42 23   COMP12        @   @                                           3  2691                     804
4348 42 24   COMP13        @   @                                           3  2694                     804
4349 42 25   ACNT    DCW   @   @                                           3  2697                     805
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

4350 42 26   ACTNR         @   @                                       3  2700                      805
4351 42 27   SDCOMP        @   @                                       3  2703                      805
4352 42 28   SDCMPV        @   @                                       3  2706                      805
4353 42 29   LSTSD         @   @                                       3  2709                      805
4354 42 30   BOL     DCW   @   @                                       3  2712                      805
4355 42 31   AREFO         @   @                                       3  2715                      805
4356 42 32   VARY    EQU   FLR                                            0091
4357 42 33   REKMKS  DCW   @||@                                        2  2717                      806
4358 42 34   SJA     DCW   @ @                                         1  2718                      806
4359 42 35   CLEPS         @   @                                       3  2721                      806
4360 42 36   N99P2   DCW   @99@                                       2  2723                      806
4361 42 37   TWOBL   DCW   @  @                                       2  2725                      806
4362 42 38   BLKCT   DCW   @0000@                                     4  2729                      806
4363 42 39   SET1MV  DCW   @   @                                       3  2732                      806
4364 42 40   REMOVE  DCW   @   @                                       3  2735                      807
4365 42 41   TRIHLD  DCW   @   @                                       3  2738                      807
4366 42 42   CNTBO1  DCW   @   @                                       3  2741                      807
4367 42 43   ***           EQUAL ROUTINE
4368 42 44   EQU     SBR   EQHLD#3                                     4  2742  H R14               807
4369 42 45           MLC   IREG1,HOLDX1#3     SAVE INDEX REGISTER ONE  7  2746  M 089 R17           807
4370 42 46           MLC   EQHLD,IREG1                                  7  2753  M R14 089           807
4371 42 47           MA    @I8E@,IREG1                                 7  2760  # R20 089           807
4372 42 48           MLC   10&X1,CMNCF&16     INITIALIZE THE EQUAL ROUTINE 7  2767  M 0/0 Q57        808
4373 42 49           MLC                                               1  2774  M                   808
4374 42 50           MLC                                               1  2775  M                   808
4375 42 51           MLC   9&X1,NEXTCF&17                              7  2776  M 0|9 Q25           808
4376 42 52           MLC   HOLDX1,IREG1                               7  2783  M R17 089           808
4377 42 53           MLC   BLANK2,CNCF2#2                            7  2790  M N72 R22           808
4378 42 54           SBR   ICFL&3,IF1F2                              7  2797  H Q30 383           808
4379 42 55           SBR   ICFL2&3                                   4  2804  H Q37               809
4380 42 56   NEXTCF  A     @1@,CNCF2                                 7  2808  A Q79 R22           809
4381 42 57           C     CNCF2,NCF          LAST CONTROL FIELD     7  2815  C R22 096           809
4382 42 58           BE    0                  EXIT                   5  2822  B 000 S             809
4383 42 59   ICFL    MA    0,CMNCF&3          UPDATE COMPARE FOR NEXT 7  2827  # 000 Q44           809
4384 42 60   ICFL2   MA    0,CMNCF&6          CONTROL FIELD          7  2834  # 000 Q47           809
4385 42 61   CMNCF   C     0,0                COMPARE                7  2841  C 000 000           810
4386 42 62           BL    0                  LOW                    5  2848  B 000 T             810
4387 42 63           BH    0                  HIGH                   5  2853  B 000 U             810
4388 42 64           MA    @0003@,ICFL&3      GET NEXT CONTROL FIELD 7  2858  # R25 Q30           810
4389 42 65           MA    @0003@,ICFL2&3                            7  2865  # R25 Q37           810
4390 42 66           B     NEXTCF                                    4  2872  B Q08               810
4391 42 67           LTORG *                                              2876
       4024  RETURN  DCW   #03                                       3  2878              AREA    810
                            @1@                                      1  2879              LIT     811
       4055  PADCT         #06                                       6  2885              AREA    811
                            @N@                                      1  2886              LIT     811
       4064  TAPBLC        #05                                       5  2891              AREA    811
                            @4@                                      1  2892              LIT     811
                            @004@                                    3  2895              LIT     811
                            @2@                                      1  2896              LIT     811
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
					@001@		3	2899		LIT	812
		4276	SLOT1		#01		1	2900		AREA	812
					@B@		1	2901		LIT	812
		4280			&O3TUHA		3	2904	567	ADCON	812
					@M@		1	2905		LIT	812
					@I5B@		3	2908		LIT	812
					@I6B@		3	2911		LIT	812
		4368	EQHLD		#03		3	2914		AREA	813
		4369	HOLDX1		#03		3	2917		AREA	813
					@I8E@		3	2920		LIT	813
		4377	CNCF2		#02		2	2922		AREA	813
					@003@		3	2925		LIT	813
4392	42	68	SAVE	ORG	*			2926	2926		
4393	42	69	*								
4394	42	70		ORG	*&154				3080		

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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

4395 42 71           JOB   ** IBM 1401 SORT 7 VERSION 2 PHASE 2
4396 42 72   *               TAPES ARE REFERRED TO AS OUTPUT OR INPUT DEPENDING
4397 42 73   *               UPON WHETHER THEY ARE OUTPUT OR INPUT REELS
4398 42 74   *               TO THE NEXT PASS-WE OPEN OUTPUT TAPES FIRST
4399 42 75   *
4400 42 76   HTHAL1 MLC   @99@,HDTRC3                                      7  3080  M E37 E44          814
4401 42 77          H     HTEXWT-7          PRESS START TO ACCEPT LABELS AS 4  3087  . C19              814
4402 42 78   *                                 READ.  THE REDUNDANT RECORD WILL
4403 42 79   *                                 BE WRITTEN AS THE HL-OUTPUT TAPE
4404 42 80   *                              PRESS START/RESET AND START
4405 42 81          B     HTPRSW-5          TO RETRY UP TO 99 TIMES         4  3091  B D20              814
4406 42 82   *
4407 42 83   HTHAL2 H                       PRESS START TO TRY TO           1  3095  .                  814
4408 42 84          MLC   @9@,HDTRC4        WRITE H.L. AGAIN-UP TO          7  3096  M E38 E45          814
4409 42 85          B     HTEXWT&9          9 SKIPS.                        4  3103  B C35              814
4410 42 86   *
4411 42 87   HTHAL3 H     HTEXRT            PRESS START TO ACCEPT           4  3107  . B90              814
4412 42 88   *                           H.L.AS READ
4413 42 89          MLC   @99@,HDTRC3       PRESS RESET START AND START     7  3111  M E37 E44          815
4414 42 90          B     HTPRSW-5          TO RETRY UP TO 99 TIMES         4  3118  B D20              815
4415 42 91   *
4416 42 92   HTHAL4 H     *-3               NO T/M AFTER H.L.-THERE IS A    4  3122  . A22              815
4417 42 93   *                           1 IN COL.5 CC3. RESTART PROG
4418 42 94   *
4419 42 95   HDTRC1 DCW   @C@               B FOR 2-WAY                     1  3126                     815
4420 42 96   HDTRC2 DCW   @C@               B FOR 2-WAY                     1  3127                     815
4421 42 97   HDTRC8 DCW   @C@                                               1  3128                     815
4422 42 98          DCW   #1                                                1  3129                     815
4423 42 99   HDTRS0 SBR   HDTREX&3                                          4  3130  H E29              816
4424 43 00          CS    181                                               4  3134  / 181              816
4425 43 01          MLC   GPMARK,*&4                                       7  3138  M 350 A48          816
4426 43 02          MLCWA 0,181             SET GM/WM                       7  3145  L 000 181          816
4427 43 03          MLC   HDTRC6,IREG1      ADDR TAPE # BUCKET-OUTPUT       7  3152  M E32 089          816
4428 43 04   HDTRS1 S     &1,HDTRC1                                         7  3159  S E39 A26          816
4429 43 05          BM    HDTRRI,HDTRC1                                     8  3166  V D72 A26 K        817
4430 43 06          MLNS  0&X1,HDTRS2&26                                    7  3174  D 0|0 B63          817
4431 43 07          MLNS  0&X1,HDTRS2&21                                    7  3181  D 0|0 B58          817
4432 43 08          MN    0&X1,HTEXWT&7                                     7  3188  D 0|0 C33          817
4433 43 09          MN    0&X1,HTEXWT&12                                    7  3195  D 0|0 C38          817
4434 43 10          MN    0&X1,HTPRSW-2                                     7  3202  D 0|0 D23          818
4435 43 11          MN    0&X1,HTPEX-10                                     7  3209  D 0|0 D58          818
4436 43 12          MN    0&X1,HTEXRT&15                                    7  3216  D 0|0 C05          818
4437 43 13          MN    0&X1,HTNOSR-6                                     7  3223  D 0|0 C59          818
4438 43 14          MA    @001@,IREG1                                       7  3230  # E42 089          818
4439 43 15   HDTRS2 MLC   @99@,HDTRC3#2      INIT PARITY RD BUCKET           7  3237  M E37 E44          819
4440 43 16          CS    180                                               4  3244  / 180              819
4441 43 17          MLC   CENSIG,113                                        7  3248  M 415 113          819
4442 43 18          RWD   0                                                 5  3255  U %U0 R            819
4443 43 19          RT    0,101             READ HEADER LABEL               8  3260  M %U0 101 R        819
4444 43 20   NSYHDR BCE   HTNOSR,113,                                       8  3268  B C65 113          819
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
4445 43 21           BEF   *&1                                        5  3276  B B81 K            820
4446 43 22           BER   HDTRPR            IF PARITY ERROR          5  3281  B C91 L            820
4447 43 23           B     HTEXWT-7          NOP FOR INPUT            4  3286  B C19              820
4448 43 24   HTEXRT  NOP   0                 CUSTOMER EXIT-ACCESS     4  3290  N 000              820
4449 43 25   *                                 TO H.L. OF INPUT TAPE
4450 43 26           BCE   HDTRS1,THLTMO,     IF NO T/M AFTER HEADER   8  3294  B A59 418          820
4451 43 27           RT    0,101                                      8  3302  M %U0 101 R        820
4452 43 28           BEF   HDTRS1                                     5  3310  B A59 K            820
4453 43 29           B     HTHAL4                                     4  3315  B A22              821
4454 43 30           MLC   @9@,HDTRC4#1                              7  3319  M E38 E45          821
4455 43 31   HTEXWT  NOP   0                 CUSTOMER EXIT-ACCESS TO  4  3326  N 000              821
4456 43 32   *                                 H.L.OF OUTPUT TAPE
4457 43 33           BSP   0                                          5  3330  U %U0 B            821
4458 43 34           WT    0,101             WRITE HEADER LABEL       8  3335  M %U0 101 W        821
4459 43 35           BER   HDTRPW                                     5  3343  B C73 L            821
4460 43 36           BCE   HDTRS1,THLTMO,     IF T/M IS NOT TO BE WRITTEN 8  3348  B A59 418       822
4461 43 37           WTM   0                                          5  3356  U %U0 M            822
4462 43 38           B     HDTRS1                                     4  3361  B A59              822
4463 43 39   HTNOSR  CS    120               NOISE RECORD CLEAR       4  3365  / 120              822
4464 43 40           B     HDTRS2&16                                  4  3369  B B53              822
4465 43 41   HDTRPW  SBR   HTPEX&3,HTEXWT&9  RETURN TO WRITE INST     7  3373  H D71 C35          822
4466 43 42           MLC   @N@,HTPRSW        BYPASS SKIP ROUTINE      7  3380  M E46 D25          822
4467 43 43           B     *&15                                       4  3387  B D05              823
4468 43 44   HDTRPR  SBR   HTPEX&3,HDTRS2&16 RETURN TO READ INST     7  3391  H D71 B53          823
4469 43 45           MLC   @B@,HTPRSW        ACTIVATE SKIP ROUTINE    7  3398  M E47 D25          823
4470 43 46           S     &1,HDTRC3                                  7  3405  S E39 E44          823
4471 43 47           BM    HTHAL1,HDTRC3                              8  3412  V ?80 E44 K        823
4472 43 48           BSP   0                                          5  3420  U %U0 B            823
4473 43 49   HTPRSW  B     HTPEX             BR IF READ I/O           4  3425  B D68              824
4474 43 50           BCE   *&5,HDTRC3,G                             8  3429  B D41 E44 G        824
4475 43 51           B     HTPEX                                      4  3437  B D68              824
4476 43 52           MLC   @9@,HDTRC3                               7  3441  M E38 E44          824
4477 43 53           S     &1,HDTRC4                                  7  3448  S E39 E45          824
4478 43 54           SKP   0                                          5  3455  U %U0 E            824
4479 43 55           BM    HTHAL2,HDTRC4                              8  3460  V ?95 E45 K        825
4480 43 56   HTPEX   B     0                 EX PARITY ERROR ROUTINE  4  3468  B 000              825
4481 43 57   HDTRRI  SBR   HDTRS1&6,HDTRC2   INIT ROUT.TO PROC.INPUT 7  3472  H A65 A27          825
4482 43 58           SBR   HDTRS1&13,HDTRC2                          7  3479  H A72 A27          825
4483 43 59           SBR   HDTRS1&10,HDTREX-8                        7  3486  H A69 E18          825
4484 43 60           SBR   HTPRSW-10,HTHAL3                          7  3493  H D15 A07          826
4485 43 61           MLC   @N@,HTEXRT-4                              7  3500  M E46 B86          826
4486 43 62           MLC   HDTRC7,IREG1      ADDR TAPE # BUCKET-INPUT 7  3507  M E35 089          826
4487 43 63           B     HDTRS1                                     4  3514  B A59              826
4488 43 64           CS    080                                        4  3518  / 080              826
4489 43 65           CS    181               CLEAR GM/WM              4  3522  / 181              826
4490 43 66   HDTREX  B     NXTPS             GENERAL EXIT             4  3526  B 677              826
4491 43 67   HDTRC6  DSA   I1TUHA                                     3  3532  562                827
4492 43 68   HDTRC7  DSA   O1TUHA                                     3  3535  565                827
4493 43 69           LTORG *                                                   3536
                     DCW   @99@                                      2  3537            LIT    827
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
					@9@		1	3538		LIT	827
					&1		1	3539		LIT	827
					@0001@		3	3542		LIT	827
		4439	HDTRC3		#02		2	3544		AREA	827
		4454	HDTRC4		#01		1	3545		AREA	828
					@N@		1	3546		LIT	828
					@B@		1	3547		LIT	828

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 SEQ PG LIN  LABEL  OP    OPERANDS                                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

4494 43 70          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
4495 43 71          ORG   087                                                                  0087
4496 43 72   IREG1  DCW   000                                                      3  0089                     829
4497 43 73          ORG   092                                                                  0092
4498 43 74   IREG2  DCW   000                                                      3  0094                     830
4499 43 75          ORG   097                                                                  0097
4500 43 76   IREG3  DCW   000                                                      3  0099                     831
4501 43 77          ORG   4200                                                                 4200
4502 43 78   LAYCHK BCE   PLEPAS,LBBUCK,1                                          8  4200  B 21Z 414 1        832
4503 43 79          MLC   CENSIG,NSYHDR&7                                          7  4208  M 415 B75          832
4504 43 80          B     SKIPPS                                                   4  4215  B 24/              832
4505 43 81   PLEPAS CS    80          LOAD 120 CHARACTER LABEL ROUTINE             4  4219  / 080              832
4506 43 82          SW    24,56                                                    7  4223  , 024 056          832
4507 43 83          SW    63,67                                                    7  4230  , 063 067          832
4508 43 84          R     56                                                       4  4237  1 056              833
4509 43 85   SKIPPS R                                                              1  4241  1                  833
4510 43 86          BCE   OVLAP1,68,B                                              8  4242  B 25U 068 B        833
4511 43 87          B     SKIPPS                                                   4  4250  B 24/              833
4512 43 88   OVLAP1 BCE   STRTN,VARY,        BRANCH IF FIXED LENGTH RECORDS       8  4254  B 32U 091          833
4513 43 89          MLC   @L@,MTOA            INITIALIZATION OF MOVE ROUTINE      7  4262  M V0S |17          833
4514 43 90          MLC   @L@,SBR-6           FOR VARIABLE LENGTH RECORDS         7  4269  M V0S U4X          833
4515 43 91   MODMV  MLC   @L@,LMV                                                  7  4276  M V0S |33          834
4516 43 92          BCE   *&8,KRUNCH,                                              8  4283  B 29Y 561          834
4517 43 93          MLC   @L@,LMV&1                                                7  4291  M V0S |34          834
4518 43 94          BCE   STRTN,CTMV-1,1                                           8  4298  B 32U V0U 1        834
4519 43 95          A     @1@,CTMV#2                                               7  4306  A V0T V0V          834
4520 43 96          MA    I99,MODMV&6                                              7  4313  # O49 28S          835
4521 43 97          B     MODMV                                                    4  4320  B 27W              835
4522 43 98   STRTN  MLC   &RETURN,ARTRN                                            7  4324  M V0Y U4W          835
4523 43 99          MLC   @H@                                                      4  4331  M V0Z              835
4524 44 00          MLC   &MTOA,IREG1                                              7  4335  M V1S 089          835
4525 44 01          MLC   NCF,NCFHLD#2                                             7  4342  M 096 V1U          835
4526 44 02          MLC   GPMARK,*&4                                               7  4349  M 350 35Z          836
4527 44 03          LCA   0,ITLI             LOAD GROUPMARK IN ITLI                7  4356  L 000 188          836
4528 44 04          MLC   @N@,AWAY&12                                              7  4363  M V1V /59          836
4529 44 05          SBR   AOWA,3900                                                7  4370  H O52 I00          836
4530 44 06          SBR   SETBAK&6                                                 4  4377  H S12              836
4531 44 07          SBR   ADDTO&6                                                  4  4381  H |48              836
4532 44 08          MA    I99,SETBAK&6                                             7  4385  # O49 S12          837
4533 44 09          MA    I99,ADDTO&6                                              7  4392  # O49 |48          837
4534 44 10          BCE   MAOWA,LABELS,1                                           8  4399  B 43W 413 1        837
4535 44 11          SBR   AOWA,3200          INITIALIZE FOR NO LABELS              7  4407  H O52 B00          837
4536 44 12          SBR   SETBAK&6                                                 4  4414  H S12              837
4537 44 13          SBR   ADDTO&6                                                  4  4418  H |48              837
4538 44 14          MA    I99,SETBAK&6                                             7  4422  # O49 S12          838
4539 44 15          MA    I99,ADDTO&6                                              7  4429  # O49 |48          838
4540 44 16   MAOWA  MLC   AOWA,AIRA1                                               7  4436  M O52 O58          838
4541 44 17          MA    BL,AIRA1           I/O AREA                              7  4443  # 085 O58          838
4542 44 18          MLC   AIRA1,AGMEOA                                             7  4450  M O58 O40          838
4543 44 19          MA    @002@,AIRA1                                              7  4457  # V1Y O58          839
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
4544 44 20           MLC   AIRA1,AIRA2                               7  4464  M O58 O61          839
4545 44 21           MA    BL,AIRA2                                  7  4471  # 085 O61          839
4546 44 22           MLC   AIRA2,LGMEOA&13                          7  4478  M O61 732          839
4547 44 23           MA    @002@,AIRA2                               7  4485  # V1Y O61          839
4548 44 24           MLC   AIRA2,AIRA3                               7  4492  M O61 O64          840
4549 44 25           MA    BL,AIRA3                                  7  4499  # 085 O64          840
4550 44 26           MLC   AIRA3,LGMEOA&20                          7  4506  M O64 739          840
4551 44 27           BCE   ONLY2,I3TUN,                              8  4513  B 57| 340          840
4552 44 28           MA    @002@,AIRA3                               7  4521  # V1Y O64          840
4553 44 29           MLC   AIRA3,AIRA4#3                             7  4528  M O64 V2/          841
4554 44 30           MA    BL,AIRA4                                  7  4535  # 085 V2/          841
4555 44 31           MLC   AIRA4,LGMEOA&27                          7  4542  M V2/ 746          841
4556 44 32           MLC   AIRA3,READ3&6                            7  4549  M O64 U95          841
4557 44 33           MLC   AIRA3,INPUT3                             7  4556  M O64 O73          841
4558 44 34           MA    I99,INPUT3                                7  4563  # O49 O73          842
4559 44 35  ONLY2    MLC   AIRA1,READ1&6                            7  4570  M O58 S75          842
4560 44 36           MLC   AIRA2,READ2&6                            7  4577  M O61 T85          842
4561 44 37           MLC   AOWA,WOBR&6                              7  4584  M O52 /88          842
4562 44 38           MLC   AOWA,AREFO        INIT MOVE TO OUTPUT     7  4591  M O52 P15          842
4563 44 39           MA    I99,AREFO                                 7  4598  # O49 P15          843
4564 44 40           MLC   AIRA1,INPUT1                             7  4605  M O58 O67          843
4565 44 41           MA    I99,INPUT1                                7  4612  # O49 O67          843
4566 44 42           MLC   AIRA2,INPUT2                             7  4619  M O61 O70          843
4567 44 43           MA    I99,INPUT2                                7  4626  # O49 O70          843
4568 44 44           MLC   GPMARK,GPMK&3     INIT INSTRUCTIONS TO LOAD 7  4633  M 350 K85          844
4569 44 45           MLC   GPMARK,GMSET&3    GROUPMARKS AT THE END OF I/O 7  4640  M 350 680          844
4570 44 46           MLC   GPMARK,LGMEOA&3                           7  4647  M 350 722          844
4571 44 47           MLC   GPMARK,LGMEOA&10                          7  4654  M 350 729          844
4572 44 48           MLC   GPMARK,LGMEOA&17                          7  4661  M 350 736          844
4573 44 49           MLC   GPMARK,LGMEOA&24                          7  4668  M 350 743          845
4574 44 50           MZ    *-6,INCR1-5                               7  4675  Y 67V 893          845
4575 44 51           MZ    MSBR,INCR2-5                              7  4682  Y 73T 943          845
4576 44 52           MZ    CMTOA,INCR3-5                             7  4689  Y 70T 993          845
4577 44 53           MLC   CENSIG,NSE&7                             7  4696  M 415 W17          845
4578 44 54  CMTOA    C     NCFHLD,@10@       INITIALIZE MTOA ROUTINE ACCORDING 7  4703  C V1U V2T          846
4579 44 55           BE    MSBR              TO NUMBER OF CONTROL FIELDS 5  4710  B 73T S            846
4580 44 56           MA    @001@,IREG1                               7  4715  # V2W 089          846
4581 44 57           A     @1@,NCFHLD                                7  4722  A V0T V1U          846
4582 44 58           B     CMTOA                                     4  4729  B 70T              846
4583 44 59  MSBR     LCA   SBR,6&X1                                  7  4733  L U5T 0|6          846
4584 44 60           LCA                                             1  4740  L                  846
4585 44 61           MLC   IREG1,SET1MV                             7  4741  M 089 P32          847
4586 44 62           MA    @006@,SET1MV                              7  4748  # V2Z P32          847
4587 44 63           MLC   SET1MV,WRITE&6                           7  4755  M P32 /09          847
4588 44 64           MLC   SET1MV,ALOW&13                           7  4762  M P32 883          847
4589 44 65           MLC   SET1MV,BLOW&13                           7  4769  M P32 933          847
4590 44 66           MLC   SET1MV,CLOW&13                           7  4776  M P32 983          848
4591 44 67           MLC   SET1MV,CKOUT&3                          7  4783  M P32 |73          848
4592 44 68           MLC   SET1MV,SETGM&7                          7  4790  M P32 K67          848
4593 44 69           MLC   IREG1,IREG2                             7  4797  M 089 094          848
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
4594 44 70           MA    @I9F@,IREG2                                7  4804  # V3S 094          848
4595 44 71           MLC   IREG2,INCR1&10                            7  4811  M 094 908          849
4596 44 72           MLC   IREG2,INCR2&10                            7  4818  M 094 958          849
4597 44 73           MLC   IREG2,INCR3&10                            7  4825  M 094 |08          849
4598 44 74           MLC   IREG1,IREG3                              7  4832  M 089 099          849
4599 44 75           MA    @002@,IREG3                                7  4839  # V1Y 099          849
4600 44 76           MLC   IREG3,ALOW&6                             7  4846  M 099 876          850
4601 44 77           MLC   IREG3,BLOW&6                             7  4853  M 099 926          850
4602 44 78           MLC   IREG3,CLOW&6                             7  4860  M 099 976          850
4603 44 79           MLC   @I9W@,IREG1                              7  4867  M V3V 089          850
4604 44 80           BCE   LD12K,MS,5                               8  4874  B T7/ 344 5        850
4605 44 81           BCE   LD16K,MS,6                               8  4882  B T8S 344 6        851
4606 44 82   LDCST   LCA   CNOS1,0&X1         MOVE COUNTERS INTO UPPER CORE  7  4890  L 545 0|0          851
4607 44 83           LCA                                            1  4897  L                  851
4608 44 84           LCA                                            1  4898  L                  851
4609 44 85           MLC   IREG1,ACNT                               7  4899  M 089 O97          851
4610 44 86           MLC   ACNT,CNTSW&6                             7  4906  M O97 L86          851
4611 44 87           MA    @I9D@,IREG1                              7  4913  # V3Y 089          851
4612 44 88           MLC   IREG1,ACTNR                              7  4920  M 089 P00          852
4613 44 89           MLC   ACTNR,KOWNT&6                            7  4927  M P00 /34          852
4614 44 90           MLC   ACTNR,AWAY&3                             7  4934  M P00 /50          852
4615 44 91           MA    @I9D@,IREG1                              7  4941  # V3Y 089          852
4616 44 92           MA    @I9D@,IREG1                              7  4948  # V3Y 089          852
4617 44 93           MLC   IREG1,CLEPS                              7  4955  M 089 P21          853
4618 44 94           MLC   IREG1,GMSET&6                            7  4962  M 089 683          853
4619 44 95   TSTVRY  BCE   RDCRD,VARY,                              8  4969  B S5Y 091          853
4620 44 96           MA    RCDIST,INCR1-4     INIT MAINLINE FOR VARIABLE  7  4977  # 196 894          853
4621 44 97           MA    RCDIST,INCR2-4     LENGTH RECORDS          7  4984  # 196 944          853
4622 44 98           MA    RCDIST,INCR3-4                             7  4991  # 196 994          854
4623 44 99           MLC   RCDIST,ALOW-4                             7  4998  M 196 866          854
4624 45 00           SBR   SDAC-1,BPADQ8&1                          7  5005  H Y24 /40          854
4625 45 01           SBR   SDALL&17                                   4  5012  H Y02              854
4626 45 02           MLC   @L@,RMVRGM                                 7  5016  M V0S S13          854
4627 45 03           MLC   RCDIST,BLOW-4                            7  5023  M 196 916          854
4628 45 04           MLC   RCDIST,CLOW-4                            7  5030  M 196 966          855
4629 45 05           MZ    *-6,ALOW-5                               7  5037  Y |3X 865          855
4630 45 06           MZ    @L@,BLOW-5                               7  5044  Y V0S 915          855
4631 45 07           MZ    TSTVRY,CLOW-5                            7  5051  Y 96Z 965          855
4632 45 08           MLC   @M@,ALOW-7                               7  5058  M V3Z 863          855
4633 45 09           MLC   @M@,BLOW-7                               7  5065  M V3Z 913          856
4634 45 10           MLC   @M@,CLOW-7                               7  5072  M V3Z 963          856
4635 45 11           MLC   ACTNR,VARYCT&6                           7  5079  M P00 |55          856
4636 45 12           C     L-2,@0@                                  7  5086  C 345 V4|          856
4637 45 13           BH    *&5                                      5  5093  B /0S U            856
4638 45 14           SW    BLKCT-2                                  4  5098  , P27              856
4639 45 15   MOADD   MLC   @L@,WOBR                                 7  5102  M V0S /82          857
4640 45 16           MLC   @L@,READ1                                7  5109  M V0S S69          857
4641 45 17           MLC   @L@,READ2                                7  5116  M V0S T79          857
4642 45 18           MLC   @L@,READ3                                7  5123  M V0S U89          857
4643 45 19           MLC   @N@,LGMEOA                               7  5130  M V1V 719          857
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
4644 45 20           MLC   @N@,KOWNT                                 7  5137  M V1V /28          858
4645 45 21           MLC   @A@,VARYCT                                 7  5144  M V4/ |49          858
4646 45 22           MLC   @V@,ENDPAS                                 7  5151  M V4S J04          858
4647 45 23           MLC   @B@,ENDPAS&8                               7  5158  M V4T J12          858
4648 45 24           MZ    *-6,CONST1-3                              7  5165  Y /6V U5Z          858
4649 45 25           MZ    @L@,CONST2-3                              7  5172  Y V0S U7/          859
4650 45 26           MZ    TSTVRY,CONST3-3                           7  5179  Y 96Z U8T          859
4651 45 27           MLC   REKMKS,TWOBL                              7  5186  M P17 P25          859
4652 45 28           LCA   CONST1&3,ISAMT&11                         7  5193  L U6V S47          859
4653 45 29           LCA                                             1  5200  L                  859
4654 45 30           LCA   CONST2&3,ISBMT&11                         7  5201  L U7X T57          859
4655 45 31           LCA                                             1  5208  L                  859
4656 45 32           LCA   CONST3&3,ISCMT&11                         7  5209  L U8Z U67          860
4657 45 33           LCA                                             1  5216  L                  860
4658 45 34           MLC   SET1MV,VRBSD&3                           7  5217  M P32 T9W          860
4659 45 35           LCA   FAKE&7,VARYSD&9    INIT FOR CHECK IF OUTPUT  7  5224  L U1U |91          860
4660 45 36           LCA                       IS FULL                 1  5231  L                  860
4661 45 37           LCA                                             1  5232  L                  860
4662 45 38           MLC   SET1MV,WTNOW&3                           7  5233  M P32 U2S          860
4663 45 39           LCA   LOU&4,REPL&4       INIT TAPE SWITCHING TO FORCE  7  5240  L U4S /63          861
4664 45 40           LCA                       WRITE ON LAST BLOCK IN SEQ.  1  5247  L                  861
4665 45 41           LCA                                             1  5248  L                  861
4666 45 42           LCA                                             1  5249  L                  861
4667 45 43           LCA                                             1  5250  L                  861
4668 45 44           MLC   @N@,PDSW                                 7  5251  M V1V /35          861
4669 45 45   RDCRD   CS    080                                       4  5258  / 080              861
4670 45 46           SW    24,56                                     7  5262  , 024 056          862
4671 45 47           SW    63,67                                     7  5269  , 063 067          862
4672 45 48   CHOOSE  BCE   SETURQ,URPI,P      DECIDE WHICH BAD BLOCK   8  5276  B T1| 186 P        862
4673 45 49           BCE   SETURP,URPI,C      PROCEDURE TO LOAD        8  5284  B T1X 186 C        862
4674 45 50           MLC   @T@,IDENT&7                               7  5292  M V4U T3S          862
4675 45 51           MLC   @N@,RED&8                                 7  5299  M V1V M83          863
4676 45 52           B     IDENT-1                                   4  5306  B T2U              863
4677 45 53   SETURQ  MLC   @N@,RED&8                                 7  5310  M V1V M83          863
4678 45 54   SETURP  MLC   URPI,IDENT&7                              7  5317  M 186 T3S          863
4679 45 55           R                         LOAD BAD BLOCK PROCEDURE  1  5324  1                  863
4680 45 56   IDENT   BCE   056,079,                                  8  5325  B 056 079          863
4681 45 57           R     IDENT                                     4  5333  1 T2V              863
4682 45 58   RANOUT  CS    080                                       4  5337  / 080              864
4683 45 59           SW    24,56                                     7  5341  , 024 056          864
4684 45 60           SW    63,67                                     7  5348  , 063 067          864
4685 45 61           R     FORGET                                    4  5355  1 T5Z              864
4686 45 62   FORGET  BCE   056,079,                                  8  5359  B 056 079          864
4687 45 63           R     FORGET                                    4  5367  1 T5Z              864
4688 45 64   LD12K   MA    @00|@,IREG1                               7  5371  # V4X 089          865
4689 45 65           B     LDCST                                     4  5378  B 89|              865
4690 45 66   LD16K   MA    @00!@,IREG1       INITIALIZE FOR 16K      7  5382  # V5| 089          865
4691 45 67           B     LDCST                                     4  5389  B 89|              865
4692 45 68   VRBSD   MLC   0,TRIHLD          CHECK TO SEE IF OUTPUT IS FULL  7  5393  M 000 P38          865
4693 45 69           MA    COMET,TRIHLD                              7  5400  # 556 P38          865
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
4694 45 70   FAKE    BWZ   SETGM,TRIHLD,2                              8  5407  V K60 P38 2       866
4695 45 71           B     WOBR-11                                     4  5415  B /71             866
4696 45 72   WTNOW   C     0,AREFO           FORCE LAST BLOCK PER SEQUENCE 7  5419  C 000 P15        866
4697 45 73           BE    SWOT                                        5  5426  B L73 S           866
4698 45 74           SBR   RETURN,SWOT                                 7  5431  H Q78 L73         866
4699 45 75   LOU     BIN   SETGM,                                      5  5438  B K60             866
4700 45 76   ARTRN   DCW   @    @                                      4  5446                    867
4701 45 77   SBR     DCW   @M000000@         MOVE TO OUTPUT CONSTANT   7  5453                    867
4702 45 78           BCE   OKRD1,1,|                                   8  5454  B S48 001 |       867
4703 45 79   CONST1  B     RUNOUT                                      4  5462  B 784             867
4704 45 80           BCE   OKRD2,1,|                                   8  5466  B T58 001 |       867
4705 45 81   CONST2  B     RUNOUT                                      4  5474  B 784             867
4706 45 82           BCE   OKRD3,1,|                                   8  5478  B U68 001 |       868
4707 45 83   CONST3  B     RUNOUT                                      4  5486  B 784             868
4708 45 84   ARNOUT  DSA   RUNOUT                                      3  5492  784               868
4709 45 85   NG1     DCW   @   @                                      3  5495                    868
4710 45 86   NG2     DCW   @   @                                      3  5498                    868
4711 45 87   NG3     DCW   @   @                                      3  5501                    868
                     DCW   @L@                                       1  5502            LIT     868
                           @1@                                       1  5503            LIT     869
       4519  CTMV          #02                                       2  5505            AREA    869
       4522                &RETURN                                   3  5508  Q78       ADCON   869
                           @H@                                       1  5509            LIT     869
       4524                &MTOA                                     3  5512  |17       ADCON   869
       4525  NCFHLD        #02                                       2  5514            AREA    869
                           @N@                                       1  5515            LIT     869
                           @002@                                     3  5518            LIT     870
       4553  AIRA4         #03                                       3  5521            AREA    870
                           @10@                                      2  5523            LIT     870
                           @001@                                     3  5526            LIT     870
                           @006@                                     3  5529            LIT     870
                           @I9F@                                     3  5532            LIT     870
                           @I9W@                                     3  5535            LIT     870
                           @I9D@                                     3  5538            LIT     871
                           @M@                                       1  5539            LIT     871
                           @0@                                       1  5540            LIT     871
                           @A@                                       1  5541            LIT     871
                           @V@                                       1  5542            LIT     871
                           @B@                                       1  5543            LIT     871
                           @T@                                       1  5544            LIT     871
                           @00|@                                     3  5547            LIT     872
                           @00!@                                     3  5550            LIT     872
4712 45 88           EX    LAYCHK                                          B 20|             873
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

4713 45 89          JOB   ** IBM 1401 SORT 7 VERSION 2 PHASE 2
4714 45 90          ORG   HTHAL1                                                  3080
4715 45 91   HTHEL1 MLC   @99@,HDTSC3                                      7  3080  M E46 E53          876
4716 45 92          H     HTAXWT-7            PRESS START TO ACCEPT LABELS AS  4  3087  . C27              876
4717 45 93   *                                  READ.THE REDUNDANT RECORD WILL BE
4718 45 94   *                                   WRITTEN AS THE HL-OUTPUT TAPE
4719 45 95   *                                   PRESS START/RESET AND START TO
4720 45 96          B     HTPSSW-5            RETRY UP TO 99 TIMES             4  3091  B D28              876
4721 45 97   HTHEL2 H                         PRESS START TO RETRY TO WRITE HL 1  3095  .                  876
4722 45 98          MLC   @9@,HDTSC4          UP TO 9 SKIPS                    7  3096  M E47 E54          876
4723 45 99          B     HTAXWT&9                                             4  3103  B C43              876
4724 46 00   HTHEL3 H     HTAXRT              PRESS START TO ACCEPT HL AS READ 4  3107  . B98              876
4725 46 01          MLC   @99@,HDTSC3         PRESS START RESET AND START TO   7  3111  M E46 E53          877
4726 46 02          B     HTPSSW-5            RETRY UP TO 99 TIMES             4  3118  B D28              877
4727 46 03   HTHEL4 H     *-3                 NO TAPEMARK AFTER HEADER LABEL   4  3122  . A22              877
4728 46 04   *                                  THERE IS A 1 IN COL.5 CC3-RESTART
4729 46 05   HDTSC1 DCW   @C@                 B FOR 2-WAY                      1  3126                     877
4730 46 06   HDTSC2 DCW   @C@                 B FOR 2-WAY                      1  3127                     877
4731 46 07   HDTSC8 DCW   @C@                                                 1  3128                     877
4732 46 08          DCW   #1                                                   1  3129                     877
4733 46 09   HDTSS0 SBR   HDTREX&3                                            4  3130  H E29              878
4734 46 10          CS    320                                                  4  3134  / 320              878
4735 46 11          MLC   GPMARK,*&4                                         7  3138  M 350 A48          878
4736 46 12          MLCWA 0,321                                              7  3145  L 000 321          878
4737 46 13          MLC   HDTSC6,IREG1        ADDR TAPE # BUCKET OUTPUT        7  3152  M E41 089          878
4738 46 14   HDTSS1 S     &1,HDTSC1                                           7  3159  S E48 A26          878
4739 46 15          BM    HDTSR1,HDTSC1                                      8  3166  V D80 A26 K        879
4740 46 16          MLNS  0&X1,HDTSS2&15      INITIALIZE I/O INSTRUCTIONS      7  3174  D 0|0 B52          879
4741 46 17          MLNS  0&X1,HDTSS2&34                                       7  3181  D 0|0 B71          879
4742 46 18          MLNS  0&X1,HTAXWT&7                                        7  3188  D 0|0 C41          879
4743 46 19          MLNS  0&X1,HTAXWT&12                                       7  3195  D 0|0 C46          879
4744 46 20          MLNS  0&X1,HTPSSW-2                                        7  3202  D 0|0 D31          880
4745 46 21          MLNS  0&X1,HTPAX-10                                        7  3209  D 0|0 D66          880
4746 46 22          MLNS  0&X1,HTAXRT&15                                       7  3216  D 0|0 C13          880
4747 46 23          MLNS  0&X1,HTNPSR-6                                        7  3223  D 0|0 C67          880
4748 46 24          MA    @001@,IREG1                                          7  3230  # E51 089          880
4749 46 25   HDTSS2 MLC   @99@,HDTSC3#2       INIT PARITY RD BUCKET            7  3237  M E46 E53          881
4750 46 26          CS    320                                                  4  3244  / 320              881
4751 46 27          CS                                                         1  3248  /                  881
4752 46 28          RWD   0                                                    5  3249  U %U0 R            881
4753 46 29          MLC   CENSIG,HSSSSS&7                                     7  3254  M 415 B83          881
4754 46 30          MLC   CENSIG,213                                           7  3261  M 415 213          881
4755 46 31          RTW   0,201                                                8  3268  L %U0 201 R        881
4756 46 32   HSSSSS BCE   HTNPSR,213,                                         8  3276  B C73 213          882
4757 46 33          BEF   *&1                                                  5  3284  B B89 K            882
4758 46 34          BER   HDTSPR              BRANCH ON PARITY ERROR           5  3289  B C99 L            882
4759 46 35          B     HTAXWT-7            NOP FOR INPUT                    4  3294  B C27              882
4760 46 36   HTAXRT NOP   0                   USER EXIT-HL OF INPUT TAPE       4  3298  N 000              882
4761 46 37          BCE   HDTSS1,THLTMO,      BRANCH IF NO TAPE MARK REQUIRED  8  3302  B A59 418          882
4762 46 38          RTW   0,201                                                8  3310  L %U0 201 R        883
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
4763 46 39           BEF   HDTSS1                                        5  3318  B A59 K            883
4764 46 40           B     HTHEL4                                       4  3323  B A22              883
4765 46 41           MLC   @9@,HDTSC4#1                                 7  3327  M E47 E54          883
4766 46 42   HTAXWT  NOP   0                 USER EXIT-PRIOR TO HL WRITE-OUTPT  4  3334  N 000              883
4767 46 43           BSP   0                                            5  3338  U %U0 B            883
4768 46 44           WT    0,201                                        8  3343  M %U0 201 W        884
4769 46 45           BER   HDTSPW                                       5  3351  B C81 L            884
4770 46 46           BCE   HDTSS1,THLTMO,      BRANCH IF TAPE MARK IS NO TO BE  8  3356  B A59 418          884
4771 46 47           WTM   0                   WRITTEN                  5  3364  U %U0 M            884
4772 46 48           B     HDTSS1                                       4  3369  B A59              884
4773 46 49   HTNPSR  CS    220                 CLEAR NOISE RECORD       4  3373  / 220              884
4774 46 50           B     HDTSS2&17                                    4  3377  B B54              884
4775 46 51   HDTSPW  SBR   HTPAX&3,HDTSS2&17   RETURN TO READ INSTRUCTION  7  3381  H D79 B54          885
4776 46 52           MLC   @N@,HTPSSW          BYPASS SKIP ROUTINE      7  3388  M E55 D33          885
4777 46 53           B     *&15                                         4  3395  B D13              885
4778 46 54   HDTSPR  SBR   HTPAX&3,HDTSS2&17    RETURN TO READ INSTRUCTION  7  3399  H D79 B54          885
4779 46 55           MLC   @B@,HTPSSW          ACTIVATE SKIP ROUTINE    7  3406  M E56 D33          885
4780 46 56           S     &1,HDTSC3                                    7  3413  S E48 E53          885
4781 46 57           BM    HTHEL1,HDTSC3                                8  3420  V ?80 E53 K        886
4782 46 58           BSP   0                                            5  3428  U %U0 B            886
4783 46 59   HTPSSW  B     HTPAX                                        4  3433  B D76              886
4784 46 60           BCE   *&5,HDTSC3,G                                8  3437  B D49 E53 G        886
4785 46 61           B     HTPAX                                        4  3445  B D76              886
4786 46 62           MLC   @9@,HDTSC3                                   7  3449  M E47 E53          886
4787 46 63           S     &1,HDTSC4                                    7  3456  S E48 E54          887
4788 46 64           SKP   0                                            5  3463  U %U0 E            887
4789 46 65           BM    HTHEL2,HDTRC4                                8  3468  V ?95 E45 K        887
4790 46 66   HTPAX   B     0                   EX PARITY ERROR ROUTINE  4  3476  B 000              887
4791 46 67   HDTSR1  SBR   HDTSS1&6,HDTSC2    INIT ROUTINE TO PROCESS INPUT  7  3480  H A65 A27          887
4792 46 68           SBR   HDTSS1&13,HDTSC2                            7  3487  H A72 A27          887
4793 46 69           SBR   HDTSS1&10,HDTRAX-9                          7  3494  H A69 E26          888
4794 46 70           SBR   HTPSSW-10,HTHEL3                             7  3501  H D23 A07          888
4795 46 71           MLC   @N@,HTAXRT-4                                 7  3508  M E55 B94          888
4796 46 72           MLC   HDTSC7,IREG1        ADDR TAPE # BUCKET-INPUT  7  3515  M E44 089          888
4797 46 73           B     HDTSS1                                       4  3522  B A59              888
4798 46 74           CS    80                                           4  3526  / 080              888
4799 46 75           CS    332                 CLEAR GROUPMARK-WORDMARK  4  3530  / 332              889
4800 46 76           CS                                                 1  3534  /                  889
4801 46 77   HDTRAX  B     NXTPS                                        4  3535  B 677              889
4802 46 78   HDTSC6  DSA   I1TUHA                                       3  3541  562                889
4803 46 79   HDTSC7  DSA   O1TUHA                                       3  3544  565                889
4804 46 80           LTORG *                                                   3545
                     DCW   @99@                                       2  3546            LIT    889
                           @9@                                        1  3547            LIT    889
                           &1                                         1  3548            LIT    890
                           @001@                                      3  3551            LIT    890
       4749  HDTSC3        #02                                        2  3553            AREA   890
       4765  HDTSC4        #01                                        1  3554            AREA   890
                           @N@                                        1  3555            LIT    890
                           @B@                                        1  3556            LIT    890
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION TYPE	CARD
4805	46	81		EX	OVLAP1			B	25U	891

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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

4806 46 82          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2  PUNCH URPI
4807 46 83          ORG   SAVE                                                    2926
4808 46 84   BBP2   NOP                                                      1  2926  N                 894
4809 46 85          MZ    SJA,SETPUN&5                                      7  2927  Y P18 R53         894
4810 46 86   SPADQ6 MLC   @1@,0              MOVE 1 INTO REDUND. BUCKET       7  2934  M ?53 000         894
4811 46 87          MA    I99,STREND                                        7  2941  # O49 576         894
4812 46 88   SETPUN SBR   MOVPUN&3,0                                        7  2948  H R76 000         894
4813 46 89          MA    @001@,MOVPUN&3                                    7  2955  # ?56 R76         894
4814 46 90          SBR   MOVPUN&13,101                                     7  2962  H R86 101         895
4815 46 91          CS    180                                               4  2969  / 180             895
4816 46 92   MOVPUN MLC   0,PUNBKT           MOVE CHAR. TO INTERMED. BUCKET   7  2973  M 000 ?52         895
4817 46 93          MLC   PUNBKT,101                                        7  2980  M ?52 101         895
4818 46 94          C     MOVPUN&3,STREND                                   7  2987  C R76 576         895
4819 46 95          BE    PCHBB1                                            5  2994  B ?29 S           895
4820 46 96          BCE   PCHBB2,MOVPUN&12,8                               8  2999  B ?25 R85 8       896
4821 46 97          MA    @001@,MOVPUN&3                                    7  3007  # ?56 R76         896
4822 46 98          MA    @001@,MOVPUN&13                                   7  3014  # ?56 R86         896
4823 46 99          B     MOVPUN                                            4  3021  B R73             896
4824 47 00   PCHBB2 P     SETPUN&7                                          4  3025  4 R55             896
4825 47 01   PCHBB1 P                       PUNCH LAST BLOCK                 1  3029  4                 896
4826 47 02          CS    180                                               4  3030  / 180             896
4827 47 03          MA    @I9C@,RETN&3      MODIFY EXIT TO READ NEXT BLOCK  7  3034  # ?59 N33         897
4828 47 04          MLC   @B@,PDSW                                          7  3041  M ?60 /35         897
4829 47 05          B     RETN                                              4  3048  B N30             897
4830 47 06   PUNBKT DCW   @0@               INTERMEDIATE BUCKET              1  3052                    897
4831 47 07          LTORG *                                                         3053
                    DCW   @1@                                               1  3053          LIT     897
                          @001@                                             3  3056          LIT     897
                          @I9C@                                             3  3059          LIT     897
                          @B@                                               1  3060          LIT     898
4832 47 08          EX    RANOUT                                                  B T3X             899
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

4833 47 09           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2  TAPE URPI
4834 47 10           ORG   SAVE                                                  2926
4835 47 11   BBP4    MA    @I9C@,RETN&3                                 7  2926  # ?77 N33          902
4836 47 12           NOP                                                1  2933  N                  902
4837 47 13           MLC   @1@,0                                        7  2934  M ?78 000          902
4838 47 14           MZ    SJA,BBPQ8G&5                                 7  2941  Y P18 R67          902
4839 47 15           MLC   STREND,LGMTP&6                              7  2948  M 576 R61          902
4840 47 16   LGMTP   LCA   0,0                LOAD GROUPMARK            7  2955  L 000 000          902
4841 47 17   BBPQ8G  WT    0,1                                          8  2962  M %U0 001 W        903
4842 47 18           BEF   BBPHLT                                       5  2970  B ?34 K            903
4843 47 19           BER   BBPSKP                                       5  2975  B ?20 L            903
4844 47 20           MLC   STREND,*&7                                   7  2980  M 576 R93          903
4845 47 21           LCA   BLANK,0            CLEAR GROUPMARK           7  2987  L N70 000          903
4846 47 22           CS    332                                          4  2994  / 332              903
4847 47 23           CS                                                 1  2998  /                  903
4848 47 24           MLC   UNMSG,223                                    7  2999  M ?74 223          904
4849 47 25           W                        PRINT MESSAGE             1  3006  2                  904
4850 47 26           CC    1                                            2  3007  F 1                904
4851 47 27           MLC   *&1,PDSW                                     7  3009  M ?16 /35          904
4852 47 28           B     RETN                                         4  3016  B N30              904
4853 47 29   BBPSKP  BSP   0                                            5  3020  U %U0 B            904
4854 47 30           SKP   0                                            5  3025  U %U0 E            904
4855 47 31           B     BBPQ8G                                       4  3030  B R62              905
4856 47 32   BBPHLT  H     BBPQ8G                                       4  3034  . R62              905
4857 47 33   WTMBD   WTM   0                CLOSE REDUNDANCY TAPE     5  3038  U %U0 M            905
4858 47 34           RWU   0                                            5  3043  U %U0 U            905
4859 47 35           B     NDSRT                                        4  3048  B L2T              905
4860 47 36   UNMSG   DCW   @UNREAD BLK WRITTEN-TU 0@                   23  3074                     906
4861 47 37           LTORG *                                                3075
                     DCW   @I9C@                                        3  3077            LIT   906
                           @1@                                          1  3078            LIT   906
4862 47 38           ORG   4000                                                4000
4863 47 39   INITTP  MLC   URPI,BBPQ8G&3      INITIALIZE FOR TAPE NUMBER  7  4000  M 186 R65          907
4864 47 40           MLC   URPI,BBPSKP&3                                7  4007  M 186 ?23          907
4865 47 41           MLNS  URPI,BBPSKP&8                                7  4014  D 186 ?28          907
4866 47 42           MLC   URPI,UNMSG                                   7  4021  M 186 ?74          907
4867 47 43           MLC   URPI,WTMBD&3                                 7  4028  M 186 ?41          907
4868 47 44           MLC   URPI,WTMBD&8                                 7  4035  M 186 ?46          908
4869 47 45           MLC   GPMARK,LGMTP&3                               7  4042  M 350 R58          908
4870 47 46           B     RANOUT                                       4  4049  B T3X              908
4871 47 47           NOP                                                1  4053  N                  908
4872 47 48           EX    INITTP                                                 B 00|              909
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

4873 47 49          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2  CORRECT URPI
4874 47 50          ORG   SAVE                                                      2926
4875 47 51   BBP3   NOP                                                        1  2926  N                 912
4876 47 52          MZ    SJA,*&13                                            7  2927  Y P18 R46         912
4877 47 53          NOP   0,0                                                 7  2934  N 000 000         912
4878 47 54          SBR   MOVCOR&3,0          INITIALIZE MOVE INSTRUCTION    7  2941  H R70 000         912
4879 47 55          MA    @001@,MOVCOR&3                                      7  2948  # ?43 R70         912
4880 47 56          CS    332                                                 4  2955  / 332             912
4881 47 57          CS                                                        1  2959  /                 912
4882 47 58          SBR   MOVCOR&13,201                                      7  2960  H R80 201         913
4883 47 59   MOVCOR MLC   0,CORBKT            MOVE CHAR. TO INTERMEDIATE BKT 7  2967  M 000 ?40         913
4884 47 60          MLC   CORBKT,201          MOVE CHARACTER TO PRINT AREA   7  2974  M ?40 201         913
4885 47 61          MA    @001@,MOVCOR&3      UPDATE MOVE INSTRUCTIONS       7  2981  # ?43 R70         913
4886 47 62          MA    @001@,MOVCOR&13                                     7  2988  # ?43 R80         913
4887 47 63          C     MOVCOR&3,STREND     CHECK FOR END OF INPUT BLOCK   7  2995  C R70 576         914
4888 47 64          BE    PRTBB2              END OF BLOCK                   5  3002  B ?27 S           914
4889 47 65          C     MOVCOR&13,@301@                                    7  3007  C R80 ?46         914
4890 47 66          BE    PRTBB1                                             5  3014  B ?23 S           914
4891 47 67          B     MOVCOR                                             4  3019  B R67             914
4892 47 68   PRTBB1 W     MOVCOR-12                                          4  3023  2 R55             914
4893 47 69   PRTBB2 W                         PRINT LAST BLOCK               1  3027  2                 914
4894 47 70          CC    1                                                  2  3028  F 1               915
4895 47 71   TSSG2  H                                                        1  3030  .                 915
4896 47 72   ***             TURN SENSE SWITCH G ON TO BACKSPACE AND
4897 47 73   ***             REREAD IN ORDER TO CORRECT.  IF TAPE
4898 47 74   ***             RECORD IS TO BE ACCEPTED AFTER CORRECTION,
4899 47 75   ***             TURN SENSE SWITCH G OFF AND PRESS START.
4900 47 76          BSS   BACKSP,G                                           5  3031  B N25 G           915
4901 47 77   SOMORE B     0                   RETURN TO PROCESS RECORD       4  3036  B 000             915
4902 47 78   CORBKT DCW   @0@                 INTERMEDIATE STORAGE BUCKET    1  3040                    915
4903 47 79          LTORG *                                                           3041
                    DCW   @001@                                             3  3043            LIT   915
                          @301@                                             3  3046            LIT   915
4904 47 80          EX    RANOUT                                                    B T3X             916
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
4905 47 81           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
4906 47 82   *             OVERLAP AREA
4907 47 83           ORG   4200                                                    4200
4908 47 84   PADQNA  DCW   @   @                                          3  4202                    919
4909 47 85   NOP1    LCA   @N@,CTMSG-36                                  7  4203  L V5Z 29S         919
4910 47 86           B     SETTP                                        4  4210  B 22Z             919
4911 47 87   OVLAP   BCE   NOP1,VARY,1                                  8  4214  B 20T 091 1       919
4912 47 88           MLC   AGMEOA,LGMEOA&6    LOAD GROUPMARK           7  4222  M O40 725         919
4913 47 89   SETTP   MLC   MI1TUN,RDCPT&3     SET CHECKPOINT TAPE UNIT NUM 7  4229  M 341 687         919
4914 47 90           MLC   MI1TUN,O1TUHA                                7  4236  M 341 565         920
4915 47 91           MLC   MI1TUN,RREDCP&3                              7  4243  M 341 713         920
4916 47 92           MLC   MI2TUN,O2TUHA                                7  4250  M 342 566         920
4917 47 93           MLC   I1TUN,I1TUHA                                 7  4257  M 338 562         920
4918 47 94           MLC   I2TUN,I2TUHA                                 7  4264  M 339 563         920
4919 47 95           A     @1@,CNOS1                                    7  4271  A V6| 545         921
4920 47 96           MLC   GMSET&3,PADQNA                               7  4278  M 680 20S         921
4921 47 97           MA    @I9I@,PADQNA                                 7  4285  # V6T 20S         921
4922 47 98           MLC   PADQNA,BPADQ8&6                              7  4292  M 20S /45         921
4923 47 99           MLC   PADQNA,SPADQ6&6                              7  4299  M 20S R40         921
4924 48 00           BCE   FORTWO,I3TUN,                                8  4306  B 54W 340         922
4925 48 01           MLC   MI3TUN,O3TUHA                                7  4314  M 343 567         922
4926 48 02           MLC   I3TUN,I3TUHA                                 7  4321  M 340 564         922
4927 48 03   CTMSG   MLC   CTNR,CNAR#6                                  7  4328  M 539 V6Z         922
4928 48 04           S     PDCPUT,CNAR                                  7  4335  S 548 V6Z         922
4929 48 05           MZ    BLANK,CNAR                                   7  4342  Y N70 V6Z         923
4930 48 06           ZA    @3@,NOMP#6                                   7  4349  ? V7| V7W         923
4931 48 07           MZ    @3@,NOMP                                     7  4356  Y V7| V7W         923
4932 48 08   DNMP    C     NOMP,CNSQ          DETERMINE MAX NUM OF MERGE PASSES 7  4363  C V7W 533         923
4933 48 09           A     @1@,NMPP2#2                                  7  4370  A V6| V7Y         923
4934 48 10           BE    PRINT1                                       5  4377  B 41/ S           924
4935 48 11           BL    PRINT1                                       5  4382  B 41/ T           924
4936 48 12   SWP1    B     TRITST                                       4  4387  B 44U             924
4937 48 13           A     NOMP                                         4  4391  A V7W             924
4938 48 14   OK1     C     NMPP2,@18@                                   7  4395  C V7Y V8|         924
4939 48 15           BE    NMPE                                         5  4402  B 47T S           924
4940 48 16           B     DNMP                                         4  4407  B 36T             924
4941 48 17   PRINT1  MLC   NMPP2,PRMSA-6                                7  4411  M V7Y U4Y         925
4942 48 18           MLC   NMPP2,NMPL                                   7  4418  M V7Y 571         925
4943 48 19           CS    332                                          4  4425  / 332             925
4944 48 20           CS                                                 1  4429  /                 925
4945 48 21           MLC   PRMSA-6,218                                  7  4430  M U4Y 218         925
4946 48 22           W                                                  1  4437  2                 925
4947 48 23           CC    K                                            2  4438  F K               925
4948 48 24           B     DETANM                                       4  4440  B 47X             926
4949 48 25   TRITST  MLC   NOMP,CTNOMP#6                                7  4444  M V7W V8W         926
4950 48 26           A     CTNOMP                                       4  4451  A V8W             926
4951 48 27           A     NOMP,CTNOMP                                  7  4455  A V7W V8W         926
4952 48 28           MLC   CTNOMP,NOMP                                  7  4462  M V8W V7W         926
4953 48 29   AMY     B     OK1                                          4  4469  B 39V             926
4954 48 30   NMPE    H     *-3                                          4  4473  . 47T             926
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
4955 48 31   DETANM ZA    @3@,NOMP                                      7  4477  ? V7| V7W          927
4956 48 32          MZ    @3@,NOMP                                      7  4484  Y V7| V7W          927
4957 48 33          MLC   &OK2,AMY&3                                    7  4491  M V8Z 47S          927
4958 48 34   DNMP2  C     NOMP,CNOS1        DETERMINE EST NUM OF MERGE  7  4498  C V7W 545          927
4959 48 35          A     @1@,NMAP2#2                                   7  4505  A V6| V9/          927
4960 48 36          BE    PRINT2                                        5  4512  B 66S S            928
4961 48 37          BL    PRINT2                                        5  4517  B 66S T            928
4962 48 38   SWP2   B     TRITST                                        4  4522  B 44U              928
4963 48 39          A     NOMP                                          4  4526  A V7W              928
4964 48 40   OK2    C     NMAP2,@18@                                    7  4530  C V9/ V8|          928
4965 48 41          BE    NMPE                                          5  4537  B 47T S            928
4966 48 42          B     DETANM&14                                     4  4542  B 49/              928
4967 48 43   FORTWO MLC   TWI,@3@                                      7  4546  M U2X V7|          929
4968 48 44          MLC   @N@,SWP1                                      7  4553  M V5Z 38X          929
4969 48 45          MLC   @N@,SWP2                                      7  4560  M V5Z 52S          929
4970 48 46          MLC   @B@,HDTRC1                                    7  4567  M V9S A26          929
4971 48 47          MLC   @B@,HDTRC2                                    7  4574  M V9S A27          929
4972 48 48          MLC   @B@,HDTRC8                                    7  4581  M V9S A28          930
4973 48 49          MLC   &AO2THA,NOSW&13                               7  4588  M V9V M04          930
4974 48 50          MLC   @4@,CNTRA                                     7  4595  M V9W 572          930
4975 48 51          MLC   &EOFTST,FRAN&3                               7  4602  M V9Z M60          930
4976 48 52          MLC   &CNTSW&7,FRAN&6                              7  4609  M W0S M63          930
4977 48 53          SBR   READ2&15,EORB                                7  4616  H T94 !38          931
4978 48 54          SBR   EOF1-1,GO                                    7  4623  H N44 751          931
4979 48 55          SBR   COMPAB&10,BLOW-7                            7  4630  H 802 913          931
4980 48 56          SBR   COMPAB&15,ALOW-7                            7  4637  H 807 863          931
4981 48 57          MLC   &GO,FSTRD2&3                                7  4644  M W0V U27          931
4982 48 58          MLC   @N@,LGMEOA&21                               7  4651  M V5Z 740          932
4983 48 59          B     CTMSG                                         4  4658  B 32Y              932
4984 48 60   PRINT2 MLC   NMAP2,PRMSB-6                               7  4662  M V9/ U7S          932
4985 48 61          CS    332                                           4  4669  / 332              932
4986 48 62          CS                                                  1  4673  /                  932
4987 48 63          MLC   PRMSB-6,218                                  7  4674  M U7S 218          932
4988 48 64          W                                                   1  4681  2                  932
4989 48 65          CC    L                                             2  4682  F L                933
4990 48 66          CC    L                                             2  4684  F L                933
4991 48 67          MLC   CTNR,PRMSC1-22                               7  4686  M 539 U8U          933
4992 48 68          MLC   CNAR,PRMSD-21                               7  4693  M V6Z V1S          933
4993 48 69          MLC   PRMSD,227                                     7  4700  M V3T 227          933
4994 48 70          W                                                   1  4707  2                  933
4995 48 71          CS    332                                           4  4708  / 332              933
4996 48 72          CS                                                  1  4712  /                  934
4997 48 73          BCE   PSPAFQ,VARY,1                                8  4713  B 74/ 091 1        934
4998 48 74          MLC   PDCPUT,PRMSE-22                             7  4721  M 548 V3W          934
4999 48 75          MLC   PRMSE,228                                     7  4728  M V5Y 228          934
5000 48 76          W                                                   1  4735  2                  934
5001 48 77          CS    332                                           4  4736  / 332              934
5002 48 78          CS                                                  1  4740  /                  934
5003 48 79   PSPAFQ MLC   PRMSC1,228                                   7  4741  M V0W 228          935
5004 48 80          W                                                   1  4748  2                  935
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

5005 48 81          CC    K                                           2  4749  F K               935
5006 48 82   REBLK   MLC   AIRA1,ENDRA1       END OF FIRST READ AREA   7  4751  M O58 O76         935
5007 48 83          MA    BL,ENDRA1                                   7  4758  # 085 O76         935
5008 48 84          MA    I99,ENDRA1                                  7  4765  # O49 O76         935
5009 48 85          MLC   AIRA2,ENDRA2       END OF SECOND READ AREA  7  4772  M O61 O79         935
5010 48 86          MA    BL,ENDRA2                                   7  4779  # 085 O79         936
5011 48 87          MA    I99,ENDRA2                                  7  4786  # O49 O79         936
5012 48 88          MLC   AIRA3,ENDRA3       END OF THIRD READ AREA   7  4793  M O64 O82         936
5013 48 89          MA    BL,ENDRA3                                   7  4800  # 085 O82         936
5014 48 90          MA    I99,ENDRA3                                  7  4807  # O49 O82         936
5015 48 91          MLC   CFIRE,COMPAB&3     SET COMPARE INSTR        7  4814  M 337 795         937
5016 48 92          MLC   CFIRE,COMPAB&6                              7  4821  M 337 798         937
5017 48 93          MLC   CFIRE,COMPBC&3                              7  4828  M 337 820         937
5018 48 94          MLC   CFIRE,COMPBC&6                              7  4835  M 337 823         937
5019 48 95          MLC   CFIRE,COMPAC&3                              7  4842  M 337 845         937
5020 48 96          MLC   CFIRE,COMPAC&6                              7  4849  M 337 848         938
5021 48 97          BCE   SETDEC,DESCND,1                             8  4856  B S5Z 090 1       938
5022 48 98          MZ    *-6,COMPAB&2                                7  4864  Y 86U 794         938
5023 48 99          MZ    *-6,COMPAC&2                                7  4871  Y 87/ 844         938
5024 49 00          MZ    REBLK,COMPAB&5                              7  4878  Y 75/ 797         938
5025 49 01          MZ    REBLK,COMPBC&2                              7  4885  Y 75/ 819         939
5026 49 02          MZ    DETANM,COMPAC&5                             7  4892  Y 47X 847         939
5027 49 03          MZ    DETANM,COMPBC&5                             7  4899  Y 47X 822         939
5028 49 04   CMPRE   MLC   BL,ARELO           RT EDGE OF OUTPUT        7  4906  M 085 O85         939
5029 49 05          MA    I99,ARELO                                   7  4913  # O49 O85         939
5030 49 06          MA    AOWA,ARELO                                  7  4920  # O52 O85         940
5031 49 07          MLC   AIRA1,COMP11       FIRST READ AREA CF       7  4927  M O58 O88         940
5032 49 08          MA    CFIRE,COMP11                                7  4934  # 337 O88         940
5033 49 09          MA    I99,COMP11                                  7  4941  # O49 O88         940
5034 49 10          MLC   AIRA2,COMP12       SECOND READ AREA CF      7  4948  M O61 O91         940
5035 49 11          MA    CFIRE,COMP12                                7  4955  # 337 O91         941
5036 49 12          MA    I99,COMP12                                  7  4962  # O49 O91         941
5037 49 13          MLC   AIRA3,COMP13       THIRD READ AREA CF       7  4969  M O64 O94         941
5038 49 14          MA    CFIRE,COMP13                                7  4976  # 337 O94         941
5039 49 15          MA    I99,COMP13                                  7  4983  # O49 O94         941
5040 49 16          MLC   COMP11,STEPA&6                             7  4990  M O88 T31         942
5041 49 17          MLC   COMP12,STEPB&6                             7  4997  M O91 U41         942
5042 49 18          MLC   COMP13,STEPC&6                             7  5004  M O94 V51         942
5043 49 19          MLC   AOWA,SDCOMP        OUTPUT AREA CF1          7  5011  M O52 P03         942
5044 49 20          MA    CFIRE,SDCOMP                                7  5018  # 337 P03         942
5045 49 21          MA    I99,SDCOMP                                  7  5025  # O49 P03         943
5046 49 22          BCE   CCFW1,CNOP,                                 8  5032  B |4X 086         943
5047 49 23          MLC   @N@,LMV                                     7  5040  M V5Z |33         943
5048 49 24   CCFW1   C     NCF,@1@                                     7  5047  C 096 V6|         943
5049 49 25          BU    CMBOL-8                                     5  5054  B /0Z /           943
5050 49 26   *                CLEAR EQUALS ROUTINE
5051 49 27          MLC   BLANK,COMPAB&16                             7  5059  M N70 808         944
5052 49 28          MLC   BLANK,COMPBC&16                             7  5066  M N70 833         944
5053 49 29          MLC   BLANK,COMPAC&16                             7  5073  M N70 858         944
5054 49 30          BCE   CMBOL-8,DESCND,1                            8  5080  B /0Z 090 1       944
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5055 49 31           MLC   BLANK,STEPA&16                            7  5088  M N70 T41          944
5056 49 32           MLC   BLANK,STEPB&16                            7  5095  M N70 U51          945
5057 49 33           MLC   BLANK,STEPC&16                            7  5102  M N70 V61          945
5058 49 34           BCE   RIDZN,VARY,1                              8  5109  B S4/ 091 1        945
5059 49 35   CMBOL   MA    L,BOL              COMPUTE OUTPUT BLOCK LENGTH FOR  7  5117  # 347 P12          945
5060 49 36           A     @1@,CNBOL#3        FIXED LENGTH RECORDS      7  5124  A V6| W0Y          945
5061 49 37           C     CNBOL,BO                                  7  5131  C W0Y 185          946
5062 49 38           BU    CMBOL                                     5  5138  B /1X /            946
5063 49 39           MLC   AOWA,ARELBO                               7  5143  M O52 O37          946
5064 49 40           MA    BOL,ARELBO                                7  5150  # P12 O37          946
5065 49 41           MA    I99,ARELBO                                7  5157  # O49 O37          946
5066 49 42           MLC   ARELBO,AGMEBO                             7  5164  M O37 O43          947
5067 49 43           MA    @001@,AGMEBO                              7  5171  # W1/ O43          947
5068 49 44           BCE   REED,PI,6                                 8  5178  B S1Z 193 6        947
5069 49 45           MLC   PDCPUT,PDELIM#3    DETERMINE PADDING         7  5186  M 548 W1U          947
5070 49 46   HOWMCH  S     BO,PDELIM          REQUIREMENTS              7  5193  S 185 W1U          947
5071 49 47           BWZ   REED,PDELIM,K                             8  5200  V S1Z W1U K        948
5072 49 48           A     BO,REMOVE                                 7  5208  A 185 P35          948
5073 49 49           B     HOWMCH                                    4  5215  B /9T              948
5074 49 50   REED    CS    080                                       4  5219  / 080              948
5075 49 51           SW    24,56                                     7  5223  , 024 056          948
5076 49 52           SW    63,67                                     7  5230  , 063 067          948
5077 49 53           R     56                                        4  5237  1 056              949
5078 49 54   RIDZN   MLC   RCDIST,NOZNE                             7  5241  M 196 O55          949
5079 49 55           MA    @I9H@,NOZNE                               7  5248  # W1X O55          949
5080 49 56           B     REED                                      4  5255  B S1Z              949
5081 49 57   SETDEC  MLC   @T@,STEPA&16       INITIALIZE FOR DESCENDING ORDER  7  5259  M W1Y T41          949
5082 49 58           MLC   @U@,STEPA&11       OF SORT                   7  5266  M W1Z T36          949
5083 49 59           MLC   @T@,STEPB&16                               7  5273  M W1Y U51          950
5084 49 60           MLC   @U@,STEPB&11                               7  5280  M W1Z U46          950
5085 49 61           MLC   @U@,STEPC&11                               7  5287  M W1Z V56          950
5086 49 62           MLC   @T@,STEPC&16                               7  5294  M W1Y V61          950
5087 49 63           MZ    REBLK,COMPAB&2                            7  5301  Y 75/ 794          950
5088 49 64           MZ    DETANM,COMPAC&2                           7  5308  Y 47X 844          951
5089 49 65           MZ    *-6,COMPAB&5                              7  5315  Y T1V 797          951
5090 49 66           MZ    DETANM,COMPBC&2                           7  5322  Y 47X 819          951
5091 49 67           MZ    *-6,COMPAC&5                              7  5329  Y T2Z 847          951
5092 49 68           MZ    REBLK,COMPBC&5                            7  5336  Y 75/ 822          951
5093 49 69           C     NCF,@01@                                  7  5343  C 096 W2/          952
5094 49 70           BU    GOCFQ                                     5  5350  B T9X /            952
5095 49 71           MLC   COMPAB&10,SKIP2-1                         7  5355  M 802 812          952
5096 49 72           MLC   COMPBC&10,SKIP3-1                         7  5362  M 827 837          952
5097 49 73           MLC   COMPAC&10,ALOW-8                          7  5369  M 852 862          952
5098 49 74           MLC   STEPA&15,ISBMT-1                          7  5376  M T40 T45          953
5099 49 75           MLC   STEPB&15,ISCMT-1                          7  5383  M U50 U55          953
5100 49 76           MLC   STEPC&15,RIDGM1-1                         7  5390  M V60 W28          953
5101 49 77   GOCFQ   BCE   SW9PD,PI,9                                8  5397  B U1W 193 9        953
5102 49 78           MLC   @9@,PI                                    7  5405  M W2S 193          953
5103 49 79           B     CMPRE                                     4  5412  B 90W              954
5104 49 80   SW9PD   MLC   @ @,PI                                    7  5416  M W2T 193          954
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
5105	49	81		B	CMPRE		4	5423	B 90W		954
5106	49	82	TWI	DCW	@2@		1	5427			954
5107	49	83	LRUN	DSA	RUNOUT		3	5430	784		954
5108	49	84	PRMSA	DCW	@MAX PH 2 PASSES 00-ERROR@		24	5454			955
5109	49	85	PRMSB	DCW	@EST PH 2 PASSES 00-ERROR@		24	5478			956
5110	49	86	PRMSC1	DCW	@ REC PROCESSED-PASS 00@		28	5506			957
5111	49	87	PRMSD	DCW	@ -RECORDS READ-PASS 00@		27	5533			958
5112	49	88	PRMSE	DCW	@000 PAD REC ADDED-PASS 00@		25	5558			959
				DCW	@N@		1	5559		LIT	959
					@1@		1	5560		LIT	959
					@I9I@		3	5563		LIT	959
		4927	CNAR		#06		6	5569		AREA	959
					@3@		1	5570		LIT	959
		4930	NOMP		#06		6	5576		AREA	960
		4933	NMPP2		#02		2	5578		AREA	960
					@18@		2	5580		LIT	960
		4949	CTNOMP		#06		6	5586		AREA	960
		4957			&OK2		3	5589	53|	ADCON	960
		4959	NMAP2		#02		2	5591		AREA	960
					@B@		1	5592		LIT	960
		4973			&AO2THA		3	5595	O46	ADCON	961
					@4@		1	5596		LIT	961
		4975			&EOFTST		3	5599	!56	ADCON	961
		4976			&CNTSW&7		3	5602	L87	ADCON	961
		4981			&GO		3	5605	751	ADCON	961
		5060	CNBOL		#03		3	5608		AREA	961
					@001@		3	5611		LIT	961
		5069	PDELIM		#03		3	5614		AREA	962
					@I9H@		3	5617		LIT	962
					@T@		1	5618		LIT	962
					@U@		1	5619		LIT	962
					@01@		2	5621		LIT	962
					@9@		1	5622		LIT	962
					@ @		1	5623		LIT	962
5113	49	89		EX	OVLAP				B 21U		963

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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

5114 49 90           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
5115 49 91           ORG   3900                                                    3900
5116 49 92   WMIRA5  CS    4299              CLEAR SET WORD MARK ROUTINE       4  3900  / 29Z             966
5117 49 93           CS                                                      1  3904  /                 966
5118 49 94           CS                                                      1  3905  /                 966
5119 49 95           NOP   NF0?,CLSTX1&3                                   7  3906  N I29 J94         966
5120 49 96           NOP   NF0?,CLSTX1&18                                  7  3913  N I29 K09         966
5121 49 97           CS    LGMEOA,3999                                     7  3920  / 719 I99         966
5122 49 98   NF0?    DCW   @F0?@                                          3  3929                    966
5123 49 99   COA     EQU   WMIRA5                                             3900
5124 50 00           BCE   COA,VARY,1                                      8  3930  B I00 091 1       967
5125 50 01           MLC   BLANK2,CNCF#2                                   7  3938  M N72 21/         967
5126 50 02   INWM12  MLC   AIRA1,ICF12#3      SET WORD MARKS IRA1          7  3945  M O58 21U         967
5127 50 03           MA    CF1SL,ICF12                                     7  3952  # 353 21U         967
5128 50 04           MLC   ICF12,WMS12&3                                   7  3959  M 21U I76         967
5129 50 05           MLC   @   @,CNTB#3                                   7  3966  M 21X 22|         968
5130 50 06   ***             SET WORD MARKS LEFT EDGE OF CONTROL FIELDS
5131 50 07   WMS12   SW    0                                               4  3973  , 000             968
5132 50 08           A     *-6,CNTB                                        7  3977  A I77 22|         968
5133 50 09           C     CNTB,B                                          7  3984  C 22| 199         968
5134 50 10           BE    SWNCF                                           5  3991  B 00X S           968
5135 50 11           MA    L,WMS12&3                                       7  3996  # 347 I76         968
5136 50 12           B     WMS12                                           4  4003  B I73             969
5137 50 13   SWNCF   A     *-6,CNCF          NEXT CONTROL FIELD            7  4007  A 00X 21/         969
5138 50 14           C     CNCF,NCF                                        7  4014  C 21/ 096         969
5139 50 15           BE    SWIRA2                                          5  4021  B 03X S           969
5140 50 16           MA    @003@,INWM12&10                                 7  4026  # 22T I55         969
5141 50 17           B     INWM12                                          4  4033  B I45             969
5142 50 18   SWIRA2  NOP   SWIRA3-8          RESET FOR IRA2                4  4037  N 06W             969
5143 50 19           MLC   @B@,SWIRA2                                      7  4041  M 22U 03X         970
5144 50 20           SBR   INWM12&3,AIRA2                                  7  4048  H I48 O61         970
5145 50 21           SBR   INWM12&10,CF1SL                                 7  4055  H I55 353         970
5146 50 22           B     INWM12-7                                        4  4062  B I38             970
5147 50 23           BCE   INWMBI,I3TUN,     BRANCH IF TWO-WAY MERGE       8  4066  B 10T 340         970
5148 50 24   SWIRA3  NOP   INWMBI            RESET FOR IRA3                4  4074  N 10T             970
5149 50 25           MLC   @B@,SWIRA3                                      7  4078  M 22U 07U         971
5150 50 26           SBR   INWM12&3,AIRA3                                  7  4085  H I48 O64         971
5151 50 27           SBR   INWM12&10,CF1SL                                 7  4092  H I55 353         971
5152 50 28           B     INWM12-7                                        4  4099  B I38             971
5153 50 29   ***             SET WORD MARKS LEFT EDGE OF EACH RECORD
5154 50 30   INWMBI  MLC   AIRA1,ICF12                                     7  4103  M O58 21U         971
5155 50 31           MLC   ICF12,SW122&3                                   7  4110  M 21U 12X         971
5156 50 32           MLC   @   @,CNTB                                     7  4117  M 21X 22|         972
5157 50 33   SW122   SW    0                                               4  4124  , 000             972
5158 50 34           A     *-6,CNTB                                        7  4128  A 12Y 22|         972
5159 50 35           C     CNTB,B                                          7  4135  C 22| 199         972
5160 50 36           BE    WMIRA2                                          5  4142  B 15Y S           972
5161 50 37           MA    L,SW122&3                                       7  4147  # 347 12X         972
5162 50 38           B     SW122                                           4  4154  B 12U             973
5163 50 39   WMIRA2  NOP   WMIRA3-8                                       4  4158  N 18|              973
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

5164 50 40           MLC   @B@,WMIRA2                                7  4162  M 22U 15Y          973
5165 50 41           MLC   AIRA2,ICF12                               7  4169  M O61 21U          973
5166 50 42           B     INWMBI&7                                  4  4176  B 11|              973
5167 50 43           BCE   COA,I3TUN,         BRANCH IF TWO-WAY MERGE 8  4180  B I00 340          973
5168 50 44   WMIRA3  NOP   COA                                       4  4188  N I00              973
5169 50 45           MLC   @B@,WMIRA3                               7  4192  M 22U 18Y          974
5170 50 46           MLC   AIRA3,ICF12                               7  4199  M O64 21U          974
5171 50 47           B     INWMBI&7                                  4  4206  B 11|              974
5172 50 48           LTORG *                                                  4210
       5125  CNCF    DCW   #02                                      2  4211              AREA    974
       5126  ICF12         #03                                      3  4214              AREA    974
                           @   @                                    3  4217              LIT     974
       5129  CNTB          #03                                      3  4220              AREA    974
                           @003@                                    3  4223              LIT     975
                           @B@                                      1  4224              LIT     975
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
5173 50 49           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
5174 50 50   SETCLR  BCE   PASMLT,LABELS,1                             8  4225  B 31S 413 1        976
5175 50 51           SBR   CLSTX1&3,3600      NO LABELS INITIALIZATION  7  4233  H J94 F00          976
5176 50 52           SBR   CLSTX1&18                                   4  4240  H K09              976
5177 50 53           SBR   CLSTX1-12,NXTPS                           7  4244  H J79 677          976
5178 50 54           SW    CPTGM-1                                     4  4251  , !4T              976
5179 50 55           SBR   QTRL&3,OUTTM                              7  4255  H J19 J20          976
5180 50 56           MLC   @N@,CPTGM&14                              7  4262  M Q8/ !5Y          977
5181 50 57           MLC   @N@,NOPPS2-18                             7  4269  M Q8/ J2Y          977
5182 50 58           MLC   @N@,NOPPS2-11                             7  4276  M Q8/ J3V          977
5183 50 59           MLC   @N@,NOPPS2-4                              7  4283  M Q8/ J4S          977
5184 50 60           CS    080                                       4  4290  / 080              977
5185 50 61           SW    024,056                                   7  4294  , 024 056          977
5186 50 62           SW    063,067                                   7  4301  , 063 067          978
5187 50 63           R     056                                       4  4308  1 056              978
5188 50 64   PASMLT  R                       BYPASS MULTIPHASE PROGRAM 1  4312  1                  978
5189 50 65           C     021,CONEND                                7  4313  C 021 37Y          978
5190 50 66           BU    PASMLT                                    5  4320  B 31S /            978
5191 50 67           R     NXTPS                                     4  4325  1 677              978
5192 50 68   BUCPYS  SW    FILNAM&1,FILESE&1                         7  4329  , 448 453          978
5193 50 69           SW    SYSCRE&1                                  4  4336  , 458              979
5194 50 70           MLC   @N@,NOPDDD&14                             7  4340  M Q8/ 42U          979
5195 50 71           MLC   @N@,NOPDDD&21                             7  4347  M Q8/ 43/          979
5196 50 72           B     NOPDDD                                    4  4354  B 41|              979
5197 50 73   CONEND  DCW   @HEADER-TRAILER-PHASE2@                  21  4378                     980
5198 50 74   STPASS  NOP   WRCK2                                     4  4379  N W2|              980
5199 50 75           NOP   TSTPS                                     4  4383  N 67T              980
5200 50 76           MLC   @B@,STPASS&4                              7  4387  M Q8S 38T          980
5201 50 77           BCE   *&16,LABELS,                              8  4394  B 41X 413          981
5202 50 78           BCE   BUCPYS,LBBUCK,1                          8  4402  B 32Z 414 1        981
5203 50 79   NOPDDD  MLC   @N@,HSSD-9       NOP SW D OPTION IF LABELS 7  4410  M Q8/ W4W          981
5204 50 80           MLC   CTNR,CTNR1                               7  4417  M 539 O7X          981
5205 50 81           SW    OHDATE-4,TPSERL-4                         7  4424  , 453 428          981
5206 50 82           SW    FLSERL-4                                  4  4431  , 433              982
5207 50 83           C     PDCPUT,@000@                              7  4435  C 548 Q8V          982
5208 50 84           BU    *&8                                       5  4442  B 45U /            982
5209 50 85           MLC   @6@,PI                                    7  4447  M Q8W 193          982
5210 50 86           BCE   NXTINS,UNLOAD,                           8  4454  B 50U 416          982
5211 50 87           MLC   @U@,REWIND&4     INITIALIZATION FOR UNLOAD OPTION 7  4462  M Q8X J34  982
5212 50 88           MLC   @U@,REWIND&9                             7  4469  M Q8X J39          983
5213 50 89           MLC   @U@,REWIND&14                            7  4476  M Q8X J44          983
5214 50 90           MLC   @U@,REWIND&19                            7  4483  M Q8X J49          983
5215 50 91           MLC   @U@,THDTP&9                              7  4490  M Q8X J67          983
5216 50 92           MLC   @U@,THDTP&14                             7  4497  M Q8X J72          983
5217 50 93   NXTINS  NOP                                           1  4504  N                  983
5218 50 94           MLC   GPMARK,CPTGM&3                           7  4505  M 350 !4X          984
5219 50 95           MLC   GPMARK,SETBK&3                           7  4512  M 350 Z6S          984
5220 50 96           BCE   TOOQ,LDI,1                              8  4519  B 53Z 187 1        984
5221 50 97           BCE   TOOQ,LDI,2                              8  4527  B 53Z 187 2        984
5222 50 98           B     MUSHQ                                     4  4535  B 83T              984
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5223 50 99   TOOQ   MLC   SET1MV,SETOUT&6                             7  4539  M P32 V6S          985
5224 51 00          MLC   ACNT,COMP2&3       SET COUNTERS            7  4546  M O97 L0S          985
5225 51 01          MLC   ACTNR,RESET&3                              7  4553  M P00 X2S          985
5226 51 02          MLC   ACTNR,PAD9&3                              7  4560  M P00 |7X          985
5227 51 03          MLC   ACNT,SETNMP&3                             7  4567  M O97 X5U          985
5228 51 04          MLC   ACNT,SETNMP&10                            7  4574  M O97 X6/          986
5229 51 05          MLC   CLEPS,GMCLR&3                            7  4581  M P21 W9/          986
5230 51 06          MLC   ACNT,TSTPS&3                              7  4588  M O97 67W          986
5231 51 07          MLC   ACNT,TSTPS&44                             7  4595  M O97 71X          986
5232 51 08          MLC   ACTNR,SETEND&28                           7  4602  M P00 90V          986
5233 51 09          MLC   ACTNR,RESET&10                            7  4609  M P00 X2Z          987
5234 51 10          MLC   ACTNR,COMPCT-4                            7  4616  M P00 76|          987
5235 51 11          MLC   GMSET&3,PADQQA                           7  4623  M 680 73S          987
5236 51 12          MA    @I9I@,PADQQA                              7  4630  # Q9| 73S          987
5237 51 13          MLC   PADQQA,PADQCZ&6                          7  4637  M 73S 89|          987
5238 51 14          MLC   ACTNR,COMPCT&6                           7  4644  M P00 77|          988
5239 51 15          MLC   CSTCNS,CLSTX1&7                          7  4651  M 552 J98          988
5240 51 16          BCE   TSTPS,I3TUN,                              8  4658  B 67T 340          988
5241 51 17          MN    @2@,ZEROS1                                7  4666  D Q9/ N8Y          988
5242 51 18   TSTPS  C     0,@000000@                                7  4673  C 000 Q9X          988
5243 51 19          MLZS  *-6,CENSIG                                7  4680  Y 68| 415          989
5244 51 20          BCE   *&8,LBBUCK,1                              8  4687  B 70S 414 1        989
5245 51 21          MLC   CENSIG,NSYHDR&7                         7  4695  M 415 B75          989
5246 51 22          MLC   CENSIG,NSE&7                            7  4702  M 415 W17          989
5247 51 23          BE    TLMPC                                     5  4709  B 86Z S            989
5248 51 24          C     0,ZEROS1                                  7  4714  C 000 N8Y          990
5249 51 25          BL    PSCNT                                     5  4721  B 73T T            990
5250 51 26          B     SLMP                                      4  4726  B 93U              990
5251 51 27   PADQQA DCW   @   @                                     3  4732                     990
5252 51 28   PSCNT  CS    332                                       4  4733  / 332              990
5253 51 29          CS                                            1  4737  /                  990
5254 51 30          MLC   CNMP,PRMSC-6                            7  4738  M 569 P3|          990
5255 51 31          C     CNMP,@00@         PASS TO PASS MESSAGES   7  4745  C 569 Q9Z          991
5256 51 32          BE    GOON                                      5  4752  B 80Y S            991
5257 51 33          MLC   0,PRMSC-28                               7  4757  M 000 P0Y          991
5258 51 34   COMPCT C     CTNR1,0           COMPARE RECORD COUNT    7  4764  C O7X 000          991
5259 51 35          BU    ERRCT                                     5  4771  B 84U /            991
5260 51 36   SUBPAD NOP   REMOVE,PRMSC-28                          7  4776  N P35 P0Y          991
5261 51 37          MZ    SETNOS-1,PRMSC-28                         7  4783  Y M20 P0Y          992
5262 51 38          MLC   PRMSC-6,228                              7  4790  M P3| 228          992
5263 51 39   PRCT   W                                               1  4797  2                  992
5264 51 40          CC    K                                         2  4798  F K                992
5265 51 41          NOP                     THIS BECOMES A HALT IF THERE IS  1  4800  N        992
5266 51 42   *                              AN ERROR IN THE RECORD COUNT
5267 51 43          MLC   @N@,PRCT&3                               7  4801  M Q8/ 80|          992
5268 51 44   GOON   A     @1@,CNMP                                  7  4808  A R0| 569          992
5269 51 45          S     @1@,NMPL                                  7  4815  S R0| 571          993
5270 51 46          MZ    BLANK,NMPL                                7  4822  Y N70 571          993
5271 51 47          B     INIT1                                     4  4829  B S8W              993
5272 51 48   MUSHQ  MLC   @ LOW@,PDTYQ-8                           7  4833  M R0U Q4/          993
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5273 51 49           B     TOOQ                                      4  4840  B 53Z              993
5274 51 50   ERRCT    MLC   PRMSC,234                                 7  4844  M P3W 234          993
5275 51 51           MLC   206,CTNR1          MOVE NEW COUNT TO CTNR1 7  4851  M 206 O7X          994
5276 51 52           MLC   SLMP-4,PRCT&3                            7  4858  M 93| 80|          994
5277 51 53           B     PRCT                                      4  4865  B 79X              994
5278 51 54   TLMPC    NOP   SETEND                                   4  4869  N 87X              994
5279 51 55           B     SLMP                                      4  4873  B 93U              994
5280 51 56   SETEND   LCA   ENDBR&4,GOON&4     END OF SORT           7  4877  L 91U 81S          994
5281 51 57   PADQCZ   BCE   PSCNT,0,1                                8  4884  B 73T 000 1        995
5282 51 58           MLC   @S@,SUBPAD                               7  4892  M R0V 77W          995
5283 51 59           MZ    @ @,0                                     7  4899  Y R0W 000          995
5284 51 60           B     PSCNT                                     4  4906  B 73T              995
5285 51 61   ENDBR    BIN   EPH2,                                    5  4910  B Y1W              995
5286 51 62   LMPMSG   CS    332                                       4  4915  / 332              995
5287 51 63           CS                                              1  4919  /                  995
5288 51 64           MLC   PRMSLP,225                                7  4920  M P0S 225          996
5289 51 65           W                       PRINT LAST MERGE PASS MESSAGE 1  4927  2            996
5290 51 66           CC    1                                         2  4928  F 1                996
5291 51 67           H     SLMP&5                                    4  4930  . 93Z              996
5292 51 68   SLMP     BSS   LMPMSG,B                                 5  4934  B 91V B            996
5293 51 69   EXTLMP   NOP   0                   USERS EXIT            4  4939  N 000              996
5294 51 70           LCA   @N@,CNTSW           LAST MERGE PASS INITIALIZATION 7  4943  L Q8/ L80  996
5295 51 71           LCA   @N@,TSTPS&11                              7  4950  L Q8/ 68U          997
5296 51 72           MLC   @B@,TLMPC                                 7  4957  M Q8S 86Z          997
5297 51 73           MLC   @B@,QTRL                                  7  4964  M Q8S J16          997
5298 51 74           MLC   @B@,PSLMP                                 7  4971  M Q8S T9/          997
5299 51 75           SBR   EPH2-1,RDLBRT                            7  4978  H Y1V O2Z          997
5300 51 76           MLC   @#@,WMIRA5&6                             7  4985  M R0X I06          998
5301 51 77           MLC   @#@,WMIRA5&13                            7  4992  M R0X I13          998
5302 51 78           BCE   *&22,LABELS,1                            8  4999  B |2Y 413 1        998
5303 51 79           MLC   @#@,WMIRB5&6                             7  5007  M R0X B06          998
5304 51 80           MLC   @#@,WMIRB5&13                            7  5014  M R0X B13          998
5305 51 81           SBR   EPH2-1,PASS                              7  5021  H Y1V Z3W          999
5306 51 82           MLC   @A@,SETBAK-7                             7  5028  M R0Y /99          999
5307 51 83           BCE   LSTVRY,VARY,1                            8  5035  B L7Z 091 1        999
5308 51 84           BCE   NEWOUT,PI,6         CHECK PADDING INDICATOR 8  5043  B /2X 193 6        999
5309 51 85           MLC   @N@,PDSW                                 7  5051  M Q8/ /35          999
5310 51 86           BCE   PAD9,PI,9                                 8  5058  B |7U 193 9       1000
5311 51 87           BCE   PAD,PI,                                   8  5066  B |9Z 193         1000
5312 51 88   PAD9     MLC   0,PADCT                                   7  5074  M 000 Q85          1000
5313 51 89           S     REMOVE,PADCT                              7  5081  S P35 Q85          1000
5314 51 90           MZ    @ @,PADCT                                 7  5088  Y R0W Q85          1000
5315 51 91           B     NEWOUT                                    4  5095  B /2X              1001
5316 51 92   PAD      ZA    REMOVE,PADCT                              7  5099  ? P35 Q85          1001
5317 51 93           MZ    @ @,PADCT                                 7  5106  Y R0W Q85          1001
5318 51 94           MLC   @U@,AWAY&11                               7  5113  M Q8X /58          1001
5319 51 95           MLC   @B@,AWAY&12                               7  5120  M Q8S /59          1001
5320 51 96   NEWOUT   MLC   AGMEBO,LGMEOA&6                          7  5127  M O43 725          1001
5321 51 97           MLC   ARELBO,ARELO                              7  5134  M O37 O85          1002
5322 51 98   OURBK    MLC   &BO,KOWNT&3                              7  5141  M R1/ /31          1002
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5323 51 99           MLC   OUTMOD,WOBR        SET OUTPUT MODE        7  5148  M 549 /82         1002
5324 52 00           SBR   CLINP2&3,INWM12-15                       7  5155  H K21 I30         1002
5325 52 01           BCE   INTRWU,VARY,1                            8  5162  B S5U 091 1       1002
5326 52 02           BCE   CKWM,CNOP,                               8  5170  B /9S 086         1003
5327 52 03           MA    I99,CKWM&6                               7  5178  # O49 /9Y         1003
5328 52 04           MA    I99,MOVOUT&6                             7  5185  # O49 S3V         1003
5329 52 05   CKWM    BWZ   MOVOUT,LMV,1                            8  5192  V S2Z |33 1       1003
5330 52 06           SW    CKWM&4                                   4  5200  , /9W             1003
5331 52 07           MLC   CKWM&6,LSTMOD&6                          7  5204  M /9Y S2U         1004
5332 52 08           MA    @I9D@,LSTMOD&6                           7  5211  # R1U S2U         1004
5333 52 09   LSTMOD  MLC   OUTMOD,0                                 7  5218  M 549 000         1004
5334 52 10           B     INTRWU                                   4  5225  B S5U             1004
5335 52 11   MOVOUT  MLC   OUTMOD,LMV                               7  5229  M 549 |33         1004
5336 52 12           MA    I99,CKWM&6                               7  5236  # O49 /9Y         1004
5337 52 13           MA    I99,MOVOUT&6                             7  5243  # O49 S3V         1005
5338 52 14           B     CKWM                                     4  5250  B /9S             1005
5339 52 15   INTRWU  MLC   @U@,REWIND&19                           7  5254  M Q8X J49         1005
5340 52 16           MLC   I2TUHA,WOBR&3                            7  5261  M 563 /85         1005
5341 52 17           MLC   I2TUHA,WORED&3                           7  5268  M 563 N76         1005
5342 52 18           MLC   I2TUHA,ERTAPE&3                          7  5275  M 563 O15         1005
5343 52 19           B     PSCNT                                    4  5282  B 73T             1006
5344 52 20   *                             SET TAPE UNIT NUMBERS
5345 52 21   INIT1   MLC   I1TUHA,WRCKT&3                           7  5286  M 562 W9Z         1006
5346 52 22           MLC   I1TUHA,WRDCK&3                           7  5293  M 562 L3|         1006
5347 52 23           MLC   I1TUHA,ERSE1&3                           7  5300  M 562 L7T         1006
5348 52 24   ROTP    MLC   I1TUHA,CNRR                              7  5307  M 562 N69         1006
5349 52 25           MLC   O1TUHA,I1TUHA                            7  5314  M 565 562         1006
5350 52 26           MLC   CNRR,O1TUHA                              7  5321  M N69 565         1007
5351 52 27           MLC   I2TUHA,CNRR                              7  5328  M 563 N69         1007
5352 52 28           MLC   O2TUHA,I2TUHA                            7  5335  M 566 563         1007
5353 52 29           MLC   CNRR,O2TUHA                              7  5342  M N69 566         1007
5354 52 30           MLC   I1TUHA,REWIND&3                          7  5349  M 562 J33         1007
5355 52 31           MLC   I1TUHA,READ1&3                           7  5356  M 562 S72         1008
5356 52 32           MLC   I2TUHA,REWIND&8                          7  5363  M 563 J38         1008
5357 52 33           MLC   I2TUHA,READ2&3                           7  5370  M 563 T82         1008
5358 52 34           MLC   O1TUHA,REWIND&13                         7  5377  M 565 J43         1008
5359 52 35           MLC   O1TUHA,OUTTM&3                           7  5384  M 565 J23         1008
5360 52 36   PSLMP   NOP   CNTUE                                    4  5391  N U1W             1008
5361 52 37           MLC   O1TUHA,WOBR&3                            7  5395  M 565 /85         1009
5362 52 38           MLC   O1TUHA,WORED&3                           7  5402  M 565 N76         1009
5363 52 39           MLC   O1TUHA,ERTAPE&3                          7  5409  M 565 O15         1009
5364 52 40   CNTUE   MLC   O2TUHA,OUTTM&8                           7  5416  M 566 J28         1009
5365 52 41           MLC   O2TUHA,REWIND&18                         7  5423  M 566 J48         1009
5366 52 42           MLC   I3TUHA,CNRR                              7  5430  M 564 N69         1010
5367 52 43           MLC   O3TUHA,I3TUHA                            7  5437  M 567 564         1010
5368 52 44           MLC   CNRR,O3TUHA                              7  5444  M N69 567         1010
5369 52 45           MLC   I3TUHA,READ3&3                           7  5451  M 564 U92         1010
5370 52 46           MLC   O3TUHA,THDTP&3                           7  5458  M 567 J61         1010
5371 52 47           MLC   I3TUHA,THDTP&8                           7  5465  M 564 J66         1011
5372 52 48           MLC   O3TUHA,THDTP&13                          7  5472  M 567 J71         1011
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5373 52 49           SBR   RUNOUT&3,SKIP1                            7  5479  H 787 788         1011
5374 52 50           SBR   SKIP1&3,COMPAB                            7  5486  H 791 792         1011
5375 52 51           SBR   SWOT&3,O2TUHA                             7  5493  H L76 566         1011
5376 52 52           MLC   SDCOMP,SDCMPV                             7  5500  M P03 P06         1012
5377 52 53           MLC   SDCOMP,STEPA&3                            7  5507  M P03 T28         1012
5378 52 54           MLC   SDCOMP,STEPB&3                            7  5514  M P03 U38         1012
5379 52 55           MLC   SDCOMP,STEPC&3                            7  5521  M P03 V48         1012
5380 52 56           MLC   O2TUHA,OUTTM&8                            7  5528  M 566 J28         1012
5381 52 57           MLC   O2TUHA,REWIND&18                          7  5535  M 566 J48         1013
5382 52 58           MLC   O1TUHA,RDCPT&3                            7  5542  M 565 687         1013
5383 52 59           MLC   O1TUHA,RREDCP&3                           7  5549  M 565 713         1013
5384 52 60   SETOUT  MLC   AREFO,0                                   7  5556  M P15 000         1013
5385 52 61           MLC   BLANK2,CNEOR                             7  5563  M N72 O34         1013
5386 52 62           BCE   WRCK2,I3TUN,       BRANCH IF 2-WAY MERGE  8  5570  B W2| 340         1014
5387 52 63           MLC   BLANK,CNTRA                               7  5578  M N70 572         1014
5388 52 64           MLC   BLANK,CNTRB                               7  5585  M N70 573         1014
5389 52 65           SBR   COMPAB&10,SKIP2                          7  5592  H 802 813         1014
5390 52 66           SBR   COMPAB&15,SKIP3                          7  5599  H 807 838         1014
5391 52 67           SBR   SKIP2&3,COMPBC                            7  5606  H 816 817         1015
5392 52 68           SBR   SKIP3&3,COMPAC                            7  5613  H 841 842         1015
5393 52 69   WRCK2   SW    1,5                SET RESTART BRANCH     7  5620  , 001 005         1015
5394 52 70           MLC   &HRES                                     4  5627  M R1X             1015
5395 52 71           MLC   @B@                                       4  5631  M Q8S             1015
5396 52 72           CW    ITLI                                      4  5635  ) 188             1015
5397 52 73           MLC   @N@,STPASS                                7  5639  M Q8/ 37Z         1016
5398 52 74           BIN   HSSD,D                                    5  5646  B W5V D           1016
5399 52 75           B     IWRCK                                     4  5651  B W7U             1016
5400 52 76   HSSD    CS    332                SENSE SWITCH D INTERRUPT  4  5655  / 332             1016
5401 52 77           CS                                              1  5659  /                 1016
5402 52 78           MLC   PRMXX,222                                 7  5660  M P5Y 222         1016
5403 52 79           W                        PRINT DENSITY MESSAGE  1  5667  2                 1016
5404 52 80           CC    1                                         2  5668  F 1               1017
5405 52 81           H     *&1                                       4  5670  . W7U             1017
5406 52 82   IWRCK   MLC   @  @,CNEOR                               7  5674  M R1Z O34         1017
5407 52 83           MLC   BLANK2,CNRR                              7  5681  M N72 N69         1017
5408 52 84   GMCLR   CW    0                                         4  5688  ) 000             1017
5409 52 85   EXTCKP  NOP   0                  USERS EXIT             4  5692  N 000             1017
5410 52 86   WRCKT   WTW   0,1                WRITE CHECKPOINT       8  5696  L %U0 001 W       1017
5411 52 87           BER   WRDCK                                     5  5704  B L2X L           1018
5412 52 88           BEF   WEFCK2                                    5  5709  B N7Z K           1018
5413 52 89   TFI     BIN   INTRPT,E                                  5  5714  B Y7| E           1018
5414 52 90   RESET   S     0                                         4  5719  S 000             1018
5415 52 91           MZ    BLANK,0                                   7  5723  Y N70 000         1018
5416 52 92           MLC   INPUT1,IREG1                             7  5730  M O67 089         1018
5417 52 93           MLC   INPUT2,IREG2                             7  5737  M O70 094         1019
5418 52 94           MLC   INPUT3,IREG3                             7  5744  M O73 099         1019
5419 52 95   SETNMP  S     0                  PRINT MERGE PASS NUM MESSAGE  4  5751  S 000         1019
5420 52 96           MZ    BLANK,0                                   7  5755  Y N70 000         1019
5421 52 97           CS    332                                       4  5762  / 332             1019
5422 52 98           CS                                              1  5766  /                 1019
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5423 52 99           MLC   CNMP,PRMSH-27                             7  5767  M 569 P8T         1019
5424 53 00           MLC   O1TUHA,PRMSH-20                          7  5774  M 565 P9|         1020
5425 53 01           MLC   I1TUHA,PRMSH-14                          7  5781  M 562 P9W         1020
5426 53 02           MLC   I2TUHA,PRMSH-12                          7  5788  M 563 P9Y         1020
5427 53 03           MLC   I3TUHA,PRMSH-10                          7  5795  M 564 Q0|         1020
5428 53 04           MLC   PRMSH-10,226                             7  5802  M Q0| 226         1020
5429 53 05           W                                              1  5809  2                 1020
5430 53 06           CC    1                                        2  5810  F 1               1020
5431 53 07           B     CLSTX1-7                                 4  5812  B J84             1021
5432 53 08  EPH2     CS    332                                      4  5816  / 332             1021
5433 53 09           CS                                             1  5820  /                 1021
5434 53 10           MLC   O1TUHA,RWES&3                            7  5821  M 565 Y4Y         1021
5435 53 11           MLC   O2TUHA,PRMSG-12                          7  5828  M 566 P6U         1021
5436 53 12           MLC   PRMSG,218                                7  5835  M P7W 218         1021
5437 53 13           W                       PRINT END OF SORT MESSAGE  1  5842  2                 1021
5438 53 14           CC    1                                        2  5843  F 1               1022
5439 53 15  RWES     RWD   0                 REWIND CHECKPOINT TAPE   5  5845  U %U0 R           1022
5440 53 16           BCE   NDSRT,URPI,P                             8  5850  B L2T 186 P       1022
5441 53 17           BCE   NDSRT,URPI,C                             8  5858  B L2T 186 C       1022
5442 53 18           B     WTMBD             BRANCH TO CLOSE REDUNDANCY TAPE  4  5866  B ?38             1022
5443 53 19  INTRPT   MLC   CNMP,PRMSH-27     SENSE SWITCH E INTERRUPT  7  5870  M 569 P8T         1022
5444 53 20           MLC   O1TUHA,PRMSH-20                          7  5877  M 565 P9|         1023
5445 53 21           MLC   I1TUHA,PRMSH-14                          7  5884  M 562 P9W         1023
5446 53 22           MLC   I2TUHA,PRMSH-12                          7  5891  M 563 P9Y         1023
5447 53 23           MLC   I3TUHA,PRMSH-10                          7  5898  M 564 Q0|         1023
5448 53 24           CS    332                                      4  5905  / 332             1023
5449 53 25           CS                                             1  5909  /                 1023
5450 53 26           MLC   PRMSH,234                                7  5910  M Q1| 234         1024
5451 53 27           W                       PRINT INTERRUPT MESSAGE  1  5917  2                 1024
5452 53 28           CS    239                                      4  5918  / 239             1024
5453 53 29           MLC   PDTYQ,212                                7  5922  M Q4Z 212         1024
5454 53 30           W                                              1  5929  2                 1024
5455 53 31           CC    1                                        2  5930  F 1               1024
5456 53 32           H     RESET                                    4  5932  . X1Z             1024
5457 53 33  PASS     R                                              1  5936  1                 1025
5458 53 34           BCE   CLSTX1-7,040,/                           8  5937  B J84 040 /       1025
5459 53 35           B     PASS                                     4  5945  B Z3W             1025
5460 53 36  HRES     CS    332                 RESTART ROUTINE      4  5949  / 332             1025
5461 53 37           CS                                             1  5953  /                 1025
5462 53 38           RWD   1                                        5  5954  U %U1 R           1025
5463 53 39  SETBK    SW    0                   INITIALIZE MESSAGES  4  5959  , 000             1025
5464 53 40           MLC   CNMP,PRMSI-20                           7  5963  M 569 Q1X         1026
5465 53 41           MLC   I1TUHA,PRMSI-14                         7  5970  M 562 Q2T         1026
5466 53 42           MLC   I2TUHA,PRMSI-12                         7  5977  M 563 Q2V         1026
5467 53 43           MLC   I3TUHA,PRMSI-10                         7  5984  M 564 Q2X         1026
5468 53 44           MLC   O1TUHA,PRMSI-4                          7  5991  M 565 Q3T         1026
5469 53 45           MLC   O2TUHA,PRMSI-2                          7  5998  M 566 Q3V         1027
5470 53 46           MLC   O3TUHA,PRMSI                            7  6005  M 567 Q3X         1027
5471 53 47           MLC   PRMSI,227                               7  6012  M Q3X 227         1027
5472 53 48           W                       PRINT RESTART MESSAGES   1  6019  2                 1027
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
5473 53 49           CS    228                                         4  6020  / 228             1027
5474 53 50           MLC   PDTYQ,212                                  7  6024  M Q4Z 212         1027
5475 53 51           W                                                 1  6031  2                 1027
5476 53 52           CS    228                                         4  6032  / 228             1028
5477 53 53           MLC   CARDMG,231                                  7  6036  M Q8| 231         1028
5478 53 54           W                                                 1  6043  2                 1028
5479 53 55   CPTGM   LCA   0,ITLI             LOAD GROUPMARK TO STOP TAPE READ  7  6044  L 000 188         1028
5480 53 56           MLC   @B@,STPASS                                  7  6051  M Q8S 37Z         1028
5481 53 57           MLC   @N@,NOPPS1         NOP IF NO LABELS        7  6058  M Q8/ J8V         1028
5482 53 58           BEF   *&1                                         5  6065  B !7| K           1028
5483 53 59           MLZS  *-6,CENSIG                                  7  6070  Y !7| 415         1029
5484 53 60           BCE   *&8,LBBUCK,1                                8  6077  B !9S 414 1       1029
5485 53 61           MLC   CENSIG,NSYHDR&7                             7  6085  M 415 B75         1029
5486 53 62           MLC   CENSIG,NSE&7                               7  6092  M 415 W17         1029
5487 53 63           CC    1                                           2  6099  F 1               1029
5488 53 64           H                                                 1  6101  .                 1029
5489 53 65           BCE   *&19,LBBUCK,                                8  6102  B J2Y 414         1030
5490 53 66           SBR   HDTSS1-4,HDTSC7                            7  6110  H A55 E44         1030
5491 53 67           SBR   HDTRAX-17,HDTSC6                          7  6117  H E18 E41         1030
5492 53 68           B     HDTSS0                                      4  6124  B A30             1030
5493 53 69           SBR   HDTRS1-4,HDTRC7                           7  6128  H A55 E35         1030
5494 53 70           SBR   HDTREX-16,HDTRC6                          7  6135  H E10 E32         1031
5495 53 71           B     HDTRS0              OPEN THE TAPES        4  6142  B A30             1031
5496 53 72   NOPPS2  MLNS  I1TUHA,RCCP&3                             7  6146  D 562 J7|         1031
5497 53 73           MLC   @ @,ERRCNT           INITIALIZE ERROR COUNTER  7  6153  M R0W N6Z         1031
5498 53 74           MLNS  I1TUHA,RSTBER&3                           7  6160  D 562 K7X         1031
5499 53 75   RCCP    RTW   %U0,001                                    8  6167  L %U0 001 R       1032
5500 53 76           BER   RSTBER                                     5  6175  B K7U L           1032
5501 53 77           BEF   RSTBEF                                     5  6180  B K7| K           1032
5502 53 78   NOPPS1  B     WRCK2                                       4  6185  B W2|             1032
5503 53 79           SBR   HDTRS1-4,HDTRC6                           7  6189  H A55 E32         1032
5504 53 80           SBR   HDTREX-16,HDTRC7                          7  6196  H E10 E35         1032
5505 53 81           SBR   HDTRS1&10,HDTRRI                          7  6203  H A69 D72         1033
5506 53 82           MLC   HDTRC8,HDTRC1                             7  6210  M A28 A26         1033
5507 53 83           MLC   HDTRC8,HDTRC2                             7  6217  M A28 A27         1033
5508 53 84           SBR   HTPRSW-10,HTHAL1                          7  6224  H D15 ?80         1033
5509 53 85           SBR   HDTRS1&6,HDTRC1                           7  6231  H A65 A26         1033
5510 53 86           SBR   HDTRS1&13,HDTRC1                          7  6238  H A72 A26         1034
5511 53 87           MLC   @B@,HTEXRT-4                              7  6245  M Q8S B86         1034
5512 53 88           MLC   @B@,NOPPS1                                7  6252  M Q8S J8V         1034
5513 53 89           SBR   HDTREX&3,NXTPS                            7  6259  H E29 677         1034
5514 53 90           B     WRCK2                                       4  6266  B W2|             1034
5515 53 91   RSTBEF  H     WRCK2                                       4  6270  . W2|             1034
5516 53 92   RSTBER  BSP   %U0                                        5  6274  U %U0 B           1035
5517 53 93   CPTERR  A     @1@,ERRCNT                                7  6279  A R0| N6Z         1035
5518 53 94           BAV   CPTHLT                                    5  6286  B K9V Z           1035
5519 53 95           B     RCCP                                        4  6291  B J6X             1035
5520 53 96   CPTHLT  H     NOPPS2                                      4  6295  . J4W             1035
5521 53 97   COMP2   C     0,@000001@                                7  6299  C 000 R2V         1035
5522 53 98           BL    SETNMP                                    5  6306  B X5/ T           1035
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5523 53 99           B     SLMP                                      4  6311  B 93U             1036
5524 54 00   EOFCP   H     STPASS                                    4  6315  . 37Z             1036
5525 54 01           B     RREDCP                                    4  6319  B 710             1036
5526 54 02   NDSRT   H     *-3               END OF SORT             4  6323  . L2T             1036
5527 54 03   WRDCK   BSP   0                 WRITE CHECKPOINT ERROR ROUTINE  5  6327  U %U0 B          1036
5528 54 04           BCE   ERCKP,CNRR,1                              8  6332  B L5/ N69 1       1036
5529 54 05           A     @1@,CNRR                                  7  6340  A R0| N69         1036
5530 54 06           B     WRCKT                                     4  6347  B W9W             1037
5531 54 07   ERCKP   A     @1@,CNEOR                                 7  6351  A R0| O34         1037
5532 54 08           C     CNEOR,@10@                                7  6358  C O34 R2X         1037
5533 54 09           BE    HRTRY                                     5  6365  B N7V S           1037
5534 54 10   ERSE1   SKP   0                                         5  6370  U %U0 E           1037
5535 54 11           B     IWRCK&7                                   4  6375  B W8/             1037
5536 54 12   LSTVRY  MA    NOZNE,ALOP&6      LAST MERGE PASS INITIALIZATION  7  6379  # O55 N9V         1037
5537 54 13           MA    @004@,COMETF       ALLOW FOR BLOCK COUNT FOR VLR  7  6386  # R3| 559        1038
5538 54 14           MA    NOZNE,ALOP&13     FOR VARIABLE LENGTH RECORDS     7  6393  # O55 O0S         1038
5539 54 15           MA    NOZNE,ALOP&20                             7  6400  # O55 O0Z         1038
5540 54 16           MLC   ALOP&6,INCR1-8                           7  6407  M N9V 890         1038
5541 54 17           MLC   ALOP&13,INCR2-8                          7  6414  M O0S 940         1038
5542 54 18           MLC   ALOP&20,INCR3-8                          7  6421  M O0Z 990         1039
5543 54 19           C     BO,@001@                                  7  6428  C 185 R3T         1039
5544 54 20           BE    ARL&8                                     5  6435  B N4| S           1039
5545 54 21           MLC   AOWA,SWOWA&3                            7  6440  M O52 M5X         1039
5546 54 22           MA    @I9F@,SWOWA&3                             7  6447  # R3W M5X         1039
5547 54 23   SWOWA   SW    0                                         4  6454  , 000             1039
5548 54 24           MLC   COMETF,COMET                              7  6458  M 559 556         1040
5549 54 25           MLC   @M@,INCR1-7                               7  6465  M R3X 891         1040
5550 54 26           MLC   @M@,INCR2-7                               7  6472  M R3X 941         1040
5551 54 27           MLC   @M@,INCR3-7                               7  6479  M R3X 991         1040
5552 54 28           MLC   @?@,SETBAK                                7  6486  M R3Y S06         1040
5553 54 29           MLC   @A@,ADDTO                                 7  6493  M R0Y |42         1041
5554 54 30           MLC   AOWA,*&14                                 7  6500  M O52 N2|         1041
5555 54 31           MA    I99,*&7                                   7  6507  # O49 N2|         1041
5556 54 32           LCA   @000D@,0                                  7  6514  L R4S 000         1041
5557 54 33           SW    SWOWA&1                                   4  6521  , M5V             1041
5558 54 34           MLC   SWOWA&3,WOBR&6                           7  6525  M M5X /88         1041
5559 54 35   ARL     BCE   OURBK&7,BO,                               8  6532  B /4Y 185         1042
5560 54 36           BCE   ELIMIT,RLIIND,1                           8  6540  B O1| 560 1       1042
5561 54 37           MLC   &LSTOUT,ISOFL-1                           7  6548  M R4V N7T         1042
5562 54 38           LCA   ISOFL,CKOUT&4                             7  6555  L N7U |74         1042
5563 54 39           B     OURBK&7                                   4  6562  B /4Y             1042
5564 54 40   CNTBO   DCW   @   @                                     3  6568                    1042
5565 54 41   ERRCNT  DCW   @ @                ERROR BUCKET FOR CHECKPOINT READ  1  6569       1042
5566 54 42   ISOFL         @B000 @                                   5  6574                    1043
5567 54 43   HRTRY   H     IWRCK                                     4  6575  . W7U             1043
5568 54 44   WEFCK2  H     TFI                                       4  6579  . X1U             1043
5569 54 45   ZEROS1  DCW   @000001@                                  6  6588                    1043
5570 54 46   ALOP    MZ    BLANK,0&X1                                7  6589  Y N70 0|0         1043
5571 54 47           MZ    BLANK,0&X2                                7  6596  Y N70 0!0         1043
5572 54 48           MZ    BLANK,0&X3                                7  6603  Y N70 0?0         1044
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

5573 54 49   ELIMIT BCE   ARL&16,RTAIN,1                                    8  6610  B N4Y 553 1       1044
5574 54 50           MA    @004@,WOBR&6       ELIMINATE RLI-VLR UNBLOCKED   7  6618  # R3| /88         1044
5575 54 51           B     ARL&16                                           4  6625  B N4Y             1044
5576 54 52   RDLBRT CS    80                  READ IN THE FINAL HEADER-     4  6629  / 080             1044
5577 54 53           SW    24,56               TRAILER ROUTINE               7  6633  , 024 056         1044
5578 54 54           SW    63,67                                             7  6640  , 063 067         1045
5579 54 55           BCE   NORMAL,LBBUCK,      BRANCH IF 80 CHARACTER ROUTINE 8  6647  B O6Y 414        1045
5580 54 56   ABNORM R                                                       1  6655  1                 1045
5581 54 57           BCE   NORMAL,68,B                                      8  6656  B O6Y 068 B       1045
5582 54 58           B     ABNORM                                           4  6664  B O5V             1045
5583 54 59   NORMAL  R     56                                               4  6668  1 056             1045
5584 54 60   CTNR1   DCW   @0000000@                                       6  6677                    1045
5585 54 61   PRMSLP  DCW   @LAST MERGE PASS-INTERRUPT@                     25  6702                    1046
5586 54 62   PRMSC   DCW   @       REC PROCESSED-PASS 00-ERROR@            34  6736                    1047
5587 54 63   PRMXX   DCW   @DENSITY MAY BE CHANGED@                        22  6758                    1048
5588 54 64   PRMSG   DCW   @OUTP  -END OF SORT@                            18  6776                    1049
5589 54 65   PRMSH   DCW   @PASS 00-CKPT 0-INP 0,0,0 INTERRUPT@           34  6810                    1050
5590 54 66   PRMSI         @PASS 00 INP 0,0,0 OUT 0,0,0@                  27  6837                    1051
5591 54 67   PDTYQ   DCW   @HIGH DENSITY@                                  12  6849                    1051
5592 54 68   CARDMG  DCW   @PLACE CARDS FROM 1442 IN READER@              31  6880                    1052
5593 54 69           LTORG *                                                      6881
                     DCW   @N@                                            1  6881             LIT   1052
                           @B@                                            1  6882             LIT   1052
                           @0000@                                         3  6885             LIT   1052
                           @6@                                            1  6886             LIT   1052
                           @U@                                            1  6887             LIT   1052
                           @I9I@                                          3  6890             LIT   1053
                           @2@                                            1  6891             LIT   1053
       5242                @0000000@                                      6  6897             LIT   1053
                           @00@                                           2  6899             LIT   1053
                           @1@                                            1  6900             LIT   1053
                           @ LOW@                                         4  6904             LIT   1053
                           @S@                                            1  6905             LIT   1053
                           @ @                                            1  6906             LIT   1054
                           @#@                                            1  6907             LIT   1054
                           @A@                                            1  6908             LIT   1054
       5322                &BO                                            3  6911  185          ADCON 1054
                           @I9D@                                          3  6914             LIT   1054
       5394                &HRES                                          3  6917  Z4Z          ADCON 1054
                           @  @                                           2  6919             LIT   1054
       5521                @0000001@                                      6  6925             LIT   1055
                           @10@                                           2  6927             LIT   1055
                           @004@                                          3  6930             LIT   1055
                           @001@                                          3  6933             LIT   1055
                           @I9F@                                          3  6936             LIT   1055
                           @M@                                            1  6937             LIT   1055
                           @?@                                            1  6938             LIT   1055
                           @000D@                                         4  6942             LIT   1056
       5561                &LSTOUT                                        3  6945  K33          ADCON 1056
5594 54 70           EX    SETCLR                                               B 22V             1057
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SEQ PG LIN LABEL OP OPERANDS SFX CT LOCN INSTRUCTION TYPE CARD

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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

5595 54 71           JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
5596 54 72           ORG   CLSTX1-18                                          2173
5597 54 73           SBR   CLINP2&3,NXTPS                              7  2173  H K21 677         1060
5598 54 74           B     CLSTX1                                     4  2180  B J91             1060
5599 54 75           SBR   CLINP2&3,INWM22-15                         7  2184  H K21 B30         1060
5600 54 76           ORG   EOFW1                                              2549
5601 54 77           BCE   RWD,QTRL,B                                 8  2549  B ?80 J16 B       1061
5602 54 78           ORG   HTHAL1                                             3080
5603 54 79   RWD     MLNS  WOBR&3,*&4                                 7  3080  D /85 ?90         1062
5604 54 80           WTM   0                                          5  3087  U %U0 M           1062
5605 54 81           MLNS  WOBR&3,*&4                                 7  3092  D /85 A02         1062
5606 54 82           RWU   0                                          5  3099  U %U0 U           1062
5607 54 83           BCE   HLT,O3TUHA,                                8  3104  B A28 567         1062
5608 54 84           C     WOBR&3,O3TUHA                              7  3112  C /85 567         1062
5609 54 85           BU    RTRN2-7                                    5  3119  B S25 /           1063
5610 54 86           H     SWOT                                       4  3124  . L73             1063
5611 54 87   HLT     H     RTRN2-7                                    4  3128  . S25             1063
5612 54 88           NOP                                              1  3132  N                 1063
5613 54 89   ***
5614 54 90   ***             SET WORD MARK ROUTINE WITHOUT LABELS
5615 54 91   ***
5616 54 92           ORG   3200                                                 3200
5617 54 93   WMIRB5  CS    3599                                       4  3200  / E99             1064
5618 54 94           CS                                               1  3204  /                 1064
5619 54 95           CS                                               1  3205  /                 1064
5620 54 96           NOP   NF0?1,CLSTX1&3                             7  3206  N B29 J94         1064
5621 54 97           NOP   NF0?1,CLSTX1&18                            7  3213  N B29 K09         1064
5622 54 98           CS    LGMEOA,3299                                7  3220  / 719 B99         1064
5623 54 99   NF0?1   DCW   @F0?@                                      3  3229                    1064
5624 55 00           BCE   WMIRB5,VARY,1                              8  3230  B B00 091 1       1065
5625 55 01           MLC   BLANK2,CNCFB#2                             7  3238  M N72 E11         1065
5626 55 02   INWM22  MLC   AIRA1,ICF22#3                              7  3245  M O58 E14         1065
5627 55 03           MA    CF1SL,ICF22                                7  3252  # 353 E14         1065
5628 55 04           MLC   ICF22,WMS22&3                              7  3259  M E14 B76         1065
5629 55 05           MLC   @   @,CNTBB#3                             7  3266  M E17 E20         1066
5630 55 06   ***        SET WORD MARKS LEFT EDGE OF CONTROL FIELDS
5631 55 07   WMS22   SW    0                  SET WORD MARK           4  3273  , 000             1066
5632 55 08           A     *-6,CNTBB                                  7  3277  A B77 E20         1066
5633 55 09           C     CNTBB,B                                    7  3284  C E20 199         1066
5634 55 10           BE    SWNCFB                                     5  3291  B C07 S           1066
5635 55 11           MA    L,WMS22&3                                  7  3296  # 347 B76         1066
5636 55 12           B     WMS22                                      4  3303  B B73             1067
5637 55 13   SWNCFB  A     *-6,CNCFB          NEXT CONTROL FIELD      7  3307  A C07 E11         1067
5638 55 14           C     CNCFB,NCF                                  7  3314  C E11 096         1067
5639 55 15           BE    SWIRB2                                     5  3321  B C37 S           1067
5640 55 16           MA    @003@,INWM22&10                            7  3326  # E23 B55         1067
5641 55 17           B     INWM22                                     4  3333  B B45             1067
5642 55 18   SWIRB2  NOP   SWIRB3-8           NEXT INPUT AREA         4  3337  N C66             1067
5643 55 19           MLC   @B@,SWIRB2                                 7  3341  M E24 C37         1068
5644 55 20           SBR   INWM22&3,AIRA2                             7  3348  H B48 O61         1068
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
5645 55 21          SBR   INWM22&10,CF1SL                             7  3355  H B55 353          1068
5646 55 22          B     INWM22-7                                    4  3362  B B38              1068
5647 55 23          BCE   INWMCI,I3TUN,      BRANCH IF TWO-WAY MERGE  8  3366  B D03 340          1068
5648 55 24   SWIRB3 NOP   INWMCI             NEXT INPUT AREA          4  3374  N D03              1068
5649 55 25          MLC   @B@,SWIRB3                                  7  3378  M E24 C74          1069
5650 55 26          SBR   INWM22&3,AIRA3                             7  3385  H B48 O64          1069
5651 55 27          SBR   INWM22&10,CF1SL                           7  3392  H B55 353          1069
5652 55 28          B     INWM22-7                                    4  3399  B B38              1069
5653 55 29   ***            SET WORD MARKS LEFT EDGE OF EACH RECORD
5654 55 30   INWMCI MLC   AIRA1,ICF22                                7  3403  M O58 E14          1069
5655 55 31          MLC   ICF22,SW22&3                               7  3410  M E14 D27          1069
5656 55 32          MLC   @   @,CNTBB                               7  3417  M E17 E20          1070
5657 55 33   SW22   SW    0                                         4  3424  , 000              1070
5658 55 34          A     *-6,CNTBB                                 7  3428  A D28 E20          1070
5659 55 35          C     CNTBB,B                                   7  3435  C E20 199          1070
5660 55 36          BE    WMIRB2                                    5  3442  B D58 S            1070
5661 55 37          MA    L,SW22&3                                  7  3447  # 347 D27          1070
5662 55 38          B     SW22                                      4  3454  B D24              1071
5663 55 39   WMIRB2 NOP   WMIRB3-8                                  4  3458  N D80              1071
5664 55 40          MLC   @B@,WMIRB2                                7  3462  M E24 D58          1071
5665 55 41          MLC   AIRA2,ICF22                               7  3469  M O61 E14          1071
5666 55 42          B     INWMCI&7                                  4  3476  B D10              1071
5667 55 43          BCE   WMIRB5,I3TUN,      BRANCH IF TWO-WAY MERGE  8  3480  B B00 340          1071
5668 55 44   WMIRB3 NOP   WMIRB5                                    4  3488  N B00              1071
5669 55 45          MLC   @B@,WMIRB3                                7  3492  M E24 D88          1072
5670 55 46          MLC   AIRA3,ICF22                               7  3499  M O64 E14          1072
5671 55 47          B     INWMCI&7                                  4  3506  B D10              1072
5672 55 48          LTORG *                                                  3510
       5625  CNCFB  DCW   #02                                       2  3511              AREA  1072
       5626  ICF22        #03                                       3  3514              AREA  1072
                          @   @                                     3  3517              LIT   1072
       5629  CNTBB        #03                                       3  3520              AREA  1072
                          @003@                                     3  3523              LIT   1073
                          @B@                                       1  3524              LIT   1073
5673 55 49          EX    PASMLT                                          B 31S              1074
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

5674 55 50          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
5675 55 51          ORG   STRTMP                                                  0553
5676 55 52          SFX   #
5677 55 53          DCW   @MULTIPHASE@                                 #  10  0562                    1077
5678 55 54   *                           CLEAR CORE FROM END OF AVAILABLE
5679 55 55   *                           PHASE 2 AREA TO 700
5680 55 56   REPH1  MLC   CSTCNS,CLPH1&3                              #   7  0563  M 552 577          1077
5681 55 57          SW    700                                         #   4  0570  , 700              1077
5682 55 58   CLPH1  CS    0                CLEARING BEGINS FROM PH2 USER #   4  0574  / 000              1077
5683 55 59          SBR   CLPH1&3          AREA                        #   4  0578  H 577              1077
5684 55 60          BWZ   CLPH1,700,1                                 #   8  0582  V 574 700 1        1077
5685 55 61   *                           LOAD MAINLINE AND FIRST INIT RTN
5686 55 62   *                              BRANCH TO STRTN
5687 55 63          CS    80               READ FIRST MULTIPHASE OVERLAY #   4  0590  / 080              1078
5688 55 64          SW    24,56                                       #   7  0594  , 024 056          1078
5689 55 65          SW    63,67                                       #   7  0601  , 063 067          1078
5690 55 66          R     056                                         #   4  0608  1 056              1078
5691 55 67          NOP                                               #   1  0612  N                   1078
5692 55 68          EX    REPH1                                       #            B 563               1079
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

5693 55 69          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
5694 55 70          SFX   #
5695 55 71          ORG   STRTMP                                          #          0553
5696 55 72   OWA    DCW   @B01@             START OF OUTPUT AREA         #   3  0555                    1082
5697 55 73   CNMP   DCW   @00@              CURRENT MERGE PASS NUMBER    #   2  0557                    1082
5698 55 74   NMPL   DCW   @  @              NUM OF MULTIPHASE PASSES LEFT#   2  0559                    1082
5699 55 75   CNTRB  DCW   @ @               NUM OF SEQ IF LESS THAN 8    #   1  0560                    1082
5700 55 76   CLEPS        @   @            LOC OF GMWM FOR CHECKPOINT   #   3  0563                    1082
5701 55 77   ACTNR        @   @            LOC OF TOTAL RCD COUNT       #   3  0566                    1082
5702 55 78   ACNT   DCW   @   @            LOC OF UNREADABLE RCD COUNT  #   3  0569                    1082
5703 55 79   NOMP   DCW   @00@             TOTAL NUM OF MERGE PASSES    #   2  0571                    1083
5704 55 80   SEQMRG DCW   @0000000@        NUM SEQ TO BE MERGED CURRENT PASS#  6  0577                    1083
5705 55 81   YCNTR  DCW   @0000000@                                      #   6  0583                    1083
5706 55 82   *                              ALGORITHM COMPUTATION BUCKETS
5707 55 83   PCNTR  DCW   @0000000@                                      #   6  0589                    1083
5708 55 84   XAREA  DCW   @0000000@                                      #   6  0595                    1083
5709 55 85   YAREA  DCW   @0000001@                                      #   6  0601                    1083
5710 55 86   *                              MULTIPHASE CONSTANTS
5711 55 87   LIT001 DCW   @001@                                          #   3  0604                    1083
5712 55 88   LIT003 DCW   @003@                                          #   3  0607                    1084
5713 55 89   SIX 0S DCW   @0000000@                                      #   6  0613                    1084
5714 55 90   NOP    DCW   @N@                                            #   1  0614                    1084
5715 55 91   KB     DCW   @B@                                            #   1  0615                    1084
5716 55 92   AONE   DCW   @1@                                            #   1  0616                    1084
5717 55 93   ATWO   DCW   @2@                                            #   1  0617                    1084
5718 55 94   AFOUR  DCW   @4@                                            #   1  0618                    1084
5719 55 95   TWOBL  DCW   @  @                                          #   2  0620                    1085
5720 55 96   I99    DCW   @I9I@                                         #   3  0623                    1085
5721 55 97   BLANK  EQU   TWOBL-1                                       #      0619
5722 55 98   AZERO  EQU   SIX 0S-5                                      #      0608
5723 55 99   RUNOTP EQU   RNOUTP                                        #      0780
5724 56 00   *             MULTIPHASE LABELS EQUATED WITH THOSE FROM ASSN PHASE
5725 56 01          SFX
5726 56 02   THEDTE EQU   DATE                                                0501
5727 56 03   OTMOMP EQU   HTMO                                                0190
5728 56 04   OHLIMP EQU   OTLI             OUTPUT HDR LABEL                   0189
5729 56 05   WLBKTM EQU   WLBKT                                               0417
5730 56 06   OHLOPM EQU   OHLOP                                               0419
5731 56 07   OTLIMP EQU   TLO              OUTPUT TRAILER LABEL               0192
5732 56 08   OUTMLT EQU   OUTMOD           OUTPUT MODE INDICATOR              0549
5733 56 09   LMULTI EQU   L                RECORD LENGTH                      0347
5734 56 10   BMULTI EQU   B                SORT BLOCKING                      0199
5735 56 11   BOMULT EQU   BO               OUTPUT BLOCKING                    0185
5736 56 12   NCFMLT EQU   NCF              NUM CONTROL FIELDS                 0096
5737 56 13   BLMULT EQU   BL               SORT BLOCK LENGTH                  0085
5738 56 14   CTNRML EQU   CTNR             TOTAL NUM OF RCDS                  0539
5739 56 15   PIMULT EQU   PI               PADDING IND                        0193
5740 56 16   URPIML EQU   URPI             UNREADABLE RCD PROCED IND          0186
5741 56 17   IF1F2M EQU   IF1F2            DISTANCE BETWEEN CFS               0383
5742 56 18   CNOSIM EQU   CNOS1            NUM TIMES TAPES SWITCHED IN PH 1   0545
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
5743 56 19   *                          INPUT TAPE UNIT NUMBERS
5744 56 20   I1TUNM EQU   I1TUN                                          0338
5745 56 21   I2TUNM EQU   I2TUN                                          0339
5746 56 22   I3TUNM EQU   I3TUN                                          0340
5747 56 23   MSMULT EQU   MS              CORE SIZE                      0344
5748 56 24   CFIREM EQU   CFIRE           UNITS POS CF 1                 0337
5749 56 25   CNOPML EQU   CNOP            1 IF CF IN FIRST POS OF RCD    0086
5750 56 26   LDIMLT EQU   LDI             DENSITY INDICATOR              0187
5751 56 27   CF1SLM EQU   CF1SL           HI ORDER POS CF 1              0353
5752 56 28           SFX   #
5753 56 29   ACNTR  DCW   @0@             STEPDOWN COUNTER                #  1  0624                    1085
5754 56 30   SPLCHR DCW   @|@             STEPDOWN COUNTER                #  1  0625                    1085
5755 56 31   PADQNQ DCW   @   @           LOC OF REDUNDANCY IND           #  3  0628                    1085
5756 56 32   *                          TAPE UNIT AND SEQ COUNT BUCKETS
5757 56 33   I2TUHP DCW   @0@                                            #  1  0629                    1085
5758 56 34   I1TUHP DCW   @0@                                            #  1  0630                    1085
5759 56 35   O1TUHP DCW   @00000000@                                     #  7  0637                    1086
5760 56 36   O2TUHP DCW   @00000000@                                     #  7  0644                    1086
5761 56 37   TUHOLD DCW   @00000000@                                     #  7  0651                    1086
5762 56 38   TAPSEQ DCW   @000000@                                       #  6  0657                    1086
5763 56 39   AGMEOP DCW   #3              END OF OUTPUT AREA              #  3  0660                    1086
5764 56 40   ARELBP DCW   @   @           END OF OUTPUT AREA-LAST PASS    #  3  0663                    1086
5765 56 41   AGMEBP DCW   @   @           LOC OF GMWM-LAST PASS           #  3  0666                    1086
5766 56 42   *                          START OF INPUT AREAS
5767 56 43   INPT1P DCW   @   @                                          #  3  0669                    1087
5768 56 44   INPT2P DCW   @   @                                          #  3  0672                    1087
5769 56 45   INPT3P DCW   @   @                                          #  3  0675                    1087
5770 56 46   *                          END OF INPUT AREAS
5771 56 47   NDRA1P DCW   @   @                                          #  3  0678                    1087
5772 56 48   NDRA2P       @   @                                          #  3  0681                    1087
5773 56 49   NDRA3P       @   @                                          #  3  0684                    1087
5774 56 50   *                          UNITS POS CF1 REL TO INPUT AREAS
5775 56 51   CMP11P       @   @                                          #  3  0687                    1087
5776 56 52   CMP12P       @   @                                          #  3  0690                    1088
5777 56 53   CMP13P       @   @                                          #  3  0693                    1088
5778 56 54   ST1MVP DCW   @   @           LOC OF MTOA&6                   #  3  0696                    1088
5779 56 55   RMOVEP DCW   @   @           NUM OF PADDED RCDS TO BE REMOVED #  3  0699                  1088
5780 56 56   *                          START OF INPUT AREAS & 1
5781 56 57   AIRA1  DCW   @   @                                          #  3  0702                    1088
5782 56 58   AIRA2  DCW   @   @                                          #  3  0705                    1088
5783 56 59   AIRA3  DCW   @   @                                          #  3  0708                    1088
5784 56 60   *                          START OF INPUT AREAS & 13
5785 56 61   NG1    DCW   @   @                                          #  3  0711                    1089
5786 56 62   NG2    DCW   @   @                                          #  3  0714                    1089
5787 56 63   NG3    DCW   @   @                                          #  3  0717                    1089
5788 56 64   ARELO        @   @           OUTPUT AREA & BLOCK LENGTH      #  3  0720                    1089
5789 56 65   BOL    DCW   @   @           BLOCK LENGTH-FINAL OUTPUT       #  3  0723                    1089
5790 56 66   AREFO        @   @           START OF OUTPUT AREA&1          #  3  0726                    1089
5791 56 67   CNRR   DCW   @  @            COUNT NUM TIMES RETRY READ      #  2  0728                    1089
5792 56 68   SJA    DCW   @ @            STORE ZONE FOR REDUND READ      #  1  0729                    1090
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5793 56 69   CNEOR   DCW   @ @             COUNT NUM TIMES ERASE TAPE  #  1  0730                    1090
5794 56 70   *                               STANDARD LABEL BUCKETS
5795 56 71   OPENID  DCW   @ @                                         #  1  0731                    1090
5796 56 72   TPNOBK  DCW   @0@                                         #  1  0732                    1090
5797 56 73   KO      DCW   @O@                                         #  1  0733                    1090
5798 56 74   KI      DCW   @I@                                         #  1  0734                    1090
5799 56 75   EOJBK   DCW   @ @                                         #  1  0735                    1090
5800 56 76   MULBKC  DCW   @00000@         BLOCK COUNT                 #  5  0740                    1091
5801 56 77   SKIP1   EQU   CMPABP                                      #     0784
5802 56 78   SKIP2   EQU   CMPBCP                                      #     0805
5803 56 79   SKIP3   EQU   CMPACP                                      #     0826
5804 56 80   *
5805 56 81   *                               MAINLINE PROGRAM
5806 56 82   *
5807 56 83   LGMEOP  LCA   0,0               SET GMKS IN I/O AREAS       #  7  0741  L 000 000         1091
5808 56 84           LCA   0,0                                         #  7  0748  L 000 000         1091
5809 56 85           LCA   0,0                                         #  7  0755  L 000 000         1091
5810 56 86           LCA   0,0                                         #  7  0762  L 000 000         1091
5811 56 87           MLC   SPLCHR,0                                    #  7  0769  M 625 000         1092
5812 56 88   REDETP  B     STRD1                                       #  4  0776  B |22              1092
5813 56 89   RNOUTP  B     SKIP1             RUNOUT SWITCH             #  4  0780  B 784               1092
5814 56 90   CMPABP  C     0,0               COMPARE A&B               #  7  0784  C 000 000         1092
5815 56 91           BL    SKIP2             B LT A                    #  5  0791  B 805 T           1092
5816 56 92           BH    SKIP3             A LT B                    #  5  0796  B 826 U           1092
5817 56 93           B     EQU                                         #  4  0801  B X41               1092
5818 56 94   CMPBCP  C     0,0               COMPARE B&C               #  7  0805  C 000 000         1093
5819 56 95           BL    CLOW              C LT B                    #  5  0812  B S44 T           1093
5820 56 96           BH    BLOW              B LT C                    #  5  0817  B /11 U           1093
5821 56 97           B     EQU                                         #  4  0822  B X41               1093
5822 56 98   CMPACP  C     0,0               COMPARE A&C               #  7  0826  C 000 000         1093
5823 56 99           BL    CLOW              C LT A                    #  5  0833  B S44 T           1093
5824 57 00           BH    ALOW              A LT C                    #  5  0838  B 978 U           1093
5825 57 01           B     EQU                                         #  4  0843  B X41               1094
5826 57 02   IMOVE   SBR   RTRN1&3                                     #  4  0847  H 887               1094
5827 57 03           SBR   RTRN2&3                                     #  4  0851  H 977               1094
5828 57 04   MTOA    MLC   0,0               NUM MOVE INST EQUALS NUM CF #  7  0855  M 000 000         1094
5829 57 05           MLC                       PLUS ONE IF CF NOT IN FIRST #  1  0862  M               1094
5830 57 06           MLC                       POSITION OF RECORD        #  1  0863  M               1094
5831 57 07           MLC                                                 #  1  0864  M               1094
5832 57 08           MLC                                                 #  1  0865  M               1095
5833 57 09           MLC                                                 #  1  0866  M               1095
5834 57 10           MLC                                                 #  1  0867  M               1095
5835 57 11           MLC                                                 #  1  0868  M               1095
5836 57 12           MLC                                                 #  1  0869  M               1095
5837 57 13           MLC                                                 #  1  0870  M               1095
5838 57 14   LMV     MLC                                                 #  1  0871  M               1095
5839 57 15   CKOUT   C     0,ARELO           Q OUTPUT BLOCK FULL       #  7  0872  C 000 720         1096
5840 57 16           BE    WRITE                                       #  5  0879  B 888 S           1096
5841 57 17   RTRN1   B     0                                           #  4  0884  B 000             1096
5842 57 18   WRITE   MLC   OWA,MTOA&6                                 #  7  0888  M 555 861         1096
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
5843 57 19   WTEX    NOP   0                 USERS EXIT PRIOR TO WRITE TAPE    #   4  0895  N 000             1096
5844 57 20   KOWNT   NOP   BMULTI,0          COUNT OUTPUT RECORDS              #   7  0899  N 199 000        1096
5845 57 21   PDSW    B     WOBR-7            NOP IF LAST PASS AND PAD. RCDS    #   4  0906  B 942            1096
5846 57 22   BPAQQ8  BCE   WOBR-7,0,1                                         #   8  0910  B 942 000 1       1097
5847 57 23   AWAY    C     0,PADCT#6         Q PADDED RECORD COUNT             #   7  0918  C 000 J00        1097
5848 57 24           BL    RTRN2                                             #   5  0925  B 974 T          1097
5849 57 25           BE    RTRN2                                             #   5  0930  B 974 S          1097
5850 57 26           NOP   NOP,BBP2                                         #   7  0935  N 614 J15        1097
5851 57 27           MLC   TWOBL,CNRR                                        #   7  0942  M 620 728        1097
5852 57 28   WOBR    WT    0,0               WRITE OUTPUT BLOCK                #   8  0949  M %U0 000 W      1098
5853 57 29           BER   WORED                                            #   5  0957  B W81 L          1098
5854 57 30           MLC   BLANK,0           CLEAR FIRST POS OF OUTPUT AREA    #   7  0962  M 619 000        1098
5855 57 31   *                               LAST PASS REPLACE ABOVE WITH
5856 57 32   *                                 INCREMENT BLOCK COUNT INST
5857 57 33           BEF   EOFW1                                             #   5  0969  B !30 K          1098
5858 57 34   RTRN2   B     0                                                 #   4  0974  B 000            1098
5859 57 35   ALOW    MZ    *-6,MTOA&2        INIT TO MOVE RCD FROM A TO OUTPUT #   7  0978  Y 978 857       1098
5860 57 36           MA    LMULTI,MTOA&6                                     #   7  0985  # 347 861        1099
5861 57 37   INCR1   MA    LMULTI,IREG1                                      #   7  0992  # 347 089        1099
5862 57 38           B     IMOVE                                             #   4  0999  B 847            1099
5863 57 39           C     IREG1,NDRA1P      ALL A RECORDS MOVED               #   7  1003  C 089 678        1099
5864 57 40           BU    RNOUTP            B SOME REMAIN                     #   5  1010  B 780 /          1099
5865 57 41           MLC   INPT1P,IREG1      INITIALIZE INDEX REGISTER         #   7  1015  M 669 089        1099
5866 57 42   STRD1   SBR   RTRD&3,READ1-7                                    #   7  1022  H U40 |44        1100
5867 57 43           SBR   RETN&3                                            #   4  1029  H Z49            1100
5868 57 44           MZ    *-6,SJA           STORE ZONE FOR REDUN READ         #   7  1033  Y |33 729        1100
5869 57 45           MLC   TWOBL                                            #   4  1040  M 620            1100
5870 57 46           MLC   CENSIG,NG1                                       #   7  1044  M 415 711        1100
5871 57 47   READ1   RT    0,0               READ FIRST INPUT TAPE             #   8  1051  M %U0 000 R      1100
5872 57 48           BEF   EOF1                                              #   5  1059  B Z61 K          1101
5873 57 49   INTF1   BCE   RDGM,NG1,}                                       #   8  1064  B U10 711 }      1101
5874 57 50           BER   RED                                               #   5  1072  B Y90 L          1101
5875 57 51           NOP   SPLCHR,0&X1                                       #   7  1077  N 625 0|0        1101
5876 57 52           MLC   NOP,*-13                                         #   7  1084  M 614 |77        1101
5877 57 53   RD1EX   NOP   0                 USERS EXIT AFTER READ FIRST TAPE  #   4  1091  N 000            1101
5878 57 54   RDFST1  B     STRD2             FIRST RECORD SWITCH               #   4  1095  B /55            1102
5879 57 55   STEPA   B     NEWASQ,0,|        START OF NEW SEQUENCE            #   8  1099  B T77 000 |      1102
5880 57 56           B     RNOUTP                                            #   4  1107  B 780            1102
5881 57 57   BLOW    MZ    NOP,MTOA&2        INIT TO MOVE RCD FROM B TO OUTPUT #   7  1111  Y 614 857       1102
5882 57 58           MA    LMULTI,MTOA&6                                     #   7  1118  # 347 861        1102
5883 57 59   INCR2   MA    LMULTI,IREG2                                      #   7  1125  # 347 094        1102
5884 57 60           B     IMOVE                                             #   4  1132  B 847            1103
5885 57 61           C     IREG2,NDRA2P      ALL B RECORDS MOVED               #   7  1136  C 094 681        1103
5886 57 62           BU    RNOUTP            B SOME REMAIN                     #   5  1143  B 780 /          1103
5887 57 63           MLC   INPT2P,IREG2      INITIALIZE INDEX REGISTER         #   7  1148  M 672 094        1103
5888 57 64   STRD2   SBR   RTRD&3,READ2-7                                    #   7  1155  H U40 /77        1103
5889 57 65           SBR   RETN&3                                            #   4  1162  H Z49            1103
5890 57 66           MZ    NOP,SJA           STORE ZONE FOR REDUN READ         #   7  1166  Y 614 729        1104
5891 57 67           MLC   TWOBL                                            #   4  1173  M 620            1104
5892 57 68           MLC   CENSIG,NG2                                       #   7  1177  M 415 714        1104
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
5893 57 69   READ2   RT    0,0                 READ SECOND INPUT TAPE   #   8  1184  M %U0 000 R       1104
5894 57 70           BEF   EOF2                                         #   5  1192  B Z84 K           1104
5895 57 71   INTF2   BCE   RDGM,NG2,}                                  #   8  1197  B U10 714 }       1104
5896 57 72           BER   RED                                          #   5  1205  B Y90 L           1105
5897 57 73           NOP   SPLCHR,0&X2                                  #   7  1210  N 625 0!0         1105
5898 57 74           MLC   NOP,*-13                                     #   7  1217  M 614 S10         1105
5899 57 75   RD2EX   NOP   0                   USERS EXIT AFTER READ SECOND TAPE #   4  1224  N 000           1105
5900 57 76   RDFST2  B     STRD3               FIRST RECORD SWITCH      #   4  1228  B S88           1105
5901 57 77   STEPB   B     NEWBSQ,0,|          START OF NEW SEQUENCE    #   8  1232  B T88 000 |       1105
5902 57 78           B     RNOUTP                                       #   4  1240  B 780             1105
5903 57 79   CLOW    MZ    KB,MTOA&2           INIT TO MOVE RCD FROM C TO OUTPUT #   7  1244  Y 615 857       1106
5904 57 80           MA    LMULTI,MTOA&6                                #   7  1251  # 347 861         1106
5905 57 81   INCR3   MA    LMULTI,IREG3                                 #   7  1258  # 347 099         1106
5906 57 82           B     IMOVE                                        #   4  1265  B 847             1106
5907 57 83           C     IREG3,NDRA3P        ALL C RECORDS MOVED      #   7  1269  C 099 684         1106
5908 57 84           BU    RNOUTP              SOME REMAIN              #   5  1276  B 780 /           1106
5909 57 85           MLC   INPT3P,IREG3        INITIALIZE INDEX REGISTER #   7  1281  M 675 099         1107
5910 57 86   STRD3   SBR   RTRD&3,READ3-7                               #   7  1288  H U40 T10         1107
5911 57 87           SBR   RETN&3                                       #   4  1295  H Z49             1107
5912 57 88           MZ    KB,SJA              STORE ZONE FOR REDUN READ #   7  1299  Y 615 729         1107
5913 57 89           MLC   TWOBL                                        #   4  1306  M 620             1107
5914 57 90           MLC   CENSIG,NG3                                   #   7  1310  M 415 717         1107
5915 57 91   READ3   RT    0,0                 READ THIRD INPUT TAPE    #   8  1317  M %U0 000 R       1108
5916 57 92           BEF   EOF3                                         #   5  1325  B !07 K           1108
5917 57 93   INTF3   BCE   RDGM,NG3,}                                  #   8  1330  B U10 717 }       1108
5918 57 94           BER   RED                                          #   5  1338  B Y90 L           1108
5919 57 95           NOP   SPLCHR,0&X3                                  #   7  1343  N 625 0?0         1108
5920 57 96           MLC   NOP,*-13                                     #   7  1350  M 614 T43         1109
5921 57 97   RD3EX   NOP   0                   USERS EXIT AFTER READ THIRD TAPE  #   4  1357  N 000           1109
5922 57 98   RDFST3  B     RNOUTP              FIRST RECORD SWITCH      #   4  1361  B 780             1109
5923 57 99   STEPC   B     NEWCSQ,0,|          START OF NEW SEQUENCE    #   8  1365  B T99 000 |       1109
5924 58 00           B     RNOUTP              ADD THE NUMBER ASSOCIATED #   4  1373  B 780             1109
5925 58 01   NEWASQ  A     AONE,ACNTR          WITH UNIT THAT HAS REACHED #   7  1377  A 616 624         1109
5926 58 02           B     EOSTSP              A NEW SEQUENCE           #   4  1384  B U41             1109
5927 58 03   NEWBSQ  A     ATWO,ACNTR                                   #   7  1388  A 617 624         1110
5928 58 04           B     EOSTSP                                       #   4  1395  B U41             1110
5929 58 05   NEWCSQ  A     AFOUR,ACNTR                                  #   7  1399  A 618 624         1110
5930 58 06           B     EOSTSP                                       #   4  1406  B U41             1110
5931 58 07   *                                   CLEAR NOISE RECORD
5932 58 08   RDGM    MZ    SJA,*&6                                      #   7  1410  Y 729 U22         1110
5933 58 09           MN    TWOBL,13                                     #   7  1417  D 620 013         1110
5934 58 10           MN                                                 #   1  1424  D               1110
5935 58 11           MN                                                 #   1  1425  D               1111
5936 58 12           MN                                                 #   1  1426  D               1111
5937 58 13           MN                                                 #   1  1427  D               1111
5938 58 14           MN                                                 #   1  1428  D               1111
5939 58 15           MN                                                 #   1  1429  D               1111
5940 58 16           MN                                                 #   1  1430  D               1111
5941 58 17           MN                                                 #   1  1431  D               1111
5942 58 18           MN                                                 #   1  1432  D               1112
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
5943 58 19           MN                                              #   1  1433  D                 1112
5944 58 20           MN                                              #   1  1434  D                 1112
5945 58 21           MN                                              #   1  1435  D                 1112
5946 58 22           MN                                              #   1  1436  D                 1112
5947 58 23   RTRD    B     0                 RETURN TO READ TAPE     #   4  1437  B 000             1112
5948 58 24   *                       DETERMINE CONTENTS OF ACNTR AND BRANCH TO
5949 58 25   *                       CORRESPONDING RTN TO SET RUNOUT SWITCH
5950 58 26   EOSTSP  BCE   SDALL,ACNTR,7     Q NEW SEQ ON ALL UNITS  #   8  1441  B V74 624 7       1112
5951 58 27           BCE   SDAC,ACNTR,5      B TO INSTRUCTIONS WHICH #   8  1449  B V01 624 5       1113
5952 58 28           BCE   SDAB,ACNTR,3      RE-INITIALIZE COMPARE INSTRUCTION #  8  1457  B V12 624 3  1113
5953 58 29           BCE   SDBC,ACNTR,6      FOR UNITS THAT HAVE NOT #   8  1465  B V23 624 6       1113
5954 58 30           BCE   SDA,ACNTR,1       REACHED A NEW SEQUENCE  #   8  1473  B V34 624 1       1113
5955 58 31           BCE   SDB,ACNTR,2                               #   8  1481  B V45 624 2       1114
5956 58 32           BCE   SDC,ACNTR,4                               #   8  1489  B V56 624 4       1114
5957 58 33           B     RNOUTP                                    #   4  1497  B 780             1114
5958 58 34   SDAC    SBR   RNOUTP&3,BLOW                             #   7  1501  H 783 /11         1114
5959 58 35           B     RNOUTP                                    #   4  1508  B 780             1114
5960 58 36   SDAB    SBR   RNOUTP&3,CLOW                             #   7  1512  H 783 S44         1114
5961 58 37           B     RNOUTP                                    #   4  1519  B 780             1115
5962 58 38   SDBC    SBR   RNOUTP&3,ALOW                             #   7  1523  H 783 978         1115
5963 58 39           B     RNOUTP                                    #   4  1530  B 780             1115
5964 58 40   SDA     SBR   RNOUTP&3,SKIP2                           #   7  1534  H 783 805         1115
5965 58 41           B     RNOUTP                                    #   4  1541  B 780             1115
5966 58 42   SDB     SBR   RNOUTP&3,CMPACP                          #   7  1545  H 783 826         1115
5967 58 43           B     RNOUTP                                    #   4  1552  B 780             1115
5968 58 44   SDC     SBR   CMPABP&15,ALOW                           #   7  1556  H 799 978         1116
5969 58 45           SBR   CMPABP&10,BLOW                           #   7  1563  H 794 /11         1116
5970 58 46           B     RNOUTP                                    #   4  1570  B 780             1116
5971 58 47   SDALL   SBR   RNOUTP&3,SKIP1     RESET TO ORIGINAL COMPARE INST  #  7  1574  H 783 784  1116
5972 58 48           SBR   CMPABP&10,SKIP2    WHEN NEW SEQUENCE OR EOF HAS BEEN #  7  1581  H 794 805  1116
5973 58 49           SBR   CMPABP&15,SKIP3    REACHED ON ALL TAPES    #   7  1588  H 799 826         1116
5974 58 50           MLC   AZERO,ACNTR                               #   7  1595  M 608 624         1117
5975 58 51           MLC   SPLCHR,0           SET SEQ CHAR IN WRITE OUT AREA  #  7  1602  M 625 000  1117
5976 58 52   SEQCMP  C     0,PCNTR            Q ALL SEQUENCES PROCESSED #  7  1609  C 000 589       1117
5977 58 53   *                                  END OF PASS BRANCH
5978 58 54           BE    RWINDP                                    #   5  1616  B W51 S           1117
5979 58 55           A     AONE,PCNTR                                #   7  1621  A 616 589         1117
5980 58 56           B     RNOUTP                                    #   4  1628  B 780             1117
5981 58 57   *                                  LAST PASS ROUTINE
5982 58 58   LPEOJ   MLC   AONE,EOJBK                                #   7  1632  M 616 735         1118
5983 58 59           BCE   RWINDP,OTLIMP,                            #   8  1639  B W51 192         1118
5984 58 60           B     LMHLTP             STANDARD TRAILER LABEL BRANCH  #  4  1647  B R12      1118
5985 58 61   RWINDP  WTM   0                  WRITE T M ON OUTPUT TAPE #  5  1651  U %U0 M          1118
5986 58 62           RWD   0                                         #   5  1656  U %U0 R           1118
5987 58 63           CW    0                  CLEAR WORD MARKS AT END OF  #  4  1661  ) 000         1118
5988 58 64           CW    0                  I/O AREAS TO ALLOW WRITING  #  4  1665  ) 000         1118
5989 58 65           CW    0                  OF CHECKPOINT           #   4  1669  ) 000             1119
5990 58 66           CW    0                                         #   4  1673  ) 000             1119
5991 58 67   *                                MAINLINE BRANCH TO WKLBLI
5992 58 68   ENDMP   B     ENDMLT                                    #   4  1677  B O69             1119
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
5993 58 69   *                              WRITE REDUNDANCY ROUTINE
5994 58 70   WORED   BSP   0                                       #   5  1681  U %U0 B          1119
5995 58 71           BCE   ERASE,CNRR,1                           #   8  1686  B X05 728 1       1119
5996 58 72           A     AONE,CNRR                               #   7  1694  A 616 728         1119
5997 58 73           B     WOBR                                    #   4  1701  B 949             1119
5998 58 74   ERASE   A     AONE,CNEOR                              #   7  1705  A 616 730         1120
5999 58 75           BCE   HWRED,CNEOR,0     TEN SKIPS BRANCH      #   8  1712  B X29 730 0       1120
6000 58 76   ERTAPP  SKP   0                                       #   5  1720  U %U0 E           1120
6001 58 77           B     WOBR-7                                  #   4  1725  B 942             1120
6002 58 78   HWRED   H                                             #   1  1729  .                 1120
6003 58 79           MLC   TWOBL,CNEOR                             #   7  1730  M 620 730         1120
6004 58 80           B     ERTAPP                                  #   4  1737  B X20             1120
6005 58 81   *                                EQUAL ROUTINE
6006 58 82   EQU     SBR   EQHLD#3           SET INSTRUCTIONS      #   4  1741  H J03             1121
6007 58 83           MLC   IREG1,HLDX1P#3    TO COMPARE SECONDARY  #   7  1745  M 089 J06         1121
6008 58 84           MLC   EQHLD,IREG1       CONTROL FIELDS        #   7  1752  M J03 089         1121
6009 58 85           MA    @I8E@,IREG1                             #   7  1759  # J09 089         1121
6010 58 86           MLC   0&X1,CMNCF&6                            #   7  1766  M 0|0 Y61         1121
6011 58 87           MLC   4&X1,CMNCF&10                           #   7  1773  M 0|4 Y65         1121
6012 58 88           MLC   9&X1,NXTCFP&17                          #   7  1780  M 0|9 Y39         1122
6013 58 89           MLC   9&X1,CMNCF&15                          #   7  1787  M 0|9 Y70         1122
6014 58 90           MLC   HLDX1P,IREG1                          #   7  1794  M J06 089         1122
6015 58 91           MLC   TWOBL,CNCF2#2                         #   7  1801  M 620 J11         1122
6016 58 92           SBR   ICFL&3,IF1F2M                         #   7  1808  H Y44 383         1122
6017 58 93           SBR   ICFL2&3,IF1F2M                        #   7  1815  H Y51 383         1123
6018 58 94   NXTCFP  A     AONE,CNCF2                              #   7  1822  A 616 J11         1123
6019 58 95           C     CNCF2,NCFMLT                            #   7  1829  C J11 096         1123
6020 58 96           BE    0                                       #   5  1836  B 000 S           1123
6021 58 97   ICFL    MA    0,CMNCF&3                               #   7  1841  # 000 Y58         1123
6022 58 98   ICFL2   MA    0,CMNCF&6                               #   7  1848  # 000 Y61         1124
6023 58 99   CMNCF   C     0,0                                     #   7  1855  C 000 000         1124
6024 59 00           BL    0                                       #   5  1862  B 000 T           1124
6025 59 01           BH    0                                       #   5  1867  B 000 U           1124
6026 59 02           MA    LIT003,ICFL&3                           #   7  1872  # 607 Y44         1124
6027 59 03           MA    LIT003,ICFL2&3                          #   7  1879  # 607 Y51         1124
6028 59 04           B     NXTCFP                                  #   4  1886  B Y22             1125
6029 59 05   *                              READ REDUNDANCY ROUTINE
6030 59 06   RED     SBR   TUNOS&3                                 #   4  1890  H Z37             1125
6031 59 07           SBR   SMOREP&3                               #   4  1894  H K38             1125
6032 59 08           MA    @I7G@,TUNOS&3                           #   7  1898  # J14 Z37         1125
6033 59 09           A     AONE,CNRR                               #   7  1905  A 616 728         1125
6034 59 10           NOP   SJA,REDSQ-3                           #   7  1912  N 729 J27         1125
6035 59 11   SETZN   MZ    SJA,MHBB&2                              #   7  1919  Y 729 J54         1126
6036 59 12           BWZ   SUBT B,CNRR-1,S                       #   8  1926  V Z50 727 S       1126
6037 59 13   TUNOS   MN    0,BCKSPP&3                              #   7  1934  D 000 Z44         1126
6038 59 14   BCKSPP  BSP   0                                       #   5  1941  U %U0 B           1126
6039 59 15   RETN    B     0                                       #   4  1946  B 000             1126
6040 59 16   SUBT B  NOP   BMULTI,0          ADD IF NOT CORRECT OPTION #   7  1950  N 199 000     1126
6041 59 17           B     BBP2                                    #   4  1957  B J15             1127
6042 59 18   EOF1    A     AONE,ACNTR        END OF FILE ON FIRST INPUT UNIT #   7  1961  A 616 624  1127
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
6043 59 19          RWD   0                                                #   5  1968  U %U0 R           1127
6044 59 20          MLC   BLANK,0           REMOVE 1401 GENERATED GP MK    #   7  1973  M 619 000       1127
6045 59 21          B     EOSTSP                                           #   4  1980  B U41           1127
6046 59 22   EOF2   A     ATWO,ACNTR        END OF FILE ON SECOND INPUT UNIT #   7  1984  A 617 624       1127
6047 59 23          RWD   0                                                #   5  1991  U %U0 R           1127
6048 59 24          MLC   BLANK,0           REMOVE 1401 GENERATED GP MK    #   7  1996  M 619 000       1128
6049 59 25          B     EOSTSP                                           #   4  2003  B U41           1128
6050 59 26   EOF3   A     AFOUR,ACNTR       END OF FILE ON THIRD INPUT UNIT #   7  2007  A 618 624       1128
6051 59 27          RWD   0                                                #   5  2014  U %U0 R           1128
6052 59 28          MLC   BLANK,0           REMOVE 1401 GENERATED GP MK    #   7  2019  M 619 000       1128
6053 59 29          B     EOSTSP                                           #   4  2026  B U41           1128
6054 59 30   *                                END OF REEL ON OUTPUT UNIT
6055 59 31   EOFW1  NOP   LPSQCP            LAST PASS BRANCH               #   4  2030  N !53           1128
6056 59 32          CS    332                                              #   4  2034  / 332           1129
6057 59 33          CS                                                     #   1  2038  /               1129
6058 59 34          MLC   WROM,227                                         #   7  2039  M !94 227       1129
6059 59 35          W                                                      #   1  2046  2               1129
6060 59 36          CC    1                                                #   2  2047  F 1             1129
6061 59 37          H     *-3                                              #   4  2049  . !49           1129
6062 59 38   LPSQCP C     ACTNR,CTNRML                                     #   7  2053  C 566 539       1129
6063 59 39          BE    LPEOJ             END OF JOB BRANCH              #   5  2060  B W32 S         1130
6064 59 40          B     LMHLTP            END OF REEL BRANCH             #   4  2065  B R12           1130
6065 59 41   WROM   DCW   @OUTPUT EXCEEDS REEL LENGTH@                     #  26  2094                   1130
6066 59 42          LTORG *                                                #      2095
       5847  PADCT  DCW   #06                                              #   6  2100          AREA  1131
       6006  EQHLD        #03                                              #   3  2103          AREA  1131
       6007  HLDX1P       #03                                              #   3  2106          AREA  1131
                          @I8E@                                            #   3  2109          LIT   1131
       6015  CNCF2        #02                                              #   2  2111          AREA  1131
                          @I7G@                                            #   3  2114          LIT   1131
6067 59 43   SAVE   ORG   *                                                #      2115   2115
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

6068 59 44          JOB   ** IBM 1401 SORT 7 VERSION 2 MULTIPHASE
6069 59 45          ORG   ADJEND                                          #          2699
6070 59 46   *              MULTIPHASE WORK LABEL ROUTINE TO PROCESS STANDARD
6071 59 47   *                   HEADER LABELS ON ALL WORK TAPES
6072 59 48   *
6073 59 49   *     TAPES ARE REFERRED TO AS OUTPUT OR INPUT DEPENDING
6074 59 50   *      UPON WHETHER THEY ARE OUTPUT OR INPUT REELS TO THE
6075 59 51   *    NEXT PASS.
6076 59 52   *
6077 59 53   MLHHL1 H     MULEX1         PRESS START TO ACCEPT LABEL      #   4  2699  . Q26            1132
6078 59 54   *                             AS READ.THE REDUNDANT REC.
6079 59 55   *                             WILL BE WRITTEN AS THE H.L.
6080 59 56          B     MULHRD-19    PRESS START RESET/START TO         #   4  2703  B P81            1132
6081 59 57   *                           RETRY UP TO 99 MORE TIMES.
6082 59 58   *
6083 59 59   MLHHL2 H                   PRESS START TO TRY TO WRITE      #   1  2707  .                1132
6084 59 60          MLC   AZERO,MULHC2       THE HEADER LABEL AGAIN  UP TO  #   7  2708  M 608 ?72       1132
6085 59 61          B     MULHWT         9 SKIPS.                         #   4  2715  B R21            1132
6086 59 62   *
6087 59 63   MLHHL3 H     MULEX1         PRESS START TO ACCEPT INPUT      #   4  2719  . Q26            1132
6088 59 64   *                             HEADER LABEL AS READ.
6089 59 65          B     MULHRD-19    PRESS START RESET/START TO         #   4  2723  B P81            1132
6090 59 66   *                           RETRY UP TO 99 MORE TIMES.
6091 59 67   *
6092 59 68   MLHHL4 H     *-3            NO T/M AFTER H.L. WHEN ONE       #   4  2727  . P27            1133
6093 59 69   *                             HAS BEEN SPECIFIED AS BEING
6094 59 70   *                             THERE-RESTART PROG.
6095 59 71   MLHENT SBR   MLHEXT&3                                         #   4  2731  H R54            1133
6096 59 72          MN    TPNOBK,MULST1&14                                 #   7  2735  D 732 P77        1133
6097 59 73          MN    TPNOBK,MULHRD&3                                  #   7  2742  D 732 Q03        1133
6098 59 74          MN    TPNOBK,MULTMR&3                                  #   7  2749  D 732 Q49        1133
6099 59 75          MN    TPNOBK,MLHST3&11                                 #   7  2756  D 732 ?07        1133
6100 59 76   MULST1 CS    181            CLEAR HDR LABEL READ/WRITE AREA  #   4  2763  / 181            1134
6101 59 77          MLCWA 0,181                                           #   7  2767  L 000 181        1134
6102 59 78          RWD   0                                               #   5  2774  U %U0 R          1134
6103 59 79          MLC   SIX 0S-4,MULHC1#2  INIT ERROR COUNTER           #   7  2779  M 609 ?69        1134
6104 59 80          MLC   CENSIG,MULHRD&15                                #   7  2786  M 415 Q15        1134
6105 59 81          MLC   CENSIG,114                                      #   7  2793  M 415 114        1134
6106 59 82   MULHRD RTW   0,101                                           #   8  2800  L %U0 101 R      1135
6107 59 83          BCE   MLHNOS,114,        IF NOISE RECORD             #   8  2808  B R55 114        1135
6108 59 84          BEF   *&1                                             #   5  2816  B Q21 K          1135
6109 59 85          BER   MLHRDP              PARITY ERROR ROUTINE        #   5  2821  B R63 L          1135
6110 59 86   MULEX1 NOP   0                  USERS EXIT                    #   4  2826  N 000            1135
6111 59 87          BCE   MULST2,OPENID,O     IF OUTPUT TAPE              #   8  2830  B Q63 731 O      1135
6112 59 88          BCE   CLR280,THLTMO,     IF NO TM AFTER HL           #   8  2838  B R47 418        1136
6113 59 89   MULTMR RT    0,101              READ TAPEMARK                 #   8  2846  M %U0 101 R      1136
6114 59 90          BEF   CLR280                                          #   5  2854  B R47 K          1136
6115 59 91          B     MLHHL4              ERROR CONDITION             #   4  2859  B P27            1136
6116 59 92   MULST2 MN    TPNOBK,MULEX2&7     INIT I/O INSTRUCTIONS       #   7  2863  D 732 R19        1136
6117 59 93          MN    TPNOBK,MULHWT&3                                 #   7  2870  D 732 R24        1136
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

6118 59 94          MN    TPNOBK,CLR280-2                                  #   7  2877  D 732 R45          1137
6119 59 95          MN    TPNOBK,MLHPWT&10                                 #   7  2884  D 732 ?23          1137
6120 59 96          MN    TPNOBK,MLHST4&3                                  #   7  2891  D 732 ?47          1137
6121 59 97          MLC   @09@,MULHC1          RESET ERROR COUNTER        #   7  2898  M ?71 ?69          1137
6122 59 98          MLC   AZERO,MULHC2#1                                   #   7  2905  M 608 ?72          1137
6123 59 99   MULEX2 NOP   0                    USERS EXIT                 #   4  2912  N 000              1137
6124 60 00          RWD   0                                                #   5  2916  U %U0 R           1138
6125 60 01   MULHWT WT    0,101                                            #   8  2921  M %U0 101 W       1138
6126 60 02          BER   MLHPWT               PARITY ERROR               #   5  2929  B ?13 L           1138
6127 60 03          BCE   *&6,THLTMO,          IF NO T/M AFTER H.L.       #   8  2934  B R47 418         1138
6128 60 04          WTM   0                                                #   5  2942  U %U0 M           1138
6129 60 05   CLR280 CS    181                                              #   4  2947  / 181             1138
6130 60 06   MLHEXT B     0                    RETURN TO NEXT SEQUENTIAL INST #  4  2951  B 000             1138
6131 60 07   *
6132 60 08   MLHNOS CS    114                                              #   4  2955  / 114             1139
6133 60 09          B     MULHRD-14                                        #   4  2959  B P86             1139
6134 60 10   *
6135 60 11   *     READ PARITY ERROR ROUTINE
6136 60 12   *
6137 60 13   *               TRY TO READ HEADER 99 TIMES THEN HALT
6138 60 14   MLHRDP BCE   *&12,OPENID,O       IF OUTPUT TAPE             #   8  2963  B R82 731 O       1139
6139 60 15          SBR   MLHST3&3,MLHHL3                                  #   7  2971  H R99 P19         1139
6140 60 16          B     *&8                                              #   4  2978  B R89             1139
6141 60 17          SBR   MLHST3&3,MLHHL1                                  #   7  2982  H R99 O99         1139
6142 60 18          A     AONE,MULHC1                                      #   7  2989  A 616 ?69         1140
6143 60 19   MLHST3 BWZ   MLHHL1,MULHC1-1,S   IF 99 TRIES                 #   8  2996  V O99 ?68 S       1140
6144 60 20          BSP   0                                                #   5  3004  U %U0 B           1140
6145 60 21          B     MULHRD-14                                        #   4  3009  B P86             1140
6146 60 22   *
6147 60 23   *     WRITE PARITY ERROR ROUTINE
6148 60 24   *
6149 60 25   *               TRY TO WRITE HEADER TWICE IN SAME PLACE THEN
6150 60 26   *                     SPACE FORWARD   AFTER TEN SKIPS HALT
6151 60 27   MLHPWT S     AONE,MULHC1                                      #   7  3013  S 616 ?69         1140
6152 60 28          BSP   0                                                #   5  3020  U %U0 B           1140
6153 60 29          BCE   *&5,MULHC1,G                                     #   8  3025  B ?37 ?69 G       1141
6154 60 30          B     MULHWT                                           #   4  3033  B R21             1141
6155 60 31          MLC   @09@,MULHC1                                      #   7  3037  M ?71 ?69         1141
6156 60 32   MLHST4 SKP   0                                                #   5  3044  U %U0 E           1141
6157 60 33          A     AONE,MULHC2                                      #   7  3049  A 616 ?72         1141
6158 60 34          BCE   MLHHL2,MULHC2,0                                  #   8  3056  B P07 ?72 0       1141
6159 60 35          B     MULHWT                                           #   4  3064  B R21             1142
6160 60 36          LTORG *                                                #            3068
       6103  MULHC1 DCW   #02                                              #   2  3069             AREA  1142
                          @09@                                             #   2  3071             LIT   1142
       6122  MULHC2       #01                                              #   1  3072             AREA  1142
6161 60 37   WKLEND ORG   *                                                #      3073   3073
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
6162 60 38           JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
6163 60 39           ORG   KEEP                                      #          2254
6164 60 40   MLTPHZ  SBR   REDETP&3,STRD1     START OF MULTIPHASE ADJUSTMENT  #   7  2254  H 779 |22          1143
6165 60 41           B     STRD2                                     #   4  2261  B /55               1143
6166 60 42   *                                 PASS P1 SEQUENCES ROUTINE
6167 60 43   PASSP1  MLC   BLANK,0                                   #   7  2265  M 619 000           1143
6168 60 44           MLC   NOP,RDFST2                                #   7  2272  M 614 S28           1143
6169 60 45           BCE   SETP3,CNTRB,1                           #   8  2279  B N02 560 1         1143
6170 60 46   P1CHAR  MLC   SPLCHR,0           MOVE SEQ CHAR TO OUTPUT AREA  #   7  2287  M 625 000           1144
6171 60 47           C     P1AREA,PCNTR       Q SEQ PASSED EQUAL TO P1      #   7  2294  C O86 589           1144
6172 60 48           BE    SETP2                                     #   5  2301  B L81 S             1144
6173 60 49           A     AONE,PCNTR         BUMP SEQUENCE COUNTER         #   7  2306  A 616 589           1144
6174 60 50           B     RNOUTP                                    #   4  2313  B 780               1144
6175 60 51   P1EOF   RWD   0                                         #   5  2317  U %U0 R             1144
6176 60 52           MLC   BLANK,0           REMOVE 1401 GENERATED GP MK   #   7  2322  M 619 000           1145
6177 60 53           C     P1AREA,SIX 0S                             #   7  2329  C O86 613           1145
6178 60 54           BE    SETP2                                     #   5  2336  B L81 S             1145
6179 60 55           SBR   RDFST2&3,PASSP1                           #   7  2341  H S31 K65           1145
6180 60 56   P1EOF2  A     AONE,PCNTR                                #   7  2348  A 616 589           1145
6181 60 57           MLC   KB,RDFST2                                 #   7  2355  M 615 S28           1146
6182 60 58           MLC   I2TUHP,TPNOBK                             #   7  2362  M 629 732           1146
6183 60 59           MLC   KI                                        #   4  2369  M 734               1146
6184 60 60           B     MLHENT                                    #   4  2373  B P31               1146
6185 60 61           B     STRD2                                     #   4  2377  B /55               1146
6186 60 62   *                                 INIT TO PASS P2 SEQ
6187 60 63   SETP2   MN    O1TUHP,WOBR&3      SET NEW OUTPUT TAPE           #   7  2381  D 637 952           1146
6188 60 64           MN    O1TUHP,WORED&3                            #   7  2388  D 637 W84           1147
6189 60 65           MN    O1TUHP,ERTAPP&3                           #   7  2395  D 637 X23           1147
6190 60 66           MLC   SIX 0S,PCNTR       RESET SEQUENCE COUNTER        #   7  2402  M 613 589           1147
6191 60 67           SBR   STEPB&3,PASSP2                            #   7  2409  H S35 M23           1147
6192 60 68           SBR   READ2&11,P2EOF                            #   7  2416  H /95 M67           1147
6193 60 69   *                                 PASS P2 SEQUENCES ROUTINE
6194 60 70   PASSP2  MLC   BLANK,0                                   #   7  2423  M 619 000           1148
6195 60 71   P2CHAR  MLC   SPLCHR,0           MOVE SEQ CHAR TO OUTPUT AREA  #   7  2430  M 625 000           1148
6196 60 72           MLC   NOP,RDFST2                                #   7  2437  M 614 S28           1148
6197 60 73           C     P2AREA,PCNTR       Q SEQ PASSED EQUAL TO P2      #   7  2444  C O92 589           1148
6198 60 74           BE    SETP3                                     #   5  2451  B N02 S             1148
6199 60 75           A     AONE,PCNTR         BUMP COUNTER                  #   7  2456  A 616 589           1149
6200 60 76           B     RNOUTP                                    #   4  2463  B 780               1149
6201 60 77   P2EOF   RWD   0                                         #   5  2467  U %U0 R             1149
6202 60 78           MLC   BLANK,0                                   #   7  2472  M 619 000           1149
6203 60 79           C     P2AREA,SIX 0S                             #   7  2479  C O92 613           1149
6204 60 80           BE    SETP3                                     #   5  2486  B N02 S             1149
6205 60 81           SBR   RDFST2&3,PASSP2                           #   7  2491  H S31 M23           1150
6206 60 82           B     P1EOF2                                    #   4  2498  B L48               1150
6207 60 83   *                                 INIT TO PASS P3 SEQ
6208 60 84   SETP3   MLC   SIX 0S,PCNTR       RESET SEQUENCE COUNTER        #   7  2502  M 613 589           1150
6209 60 85   RTNPP3  MLC   GPMARK,*&4                                #   7  2509  M 350 N19           1150
6210 60 86           LCA   0,002              BYPASS CHECKPOINT WRITTEN     #   7  2516  L 000 002           1150
6211 60 87           MLC   I1TUHP,*&4         DURING PHASE 1                #   7  2523  M 630 N33           1150
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

6212 60 88           RT    0,001                                      #   8  2530  M %U0 001 R       1151
6213 60 89           SBR   RNOUTP&3,ALOW      SET RUNOUT TO PASS SEQUENCES  #   7  2538  H 783 978         1151
6214 60 90           MLC   INPT1P,STEPA&6     FROM FIRST UNIT            #   7  2545  M 669 /05         1151
6215 60 91           SBR   STEPA&3,PASSP3                               #   7  2552  H /02 N63         1151
6216 60 92           B     STRD1              READ FIRST RECORD          #   4  2559  B |22              1151
6217 60 93   *                                 PASS P3 SEQUENCES ROUTINE
6218 60 94   PASSP3  MLC   BLANK,0                                      #   7  2563  M 619 000         1152
6219 60 95   P3CHAR  MLC   SPLCHR,0           MOVE SEQ CHAR TO OUTPUT AREA  #   7  2570  M 625 000         1152
6220 60 96           MLC   NOP,RDFST1                                   #   7  2577  M 614 |95          1152
6221 60 97           C     P3AREA,PCNTR       Q SEQ PASSED EQUAL TO P3   #   7  2584  C O98 589         1152
6222 60 98           BE    READ X                                       #   5  2591  B O59 S             1152
6223 60 99           A     AONE,PCNTR         BUMP COUNTER               #   7  2596  A 616 589         1153
6224 61 00           B     RNOUTP                                       #   4  2603  B 780              1153
6225 61 01   P3EOF   RWD   0                                            #   5  2607  U %U0 R            1153
6226 61 02           MLC   BLANK,0            REMOVE 1401 GENERATED GP MK  #   7  2612  M 619 000         1153
6227 61 03           SBR   RDFST1&3,PASSP3                             #   7  2619  H |98 N63         1153
6228 61 04           MLC   KB,RDFST1                                    #   7  2626  M 615 |95          1153
6229 61 05           A     AONE,PCNTR         BUMP COUNTER               #   7  2633  A 616 589         1154
6230 61 06           MLC   I1TUHP,TPNOBK                                #   7  2640  M 630 732         1154
6231 61 07           MLC   KI                                           #   4  2647  M 734             1154
6232 61 08           B     MLHENT                                       #   4  2651  B P31             1154
6233 61 09           B     RTNPP3                                       #   4  2655  B N09             1154
6234 61 10   READ X  CS    080                READ IN ROUTINE            #   4  2659  / 080              1154
6235 61 11           SW    024,056            FOR MERGING X SEQUENCES    #   7  2663  , 024 056         1154
6236 61 12           SW    063,067                                      #   7  2670  , 063 067         1155
6237 61 13           R     056                                          #   4  2677  1 056             1155
6238 61 14   P1AREA  DCW   @000000@                                     #   6  2686                     1155
6239 61 15   P2AREA  DCW   @000000@                                     #   6  2692                     1155
6240 61 16   P3AREA  DCW   @000000@                                     #   6  2698                     1155
6241 61 17           LTORG *                                            #          2699
6242 61 18   ADJEND  ORG   *                                            #      2699  2699
6243 61 19           ORG   087                                          #            0087
6244 61 20   IREG1   DCW   000                                          #   3  0089                     1156
6245 61 21           ORG   092                                          #            0092
6246 61 22   IREG2   DCW   000                                          #   3  0094                     1157
6247 61 23           ORG   097                                          #            0097
6248 61 24   IREG3   DCW   000                                          #   3  0099                     1158
6249 61 25           ORG   3200                                         #            3200
6250 61 26   LLCHEK  BCE   STRTN,LBBUCK,                                #   8  3200  B B30 414         1159
6251 61 27           CS    80                                           #   4  3208  / 080             1159
6252 61 28           SW    24,56                                        #   7  3212  , 024 056         1159
6253 61 29           SW    63,67                                        #   7  3219  , 063 067         1159
6254 61 30           R     56                                           #   4  3226  1 056             1159
6255 61 31   STRTN   BCE   STU,LABELS,1       LABELS BRANCH              #   8  3230  B B59 413 1       1159
6256 61 32           MLC   NOP,SETP2-8        NOP BRANCHES TO WORK LABEL RTN  #   7  3238  M 614 L73         1160
6257 61 33           MLC   NOP,READ X-8                                 #   7  3245  M 614 O51         1160
6258 61 34           SBR   OWA,2801           SET NO LABELS OUTPUT AREA  #   7  3252  H 555 Q01         1160
6259 61 35   STU     BCE   FRAMOR,LBBUCK,                               #   8  3259  B B92 414         1160
6260 61 36           SBR   SETP2-5,MLHANT    BRANCHES CHANGED FOR 120 CHAR.  #   7  3267  H L76 P31         1160
6261 61 37           SBR   READ X-5,MLHANT                             #   7  3274  H O54 P31         1161
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
6262 61 38          SBR   RWINDP-1,LMHKTP                          #  7  3281  H W50 R09         1161
6263 61 39          SBR   LPSQCP&15                                #  4  3288  H !68             1161
6264 61 40  FRAMOR MLC   I1TUNM,O1TUHP      STORE INPUT AND OUTPUT TAPE  #  7  3292  M 338 637         1161
6265 61 41          MLC   I2TUNM,O2TUHP      UNIT NUMBERS AS USED IN      #  7  3299  M 339 644         1161
6266 61 42          MLC   MI1TUN,I1TUHP      PHASE 1                      #  7  3306  M 341 630         1161
6267 61 43          MLC   MI2TUN,I2TUHP                                   #  7  3313  M 342 629         1162
6268 61 44          SBR   IREG1,MTOA                                     #  7  3320  H 089 855         1162
6269 61 45          MLC   NCFMLT,NCFHDP#2                               #  7  3327  M 096 |3W         1162
6270 61 46          MLC   NOP,AWAY&12                                   #  7  3334  M 614 930         1162
6271 61 47          MLC   OWA,AIRA1                                     #  7  3341  M 555 702         1162
6272 61 48          MA    BLMULT,AIRA1       SET LOCATIONS FOR          #  7  3348  # 085 702         1163
6273 61 49          MLC   AIRA1,AGMEOP       GROUP MARK WORD MARK AT END OF  #  7  3355  M 702 660         1163
6274 61 50          MLC   AIRA1,LGMEOP&6     EACH INPUT                   #  7  3362  M 702 747         1163
6275 61 51          MLC   AIRA1,RWINDP&25    AND OUTPUT AREA              #  7  3369  M 702 W76         1163
6276 61 52          MA    @002@,AIRA1                                     #  7  3376  # |3Z 702         1163
6277 61 53          MLC   AIRA1,AIRA2                                    #  7  3383  M 702 705         1164
6278 61 54          MA    BLMULT,AIRA2                                  #  7  3390  # 085 705         1164
6279 61 55          MA    LIT001,AIRA2                                  #  7  3397  # 604 705         1164
6280 61 56          MLC   AIRA2,LGMEOP&13                               #  7  3404  M 705 754         1164
6281 61 57          MLC   AIRA2,RWINDP&13                               #  7  3411  M 705 W64         1164
6282 61 58          MA    @002@,AIRA2                                   #  7  3418  # |3Z 705         1165
6283 61 59          MLC   AIRA2,AIRA3                                   #  7  3425  M 705 708         1165
6284 61 60          MA    BLMULT,AIRA3                                  #  7  3432  # 085 708         1165
6285 61 61          MA    LIT001,AIRA3                                  #  7  3439  # 604 708         1165
6286 61 62          MLC   AIRA3,LGMEOP&20                               #  7  3446  M 708 761         1165
6287 61 63          MLC   AIRA3,RWINDP&17                               #  7  3453  M 708 W68         1166
6288 61 64          MA    @002@,AIRA3                                   #  7  3460  # |3Z 708         1166
6289 61 65          MLC   AIRA1,EOF1&18      INITIALIZE REMOVAL OF 1401   #  7  3467  M 702 Z79         1166
6290 61 66          MLC   AIRA2,EOF2&18      GENERATED GROUP MARK         #  7  3474  M 705 !02         1166
6291 61 67          MLC   AIRA3,EOF3&18                                   #  7  3481  M 708 !25         1166
6292 61 68          MLC   AIRA3,AIRA4#3                                  #  7  3488  M 708 |4S         1167
6293 61 69          MA    BLMULT,AIRA4                                  #  7  3495  # 085 |4S         1167
6294 61 70          MA    LIT001,AIRA4                                  #  7  3502  # 604 |4S         1167
6295 61 71          MLC   AIRA4,LGMEOP&27                               #  7  3509  M |4S 768         1167
6296 61 72          MLC   AIRA4,RWINDP&21                               #  7  3516  M |4S W72         1167
6297 61 73          MLC   AIRA3,INPT3P                                  #  7  3523  M 708 675         1168
6298 61 74          MA    I99,INPT3P                                    #  7  3530  # 623 675         1168
6299 61 75          MLC   INPT3P,READ3&6                                #  7  3537  M 675 T23         1168
6300 61 76          MLC   OWA,AREFO                                     #  7  3544  M 555 726         1168
6301 61 77          MA    I99,OWA                                       #  7  3551  # 623 555         1168
6302 61 78          MLC   OWA,WOBR&6                                    #  7  3558  M 555 955         1169
6303 61 79          MLC   OWA,WOBR&19        SET LOCATIONS FOR START OF   #  7  3565  M 555 968         1169
6304 61 80          MLC   AIRA1,INPT1P       INPUT READ AREAS             #  7  3572  M 702 669         1169
6305 61 81          MA    I99,INPT1P                                    #  7  3579  # 623 669         1169
6306 61 82          MLC   INPT1P,READ1&6                                #  7  3586  M 669 |57         1169
6307 61 83          MLC   AIRA2,INPT2P                                  #  7  3593  M 705 672         1170
6308 61 84          MA    I99,INPT2P                                    #  7  3600  # 623 672         1170
6309 61 85          MLC   INPT2P,READ2&6                               #  7  3607  M 672 /90         1170
6310 61 86  *                          SET ADDR OF GROUP MARK WORD MARK
6311 61 87          MLC   GPMARK,LGMEOP&3                               #  7  3614  M 350 744         1170
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
6312 61 88           MLC   GPMARK,LGMEOP&10                         #  7  3621  M 350 751        1170
6313 61 89           MLC   GPMARK,LGMEOP&17                         #  7  3628  M 350 758        1171
6314 61 90           MLC   GPMARK,LGMEOP&24                         #  7  3635  M 350 765        1171
6315 61 91           BCE   *&12,LBBUCK,                             #  8  3642  B F61 414        1171
6316 61 92           MLC   GPMARK,MVLST1&8                         #  7  3650  M 350 P71        1171
6317 61 93           B     *&8                                      #  4  3657  B F68            1171
6318 61 94           MLC   GPMARK,MULST1&7                         #  7  3661  M 350 P70        1172
6319 61 95           MLC   AIRA1,NG1          SET NOISE RECORD TEST #  7  3668  M 702 711        1172
6320 61 96           MA    @012@,NG1                                #  7  3675  # |4V 711        1172
6321 61 97           MLC   AIRA2,NG2                                #  7  3682  M 705 714        1172
6322 61 98           MA    @012@,NG2                                #  7  3689  # |4V 714        1172
6323 61 99           MLC   AIRA3,NG3                                #  7  3696  M 708 717        1173
6324 62 00           MA    @012@,NG3                                #  7  3703  # |4V 717        1173
6325 62 01           MLC   NG1,INTF1&6                             #  7  3710  M 711 |70        1173
6326 62 02           MLC   NG2,INTF2&6                             #  7  3717  M 714 S03        1173
6327 62 03           MLC   NG3,INTF3&6                             #  7  3724  M 717 T36        1173
6328 62 04           MLC   CENSIG,INTF1&7                         #  7  3731  M 415 |71        1174
6329 62 05           MLC   CENSIG,INTF2&7                         #  7  3738  M 415 S04        1174
6330 62 06           MLC   CENSIG,INTF3&7                         #  7  3745  M 415 T37        1174
6331 62 07           MLC   NG1,READ1-1                              #  7  3752  M 711 |50        1174
6332 62 08           MLC   NG2,READ2-1                              #  7  3759  M 714 /83        1174
6333 62 09           MLC   NG3,READ3-1                              #  7  3766  M 717 T16        1175
6334 62 10   *                              LOAD MODE INITIALIZATION
6335 62 11           BCE   CMTOA,OUTMLT,M     OUTPUT MOVE MODE BRANCH #  8  3773  B H21 549 M      1175
6336 62 12           MLC   OUTMLT,SBR-6                             #  7  3781  M 549 72Y        1175
6337 62 13   MODMV   MLC   OUTMLT,LMV        CHANGE MOVE INST TO LOAD INST #  7  3788  M 549 871  1175
6338 62 14           BCE   CMTOA,CTMV-1,1                           #  8  3795  B H21 |4W 1       1175
6339 62 15           A     AONE,CTMV#2                              #  7  3803  A 616 |4X         1176
6340 62 16           MA    I99,MODMV&6                              #  7  3810  # 623 G94         1176
6341 62 17           B     MODMV                                    #  4  3817  B G88            1176
6342 62 18   CMTOA   C     NCFHDP,@10@        INITIALIZE MOVE TO     #  7  3821  C |3W |4Z        1176
6343 62 19           BE    CKPOS1             OUTPUT AREA DEPENDENT  #  5  3828  B H51 S          1176
6344 62 20           MA    LIT001,IREG1       UPON NUMBER OF CONTROL FIELDS #  7  3833  # 604 089  1176
6345 62 21           A     AONE,NCFHDP                              #  7  3840  A 616 |3W         1177
6346 62 22           B     CMTOA                                    #  4  3847  B H21            1177
6347 62 23   CKPOS1  BCE   MSBR,CNOPML,                            #  8  3851  B H66 086        1177
6348 62 24           MA    LIT001,IREG1       EXEC ONLY IF CF IN FIRST RCD POS #  7  3859  # 604 089  1177
6349 62 25   MSBR    LCA   SBR,6&X1                                #  7  3866  L 73U 0|6         1177
6350 62 26           LCA                                            #  1  3873  L                1177
6351 62 27           LCA                                            #  1  3874  L                1177
6352 62 28           MLC   IREG1,ST1MVP                           #  7  3875  M 089 696        1178
6353 62 29           MA    LIT006,ST1MVP                            #  7  3882  # |3U 696        1178
6354 62 30           MLC   ST1MVP,*&7                             #  7  3889  M 696 I02        1178
6355 62 31           MLC   OWA,0              MOVE START OF OUTPUT INTO MTOA&6 #  7  3896  M 555 000  1178
6356 62 32           MLC   ST1MVP,WRITE&6                         #  7  3903  M 696 894        1178
6357 62 33           MLC   ST1MVP,ALOW&13                         #  7  3910  M 696 991        1179
6358 62 34           MLC   ST1MVP,BLOW&13                         #  7  3917  M 696 /24        1179
6359 62 35           MLC   ST1MVP,CLOW&13                         #  7  3924  M 696 S57        1179
6360 62 36           MLC   ST1MVP,CKOUT&3                         #  7  3931  M 696 875        1179
6361 62 37           MLC   IREG1,IREG2                            #  7  3938  M 089 094        1179
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

6362 62 38           MA    @I9B@,IREG2        ESTABLISH LOCATION OF IMOVE   #  7  3945  # |5S 094         1180
6363 62 39           MLC   IREG2,INCR1&10                                   #  7  3952  M 094 |02         1180
6364 62 40           MLC   IREG2,INCR2&10                                   #  7  3959  M 094 /35         1180
6365 62 41           MLC   IREG2,INCR3&10                                   #  7  3966  M 094 S68         1180
6366 62 42           MLC   IREG1,IREG3                                      #  7  3973  M 089 099         1180
6367 62 43           MA    @002@,IREG3        ESTABLISH LOCATION OF MTOA&2  #  7  3980  # |3Z 099         1181
6368 62 44           MLC   IREG3,ALOW&6                                     #  7  3987  M 099 984         1181
6369 62 45           MLC   IREG3,BLOW&6                                     #  7  3994  M 099 /17         1181
6370 62 46           MLC   IREG3,CLOW&6                                     #  7  4001  M 099 S50         1181
6371 62 47   *               ESTABLISH S, N, A1, B1, AND C1
6372 62 48   *                 S, TOTAL NUM OF SEQ PRIOR TO ADJUSTMENT
6373 62 49   *                 N, TOTAL NUM OF SEQ AFTER ADJUSTMENT
6374 62 50   *                 A1,B1,C1  NUM OF SEQ ON EACH INPUT TAPE 1,3,4
6375 62 51   *                    RESPECTIVELY AFTER ADJUSTMENT
6376 62 52   *               COMPUTE ADJUSTMENT VALUES Y, X, P1, P2, P3
6377 62 53   *                 Y, NUM OF SEQ TO BE 3 WAY MERGED TO HIGH OUTPUT
6378 62 54   *                 X, NUM OF SEQ TO BE 2 WAY MERGED TO LOW OUTPUT
6379 62 55   *                 P1, NUM OF SEQ TO BE PASSED FROM HIGH INPUT TO
6380 62 56   *                    HIGH OUTPUT TAPE
6381 62 57   *                 P2, NUM OF SEQ TO BE PASSED FROM HIGH INPUT TO
6382 62 58   *                    LOW OUTPUT TAPE
6383 62 59   *                 P3, NUM OF SEQ TO BE PASSED FROM LOW INPUT TO
6384 62 60   *                    LOW OUTPUT TAPE
6385 62 61           A     AONE,CNOSIM                                     #  7  4008  A 616 545         1181
6386 62 62           MLC   CNOSIM,NOSQCT                                   #  7  4015  M 545 |0/         1182
6387 62 63           A     NOSQCT             FIND NUMBER OF SEQUENCES     #  4  4022  A |0/             1182
6388 62 64           A     NOSQCT             ON EACH INPUT TAPE REEL      #  4  4026  A |0/             1182
6389 62 65           A     CNOSIM,NOSQCT                                   #  7  4030  A 545 |0/         1182
6390 62 66           MLC   CNOSIM,SQHOLD                                   #  7  4037  M 545 |0X         1182
6391 62 67           MLC   NOSQCT-1,SEQ1                                   #  7  4044  M |0| |1T         1182
6392 62 68           MLC   NOSQCT-1,SEQ2                                   #  7  4051  M |0| |1Z         1183
6393 62 69           A     AONE,NOMP          BUMP NUM OF MERGE COUNTER    #  7  4058  A 616 571         1183
6394 62 70           C     NOSQCT,@5@                                      #  7  4065  C |0/ |5T         1183
6395 62 71           BE    SEQ/                                            #  5  4072  B 62/ S           1183
6396 62 72   TEST7   C     CNOSIM,@000008@    Q TOTAL SEQUENCES LESS THAN 8#  7  4077  C 545 |5Z         1183
6397 62 73           BH    MODIF1                                          #  5  4084  B 74Y U           1183
6398 62 74           MLC   @9@,CNTRB                                       #  7  4089  M |6| 560         1184
6399 62 75   *               TEST TO FIND FIRST N&3C1 FROM TABLE WHICH IS EQUAL
6400 62 76   *                    TO OR GREATER THAN S
6401 62 77   LOOKUP  C     HOLDC1,CNOSIM                                   #  7  4096  C |3/ 545         1184
6402 62 78           BH    UPTBLE                                          #  5  4103  B 63S U           1184
6403 62 79           S     AREAN,SQHOLD       FIND Y EQUAL TO S-N DIVIDED  #  7  4108  S |2V |0X         1184
6404 62 80           MZ    AONE,SQHOLD        BY THREE[TRUNCATED]          #  7  4115  Y 616 |0X         1184
6405 62 81           MLC   SQHOLD,HOLDSN                                   #  7  4122  M |0X 74X         1185
6406 62 82           A     HOLDSN                                          #  4  4129  A 74X             1185
6407 62 83           A     SQHOLD,HOLDSN                                   #  7  4133  A |0X 74X         1185
6408 62 84           MLC   HOLDSN,ADHOLD                                   #  7  4140  M 74X 99U         1185
6409 62 85           A     ADHOLD,HOLDSN-1                                 #  7  4147  A 99U 74W         1185
6410 62 86           A     ADHOLD,HOLDSN-2                                 #  7  4154  A 99U 74V         1185
6411 62 87           A     ADHOLD,HOLDSN-3                                 #  7  4161  A 99U 74U         1186
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
6412 62 88           A     ADHOLD,HOLDSN-4                            #   7  4168  A 99U 74T         1186
6413 62 89           A     ADHOLD,HOLDSN-5                            #   7  4175  A 99U 74S         1186
6414 62 90           A     ADHOLD,HOLDSN-6                            #   7  4182  A 99U 74/         1186
6415 62 91           A     @5@,HOLDSN-5                               #   7  4189  A |5T 74S         1186
6416 62 92           MLC   HOLDSN-7,YAREA                             #   7  4196  M 74| 601         1187
6417 62 93           MLC   SQHOLD,XAREA       FIND X EQUALTO S-N-2Y    #   7  4203  M |0X 595         1187
6418 62 94           MLC   YAREA,SQHOLD                               #   7  4210  M 601 |0X         1187
6419 62 95           A     SQHOLD                                     #   4  4217  A |0X              1187
6420 62 96           S     SQHOLD,XAREA                               #   7  4221  S |0X 595         1187
6421 62 97           MZ    AONE,XAREA                                 #   7  4228  Y 616 595         1187
6422 62 98           MLC   AREAC1,P1AREA     FIND PASS P1 EQUAL TO C1-Y #   7  4235  M 97W O86         1188
6423 62 99           S     YAREA,P1AREA                               #   7  4242  S 601 O86         1188
6424 63 00           MZ    AONE,P1AREA                                #   7  4249  Y 616 O86         1188
6425 63 01           MLC   SEQ2,P2AREA                               #   7  4256  M |1Z O92         1188
6426 63 02           S     XAREA,P2AREA      FIND PASS P2 EQUAL TO A-X-C1 #   7  4263  S 595 O92         1188
6427 63 03           S     AREAC1,P2AREA                              #   7  4270  S 97W O92         1189
6428 63 04           MZ    AONE,P2AREA                                #   7  4277  Y 616 O92         1189
6429 63 05           MLC   SEQ1,P3AREA      FIND PASS P3 EQUAL TO A&K-X-Y-A1 #   7  4284  M |1T O98         1189
6430 63 06           S     XAREA,P3AREA                               #   7  4291  S 595 O98         1189
6431 63 07           S     YAREA,P3AREA                               #   7  4298  S 601 O98         1189
6432 63 08           S     AREAA1,P3AREA                              #   7  4305  S 98Y O98         1190
6433 63 09           MZ    AONE,P3AREA                                #   7  4312  Y 616 O98         1190
6434 63 10   SPCRTN  MLC   INPT2P,STEPB&6    INITIALIZE INSTRUCTIONS IN #   7  4319  M 672 S38         1190
6435 63 11           MLC   I2TUHP,READ2&3    ADJUSTMENT ROUTINE TO PASS #   7  4326  M 629 /87         1190
6436 63 12           MLC   I1TUHP,P3EOF&3    P1,P2,AND P3 NUMBER        #   7  4333  M 630 O10         1190
6437 63 13           MLC   I2TUHP,P1EOF&3    OF SEQUENCES               #   7  4340  M 629 L20         1191
6438 63 14           MLC   I2TUHP,P2EOF&3                               #   7  4347  M 629 M70         1191
6439 63 15           MA    EOF1&18,P1EOF&11                           #   7  4354  # Z79 L28         1191
6440 63 16           MA    EOF2&18,P2EOF&11                           #   7  4361  # !02 M78         1191
6441 63 17           MA    EOF3&18,P3EOF&11                           #   7  4368  # !25 O18         1191
6442 63 18           MLC   INPT2P,PASSP1&6                           #   7  4375  M 672 K71         1192
6443 63 19           MLC   INPT3P,STEPC&6                           #   7  4382  M 675 T71         1192
6444 63 20           SBR   RDFST2&3,PASSP1                           #   7  4389  H S31 K65         1192
6445 63 21           SBR   STEPB&3,PASSP1                           #   7  4396  H S35 K65         1192
6446 63 22           SBR   RNOUTP&3,BLOW                            #   7  4403  H 783 /11         1192
6447 63 23           MLC   OWA,P1CHAR&6                             #   7  4410  M 555 K93         1193
6448 63 24           MLC   INPT2P,PASSP2&6                          #   7  4417  M 672 M29         1193
6449 63 25           MLC   OWA,P2CHAR&6                             #   7  4424  M 555 M36         1193
6450 63 26           MLC   INPT1P,PASSP3&6                          #   7  4431  M 669 N69         1193
6451 63 27           MLC   OWA,P3CHAR&6                             #   7  4438  M 555 N76         1193
6452 63 28           MLC   SIX 0S-5,I3TUNM                          #   7  4445  M 608 340         1194
6453 63 29           MLC   SIX 0S-5,MI3TUN                          #   7  4452  M 608 343         1194
6454 63 30           SBR   RDFST1&3,PASSP3                          #   7  4459  H |98 N63         1194
6455 63 31           MLC   P1AREA,YCNTR                             #   7  4466  M O86 583         1194
6456 63 32           A     YAREA,YCNTR                              #   7  4473  A 601 583         1194
6457 63 33           MN    O2TUHP,WOBR&3                            #   7  4480  D 644 952         1195
6458 63 34           MN    O2TUHP,WORED&3                           #   7  4487  D 644 W84         1195
6459 63 35           MN    O2TUHP,ERTAPP&3                          #   7  4494  D 644 X23         1195
6460 63 36           MN    O1TUHP,READ3&3                           #   7  4501  D 637 T20         1195
6461 63 37           A     P3AREA,O2TUHP-1                          #   7  4508  A O98 643         1195
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
6462 63 38           A     XAREA,O2TUHP-1                             #   7  4515  A 595 643         1196
6463 63 39           MLC   SEQ1,TUHOLD-1                              #   7  4522  M |1T 650         1196
6464 63 40           MLC   O2TUHP-1,TAPSEQ                          #   7  4529  M 643 657         1196
6465 63 41           A     P2AREA,TAPSEQ                              #   7  4536  A O92 657         1196
6466 63 42           SBR   READ2&11,P1EOF                           #   7  4543  H /95 L17         1196
6467 63 43           MLC   I1TUHP,READ1&3                           #   7  4550  M 630 |54         1197
6468 63 44           MLC   I1TUHP,EOF1&10                          #   7  4557  M 630 Z71         1197
6469 63 45           SBR   READ1&11,P3EOF                          #   7  4564  H |62 O07         1197
6470 63 46           MLC   OWA,REDETP-1                           #   7  4571  M 555 775         1197
6471 63 47           CS    080                 READ OVERLAP INST INTO CORE  #   4  4578  / 080           1197
6472 63 48           SW    24,56                                      #   7  4582  , 024 056         1197
6473 63 49           SW    63,67                                      #   7  4589  , 063 067         1198
6474 63 50           BCE   WLBLOL,LBBUCK,                             #   8  4596  B 60Y 414         1198
6475 63 51   OLYRED  R     056                                        #   4  4604  1 056             1198
6476 63 52   WLBLOL  R                                                #   1  4608  1                 1198
6477 63 53           BCE   OLYRED,68,B                                #   8  4609  B 60U 068 B       1198
6478 63 54           B     WLBLOL                                     #   4  4617  B 60Y             1198
6479 63 55   SEQ/    A     AONE,SEQ1           INCREASE SEQ1 WHEN TOTAL NUM  #   7  4621  A 616 |1T       1198
6480 63 56           B     TEST7               OF SEQUENCES IS ODD        #   4  4628  B 07X             1199
6481 63 57   *               LOOP TO REACH THE NEXT HIGHER LEVEL OF THE
6482 63 58   *                    MULTIPHASE MERGE TABLE
6483 63 59   UPTBLE  MLC   AREAC1,HOLDC1                              #   7  4632  M 97W |3/         1199
6484 63 60           A     AREAB1,AREAC1                              #   7  4639  A 98S 97W         1199
6485 63 61           MLC   HOLDC1,AREAB1                            #   7  4646  M |3/ 98S         1199
6486 63 62           A     AREAA1,AREAB1                              #   7  4653  A 98Y 98S         1199
6487 63 63           MLC   HOLDC1,AREAA1                            #   7  4660  M |3/ 98Y         1199
6488 63 64           A     AREAB1,HOLDC1                              #   7  4667  A 98S |3/         1200
6489 63 65           A     AREAC1,HOLDC1                              #   7  4674  A 97W |3/         1200
6490 63 66           MLC   HOLDC1,AREAN                             #   7  4681  M |3/ |2V         1200
6491 63 67           A     AREAC1,HOLDC1                              #   7  4688  A 97W |3/         1200
6492 63 68           A     AREAC1,HOLDC1                              #   7  4695  A 97W |3/         1200
6493 63 69           A     AREAC1,HOLDC1                              #   7  4702  A 97W |3/         1201
6494 63 70           A     AONE,NOMP                                  #   7  4709  A 616 571         1201
6495 63 71           B     LOOKUP                                     #   4  4716  B 09W             1201
6496 63 72           SBR   RTRN1&3                                    #   4  4720  H 887             1201
6497 63 73           SBR   RTRN2&3                                    #   4  4724  H 977             1201
6498 63 74   SBR     DCW   @M000000@                                  #   7  4734                     1201
6499 63 75   HOLDSN  DCW   @0000000000000@                           #  13  4747                     1202
6500 63 76   MODIF1  BCE   SEQNO1,CNOSIM,1    SET INSTRUCTIONS FOR EXCEPTION  #   8  4748  B 84S 545 1     1202
6501 63 77           BCE   SEQNO2,CNOSIM,2    CASES WHERE TOTAL NUMBER OF     #   8  4756  B 85T 545 2     1202
6502 63 78           BCE   SEQNO3,CNOSIM,3    SEQUENCES IS LESS THAN EIGHT    #   8  4764  B 86U 545 3     1202
6503 63 79           BCE   SEQNO4,CNOSIM,4                            #   8  4772  B 88S 545 4     1203
6504 63 80           BCE   SEQNO5,CNOSIM,5                            #   8  4780  B 91U 545 5     1203
6505 63 81           BCE   SEQNO6,CNOSIM,6                            #   8  4788  B 94W 545 6     1203
6506 63 82           MLC   @7@,CNTRB           SEQUENCE TOTAL EQUALS SEVEN  #   7  4796  M |6/ 560       1203
6507 63 83           MLC   ATWO,NOMP           SET NOMP TO TWO            #   7  4803  M 617 571       1203
6508 63 84           A     AONE,P1AREA         SET P1 TO ONE              #   7  4810  A 616 O86       1204
6509 63 85           A     AONE,P2AREA         SET P2 TO ONE              #   7  4817  A 616 O92       1204
6510 63 86           A     ATWO,P3AREA         SET P3 TO TWO              #   7  4824  A 617 O98       1204
6511 63 87           MLC   AONE,YAREA          SET Y TO ONE               #   7  4831  M 616 601       1204
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

6512 63 88          B     SPCRTN                                       #   4  4838  B 31Z             1204
6513 63 89   SEQNO1 MLC   AONE,CNTRB        SEQUENCE TOTAL EQUALS ONE   #   7  4842  M 616 560        1204
6514 63 90          B     SPCRTN                                       #   4  4849  B 31Z             1205
6515 63 91   SEQNO2 MLC   ATWO,CNTRB        SEQUENCE TOTAL EQUALS TWO   #   7  4853  M 617 560        1205
6516 63 92          B     SPCRTN                                       #   4  4860  B 31Z             1205
6517 63 93   SEQNO3 MLC   AONE,XAREA        SEQUENCE TOTAL EQUALS THREE #   7  4864  M 616 595        1205
6518 63 94          MLC   LIT003,CNTRB      SET X TO ONE                #   7  4871  M 607 560        1205
6519 63 95          B     SPCRTN                                       #   4  4878  B 31Z             1205
6520 63 96   SEQNO4 MLC   AFOUR,CNTRB       SEQUENCE TOTAL EQUALS FOUR  #   7  4882  M 618 560        1206
6521 63 97          MLC   AONE,P2AREA       SET P2 TO ONE               #   7  4889  M 616 O92        1206
6522 63 98          MLC   AONE,P3AREA       SET P3 TO ONE               #   7  4896  M 616 O98        1206
6523 63 99          MLC   AONE,YAREA        SET Y TO ONE                #   7  4903  M 616 601        1206
6524 64 00          B     SPCRTN                                       #   4  4910  B 31Z             1206
6525 64 01   SEQNO5 MLC   @5@,CNTRB         SEQUENCE TOTAL EQUALS FIVE  #   7  4914  M |5T 560        1206
6526 64 02          MLC   AONE,XAREA        SET X TO ONE                #   7  4921  M 616 595        1207
6527 64 03          MLC   AONE,P3AREA       SET P3 TO ONE               #   7  4928  M 616 O98        1207
6528 64 04          MLC   AONE,YAREA        SET Y TO ONE                #   7  4935  M 616 601        1207
6529 64 05          B     SPCRTN                                       #   4  4942  B 31Z             1207
6530 64 06   SEQNO6 MLC   ATWO,XAREA        SEQUENCE TOTAL EQUALS SIX   #   7  4946  M 617 595        1207
6531 64 07          MLC   LIT006,CNTRB      SET X TO TWO                #   7  4953  M |3U 560        1207
6532 64 08          MLC   AONE,YAREA        SET Y TO ONE                #   7  4960  M 616 601        1208
6533 64 09          B     SPCRTN                                       #   4  4967  B 31Z             1208
6534 64 10   AREAC1 DCW   @000001@                                     #   6  4976                    1208
6535 64 11   AREAB1 DCW   @000001@                                     #   6  4982                    1208
6536 64 12   AREAA1 DCW   @000001@                                     #   6  4988                    1208
6537 64 13   ADHOLD DCW   @000000@                                     #   6  4994                    1208
6538 64 14   NOSQCT DCW   @00000000@                                   #   7  5001                    1209
6539 64 15   SQHOLD DCW   @000000@                                     #   6  5007                    1209
6540 64 16   SEQ1   DCW   @000000@                                     #   6  5013                    1209
6541 64 17   SEQ2   DCW   @000000@                                     #   6  5019                    1209
6542 64 18   AREAN  DCW   @000003@                                     #   6  5025                    1209
6543 64 19   HOLDC1 DCW   @000006@                                     #   6  5031                    1209
6544 64 20   LIT006 DCW   @006@                                       #   3  5034                    1210
       6269  NCFHDP DCW   #02                                         #   2  5036             AREA   1210
                         @002@                                       #   3  5039             LIT    1210
       6292  AIRA4        #03                                         #   3  5042             AREA   1210
                         @012@                                       #   3  5045             LIT    1210
       6339  CTMV         #02                                         #   2  5047             AREA   1210
                         @10@                                        #   2  5049             LIT    1210
                         @I9B@                                       #   3  5052             LIT    1211
                         @5@                                         #   1  5053             LIT    1211
       6396              @000008@                                    #   6  5059             LIT    1211
                         @9@                                         #   1  5060             LIT    1211
                         @7@                                         #   1  5061             LIT    1211
6545 64 21          EX    LLCHEK                                       #          B B00               1212
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

6546 64 22          JOB   ** IBM 1401 SORT 7 VERSION 2 MULTIPHASE
6547 64 23   *
6548 64 24   *              120 CHARACTER WORK LABEL ROUTINE
6549 64 25          ORG   ADJEND                                           #          2699
6550 64 26   *              TAPES ARE REFERRED TO AS OUTPUT OR INPUT DEPENDING
6551 64 27   *              ON WHETHER THEY ARE OUTPUT OR INPUT REELS TO NXT PS
6552 64 28   MLHIL1 H      MULAX1              PRESS START TO ACCEPT LABEL AS  #   4  2699  . Q27             1215
6553 64 29   *                                   READ.THE REDUNDANT RECORD WILL
6554 64 30   *                                   BE WRITTEN AS THE HEADER LABEL
6555 64 31          B     MVLHRD-14           PRESS START/RESET-START TO RETRY #   4  2703  B P87             1215
6556 64 32   *                                   UP TO 99 MORE TIMES
6557 64 33   MLHIL2 H                           PRESS START TO TRY TO WRITE THE #   1  2707  .                 1215
6558 64 34          MLC   AZERO,MVLHC2                                     #   7  2708  M 608 ?72          1215
6559 64 35          B     MVLHWT                                           #   4  2715  B R22             1215
6560 64 36   MLHIL3 H      MULAX1               PRESS START TO ACCEPT INPUT HDR #   4  2719  . Q27             1215
6561 64 37          B     MVLHRD-14           LABEL AS READ.PRESS START RESET #   4  2723  B P87             1215
6562 64 38   *                                   START TO RETRY UP TO 99 TIMES
6563 64 39   MLHIL4 H      *-3                 NO TAPEMARK AFTER HL WHEN ONE HAS #   4  2727  . P27             1216
6564 64 40   *                                   BEEN SPECIFIED-RESTART PROGRAM
6565 64 41   MLHANT SBR    MLHAXT&3                                         #   4  2731  H R56             1216
6566 64 42          MLNS  TPNOBK,MVLST1&15                                 #   7  2735  D 732 P78          1216
6567 64 43          MLNS  TPNOBK,MVLHRD&3                                  #   7  2742  D 732 Q04          1216
6568 64 44          MLNS  TPNOBK,MVLTMR&3                                  #   7  2749  D 732 Q50          1216
6569 64 45          MLNS  TPNOBK,MEHST3&11                                 #   7  2756  D 732 ?09          1216
6570 64 46   MVLST1 CS     332                                              #   4  2763  / 332             1217
6571 64 47          CS                                                     #   1  2767  /                   1217
6572 64 48          MLCWA 0,321                                            #   7  2768  L 000 321          1217
6573 64 49          RWD   0                                                #   5  2775  U %U0 R            1217
6574 64 50          MLC   SIX 0S-4,MVLHC1#2                                #   7  2780  M 609 ?71          1217
6575 64 51          MLC   CENSIG,MKHNOS&7                                  #   7  2787  M 415 Q16          1217
6576 64 52          MLC   CENSIG,214                                       #   7  2794  M 415 214          1217
6577 64 53   MVLHRD RTW    0,201                                            #   8  2801  L %U0 201 R       1218
6578 64 54   MKHNOS BCE    MLHNUS,214,        BRANCH IF NOISE RECORD        #   8  2809  B R57 214         1218
6579 64 55          BEF   *&1                                              #   5  2817  B Q22 K           1218
6580 64 56          BER   MEHRDP              BRANCH TO PARITY ERROR ROUTINE #   5  2822  B R65 L           1218
6581 64 57   MULAX1 NOP   0                   USERS EXIT                    #   4  2827  N 000             1218
6582 64 58          BCE   MVLST2,OPENID,O     IF OUTPUT TAPE                #   8  2831  B Q64 731 O       1218
6583 64 59          BCE   CLR331,THLTMO,       NO TAPEMARK AFTER HEADER LABEL #   8  2839  B R48 418       1219
6584 64 60   MVLTMR RT    0,201             READ TAPEMARK                   #   8  2847  M %U0 201 R       1219
6585 64 61          BEF   CLR331                                           #   5  2855  B R48 K           1219
6586 64 62          B     MLHIL4              A TAPEMARK SHOULD BE PRESENT  #   4  2860  B P27             1219
6587 64 63   MVLST2 MLNS  TPNOBK,MULAX2&7     INIT I/O INSTRUCTIONS         #   7  2864  D 732 R20          1219
6588 64 64          MLNS  TPNOBK,MVLHWT&3                                  #   7  2871  D 732 R25          1219
6589 64 65          MLNS  TPNOBK,CLR331-2                                  #   7  2878  D 732 R46          1220
6590 64 66          MLNS  TPNOBK,MEHPWT&10                                 #   7  2885  D 732 ?25          1220
6591 64 67          MLNS  TPNOBK,MEHST4&3                                  #   7  2892  D 732 ?49          1220
6592 64 68          MLC   AZERO,MVLHC2#1                                   #   7  2899  M 608 ?72          1220
6593 64 69          MLC   @09@,MVLHC1          RESET ERROR COUNTER         #   7  2906  M ?74 ?71          1220
6594 64 70   MULAX2 NOP   0                   USER EXIT                     #   4  2913  N 000             1220
6595 64 71          RWD   0                                                #   5  2917  U %U0 R           1221
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

6596 64 72   MVLHWT WT    0,201                                            #   8  2922  M %U0 201 W       1221
6597 64 73          BER   MEHPWT              PARITY ERROR                 #   5  2930  B ?15 L          1221
6598 64 74          BCE   *&6,THLTMO,         NO TAPEMARK AFTER HEADER LABEL #   8  2935  B R48 418        1221
6599 64 75          WTM   0                                              #   5  2943  U %U0 M          1221
6600 64 76   CLR331 CS    332                                            #   4  2948  / 332             1221
6601 64 77          CS                                                   #   1  2952  /                 1221
6602 64 78   MLHAXT B     0                   RETURN TO NEXT SEQUENTIAL INST #   4  2953  B 000           1222
6603 64 79   MLHNUS CS    220                 CLEAR NOISE RECORD           #   4  2957  / 220           1222
6604 64 80          B     MVLHRD                                           #   4  2961  B Q01           1222
6605 64 81   *
6606 64 82   *             READ PARITY ERROR ROUTINE
6607 64 83   *             TRY TO READ HEADER 99 TIMES THEN HALT
6608 64 84   MEHRDP BCE   *&12,OPENID,O       IF OUTPUT TAPE               #   8  2965  B R84 731 O       1222
6609 64 85          SBR   MEHST3,MLHIL3                                    #   7  2973  H R98 P19         1222
6610 64 86          B     *&8                                              #   4  2980  B R91           1222
6611 64 87          SBR   MEHST3,MLHIL1                                    #   7  2984  H R98 O99         1222
6612 64 88          A     AONE,MVLHC1                                      #   7  2991  A 616 ?71         1223
6613 64 89   MEHST3 BWZ   MLHIL1,MVLHC1-1,S  IF 99 TRIES                  #   8  2998  V O99 ?70 S      1223
6614 64 90          BSP   0                                              #   5  3006  U %U0 B           1223
6615 64 91          B     MVLHRD                                           #   4  3011  B Q01           1223
6616 64 92   *
6617 64 93   *             WRITE PARITY ERROR ROUTINE
6618 64 94   *
6619 64 95   *             TRY TO WRITE HEADER TWICE IN SAME PLACE THEN SPACE
6620 64 96   *             FOWARD----AFTER TEN SKIPS-HALT----
6621 64 97   MEHPWT S     AONE,MVLHC1                                      #   7  3015  S 616 ?71         1223
6622 64 98          BSP   0                                              #   5  3022  U %U0 B           1223
6623 64 99          BCE   *&5,MVLHC1,G                                    #   8  3027  B ?39 ?71 G      1224
6624 65 00          B     MVLHWT                                           #   4  3035  B R22           1224
6625 65 01          MLC   @09@,MVLHC1                                      #   7  3039  M ?74 ?71         1224
6626 65 02   MEHST4 SKP   0                                              #   5  3046  U %U0 E           1224
6627 65 03          A     AONE,MVLHC2                                      #   7  3051  A 616 ?72         1224
6628 65 04          BCE   MLHIL2,MVLHC2,0                                 #   8  3058  B P07 ?72 0      1224
6629 65 05          B     MVLHWT                                           #   4  3066  B R22           1225
6630 65 06          LTORG *                                                #            3070
       6574 MVLHC1 DCW   #02                                              #   2  3071           AREA  1225
       6592 MVLHC2       #01                                              #   1  3072           AREA  1225
                         @09@                                             #   2  3074           LIT   1225
6631 65 07   WKLAND ORG   *                                                #      3075  3075
6632 65 08          EX    STRTN                                            #            B B30           1226
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

6633 65 09          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
6634 65 10          ORG   3200                                      #          3200
6635 65 11  OVLAP   MLC   CTNRML,CNAR#6      ESTABLISH NUM OF RCDS  #   7  3200  M 539 19/          1229
6636 65 12          S     PDCPUT,CNAR                              #   7  3207  S 548 19/          1229
6637 65 13          MZ    BLANK,CNAR                               #   7  3214  Y 619 19/          1229
6638 65 14          MLC   NOMP,NMPP2#2                            #   7  3221  M 571 19T          1229
6639 65 15          MLC   NMPP2,PRMSA                              #   7  3228  M 19T 10U          1229
6640 65 16          MLC   NMPP2,NMPL                               #   7  3235  M 19T 559          1230
6641 65 17          CS    332                                      #   4  3242  / 332              1230
6642 65 18          CS                                             #   1  3246  /                  1230
6643 65 19          MLC   PRMSA,227                                #   7  3247  M 10U 227          1230
6644 65 20          W                                              #   1  3254  2                  1230
6645 65 21          CC    K                      PRINT TOTAL NUMBER OF MERGES  #   2  3255  F K                1230
6646 65 22          MLC   CTNRML,PMSC1P-22                        #   7  3257  M 539 11|          1230
6647 65 23          MLC   CNAR,PRMSD-22                          #   7  3264  M 19/ 13Y          1231
6648 65 24          CS    228                                      #   4  3271  / 228              1231
6649 65 25          MLC   PRMSD,228                               #   7  3275  M 16| 228          1231
6650 65 26          W                      PRINT ACTUAL NUMBER OF RECORDS  #   1  3282  2                  1231
6651 65 27          CS    332                                      #   4  3283  / 332              1231
6652 65 28          CS                                             #   1  3287  /                  1231
6653 65 29          MLC   PDCPUT,PRMSE-22                        #   7  3288  M 548 16T          1231
6654 65 30          MLC   PRMSE,228                               #   7  3295  M 18V 228          1232
6655 65 31          W                      PRINT NUMBER OF PADDED RECORDS  #   1  3302  2                  1232
6656 65 32          CS    332                                      #   4  3303  / 332              1232
6657 65 33          CS                                             #   1  3307  /                  1232
6658 65 34          MLC   PMSC1P,228                               #   7  3308  M 13S 228          1232
6659 65 35          W                      PRINT TOTAL OF ACTUAL AND  #   1  3315  2                  1232
6660 65 36          CC    1                PADDED RECORDS          #   2  3316  F 1                  1232
6661 65 37          MLC   @I9W@,IREG1                              #   7  3318  M 19W 089          1233
6662 65 38          BCE   LD12K,MSMULT,5                          #   8  3325  B H91 344 5        1233
6663 65 39          BCE   LD16K,MSMULT,6                          #   8  3333  B I02 344 6        1233
6664 65 40  LDCST   LCA   SIX 0S,0&X1        INITIALIZE AREA AND INSTRUCTIONS  #   7  3341  L 613 0|0          1233
6665 65 41          LCA   SIX 0S             FOR COUNTING NUMBER OF RECORDS  #   4  3348  L 613              1233
6666 65 42          SBR   CLEPS              PROCESSED               #   4  3352  H 563              1233
6667 65 43          MLC   IREG1,ACNT                               #   7  3356  M 089 569          1234
6668 65 44          MLC   ACNT,SUBT B&6                            #   7  3363  M 569 Z56          1234
6669 65 45          MA    @I9D@,IREG1                              #   7  3370  # 19Z 089          1234
6670 65 46          MLC   IREG1,ACTNR                              #   7  3377  M 089 566          1234
6671 65 47          MLC   ACTNR,KOWNT&6                          #   7  3384  M 566 905          1234
6672 65 48          MLC   ACTNR,AWAY&3                           #   7  3391  M 566 921          1235
6673 65 49          MLC   ACTNR,LPSQCP&3                         #   7  3398  M 566 !56          1235
6674 65 50          MLC   AIRA1,NDRA1P        END OF FIRST READ AREA  #   7  3405  M 702 678          1235
6675 65 51          MA    BLMULT,NDRA1P                            #   7  3412  # 085 678          1235
6676 65 52          MA    I99,NDRA1P                               #   7  3419  # 623 678          1235
6677 65 53          MLC   AIRA2,NDRA2P        END OF SECOND READ AREA  #   7  3426  M 705 681          1236
6678 65 54          MA    BLMULT,NDRA2P                            #   7  3433  # 085 681          1236
6679 65 55          MA    I99,NDRA2P                               #   7  3440  # 623 681          1236
6680 65 56          MLC   AIRA3,NDRA3P        END OF THIRD READ AREA  #   7  3447  M 708 684          1236
6681 65 57          MA    BLMULT,NDRA3P                            #   7  3454  # 085 684          1236
6682 65 58          MA    I99,NDRA3P                               #   7  3461  # 623 684          1237
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
6683 65 59          MLC   CFIREM,CMPABP&3    SET COMPARE INSTR     #   7  3468  M 337 787         1237
6684 65 60          MLC   CFIREM,CMPABP&6                          #   7  3475  M 337 790         1237
6685 65 61          MLC   CFIREM,CMPBCP&3                          #   7  3482  M 337 808         1237
6686 65 62          MLC   CFIREM,CMPBCP&6                          #   7  3489  M 337 811         1237
6687 65 63          MLC   CFIREM,CMPACP&3                          #   7  3496  M 337 829         1238
6688 65 64          MLC   CFIREM,CMPACP&6                          #   7  3503  M 337 832         1238
6689 65 65          MZ    *-6,CMPABP&2                            #   7  3510  Y E10 786         1238
6690 65 66          MZ    *-6,CMPACP&2                            #   7  3517  Y E17 828         1238
6691 65 67          MZ    NOP,CMPABP&5                            #   7  3524  Y 614 789         1238
6692 65 68          MZ    NOP,CMPBCP&2                            #   7  3531  Y 614 807         1239
6693 65 69          MZ    KB,CMPACP&5                             #   7  3538  Y 615 831         1239
6694 65 70          MZ    KB,CMPBCP&5                             #   7  3545  Y 615 810         1239
6695 65 71          MLC   OWA,ARELO                               #   7  3552  M 555 720         1239
6696 65 72          MA    BLMULT,ARELO                            #   7  3559  # 085 720         1239
6697 65 73          MLC   AIRA1,CMP11P      FIRST READ AREA CF    #   7  3566  M 702 687         1240
6698 65 74          MA    CFIREM,CMP11P                           #   7  3573  # 337 687         1240
6699 65 75          MA    I99,CMP11P                              #   7  3580  # 623 687         1240
6700 65 76          MLC   AIRA2,CMP12P      SECOND READ AREA CF   #   7  3587  M 705 690         1240
6701 65 77          MA    CFIREM,CMP12P                           #   7  3594  # 337 690         1240
6702 65 78          MA    I99,CMP12P                              #   7  3601  # 623 690         1241
6703 65 79          MLC   AIRA3,CMP13P      THIRD READ AREA CF    #   7  3608  M 708 693         1241
6704 65 80          MA    CFIREM,CMP13P                           #   7  3615  # 337 693         1241
6705 65 81          MA    I99,CMP13P                              #   7  3622  # 623 693         1241
6706 65 82          BCE   CCFW1,DESCND,                           #   8  3629  B G16 090         1241
6707 65 83          MLC   SNGLET,CMPABP&16  DESCENDING ORDER INITIALIZATION  #   7  3637  M 07V 800         1242
6708 65 84          MLC   SNGLET,CMPBCP&16      EXCHANGE BHS AND BLS        #   7  3644  M 07V 821         1242
6709 65 85          MLC   SNGLET,CMPACP&16                        #   7  3651  M 07V 842         1242
6710 65 86          MLC   SNGLET,CMNCF&16                         #   7  3658  M 07V Y71         1242
6711 65 87          MLC   SNGLEU,CMPABP&11                        #   7  3665  M 07W 795         1242
6712 65 88          MLC   SNGLEU,CMPBCP&11                        #   7  3672  M 07W 816         1243
6713 65 89          MLC   SNGLEU,CMPACP&11                        #   7  3679  M 07W 837         1243
6714 65 90          MLC   SNGLEU,CMNCF&11                         #   7  3686  M 07W Y66         1243
6715 65 91          BCE   CCFW1,PIMULT,6                          #   8  3693  B G16 193 6       1243
6716 65 92          BCE   CHG9PD,PIMULT,9       CHANGE PADDING INDICATOR  #   8  3701  B H80 193 9       1243
6717 65 93          MLC   SNGLE9,PIMULT                          #   7  3709  M 07X 193         1244
6718 65 94   CCFW1  C     NCFMLT,AONE                             #   7  3716  C 096 616         1244
6719 65 95          BU    CKRWD                                   #   5  3723  B G49 /           1244
6720 65 96   *                            CLEAR EQUALS ROUTINE
6721 65 97          MLC   BLANK,CMPABP&16                         #   7  3728  M 619 800         1244
6722 65 98          MLC   BLANK,CMPBCP&16                         #   7  3735  M 619 821         1244
6723 65 99          MLC   BLANK,CMPACP&16                         #   7  3742  M 619 842         1245
6724 66 00   CKRWD  BCE   CMBOL,UNLOAD,                          #   8  3749  B G85 416         1245
6725 66 01          MLC   SNGLEU,EOF1&11   REWIND AND UNLOAD INITIALIZATION  #   7  3757  M 07W Z72         1245
6726 66 02          MLC   SNGLEU,EOF2&11                          #   7  3764  M 07W Z95         1245
6727 66 03          MLC   SNGLEU,EOF3&11                          #   7  3771  M 07W !18         1245
6728 66 04          MLC   SNGLEU,RWINDP&9                         #   7  3778  M 07W W60         1246
6729 66 05   *                            COMPUTE OUTPUT BLOCK LENGTH
6730 66 06   CMBOL  MA    LMULTI,BOL                              #   7  3785  # 347 723         1246
6731 66 07          A     AONE,CNBOL#3                            #   7  3792  A 616 20S         1246
6732 66 08          C     CNBOL,BOMULT                            #   7  3799  C 20S 185         1246
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
6733 66 09           BU    CMBOL                                      #   5  3806  B G85 /           1246
6734 66 10           MLC   OWA,ARELBP                               #   7  3811  M 555 663         1247
6735 66 11           MA    BOL,ARELBP                                #   7  3818  # 723 663         1247
6736 66 12           MLC   ARELBP,AGMEBP                             #   7  3825  M 663 666         1247
6737 66 13           MA    LIT001,AGMEBP                             #   7  3832  # 604 666         1247
6738 66 14   *                              COMPUTE PADDING REQUIREMENTS
6739 66 15           BCE   REED,PIMULT,6                             #   8  3839  B I13 193 6       1247
6740 66 16           MLC   PDCPUT,PDELMP#3                          #   7  3847  M 548 20V         1248
6741 66 17   HWMCHP  S     BOMULT,PDELMP                             #   7  3854  S 185 20V         1248
6742 66 18           BWZ   REED,PDELMP,K                           #   8  3861  V I13 20V K       1248
6743 66 19           A     BOMULT,RMOVEP                             #   7  3869  A 185 699         1248
6744 66 20           B     HWMCHP                                    #   4  3876  B H54             1248
6745 66 21   CHG9PD  MLC   BLANK,PIMULT                             #   7  3880  M 619 193         1249
6746 66 22           B     CCFW1                                     #   4  3887  B G16             1249
6747 66 23   LD12K   MA    @00|@,IREG1        MODIFY FOR 12K SYSTEM  #   7  3891  # 20Y 089        1249
6748 66 24           B     LDCST                                     #   4  3898  B C41             1249
6749 66 25   LD16K   MA    @00!@,IREG1        MODIFY FOR 16K SYSTEM  #   7  3902  # 21/ 089        1249
6750 66 26           B     LDCST                                     #   4  3909  B C41             1249
6751 66 27   REED    CS    080                DETERMINE REDUNDANCY ROUTINE  #   4  3913  / 080      1249
6752 66 28           MLC   INPT1P,IREG1       REQUESTED BY USER      #   7  3917  M 669 089         1250
6753 66 29           MLC   INPT2P,IREG2                              #   7  3924  M 672 094         1250
6754 66 30           MLC   INPT3P,IREG3                              #   7  3931  M 675 099         1250
6755 66 31           SW    24,56                                     #   7  3938  , 024 056         1250
6756 66 32           SW    63,67                                     #   7  3945  , 063 067         1250
6757 66 33           BCE   STURPP,URPIML,C                          #   8  3952  B 02/ 186 C       1251
6758 66 34           SBR   RED&7,REDSQ&6                           #   7  3960  H Y97 J36         1251
6759 66 35           MLC   SETZN,SETZN-7                           #   7  3967  M Z19 Z12         1251
6760 66 36           MLC   @A@,SUBT B                              #   7  3974  M 21S Z50         1251
6761 66 37           MLC   *-6,WOBR-14                             #   7  3981  M I81 935         1251
6762 66 38           BCE   STURQP,URPIML,P                         #   8  3988  B 01U 186 P       1252
6763 66 39           SBR   SETZN&6,BBPQQG&5                        #   7  3996  H Z25 J42         1252
6764 66 40           MLC   SNGLET,IDENT&7                         #   7  4003  M 07V 03W         1252
6765 66 41           B     IDENT-1                                   #   4  4010  B 02Y             1252
6766 66 42   STURQP  SBR   SETZN&6,MHBB1&2                         #   7  4014  H Z25 J71         1252
6767 66 43   STURPP  MLC   URPIML,IDENT&7    READ INTO CORE         #   7  4021  M 186 03W         1253
6768 66 44           R                        REQUESTED REDUNDANCY ROUTINE  #   1  4028  1          1253
6769 66 45   IDENT   BCE   056,079,                                  #   8  4029  B 056 079         1253
6770 66 46           R     IDENT                                     #   4  4037  1 02Z             1253
6771 66 47   RANOTP  CS    080                                       #   4  4041  / 080             1253
6772 66 48           SW    24,56                                     #   7  4045  , 024 056         1253
6773 66 49           SW    63,67                                     #   7  4052  , 063 067         1253
6774 66 50           R     FRGETP                                    #   4  4059  1 06T             1254
6775 66 51   *                              BYPASS OTHER REDUND RTN
6776 66 52   *                              LOAD NEXT INIT RTN AND BR TO STBRG
6777 66 53   FRGETP  BCE   056,079,                                  #   8  4063  B 056 079         1254
6778 66 54           R     FRGETP                                    #   4  4071  1 06T             1254
6779 66 55   SNGLET  DCW   @T@                                       #   1  4075                     1254
6780 66 56   SNGLEU  DCW   @U@                                       #   1  4076                     1254
6781 66 57   SNGLE9  DCW   @9@                                       #   1  4077                     1254
6782 66 58   PRMSA   DCW   @NUM OF MULTIPHASE PASSES 00@            #  27  4104                     1255
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
6783 66 59   PMSC1P DCW   @       -RECORDS READ-PASS 00@          #  28  4132                    1256
6784 66 60   PRMSD  DCW   @       -RECORDS READ-PASS 00@          #  28  4160                    1257
6785 66 61   PRMSE  DCW   @000 PAD REC ADDED-PASS 00@            #  25  4185                    1258
       6635  CNAR   DCW   #06                                     #   6  4191             AREA   1258
       6638  NMPP2        #02                                     #   2  4193             AREA   1258
                          @I9W@                                   #   3  4196             LIT    1258
                          @I9D@                                   #   3  4199             LIT    1258
       6731  CNBOL        #03                                     #   3  4202             AREA   1259
       6740  PDELMP       #03                                     #   3  4205             AREA   1259
                          @00|@                                   #   3  4208             LIT    1259
                          @00!@                                   #   3  4211             LIT    1259
                          @A@                                     #   1  4212             LIT    1259
6786 66 62           EX    OVLAP                                   #             B B00             1260
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

6787 66 63          JOB   ** IBM 1401 SORT 7 VERSION 1  MULTIPHASE  PUNCH URPI
6788 66 64          ORG   SAVE                                              #          2115
6789 66 65   BBP2   MLC   AONE,0                                            #   7  2115  M 616 000         1263
6790 66 66          BCE   *&8,0,            IF START OF SEQUENCE           #   8  2122  B J37 000         1263
6791 66 67   REDSQ  MLC   *-6,0             ACTIVATE SEQ CHAR MOVE         #   7  2130  M J30 000         1263
6792 66 68          MLC   SIX 0S-3,CT3DG                                    #   7  2137  M 610 K50         1263
6793 66 69   PBB    SBR   MHBB1&13,100                                      #   7  2144  H J82 100         1263
6794 66 70          CS    180                                               #   4  2151  / 180             1264
6795 66 71   MBB2   MA    LIT001,MHBB1&3                                    #   7  2155  # 604 J72         1264
6796 66 72          MA    LIT001,MHBB1&13                                   #   7  2162  # 604 J82         1264
6797 66 73   MHBB1  MLC   0,CNRR-1                                          #   7  2169  M 000 727         1264
6798 66 74          MLC   CNRR-1,0                                          #   7  2176  M 727 000         1264
6799 66 75          MA    LIT001,CT3DG                                      #   7  2183  # 604 K50         1264
6800 66 76          C     CT3DG,BLMULT                                      #   7  2190  C K50 085         1265
6801 66 77          BE    PCHB1P                                            #   5  2197  B K18 S           1265
6802 66 78          BCE   PCHB2P,MHBB1&12,8                                 #   8  2202  B K14 J81 8       1265
6803 66 79          B     MBB2                                              #   4  2210  B J55             1265
6804 66 80   PCHB2P P     PBB               PUNCH FULL CARD                 #   4  2214  4 J44             1265
6805 66 81   PCHB1P P                       PUNCH LAST CHAR OF UNREADABLE BLK #   1  2218  4               1265
6806 66 82          MLC   SIX 0S-3,MHBB1&3                                  #   7  2219  M 610 J72         1265
6807 66 83          MA    @I8I@,RETN&3                                      #   7  2226  # K53 Z49         1266
6808 66 84          MLC   KB,PDSW                                          #   7  2233  M 615 906         1266
6809 66 85          CS    180                                               #   4  2240  / 180             1266
6810 66 86          B     RETN                                              #   4  2244  B Z46             1266
6811 66 87   CT3DG  DCW   @   @                                            #   3  2250                    1266
6812 66 88          LTORG *                                                 #          2251
                    DCW   @I8I@                                           #   3  2253            LIT   1266
6813 66 89   KEEP   ORG   *                                                 #      2254   2254
6814 66 90          EX    RANOTP                                            #          B 04/              1267
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

6815 66 91           JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE  CORRECT
6816 66 92           ORG   SAVE                                              #            2115                
6817 66 93   BBP3    NOP   TSSG2                                             #    4  2115  N K22               1270
6818 66 94           MLC   SIX 0S,CT3G1P#3                                  #    7  2119  M 613 K41           1270
6819 66 95   PRTBB   SBR   MHBB&13,200                                       #    7  2126  H J65 200           1270
6820 66 96           CS    332                                               #    4  2133  / 332               1270
6821 66 97           CS                                                      #    1  2137  /                   1270
6822 66 98   MBB1    MA    LIT001,MHBB&3                                     #    7  2138  # 604 J55           1270
6823 66 99           MA    LIT001,MHBB&13                                    #    7  2145  # 604 J65           1270
6824 67 00   MHBB    MLC   0,CNRR-1                                          #    7  2152  M 000 727           1271
6825 67 01           MLC   CNRR-1,0                                          #    7  2159  M 727 000           1271
6826 67 02           MA    LIT001,CT3G1P                                     #    7  2166  # 604 K41           1271
6827 67 03           C     CT3G1P,BLMULT                                     #    7  2173  C K41 085           1271
6828 67 04           BE    PRTB2P                                            #    5  2180  B K12 S             1271
6829 67 05           BCE   PRTB1P,MHBB&11,3                                 #    8  2185  B K08 J63 3           1272
6830 67 06           B     MBB1                                              #    4  2193  B J38               1272
6831 67 07   COREKP  MLC   KB,BBP3                                           #    7  2197  M 615 J15           1272
6832 67 08           B     BCKSPP                                            #    4  2204  B Z41               1272
6833 67 09   PRTB1P  W     PRTBB              PRINT UNREADABLE BLOCK         #    4  2208  2 J26               1272
6834 67 10   PRTB2P  W                       100 CHARACTERS PER LINE         #    1  2212  2                   1272
6835 67 11           MLC   SIX 0S-3,MHBB&3                                  #    7  2213  M 610 J55           1272
6836 67 12           CC    1                                                 #    2  2220  F 1               1273
6837 67 13   TSSG2   H                                                       #    1  2222  .                   1273
6838 67 14   *               PUT SENSE SWITCH G ON TO REREAD RECORD IN ORDER TO
6839 67 15   *               CORRECT.  IF RECORD IS TO BE ACCEPTED AFTER
6840 67 16   *               CORRECTION, SET SENSE SWITCH G OFF AND PRESS START.
6841 67 17           BSS   COREKP,G                                          #    5  2223  B J97 G             1273
6842 67 18           MLC   NOP,BBP3                                          #    7  2228  M 614 J15           1273
6843 67 19   SMOREP  B     0                                                 #    4  2235  B 000               1273
6844 67 20           LTORG *                                                 #            2239                
       6818  CT3G1P  DCW   #03                                              #    3  2241              AREA  1273
6845 67 21           EX    RANOTP                                            #            B 04/               1274
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

6846 67 22          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE  TAPE URPI
6847 67 23          ORG   SAVE                                              #           2115
6848 67 24   BBP4   MLC   AONE,0                                            #   7  2115  M 616 000          1277
6849 67 25          BCE   *&8,0,            IF START OF SEQUENCE            #   8  2122  B J37 000          1277
6850 67 26          MLC   *-6,0             ACTIVATE SEQ CHAR MOVE          #   7  2130  M J30 000          1277
6851 67 27   BBPQQG WT    0,1               WRITE UNREADABLE BLOCK ON TAPE  #   8  2137  M %U0 001 W        1277
6852 67 28          BEF   BTPEF                                             #   5  2145  B K02 K            1277
6853 67 29          BER   BTPER                                             #   5  2150  B J88 L            1278
6854 67 30          CS    332                                               #   4  2155  / 332              1278
6855 67 31          CS                                                      #   1  2159  /                  1278
6856 67 32          MLC   UNMSG,223                                         #   7  2160  M K28 223          1278
6857 67 33          W                                                       #   1  2167  2                  1278
6858 67 34          CC    1                                                 #   2  2168  F 1                1278
6859 67 35          MLC   KB,PDSW                                          #   7  2170  M 615 906          1278
6860 67 36          MA    @I8I@,RETN&3                                      #   7  2177  # K31 Z49          1279
6861 67 37          B     RETN                                              #   4  2184  B Z46              1279
6862 67 38   BTPER  BSP   0                                                 #   5  2188  U %U0 B            1279
6863 67 39          SKP   0                                                 #   5  2193  U %U0 E            1279
6864 67 40          B     BBPQQG                                            #   4  2198  B J37              1279
6865 67 41   BTPEF  H     BBPQQG                                            #   4  2202  . J37              1279
6866 67 42   UNMSG  DCW   @UNREAD BLK WRITTEN-TU 0@                         #  23  2228                    1280
6867 67 43          LTORG *                                                 #           2229
                    DCW   @I8I@                                           #   3  2231              LIT   1280
6868 67 44          ORG   WKLAND                                           #           3075
6869 67 45   INTBT  MLC   URPIML,BTPER&3     MOVE DUMP TAPE UNIT NUM INTO INST #   7  3075  M 186 J91          1281
6870 67 46          MLC   URPIML,BBPQQG&3                                  #   7  3082  M 186 J40          1281
6871 67 47          MLC   URPIML,UNMSG                                     #   7  3089  M 186 K28          1281
6872 67 48          MLC   URPIML,BTPER&8                                   #   7  3096  M 186 J96          1281
6873 67 49          B     RANOTP                                            #   4  3103  B 04/              1281
6874 67 50          NOP                                                     #   1  3107  N                  1281
6875 67 51          EX    INTBT                                             #           B ?75              1282
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

6876 67 52           JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
6877 67 53           ORG   WKLAND                                      #          3075
6878 67 54   *               LABELS ROUTINE TO CLEAR AREAS AND SET WORDMARKS
6879 67 55   ACOA    SBR   REDETP&3,MLTPHZ                             #   7  3075  H 779 K54          1285
6880 67 56           CS    3499                                        #   4  3082  / D99              1285
6881 67 57           CS                        CLEAR OUTPUT AREA       #   1  3086  /                  1285
6882 67 58           CS                                                #   1  3087  /                  1285
6883 67 59           B     LGMEOP                                      #   4  3088  B 741              1285
6884 67 60   STBRG   MLC   NDRA3P,ACLINP&3                            #   7  3092  M 684 A06          1285
6885 67 61           SW    3500                                        #   4  3099  , E00              1285
6886 67 62   ACLINP  CS    0                   CLEAR INPUT AREAS       #   4  3103  / 000              1286
6887 67 63           SBR   ACLINP&3                                   #   4  3107  H A06              1286
6888 67 64           BWZ   ACLINP,3500,1                             #   8  3111  V A03 E00 1        1286
6889 67 65           MLC   TWOBL,ACNCF#2       SET WORD MARKS IN       #   7  3119  M 620 C84          1286
6890 67 66   ANWM12  MLC   AIRA1,AICF12#3      INPUT AREAS FOR CONTROL #   7  3126  M 702 C87          1286
6891 67 67           MA    CF1SLM,AICF12       FIELD DESIGNATION       #   7  3133  # 353 C87          1286
6892 67 68           MLC   AICF12,AWMS12&3                           #   7  3140  M C87 A57          1287
6893 67 69           MLC   @   @,ACNTB                               #   7  3147  M C90 C93          1287
6894 67 70   AWMS12  SW    0                                         #   4  3154  , 000              1287
6895 67 71           A     AONE,ACNTB                                  #   7  3158  A 616 C93          1287
6896 67 72           C     ACNTB,BMULTI                                #   7  3165  C C93 199          1287
6897 67 73   *                               BRANCH TO GET NEXT CF
6898 67 74           BE    ASWNCF                                      #   5  3172  B A88 S            1287
6899 67 75           MA    LMULTI,AWMS12&3                             #   7  3177  # 347 A57          1288
6900 67 76           B     AWMS12                                      #   4  3184  B A54              1288
6901 67 77   ASWNCF  A     AONE,ACNCF                                  #   7  3188  A 616 C84          1288
6902 67 78           C     ACNCF,NCFMLT                                #   7  3195  C C84 096          1288
6903 67 79   *                               BRANCH TO INIT NEXT INPUT AREA
6904 67 80           BE    AWIRA2                                      #   5  3202  B B18 S            1288
6905 67 81           MA    LIT003,ANWM12&10                            #   7  3207  # 607 A36          1288
6906 67 82           B     ANWM12                                      #   4  3214  B A26              1289
6907 67 83   AWIRA2  NOP   AWIRA3                                      #   4  3218  N B47              1289
6908 67 84           MLC   KB,AWIRA2                                   #   7  3222  M 615 B18          1289
6909 67 85           SBR   ANWM12&3,AIRA2                              #   7  3229  H A29 705          1289
6910 67 86           SBR   ANWM12&10,CF1SLM                            #   7  3236  H A36 353          1289
6911 67 87           B     ANWM12-7                                    #   4  3243  B A19              1289
6912 67 88   AWIRA3  NOP   AWMSET                                     #   4  3247  N B76              1289
6913 67 89           MLC   KB,AWIRA3                                   #   7  3251  M 615 B47          1290
6914 67 90           SBR   ANWM12&3,AIRA3                              #   7  3258  H A29 708          1290
6915 67 91           SBR   ANWM12&10,CF1SLM                            #   7  3265  H A36 353          1290
6916 67 92           B     ANWM12-7                                    #   4  3272  B A19              1290
6917 67 93   AWMSET  BCE   ACOA,CNOPML,1      WM ALREADY SET IN FIRST POS #   8  3276  B ?75 086 1      1290
6918 67 94   ANWMBI  MLC   AIRA1,AICF12                               #   7  3284  M 702 C87          1291
6919 67 95           MLC   AICF12,ASW12&3                              #   7  3291  M C87 C08          1291
6920 67 96           MLC   @   @,ACNTB#3                              #   7  3298  M C90 C93          1291
6921 67 97   *                               SET WORD MARKS IN FIRST POS OF EACH
6922 67 98   *                               RECORD IN INPUT AREAS
6923 67 99   ASW12   SW    0                                         #   4  3305  , 000              1291
6924 68 00           A     AONE,ACNTB                                  #   7  3309  A 616 C93          1291
6925 68 01           C     ACNTB,BMULTI                                #   7  3316  C C93 199          1291
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
6926 68 02           BE    AMIRA2                                   #   5  3323  B C39 S          1292
6927 68 03           MA    LMULTI,ASW12&3                           #   7  3328  # 347 C08        1292
6928 68 04           B     ASW12                                    #   4  3335  B C05            1292
6929 68 05   AMIRA2  NOP   AMIRA3                                  #   4  3339  N C61            1292
6930 68 06           MLC   KB,AMIRA2                                #   7  3343  M 615 C39        1292
6931 68 07           MLC   AIRA2,AICF12                             #   7  3350  M 705 C87        1292
6932 68 08           B     ANWMBI&7                                 #   4  3357  B B91            1292
6933 68 09   AMIRA3  NOP   ACOA                                     #   4  3361  N ?75            1293
6934 68 10           MLC   KB,AMIRA3                                #   7  3365  M 615 C61        1293
6935 68 11           MLC   AIRA3,AICF12                             #   7  3372  M 708 C87        1293
6936 68 12           B     ANWMBI&7                                 #   4  3379  B B91            1293
6937 68 13           LTORG *                                        #            3383
       6889  ACNCF  DCW   #02                                      #   2  3384              AREA  1293
       6890  AICF12       #03                                      #   3  3387              AREA  1293
                          @   @                                    #   3  3390              LIT   1293
       6920  ACNTB        #03                                      #   3  3393              AREA  1294
6938 68 14   AMV    MLC   GPMARK,PADQNQ      SET REDUNDANCY INDICATOR  #   7  3394  M 350 628      1294
6939 68 15           MA    I99,PADQNQ                               #   7  3401  # 623 628      1294
6940 68 16           MLC   PADQNQ,BPAQQ8&6                         #   7  3408  M 628 916      1294
6941 68 17           BCE   *&8,URPIML,C                             #   8  3415  B D30 186 C    1294
6942 68 18           MLC   PADQNQ,BBP2&6                           #   7  3423  M 628 J21      1294
6943 68 19           BCE   YSLBL,LABELS,1                           #   8  3430  B D60 413 1    1295
6944 68 20           CS    080               LOAD NO LABELS CLEAR ROUTINE  #   4  3438  / 080            1295
6945 68 21           SW    24,56                                    #   7  3442  , 024 056      1295
6946 68 22           SW    63,67                                    #   7  3449  , 063 067      1295
6947 68 23           R     056                                      #   4  3456  1 056          1295
6948 68 24   YSLBL   R                       BYPASS NO LABELS CLEAR ROUTINE  #   1  3460  1              1295
6949 68 25           BCE   STBRG,068,B                             #   8  3461  B ?92 068 B    1295
6950 68 26           B     YSLBL                                    #   4  3469  B D60            1296
6951 68 27           NOP                                            #   1  3473  N              1296
6952 68 28           EX    AMV                                      #            B C94           1297
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

6953 68 29          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
6954 68 30          ORG   ADJEND                                          #          2699
6955 68 31   *              NO LABELS ROUTINE TO CLEAR AREAS AND SET WORDMARKS
6956 68 32   BCOA   SBR   REDETP&3,MLTPHZ                                 #   7  2699  H 779 K54          1300
6957 68 33          CS    3199               CLEAR OUTPUT AREA            #   4  2706  / A99              1300
6958 68 34          CS                                                    #   1  2710  /                   1300
6959 68 35          CS                                                    #   1  2711  /                   1300
6960 68 36          CS                                                    #   1  2712  /                   1300
6961 68 37          B     LGMEOP                                          #   4  2713  B 741              1300
6962 68 38   BST    MLC   NDRA3P,BCLIN&3                                  #   7  2717  M 684 P31          1300
6963 68 39          SW    3200                                            #   4  2724  , B00              1301
6964 68 40   BCLIN  CS    0                  CLEAR INPUT AREAS            #   4  2728  / 000              1301
6965 68 41          SBR   BCLIN&3                                        #   4  2732  H P31              1301
6966 68 42          BWZ   BCLIN,3200,1                                    #   8  2736  V P28 B00 1        1301
6967 68 43          MLC   TWOBL,BCNCF#2      SET WORD MARKS IN INPUT AREAS FOR #   7  2744  M 620 ?09          1301
6968 68 44   BAR1   MLC   AIRA1,BICF#3       CONTROL FIELD DESIGNATION    #   7  2751  M 702 ?12          1301
6969 68 45          MA    CF1SLM,BICF                                     #   7  2758  # 353 ?12          1302
6970 68 46          MLC   BICF,BWMS&3                                     #   7  2765  M ?12 P82          1302
6971 68 47          MLC   @   @,BCNTA#3                                  #   7  2772  M ?15 ?18          1302
6972 68 48   BWMS   SW    0                                               #   4  2779  , 000              1302
6973 68 49          A     AONE,BCNTA                                      #   7  2783  A 616 ?18          1302
6974 68 50          C     BCNTA,BMULTI                                    #   7  2790  C ?18 199          1302
6975 68 51          BE    BSWNCF             BRANCH TO GET NEXT CF        #   5  2797  B Q13 S            1303
6976 68 52          MA    LMULTI,BWMS&3                                   #   7  2802  # 347 P82          1303
6977 68 53          B     BWMS                                            #   4  2809  B P79              1303
6978 68 54   BSWNCF A     AONE,BCNCF                                      #   7  2813  A 616 ?09          1303
6979 68 55          C     BCNCF,NCFMLT                                    #   7  2820  C ?09 096          1303
6980 68 56          BE    BAR2               BRANCH TO INIT NEXT INPUT AREA #   5  2827  B Q43 S            1303
6981 68 57          MA    LIT003,BAR1&10                                  #   7  2832  # 607 P61          1304
6982 68 58          B     BAR1                                            #   4  2839  B P51              1304
6983 68 59   BAR2   NOP   BAR3                                            #   4  2843  N Q72              1304
6984 68 60          MLC   KB,BAR2                                        #   7  2847  M 615 Q43          1304
6985 68 61          SBR   BAR1&3,AIRA2                                   #   7  2854  H P54 705          1304
6986 68 62          SBR   BAR1&10,CF1SLM                                  #   7  2861  H P61 353          1304
6987 68 63          B     BAR1-7                                          #   4  2868  B P44              1305
6988 68 64   BAR3   NOP   BWMST                                           #   4  2872  N R01              1305
6989 68 65          MLC   KB,BAR3                                        #   7  2876  M 615 Q72          1305
6990 68 66          SBR   BAR1&3,AIRA3                                   #   7  2883  H P54 708          1305
6991 68 67          SBR   BAR1&10,CF1SLM                                  #   7  2890  H P61 353          1305
6992 68 68          B     BAR1-7                                          #   4  2897  B P44              1305
6993 68 69   BWMST  BCE   BCOA,CNOPML,1      WM ALREADY SET IN FIRST POS  #   8  2901  B O99 086 1        1306
6994 68 70   BWMBI  MLC   AIRA1,BICF                                      #   7  2909  M 702 ?12          1306
6995 68 71          MLC   BICF,BSWN1&3                                   #   7  2916  M ?12 R33          1306
6996 68 72          MLC   @   @,BCNTA                                    #   7  2923  M ?15 ?18          1306
6997 68 73   BSWN1  SW    0                  SET WORD MARKS IN FIRST RCD POS #   4  2930  , 000              1306
6998 68 74          A     AONE,BCNTA                                      #   7  2934  A 616 ?18          1307
6999 68 75          C     BCNTA,BMULTI                                    #   7  2941  C ?18 199          1307
7000 68 76          BE    BLDAR2                                          #   5  2948  B R64 S            1307
7001 68 77          MA    LMULTI,BSWN1&3                                  #   7  2953  # 347 R33          1307
7002 68 78          B     BSWN1                                           #   4  2960  B R30              1307
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 SEQ PG LIN  LABEL  OP    OPERANDS                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
7003 68 79   BLDAR2 NOP   BLDAR3                    #   4  2964  N R86             1307
7004 68 80          MLC   KB,BLDAR2                 #   7  2968  M 615 R64        1308
7005 68 81          MLC   AIRA2,BICF                #   7  2975  M 705 ?12        1308
7006 68 82          B     BWMBI&7                   #   4  2982  B R16            1308
7007 68 83   BLDAR3 NOP   BCOA                      #   4  2986  N O99            1308
7008 68 84          MLC   KB,BLDAR3                 #   7  2990  M 615 R86        1308
7009 68 85          MLC   AIRA3,BICF                #   7  2997  M 708 ?12        1308
7010 68 86          B     BWMBI&7                   #   4  3004  B R16            1309
7011 68 87          LTORG *                         #            3008
       6967  BCNCF  DCW   #02                       #   2  3009             AREA  1309
       6968  BICF         #03                       #   3  3012             AREA  1309
                          @   @                     #   3  3015             LIT   1309
       6971  BCNTA        #03                       #   3  3018             AREA  1309
7012 68 88          EX    BST                       #          B P17            1310
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

7013 68 89           JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
7014 68 90    *
7015 68 91    *                              TWO WAY MERGE X SEQUENCES ROUTINE
7016 68 92    *
7017 68 93           ORG   KEEP                                      #            2254
7018 68 94    SET X  MLC   SIX 0S,PCNTR       INITIALIZE INSTRUCTIONS FOR    #   7  2254  M 613 589          1313
7019 68 95           MLC   OWA,XCHAR&6        TWO WAY MERGE OF X NUMBER      #   7  2261  M 555 M08          1313
7020 68 96           MLC   INPT1P,MRGE X&6    OF SEQUENCES                   #   7  2268  M 669 L94          1313
7021 68 97           MLC   INPT2P,MRGE X&13                                 #   7  2275  M 672 M01          1313
7022 68 98           SBR   RUNOTP&3,SKIP1                                  #   7  2282  H 783 784          1313
7023 68 99           SBR   CMPABP&15,ALOW                                  #   7  2289  H 799 978          1314
7024 69 00           SBR   READ1&11,ASDEOF                                 #   7  2296  H |62 M32          1314
7025 69 01           SBR   READ2&11,BSDEOF                                 #   7  2303  H /95 N02          1314
7026 69 02           MLC   I2TUHP,BSDEOF&3                                 #   7  2310  M 629 N05          1314
7027 69 03           MLC   I1TUHP,ASDEOF&3                                 #   7  2317  M 630 M35          1314
7028 69 04           MLC   EOF2&18,BSDEOF&11                               #   7  2324  M !02 N13          1315
7029 69 05           MLC   EOF1&18,ASDEOF&11                               #   7  2331  M Z79 M43          1315
7030 69 06           SBR   CMPABP&10,BLOW                                  #   7  2338  H 794 /11          1315
7031 69 07           SBR   STEPA&3,ASD                                     #   7  2345  H /02 M84          1315
7032 69 08           SBR   STEPB&3,BSD                                     #   7  2352  H S35 N62          1315
7033 69 09           MLC   AZERO,ACNTR                                     #   7  2359  M 608 624          1316
7034 69 10           BCE   MRGE X,LABELS,1                                 #   8  2366  B L88 413 1        1316
7035 69 11           MLC   NOP,ASDEND-8      NOP BRANCHES TO WORK LABEL RTN #   7  2374  M 614 M69          1316
7036 69 12           MLC   NOP,BSDEND-8                                    #   7  2381  M 614 N47          1316
7037 69 13    MRGE X MLC   BLANK,0                                         #   7  2388  M 619 000          1316
7038 69 14           MLC   BLANK,0                                         #   7  2395  M 619 000          1317
7039 69 15    XCHAR  MLC   SPLCHR,0                                        #   7  2402  M 625 000          1317
7040 69 16           C     XAREA,PCNTR       Q X SEQUENCES MERGED          #   7  2409  C 595 589          1317
7041 69 17           BE    READ Y                                          #   5  2416  B O06 S            1317
7042 69 18           A     AONE,PCNTR                                      #   7  2421  A 616 589          1317
7043 69 19           B     RUNOTP                                          #   4  2428  B 780              1317
7044 69 20    ASDEOF RWD   0                                               #   5  2432  U %U0 R            1318
7045 69 21           MLC   BLANK,0                                         #   7  2437  M 619 000          1318
7046 69 22           SBR   RDFST1&3,ASDEND                                #   7  2444  H |98 M77          1318
7047 69 23           MLC   KB,RDFST1                                       #   7  2451  M 615 |95          1318
7048 69 24           MLC   I1TUHP,TPNOBK     SETX  EOF                   #   7  2458  M 630 732          1318
7049 69 25           MLC   KI                                              #   4  2465  M 734              1318
7050 69 26           B     MLHENT                                          #   4  2469  B P31              1319
7051 69 27           B     STRD1                                           #   4  2473  B |22              1319
7052 69 28    ASDEND MLC   NOP,RDFST1                                     #   7  2477  M 614 |95          1319
7053 69 29    ASD    SBR   RUNOTP&3,BLOW     SET TO RUNOUT SECOND UNIT     #   7  2484  H 783 /11          1319
7054 69 30           A     AONE,ACNTR                                      #   7  2491  A 616 624          1319
7055 69 31           B     ALGEOS                                          #   4  2498  B N76              1319
7056 69 32    BSDEOF RWD   0                                               #   5  2502  U %U0 R            1319
7057 69 33           MLC   BLANK,0                                         #   7  2507  M 619 000          1320
7058 69 34           SBR   RDFST2&3,BSDEND                                #   7  2514  H S31 N55          1320
7059 69 35           BCE   BSDEND,CNTRB,3                                 #   8  2521  B N55 560 3        1320
7060 69 36           MLC   KB,RDFST2                                       #   7  2529  M 615 S28          1320
7061 69 37           MLC   I2TUHP,TPNOBK     SETX  EOF                   #   7  2536  M 629 732          1320
7062 69 38           MLC   KI                                              #   4  2543  M 734              1321
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
7063 69 39          B     MLHENT                                   #   4  2547  B P31             1321
7064 69 40          B     STRD2                                    #   4  2551  B /55              1321
7065 69 41   BSDEND MLC   NOP,RDFST2                              #   7  2555  M 614 S28          1321
7066 69 42   BSD    SBR   RUNOTP&3,ALOW      SET TO RUNOUT FIRST UNIT  #   7  2562  H 783 978          1321
7067 69 43          A     ATWO,ACNTR                               #   7  2569  A 617 624          1321
7068 69 44   ALGEOS B     ABSD,ACNTR,3       Q NEW SEQ ON BOTH UNITS  #   8  2576  B N88 624 3      1322
7069 69 45          B     RUNOTP                                   #   4  2584  B 780              1322
7070 69 46   ABSD   SBR   RUNOTP&3,SKIP1     RESTORE COMPARE INST     #   7  2588  H 783 784          1322
7071 69 47          MLC   AZERO,ACNTR        RESET COUNTER            #   7  2595  M 608 624          1322
7072 69 48          B     MRGE X                                   #   4  2602  B L88              1322
7073 69 49   READ Y CS    080                READ INTO CORE ROUTINE   #   4  2606  / 080              1322
7074 69 50          SW    024,056            TO THREEWAY MERGE Y NUMBER  #   7  2610  , 024 056          1323
7075 69 51          SW    063,067            OF SEQUENCES             #   7  2617  , 063 067          1323
7076 69 52          R     056                                      #   4  2624  1 056              1323
7077 69 53          NOP                                            #   1  2628  N                   1323
7078 69 54          EX    SET X                                    #            B K54              1324
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

7079 69 55           JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
7080 69 56           ORG   KEEP                                       #          2254
7081 69 57   *
7082 69 58   *                              THREE WAY MERGE Y SEQUENCES ROUTINE
7083 69 59   *
7084 69 60   SET Y   MLC   SIX 0S,PCNTR     INITIALIZE MAIN LINE PROGRAM    #   7  2254  M 613 589          1327
7085 69 61   *                              FOR 3 WAY MERGING Y NUM OF SEQ
7086 69 62           MN    O1TUHP,EOF3&10                                  #   7  2261  D 637 !17          1327
7087 69 63           MN    O1TUHP,Y TPMK&3                                 #   7  2268  D 637 K97          1327
7088 69 64           MN    O1TUHP,Y TPMK&8                                 #   7  2275  D 637 L02          1327
7089 69 65           C     O2TUHP-1,SIX 0S                                 #   7  2282  C 643 613          1327
7090 69 66           BE    *&11                                            #   5  2289  B L04 S            1328
7091 69 67   Y TPMK  WTM   0                                               #   5  2294  U %U0 M            1328
7092 69 68           RWD   0                                               #   5  2299  U %U0 R            1328
7093 69 69           SBR   RUNOTP&3,SKIP1                                 #   7  2304  H 783 784          1328
7094 69 70           SBR   CMPABP&10,SKIP2                                 #   7  2311  H 794 805          1328
7095 69 71           SBR   CMPABP&15,SKIP3                                 #   7  2318  H 799 826          1328
7096 69 72           MLC   I1TUHP,EOF1&10                                  #   7  2325  M 630 Z71          1329
7097 69 73           MLC   I2TUHP,EOF2&10                                  #   7  2332  M 629 Z94          1329
7098 69 74           MLC   AZERO,ACNTR                                     #   7  2339  M 608 624          1329
7099 69 75   *                                SET OUTPUT TAPE UNIT NUM
7100 69 76           SW    O2TUHP                                          #   4  2346  , 644             1329
7101 69 77           MLC   O2TUHP,RWINDP&3                                #   7  2350  M 644 W54          1329
7102 69 78           MLC   O2TUHP,RWINDP&8                                 #   7  2357  M 644 W59          1329
7103 69 79           MLC   O2TUHP,WOBR&3                                   #   7  2364  M 644 952          1330
7104 69 80           MLC   O2TUHP,WORED&3                                  #   7  2371  M 644 W84          1330
7105 69 81           MLC   O2TUHP,ERTAPP&3                                 #   7  2378  M 644 X23          1330
7106 69 82           CW    O2TUHP                                          #   4  2385  ) 644             1330
7107 69 83           SBR   STEPA&3,NEWASQ                                  #   7  2389  H /02 T77          1330
7108 69 84           SBR   STEPB&3,NEWBSQ                                  #   7  2396  H S35 T88          1330
7109 69 85           SBR   STEPC&3,NEWCSQ                                  #   7  2403  H T68 T99          1331
7110 69 86           SBR   SEQCMP&10,RWINDP                                #   7  2410  H W19 W51          1331
7111 69 87           SBR   SEQCMP&3,YAREA                                  #   7  2417  H W12 601          1331
7112 69 88           MLC   OWA,SEQCMP-1                                    #   7  2424  M 555 W08          1331
7113 69 89           MLC   YAREA,SEQMRG                                    #   7  2431  M 601 577          1331
7114 69 90           MLC   INPT3P,ENTER3&20                                #   7  2438  M 675 N67          1332
7115 69 91           SBR   RDFST3&3,ENTER3                                 #   7  2445  H T64 N47          1332
7116 69 92           SBR   READ1&11,EOF1                                   #   7  2452  H |62 Z61          1332
7117 69 93           SBR   READ2&11,EOF2                                   #   7  2459  H /95 Z84          1332
7118 69 94           BCE   *&8,LABELS,1                                    #   8  2466  B M81 413 1        1332
7119 69 95           MLC   NOP,ENTER3-8     NOP BRANCH TO WORK LABEL RTN    #   7  2474  M 614 N39          1333
7120 69 96           BCE   *&8,LBBUCK,                                     #   8  2481  B M96 414          1333
7121 69 97           SBR   ENTER3-5,MLHANT                                 #   7  2489  H N42 P31          1333
7122 69 98   *                              DETERMINE IF SPECIAL CASE  TOTAL
7123 69 99           C     YLIT3,CNTRB      NUM OF SEQ LESS THAN 7          #   7  2496  C O91 560          1333
7124 70 00           BL    SETONE                                          #   5  2503  B N91 T            1333
7125 70 01           BCE   SETHRE,CNTRB,3                                  #   8  2508  B O23 560 3        1334
7126 70 02           C     CNTRB,YLIT7                                     #   7  2516  C 560 O92          1334
7127 70 03           BH    SET456                                          #   5  2523  B O30 U            1334
7128 70 04   RDHDR3  MLC   O1TUHP,TPNOBK    SETY  RD HDR ON INPUT         #   7  2528  M 637 732          1334
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
7129 70 05          MLC   KI                                        #   4  2535  M 734             1334
7130 70 06          B     MLHENT                                    #   4  2539  B P31             1334
7131 70 07          B     STRD3              READ FIRST RECORD OF THIRD UNIT  #   4  2543  B S88             1334
7132 70 08   ENTER3 MLC   NOP,RDFST3                               #   7  2547  M 614 T61         1335
7133 70 09          SBR   REDETP&3,RUNOTP                         #   7  2554  H 779 780         1335
7134 70 10          MLC   BLANK,0                                  #   7  2561  M 619 000         1335
7135 70 11          C     YAREA,PCNTR        Q Y SEQUENCES MERGED  #   7  2568  C 601 589         1335
7136 70 12          BE    ENDMLT                                    #   5  2575  B O69 S           1335
7137 70 13          A     AONE,PCNTR                                #   7  2580  A 616 589         1336
7138 70 14          B     RUNOTP                                    #   4  2587  B 780             1336
7139 70 15   SETONE MLC   AZERO,O1TUHP-1     SET ROTATION FOR LESS THAN  #   7  2591  M 608 636         1336
7140 70 16          MLC   AZERO,TUHOLD-1     FOUR SEQUENCES        #   7  2598  M 608 650         1336
7141 70 17          MLC   AZERO,O2TUHP-1                           #   7  2605  M 608 643         1336
7142 70 18          MLC   AONE,SEQMRG                               #   7  2612  M 616 577         1336
7143 70 19          B     ENDMLT                                    #   4  2619  B O69             1337
7144 70 20   SETHRE SBR   ENTER3-1,ENDMLT                          #   7  2623  H N46 O69         1337
7145 70 21   SET456 MLC   AONE,O2TUHP-1                           #   7  2630  M 616 643         1337
7146 70 22          MLC   ATWO,TUHOLD-1                           #   7  2637  M 617 650         1337
7147 70 23          MLC   AZERO,SEQMRG                            #   7  2644  M 608 577         1337
7148 70 24          MLC   AZERO,TAPSEQ                            #   7  2651  M 608 657         1337
7149 70 25          MLC   AZERO,O1TUHP-1                          #   7  2658  M 608 636         1338
7150 70 26          B     RDHDR3                                    #   4  2665  B N28             1338
7151 70 27   ENDMLT CS    080                LOAD NEXT BLOCK-ADJMS  #   4  2669  / 080             1338
7152 70 28          SW    24,56                                     #   7  2673  , 024 056         1338
7153 70 29          SW    63,67                                     #   7  2680  , 063 067         1338
7154 70 30          R     056                                       #   4  2687  1 056             1338
7155 70 31   YLIT3  DCW   @3@                                       #   1  2691                     1338
7156 70 32   YLIT7  DCW   @7@                                       #   1  2692                     1339
7157 70 33          EX    SET Y                                     #          B K54               1340
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
7158 70 34          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
7159 70 35          ORG   KEEP                                        #          2254
7160 70 36   ADJMS  CS    332                                         #   4  2254  / 332             1343
7161 70 37          CS                                              #   1  2258  /                   1343
7162 70 38          MLC   MLTMSG,228         PRINT END OF ADJUSTMENT MESSAGE  #   7  2259  M M11 228         1343
7163 70 39          W                                               #   1  2266  2                   1343
7164 70 40          CC    1                                         #   2  2267  F 1                 1343
7165 70 41          SBR   SEQCMP&3,SEQMRG    INITIALIZE MAINLINE INSTRUCTIONS  #   7  2269  H W12 577         1343
7166 70 42          SBR   ENDMP&3,WKLBLI                            #   7  2276  H W80 K54         1343
7167 70 43          SBR   RDFST1&3,STRD2                           #   7  2283  H |98 /55          1344
7168 70 44          SBR   RDFST2&3,STRD3                           #   7  2290  H S31 S88          1344
7169 70 45          C     PDCPUT,SIX 0S-3                           #   7  2297  C 548 610          1344
7170 70 46          BU    *&8                                       #   5  2304  B L16 /            1344
7171 70 47          MLC   @6@,PIMULT                                #   7  2309  M M12 193          1344
7172 70 48          SW    3200                                      #   4  2316  , B00              1344
7173 70 49          MLC   CSTCNS,CLADJ&3                           #   7  2320  M 552 L30          1345
7174 70 50   CLADJ  CS    0                                         #   4  2327  / 000              1345
7175 70 51          SBR   CLADJ&3                                   #   4  2331  H L30              1345
7176 70 52   REPLAC BWZ   CLADJ,3200,1                            #   8  2335  V L27 B00 1         1345
7177 70 53          BCE   CLAD,LABELS,1                           #   8  2343  B L58 413 1         1345
7178 70 54          CS    3199                                      #   4  2351  / A99              1345
7179 70 55          CS                                              #   1  2355  /                   1345
7180 70 56          CS                                              #   1  2356  /                   1346
7181 70 57          CS                                              #   1  2357  /                   1346
7182 70 58   CLAD   CS    180                                       #   4  2358  / 180              1346
7183 70 59   *                            LOAD RESTART AND PHASE TO PHASE RTN
7184 70 60          CS    080                                       #   4  2362  / 080              1346
7185 70 61          SW    24,56                                     #   7  2366  , 024 056          1346
7186 70 62          SW    63,67                                     #   7  2373  , 063 067          1346
7187 70 63          R     056                                       #   4  2380  1 056              1346
7188 70 64   MLTMSG DCW   @END OF MULTIPHASE ADJUSTMENT@           #  28  2411                       1347
7189 70 65          LTORG *                                         #          2412
                    DCW   @6@                                       #   1  2412           LIT   1347
7190 70 66          EX    ADJMS                                     #          B K54                1348
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

7191 70 67          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
7192 70 68   *         RESTART ROUTINE
7193 70 69   *              EXECUTED ONLY IF PROGRAM INTERRUPTED AND SUBSEQUENTLY
7194 70 70   *              RESTARTED BY TAPE LOAD OF CHECKPOINT
7195 70 71   *         NOTE NOT APPLICABLE FOR RUN REQUIRING ONLY ONE MERGE PASS
7196 70 72   *              SENSE SWITCH F MUST BE ON TO RESTART LAST PASS
7197 70 73          ORG   RSTORG                                      #          3594
7198 70 74   HRES   MLC   PRMSJ,231          PRINT CARD READER MESSAGE  #   7  3594  M 18Y 231          1351
7199 70 75          W                                                 #   1  3601  2                   1351
7200 70 76          BEF   *&1                                         #   5  3602  B F07 K             1351
7201 70 77          MLZS  *-6,CENSIG                                  #   7  3607  Y F07 415           1351
7202 70 78          MLC   CENSIG,INTF1&7                              #   7  3614  M 415 |71          1351
7203 70 79          MLC   CENSIG,INTF2&7                              #   7  3621  M 415 S04          1351
7204 70 80          MLC   CENSIG,INTF3&7                              #   7  3628  M 415 T37          1352
7205 70 81          MLC   GPMARK,IREG1       SET GMWM IN UPPER CORE   #   7  3635  M 350 089          1352
7206 70 82          SW    0&X1                                        #   4  3642  , 0|0               1352
7207 70 83          MLC   GM,0&X1                                    #   7  3646  M 20S 0|0           1352
7208 70 84          MLC   INPT1P,IREG1                               #   7  3653  M 669 089          1352
7209 70 85          BSS   FSTLP,F            RESTART LAST PASS BRANCH #   5  3660  B 06V F            1352
7210 70 86   SWFRTN CS    240                                         #   4  3665  / 240               1353
7211 70 87          MLC   PRMSI,238                                  #   7  3669  M Z2X 238          1353
7212 70 88          MLC   PRMSH-9                                    #   4  3676  M Z1/               1353
7213 70 89          W                        PRINT RESTART MESSAGE    #   1  3680  2                   1353
7214 70 90          CS    240                                         #   4  3681  / 240               1353
7215 70 91          MLC   PDTYQP,212                                 #   7  3685  M W4Y 212          1353
7216 70 92          W                        PRINT DENSITY MESSAGE    #   1  3692  2                   1353
7217 70 93          CC    1                                           #   2  3693  F 1                 1354
7218 70 94          BSS   ALTRD,F            LAST PASS BRANCH  TAPES SHOULD  #   5  3695  B G75 F            1354
7219 70 95   *                               ALREADY BE POS PAST HDRS IF PRESENT
7220 70 96          H                        HALT  SET TAPE UNIT NUMS #   1  3700  .                   1354
7221 70 97   *                               READY CARD READER[IF NOT LAST PASS]
7222 70 98          BCE   *&22,LBBUCK,                                #   8  3701  B G30 414          1354
7223 70 99          SBR   ALTRD-1,MLHANT                              #   7  3709  H G74 P31          1354
7224 71 00          SBR   ALTRD-12,MLHANT                             #   7  3716  H G63 P31          1354
7225 71 01          SBR   ALTRD-23,MLHANT                             #   7  3723  H G52 P31          1354
7226 71 02          BCE   ALTRD,LABELS,     NO LABELS BRANCH         #   8  3730  B G75 413          1355
7227 71 03          MLC   I1TUHP,TPNOBK     INIT TO RD HDR ON INPUT TAPES  #   7  3738  M 630 732          1355
7228 71 04          MLC   KI                                          #   4  3745  M 734               1355
7229 71 05          B     MLHENT                                      #   4  3749  B P31               1355
7230 71 06          MLC   I2TUHP,TPNOBK                             #   7  3753  M 629 732          1355
7231 71 07          B     MLHENT                                      #   4  3760  B P31               1355
7232 71 08          MLC   O1TUHP,TPNOBK                             #   7  3764  M 637 732          1356
7233 71 09          B     MLHENT                                      #   4  3771  B P31               1356
7234 71 10   *                               ALTER RD TAPE 1 RD AREA & BRS
7235 71 11   ALTRD  MLC   INTF1&4,SAVE4                              #   7  3775  M |68 20/           1356
7236 71 12          MLC   BLANK,INTF1&4                             #   7  3782  M 619 |68           1356
7237 71 13          SBR   INTF1&3,RDFST1                            #   7  3789  H |67 |95           1356
7238 71 14          SBR   READ1&6,245                               #   7  3796  H |57 245          1356
7239 71 15          SBR   STEPA&6                                   #   4  3803  H /05               1357
7240 71 16          SW    249                SET GMWM                 #   4  3807  , 249               1357
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
7241 71 17           MLC   GM,249                                     #   7  3811  M 20S 249         1357
7242 71 18           SBR   STEPA&11,READ1                           #   7  3818  H /10 |51         1357
7243 71 19           SBR   STEPA&3,REENT1                          #   7  3825  H /02 H36         1357
7244 71 20           B     READ1                                     #   4  3832  B |51             1357
7245 71 21   *                            READ TAPE 1 UNTIL POS CORRECTLY
7246 71 22   REENT1  A     AONE,RECNT#6                              #   7  3836  A 616 19U         1358
7247 71 23           C     O2TUHP-1,RECNT                            #   7  3843  C 643 19U         1358
7248 71 24           BH    RSTRD1                                    #   5  3850  B H59 U           1358
7249 71 25           B     READ1                                     #   4  3855  B |51             1358
7250 71 26   *                            RESTORE RD TAPE 1 RTN AND ALTER
7251 71 27   *                              RD TAPE 2 RD AREA & BRS
7252 71 28   RSTRD1  MLC   SAVE4,INTF1&4                             #   7  3859  M 20/ |68         1358
7253 71 29           MLC   INPT1P,READ1&6                           #   7  3866  M 669 |57         1358
7254 71 30           MLC   INPT1P,STEPA&6                           #   7  3873  M 669 /05         1359
7255 71 31           MLC   INTF2&4,SAVE4                            #   7  3880  M S01 20/         1359
7256 71 32           MLC   BLANK,INTF2&4                           #   7  3887  M 619 S01         1359
7257 71 33           SBR   INTF2&3,RDFST2                          #   7  3894  H S00 S28         1359
7258 71 34           SBR   READ2&6,245                             #   7  3901  H /90 245         1359
7259 71 35           SBR   STEPB&6                                 #   4  3908  H S38             1359
7260 71 36           SBR   STEPB&11,READ2                         #   7  3912  H S43 /84         1360
7261 71 37           SBR   STEPB&3,REENT2                         #   7  3919  H S35 I37         1360
7262 71 38           MLC   XAREA,RECNT                            #   7  3926  M 595 19U         1360
7263 71 39           B     READ2                                     #   4  3933  B /84             1360
7264 71 40   *                            READ TAPE 2 UNTIL POS CORRECTLY
7265 71 41   REENT2  A     AONE,RECNT                                #   7  3937  A 616 19U         1360
7266 71 42           C     O1TUHP-1,RECNT                            #   7  3944  C 636 19U         1360
7267 71 43           BH    RSTRD2                                    #   5  3951  B I60 U           1361
7268 71 44           B     READ2                                     #   4  3956  B /84             1361
7269 71 45   *                            RESTORE RD TAPE 2 RTN
7270 71 46   RSTRD2  MLC   SAVE4,INTF2&4                             #   7  3960  M 20/ S01         1361
7271 71 47           MLC   INPT2P,READ2&6                           #   7  3967  M 672 /90         1361
7272 71 48           MLC   INPT2P,STEPB&6                           #   7  3974  M 672 S38         1361
7273 71 49           MLC   BLANK,249           CLEAR GMWM           #   7  3981  M 619 249         1361
7274 71 50           SBR   STEPA&11,RUNOTP                        #   7  3988  H /10 780         1362
7275 71 51           SBR   STEPB&11,RUNOTP                        #   7  3995  H S43 780         1362
7276 71 52           SBR   STEPA&3,NEWASQ                         #   7  4002  H /02 T77         1362
7277 71 53           SBR   STEPB&3,NEWBSQ                         #   7  4009  H S35 T88         1362
7278 71 54           C     AZERO1,CNMP                               #   7  4016  C Y4T 557         1362
7279 71 55   RESUME  BE    SCLINP             FIRST AND LAST PASS BRANCH  #   5  4023  B E75 S           1363
7280 71 56           SW    249                                       #   4  4028  , 249             1363
7281 71 57           MLC   GM,249                                    #   7  4032  M 20S 249         1363
7282 71 58           MLC   READ3&3,RDT3&3                          #   7  4039  M T20 04Z         1363
7283 71 59   RDT3    RT    0,245                                     #   8  4046  M %U0 245 R       1363
7284 71 60           MLC   BLANK,249                               #   7  4054  M 619 249         1363
7285 71 61           B     SCLINP                                    #   4  4061  B E75             1364
7286 71 62   FSTLP   CC    1                                         #   2  4065  F 1               1364
7287 71 63           H                        HALT TO READY CARD RDR  #   1  4067  .               1364
7288 71 64   *                            SET TAPE UNIT NUMS
7289 71 65           BCE   FSETLP,LABELS,     NO LABELS BRANCH       #   8  4068  B 13S 413         1364
7290 71 66           MLC   I1TUHP,TPNOBK      READ HDR ON INPUT TAPES PRIOR TO  #   7  4076  M 630 732         1364
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

7291 71 67          MLC   KI                LAST PASS RESTART INIT   #   4  4083  M 734             1364
7292 71 68          BCE   *&8,LBBUCK,                                #   8  4087  B 10S 414          1364
7293 71 69          SBR   *&4,MLHANT                                 #   7  4095  H 10V P31          1365
7294 71 70          B     MLHENT                                     #   4  4102  B P31              1365
7295 71 71          MLC   O1TUHP,TPNOBK                              #   7  4106  M 637 732          1365
7296 71 72          BCE   *&8,LBBUCK,                                #   8  4113  B 12Y 414          1365
7297 71 73          SBR   *&4,MLHANT                                 #   7  4121  H 13/ P31          1365
7298 71 74          B     MLHENT                                     #   4  4128  B P31              1365
7299 71 75   FSETLP MLC   BLANK,RESUME&4     RESTART LAST PASS INIT  #   7  4132  M 619 02X          1366
7300 71 76          MLC   BLANK,PPSMS&25                             #   7  4139  M 619 80V          1366
7301 71 77          MLC   &SWFRTN                                    #   4  4146  M 19X              1366
7302 71 78          MLC   KB                                         #   4  4150  M 615              1366
7303 71 79          B     PSTPAS                                     #   4  4154  B 32V              1366
7304 71 80   PRMSJ  DCW   @PLACE CARDS FROM 1507 IN READER@         #  31  4188                    1367
7305 71 81          LTORG *                                          #           4189
       7246  RECNT  DCW   #06                                       #   6  4194              AREA  1367
       7301         DCW   &SWFRTN                                    #   3  4197  F65         ADCON 1368
7306 71 82   SAVE4  DCW   #04                                       #   4  4201                    1368
7307 71 83   GM     DC    @}@                                        #   1  4202                    1368
7308 71 84   RSTEND ORG   *                                          #      4203   4203
7309 71 85   *
7310 71 86   *              READ CHECKPOINT ROUTINE
7311 71 87   *
7312 71 88          ORG   KEEP                                       #           2254
7313 71 89   *                                  INIT FOR NEXT MERGE PASS
7314 71 90   WKLBLI MLC   O2TUHP,TPNOBK      INIT TO READ HDR ON INPUT  #   7  2254  M 644 732          1369
7315 71 91          MLC   KI                                         #   4  2261  M 734              1369
7316 71 92          B     MLHENT             BRANCH TO WORK LABEL ROUTINE #   4  2265  B P31          1369
7317 71 93   FRSTME B     PSTPAS             FIRST PASS BRANCH ONLY   #   4  2269  B 32V              1369
7318 71 94   GMSET  LCA   0,0                SET GM FOR CHECK POINT   #   7  2273  L 000 000          1369
7319 71 95   RDCPT  RTW   0,1                READ CHECKPOINT          #   8  2280  L %U0 001 R        1369
7320 71 96          BER   RERDCP-4                                   #   5  2288  B L02 L              1369
7321 71 97          BEF   EOFCP                                      #   5  2293  B 20T K              1370
7322 71 98          B     PSTPAS                                     #   4  2298  B 32V              1370
7323 71 99          H     PSTPAS                                     #   4  2302  . 32V              1370
7324 72 00   RERDCP BSP   0                                          #   5  2306  U %U0 B            1370
7325 72 01          B     RDCPT                                      #   4  2311  B K80              1370
7326 72 02   ASIX   DCW   @6@                                        #   1  2315                    1370
7327 72 03   MLEND  ORG   *                                          #      2316   2316
7328 72 04          ORG   RSTEND                                     #           4203
7329 72 05   EOFCP  H     PSTPAS                                     #   4  4203  . 32V              1371
7330 72 06          B     RERDCP                                     #   4  4207  B L06              1371
7331 72 07   LBLCK  BCE   RDEOJ-22,LABELS,                           #   8  4211  B |3Y 413          1371
7332 72 08          BCE   *&15,LBBUCK,                               #   8  4219  B 24/ 414          1371
7333 72 09          SBR   GO ON-8,MLHANT                             #   7  4227  H 48U P31          1371
7334 72 10          SBR   FRSTME-1,MLHANT                          #   7  4234  H K68 P31          1371
7335 72 11          SBR   PSTPAS&10,PNWM12-8                         #   7  4241  H 33V C07          1372
7336 72 12          MLC   NOP,IWRCK-5        NOP SW D OPTION IF LABELS #   7  4248  M 614 74Z          1372
7337 72 13   RDBY   R                                                #   1  4255  1                  1372
7338 72 14          BCE   *&5,068,B                                  #   8  4256  B 26Y 068 B        1372
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

7339 72 15           B     RDBY                                             #   4  4264  B 25V             1372
7340 72 16   RDBY1   SBR   RDBY&4,*&5         BYPASS LAST 2 BLOCKS OF BAL MERGE #   7  4268  H 25Z 27Z         1372
7341 72 17           B     RDBY                                             #   4  4275  B 25V             1372
7342 72 18           SBR   RDBY&4,*&5                                      #   7  4279  H 25Z 29|            1373
7343 72 19           B     RDBY                                             #   4  4286  B 25V             1373
7344 72 20           SBR   RDBY&4,*&5                                      #   7  4290  H 25Z 30/            1373
7345 72 21           B     RDBY                                             #   4  4297  B 25V             1373
7346 72 22           C     ATWO,CNTRB         CHECK FOR 1 OR 2 SEQ          #   7  4301  C 617 560          1373
7347 72 23           BH    WKLBLI                                           #   5  4308  B K54 U           1373
7348 72 24           MN    O2TUHP,*&4                                       #   7  4313  D 644 32T          1374
7349 72 25           RWD   0                                                #   5  4320  U %U0 R           1374
7350 72 26   *               PHASE TO PHASE ROUTINE
7351 72 27   *                    START OF NEXT MERGE PASS FOLLOWING THE READING
7352 72 28   *                    INTO CORE OF CHECKPOINT
7353 72 29   PSTPAS NOP   TSTPS                                            #   4  4325  N 39V             1374
7354 72 30           LCA   LGMEOP&27,NLAR1-8  INIT INST TO LOAD GMWMS      #   7  4329  L 768 N51         1374
7355 72 31           LCA                                                    #   1  4336  L                 1374
7356 72 32           LCA                                                    #   1  4337  L                 1374
7357 72 33           MLC   KB,PSTPAS                                        #   7  4338  M 615 32V          1374
7358 72 34   *               EXECUTE PSTPAS ROUTINE ONLY ONCE  THEREAFTER, BRANCH
7359 72 35   *                 DIRECTLY TO TSTPS RTN TO DETERMINE MERGE PASS NUM
7360 72 36           MLC   NOP,FRSTME                                       #   7  4345  M 614 K69          1375
7361 72 37           MLC   GPMARK,GMSET&3                                  #   7  4352  M 350 K76          1375
7362 72 38           MLC   CLEPS,GMSET&6                                   #   7  4359  M 563 K79          1375
7363 72 39           MLC   ACNT,PDCHKP&3                                   #   7  4366  M 569 S0W          1375
7364 72 40           MLC   ST1MVP,STOUTP&6                                 #   7  4373  M 696 77U          1375
7365 72 41           MLC   CLEPS,GMCLR&3                                   #   7  4380  M 563 81U          1376
7366 72 42           BCE   MUSHQP,LDIMLT,                                  #   8  4387  B 87Z 187          1376
7367 72 43   TSTPS   C     AZERO1,NMPL        START OF LAST MERGE PASS      #   7  4395  C Y4T 559          1376
7368 72 44           MLZS  *-6,CENSIG                                       #   7  4402  Y 40S 415          1376
7369 72 45           MLC   CENSIG,INTF1&7                                   #   7  4409  M 415 |71          1376
7370 72 46           MLC   CENSIG,INTF2&7                                   #   7  4416  M 415 S04          1377
7371 72 47           MLC   CENSIG,INTF3&7                                   #   7  4423  M 415 T37          1377
7372 72 48           BE    SLMP                                             #   5  4430  B 89| S           1377
7373 72 49           MLC   I2TUHP,WRCKT&3                                  #   7  4435  M 629 84Y          1377
7374 72 50           MLC   I2TUHP,WRDCK&3     SET TAPE UNIT NUM FOR         #   7  4442  M 629 X8S          1377
7375 72 51           MLC   I2TUHP,ERSE1&3     READING AND WRITING OF        #   7  4449  M 629 Y2/          1378
7376 72 52           MLC   I2TUHP,PRMSH-26    CHECKPOINT                    #   7  4456  M 629 Y9U          1378
7377 72 53           MLC   I2TUHP,RDCPT&3                                   #   7  4463  M 629 K83          1378
7378 72 54           MLC   I2TUHP,TPNOBK      INIT TO WRITE HDR ON OUTPUT   #   7  4470  M 629 732          1378
7379 72 55           MLC   KO                                               #   4  4477  M 733             1378
7380 72 56           B     MLHENT             BRANCH TO WORK LABEL ROUTINE  #   4  4481  B P31             1378
7381 72 57           MLC   I2TUHP,RERDCP&3                                 #   7  4485  M 629 L09          1379
7382 72 58   GO ON   A     AONE,CNMP          BUMP MERGE COUNTER            #   7  4492  A 616 557          1379
7383 72 59           A     @I9@,NMPL          DECREASE COUNT OF MERGES LEFT #   7  4499  A Z2Z 559          1379
7384 72 60           NOP   RSTONE                                           #   4  4506  N U7V             1379
7385 72 61           MLC   SIX 0S,PCNTR                                     #   7  4510  M 613 589          1379
7386 72 62   *               ROTATE TAPE UNIT NUMS AND ESTABLISH NUM SEQ TO BE
7387 72 63   *                    MERGED IN PASS
7388 72 64           MLC   I2TUHP,TUHOLD      STORE SECOND TAPE UNIT NUMBER #   7  4517  M 629 651          1379
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

7389 72 65           MLC   I1TUHP,I2TUHP                                #   7  4524  M 630 629         1380
7390 72 66           MLC   O1TUHP,I1TUHP                                #   7  4531  M 637 630         1380
7391 72 67           MLC   O2TUHP,O1TUHP      MOVE CNT OF SEQ MRGED ON 1ST UNIT #   7  4538  M 644 637         1380
7392 72 68           MLC   TUHOLD,O2TUHP                                #   7  4545  M 651 644         1380
7393 72 69   UPDTCT  MLC   SEQMRG,O2TUHP-1    MOVE CNT OF LAST MERGE FOR 2ND    #   7  4552  M 577 643         1380
7394 72 70           A     O2TUHP-1,O1TUHP-1  ADD TOT SEQ MERGED ON 1ST AND 2ND #   7  4559  A 643 636         1381
7395 72 71           S     O1TUHP-1,TUHOLD-1  SUB FROM TOT SEQ INIT ON 3RD      #   7  4566  S 636 650         1381
7396 72 72           MZ    BLANK,TUHOLD-1     STORE RESULT FOR NUM OF SEQ       #   7  4573  Y 619 650         1381
7397 72 73           MLC   TUHOLD-1,SEQMRG    IN NEXT MERGE PASS                #   7  4580  M 650 577         1381
7398 72 74           MLC   TAPSEQ,TUHOLD-1    MOVE SEQ TOT OF PREVIOUS MERGE    #   7  4587  M 657 650         1381
7399 72 75           MLC   YCNTR,TAPSEQ       MOVE SEQ TOT OF PASS P1 & Y MERGE #   7  4594  M 583 657         1382
7400 72 76           SBR   *-10,O2TUHP-1      AFTER 1ST MERGE REPLACE YCNTR     #   7  4601  H 59X 643         1382
7401 72 77   *                                 WITH TOTAL FROM PREVIOUS MERGE
7402 72 78   *                 SET INPUT AND OUTPUT UNIT NUMS FOR PASS
7403 72 79   FORONE  SW    O2TUHP,O1TUHP                                #   7  4608  , 644 637         1382
7404 72 80           MLC   O2TUHP,PRMSH-10                              #   7  4615  M 644 Z1|         1382
7405 72 81           MLC   O2TUHP,WOBR&3                               #   7  4622  M 644 952         1382
7406 72 82           MLC   O2TUHP,WORED&3                              #   7  4629  M 644 W84         1383
7407 72 83           MLC   O2TUHP,ERTAPP&3                            #   7  4636  M 644 X23         1383
7408 72 84           MLC   O2TUHP,RWINDP&3                            #   7  4643  M 644 W54         1383
7409 72 85           MLC   O2TUHP,RWINDP&8                            #   7  4650  M 644 W59         1383
7410 72 86           MLC   I1TUHP,READ1&3                             #   7  4657  M 630 |54         1383
7411 72 87           MLC   I1TUHP,EOF1&10                             #   7  4664  M 630 Z71         1384
7412 72 88           MLC   I2TUHP,READ2&3                             #   7  4671  M 629 /87         1384
7413 72 89           MLC   I2TUHP,EOF2&10                             #   7  4678  M 629 Z94         1384
7414 72 90           MLC   O1TUHP,READ3&3                             #   7  4685  M 637 T20         1384
7415 72 91           MLC   O1TUHP,EOF3&10                             #   7  4692  M 637 !17         1384
7416 72 92           MLC   O1TUHP,PRMSH-16                            #   7  4699  M 637 Z0U         1385
7417 72 93           CW    O2TUHP,O1TUHP                                #   7  4706  ) 644 637         1385
7418 72 94   STBCK   MLC   I1TUHP,BACK2&3                             #   7  4713  M 630 A81         1385
7419 72 95           MLC   I2TUHP,BACK1&3                             #   7  4720  M 629 A93         1385
7420 72 96           A     AONE,PCNTR                                   #   7  4727  A 616 589         1385
7421 72 97   *                               SET BRANCH INST FOR RESTART
7422 72 98           SW    1,5                                          #   7  4734  , 001 005         1386
7423 72 99           MLC   &HRES                                        #   4  4741  M Z3S             1386
7424 73 00           MLC   KB                                          #   4  4745  M 615             1386
7425 73 01           BIN   HSSD,D                                      #   5  4749  B V8U D           1386
7426 73 02   IWRCK   MLC   TWOBL,CNEOR       RESET CHECKPOINT REDUND COUNTER   #   7  4754  M 620 730         1386
7427 73 03           MLC   TWOBL,CNRR                                   #   7  4761  M 620 728         1386
7428 73 04   STOUTP  MLC   OWA,0             RESET MOVE TO OUTPUT AREA         #   7  4768  M 555 000         1387
7429 73 05           CS    332                                          #   4  4775  / 332             1387
7430 73 06           CS                                                 #   1  4779  /                 1387
7431 73 07   PPSMS   MLC   CNMP,PRMSH-33                               #   7  4780  M 557 Y8X         1387
7432 73 08           MLC   I2TUHP,PRMSH-18                            #   7  4787  M 629 Z0S         1387
7433 73 09           MLC   I1TUHP,PRMSH-20                            #   7  4794  M 630 Z0|         1387
7434 73 10           MLC   PRMSH-10,230       PRINT MESSAGE LISTING UNIT        #   7  4801  M Z1| 230       1388
7435 73 11           W                        NUMBERS OF INPUT,OUTPUT,AND       #   1  4808  2             1388
7436 73 12           CC    1                  CHECKPOINT TAPES                  #   2  4809  F 1           1388
7437 73 13   GMCLR   CW    0                                            #   4  4811  ) 000             1388
7438 73 14           MLC   SIX 0S,XAREA                                 #   7  4815  M 613 595         1388
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
7439 73 15           C     AZERO1,CNMP                                #  7  4822  C Y4T 557         1388
7440 73 16           BU    WRCKT-4                                    #  5  4829  B 84/ /           1388
7441 73 17           MLC   AONE,XAREA                                 #  7  4834  M 616 595         1389
7442 73 18   CPEX    NOP   0                 USERS EXIT PRIOR TO WRITE CHKPT  #  4  4841  N 000             1389
7443 73 19   WRCKT   WTW   0,1               WRITE CHECKPOINT           #  8  4845  L %U0 001 W       1389
7444 73 20           BER   WRDCK                                       #  5  4853  B X7Z L           1389
7445 73 21           BEF   WFCK2P                                      #  5  4858  B Y3Y K           1389
7446 73 22   TF1     BIN   INTRPP,E          INTERRUPT IF SENSE SWITCH E IS ON #  5  4863  B X5T E           1389
7447 73 23           B     SCLINP                                     #  4  4868  B E75             1389
7448 73 24   BLKCNT  A     AONE,MULBKC       LAST PASS INST TO INC BLK COUNT  #  7  4872  A 616 740       1390
7449 73 25   MUSHQP  MLC   @ LOW@,PDTYQP-8                            #  7  4879  M Z3W W4|         1390
7450 73 26           B     TSTPS                                      #  4  4886  B 39V             1390
7451 73 27   SLMP    C     LIT003,CNTRB      LAST MERGE PASS INITIALIZATION   #  7  4890  C 607 560       1390
7452 73 28           BL    *&12                                       #  5  4897  B 91T T           1390
7453 73 29           MLC   I2TUHP,TPNOBK                              #  7  4902  M 629 732         1390
7454 73 30           B     *&8                                        #  4  4909  B 92|              1391
7455 73 31           MLC   O2TUHP,TPNOBK                             #  7  4913  M 644 732         1391
7456 73 32   SLMP1   BSS   LPMSGP,B                                  #  5  4920  B W0T B           1391
7457 73 33   LPEX    NOP   0                 USERS EXIT LAST MERGE PASS INIT  #  4  4925  N 000             1391
7458 73 34           MLC   @N00@,WRCKT&2                             #  7  4929  M Z3Z 84X         1391
7459 73 35           MLC   BLANK,SEQCMP&11                           #  7  4936  M 619 W20         1391
7460 73 36           MLC   @A@,KOWNT                                  #  7  4943  M Z4| 899         1392
7461 73 37           MLC   @U@,RWINDP&9      UNLOAD FINAL OUTPUT TAPE   #  7  4950  M Z4/ W60         1392
7462 73 38           MLC   KB,EOFW1          INIT LAST PASS BRANCH      #  7  4957  M 615 !30         1392
7463 73 39           SBR   SEQCMP&10,LPEOJ                            #  7  4964  H W19 W32         1392
7464 73 40           MLC   OWA,WOBR&6                                 #  7  4971  M 555 955         1392
7465 73 41           MA    LIT001,WOBR&6                              #  7  4978  # 604 955         1393
7466 73 42           LCA   RDEOJ,GMSET&3     INSERT RTN TO LOAD END OF JOB IN  #  7  4985  L |6| K76         1393
7467 73 43           LCA                     WKLBLI SO EXEC AT END OF LAST PASS #  1  4992  L             1393
7468 73 44           LCA                                                #  1  4993  L             1393
7469 73 45           LCA                                                #  1  4994  L             1393
7470 73 46           LCA                                                #  1  4995  L             1393
7471 73 47           BCE   BYLBL,LABELS,     NO LABELS BRANCH           #  8  4996  B W4Z 413          1393
7472 73 48   *                                 LOAD FINAL LABEL RTN
7473 73 49           BCE   OKEIGH,LBBUCK,                               #  8  5004  B |3Y 414          1394
7474 73 50   NOKEIY  R                                                  #  1  5012  1                  1394
7475 73 51           BCE   OKEIGH,68,B                                 #  8  5013  B |3Y 068 B        1394
7476 73 52           B     NOKEIY                                     #  4  5021  B |1S              1394
7477 73 53   WELEAT  R                                                  #  1  5025  1                  1394
7478 73 54           BCE   INTLB,68,B                                  #  8  5026  B |6/ 068 B        1394
7479 73 55           B     WELEAT                                     #  4  5034  B |2V              1394
7480 73 56   OKEIGH  CS    80                                         #  4  5038  / 080              1395
7481 73 57           SW    24,56                                      #  7  5042  , 024 056          1395
7482 73 58           SW    63,67                                      #  7  5049  , 063 067          1395
7483 73 59           R     56                                         #  4  5056  1 056              1395
7484 73 60   RDEOJ   NOP                     LOAD RTN FOR END OF JOB    #  1  5060  N                  1395
7485 73 61   *                                 INIT FINAL LABEL RTN
7486 73 62   INTLB   MLC   TPNOBK,FPHDS3-10                           #  7  5061  M 732 M38         1395
7487 73 63           MLC   TPNOBK,FPHDS3&3                           #  7  5068  M 732 M51         1395
7488 73 64           MLC   TPNOBK,FPHDX2&7                           #  7  5075  M 732 N75         1396
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
7489 73 65           MLC   TPNOBK,FPHDX1&7                          #   7  5082  M 732 M97         1396
7490 73 66           MLC   TPNOBK,FPHDX3&15                         #   7  5089  M 732 O00         1396
7491 73 67           MLC   TPNOBK,FPPSW-2                           #   7  5096  M 732 Q07         1396
7492 73 68           MLC   TPNOBK,FPPARX-17                         #   7  5103  M 732 Q35         1396
7493 73 69           MLC   TPNOBK,LMHLTP&22                         #   7  5110  M 732 R34         1397
7494 73 70           MLC   TPNOBK,FTREX1&21                         #   7  5117  M 732 ?15         1397
7495 73 71           MLC   TPNOBK,FTREX2&26                         #   7  5124  M 732 ?51         1397
7496 73 72           MLC   TPNOBK,FTREX2&31                         #   7  5131  M 732 ?56         1397
7497 73 73           MLC   TPNOBK,FPTSMG      INIT CHANGE REEL MSG  #   7  5138  M 732 R11         1397
7498 73 74           MLC   TPNOBK,SAVM2                            #   7  5145  M 732 P71         1398
7499 73 75           BCE   *&15,OHLIMP,2                           #   8  5152  B /7U 189 2        1398
7500 73 76           MLC   NOP,FPHDX1&24      NOP CHAINED MOVES IF INPUT HDR  #   7  5160  M 614 N14         1398
7501 73 77           MLC   NOP,FPHDX1&25      AND OUTPUT HDR ARE THE SAME  #   7  5167  M 614 N15         1398
7502 73 78           MLC   GPMARK,LMHLTP&7                          #   7  5174  M 350 R19         1398
7503 73 79           MLC   GPMARK,FPHDS1&7                          #   7  5181  M 350 L99         1399
7504 73 80           MLC   BLKCNT&6,WOBR&19   INSERT INST TO INC BLOCK COUNT  #   7  5188  M 87Y 968         1399
7505 73 81           BCE   NWOUTP,PIMULT,6    SET FOR ELIMINATION  #   8  5195  B S8U 193 6       1399
7506 73 82  PDCHKP   C     0,SIX 0S                                 #   7  5203  C 000 613         1399
7507 73 83           BU    NWOUTP                                   #   5  5210  B S8U /           1399
7508 73 84           MLC   NOP,PDSW           OF RECORD PADDING    #   7  5215  M 614 906         1400
7509 73 85           BCE   PAD9,PIMULT,9                            #   8  5222  B S3Y 193 9       1400
7510 73 86           BCE   PAD,PIMULT,                              #   8  5230  B S5W 193         1400
7511 73 87  PAD9     MLC   CTNRML,PADCT                             #   7  5238  M 539 J00         1400
7512 73 88           S     RMOVEP,PADCT                             #   7  5245  S 699 J00         1400
7513 73 89           B     PAD&21                                   #   4  5252  B S7X             1401
7514 73 90  PAD      MLC   @U@,AWAY&11                              #   7  5256  M Z4/ 929         1401
7515 73 91           MLC   KB,AWAY&12                               #   7  5263  M 615 930         1401
7516 73 92           ZA    RMOVEP,PADCT                             #   7  5270  ? 699 J00         1401
7517 73 93           MZ    BLANK,PADCT                              #   7  5277  Y 619 J00         1401
7518 73 94  NWOUTP   MLC   AGMEBP,LGMEOP&6    SET BLOCKING FOR     #   7  5284  M 666 747         1401
7519 73 95           MLC   AGMEBP,ENDMP-1     FINAL OUTPUT         #   7  5291  M 666 W76         1402
7520 73 96           MLC   ARELBP,ARELO                             #   7  5298  M 663 720         1402
7521 73 97           SBR   KOWNT&3,BOMULT                           #   7  5305  H 902 185         1402
7522 73 98           BCE   *&8,OUTMLT,M       OUTPUT MOVE MODE BRANCH  #   8  5312  B T2X 549 M     1402
7523 73 99           MLC   OUTMLT,WOBR        CHANGE WT INST SO FINAL OUTPUT  #   7  5320  M 549 949     1402
7524 74 00  *                                  IN LOAD MODE
7525 74 01           BCE   SPLCAS,LABELS,                           #   8  5327  B T4X 413         1403
7526 74 02           BCE   FPHES1,LBBUCK,1                         #   8  5335  B L92 414 1       1403
7527 74 03           B     FPHDS1             BRANCH TO FINAL LABEL ROUTINE  #   4  5343  B L92         1403
7528 74 04  SPLCAS   C     ASIX,CNTRB         CHECK FOR NUM SEQ LESS THAN 7  #   7  5347  C L15 560     1403
7529 74 05           BH    GO ON                                    #   5  5354  B 49S U           1403
7530 74 06           LCA   PRMSH-33,PRMSH-26  ELIMINATE CHECKPOINT REF IN MSG  #   7  5359  L Y8X Y9U     1403
7531 74 07           SBR   PPSMS&6,PRMSH-26   WHEN ONLY ONE PASS   #   7  5366  H 78W Y9U         1404
7532 74 08           SBR   PPSMS&27,223                             #   7  5373  H 80X 223         1404
7533 74 09           SBR   INTRPP&6,233                             #   7  5380  H X5Z 233         1404
7534 74 10           BCE   ONESEQ,CNTRB,1                           #   8  5387  B U3W 560 1       1404
7535 74 11           BCE   TWOSEQ,CNTRB,2                           #   8  5395  B U8W 560 2       1404
7536 74 12           BCE   TRISEQ,CNTRB,3                           #   8  5403  B U9X 560 3       1405
7537 74 13  FIVSEQ   SBR   RSTONE&10,GO ON&18  NUM OF SEQ IS 4,5 OR 6  #   7  5411  H U8V 51|        1405
7538 74 14           MLC   ATWO,ACNTR                              #   7  5418  M 617 624         1405
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
7539 74 15           SBR   ONESEQ&17,I1TUHP                                #   7  5425  H U5T 630         1405
7540 74 16           B     ONESEQ&7                                        #   4  5432  B U4T             1405
7541 74 17   ONESEQ  MLC   ASIX,ACNTR                                      #   7  5436  M L15 624         1406
7542 74 18           MLC   I2TUHP,I2HOLD#1                                 #   7  5443  M 629 Z4S         1406
7543 74 19           MLC   O1TUHP,I2TUHP                                   #   7  5450  M 637 629         1406
7544 74 20           MLC   KB,GO ON&14                                     #   7  5457  M 615 50W         1406
7545 74 21   MKSBR   MLC   FIVSEQ,ENTRTN&21                                #   7  5464  M U1/ ?96         1406
7546 74 22           B     GO ON                                           #   4  5471  B 49S             1406
7547 74 23   RSTONE  MLC   I2HOLD,I2TUHP                                   #   7  5475  M Z4S 629         1407
7548 74 24           B     FORONE                                          #   4  5482  B 60Y             1407
7549 74 25   TWOSEQ  MLC   AFOUR,ACNTR                                     #   7  5486  M 618 624         1407
7550 74 26           B     ONESEQ&7                                        #   4  5493  B U4T             1407
7551 74 27   TRISEQ  SBR   TWOSEQ-1,UPDTCT                                #   7  5497  H U8V 55S         1407
7552 74 28           MLC   NOP,ONESEQ&7                                    #   7  5504  M 614 U4T         1407
7553 74 29           MLC   O1TUHP,I2HOLD                                   #   7  5511  M 637 Z4S         1408
7554 74 30           MLC   O2TUHP,O1TUHP                                   #   7  5518  M 644 637         1408
7555 74 31           MLC   I2TUHP,O2TUHP                                   #   7  5525  M 629 644         1408
7556 74 32           MLC   AZERO,O1TUHP-1                                  #   7  5532  M 608 636         1408
7557 74 33           MLC   AONE,O2TUHP-1                                   #   7  5539  M 616 643         1408
7558 74 34           SBR   STEPA&3,EOSTSP                                  #   7  5546  H /02 U41         1409
7559 74 35           SBR   STEPB&3                                         #   4  5553  H S35             1409
7560 74 36           SBR   STEPC&3                                         #   4  5557  H T68             1409
7561 74 37           MLNS  I1TUHP,*&4                                      #   7  5561  D 630 V7/         1409
7562 74 38           BSP   0                                               #   5  5568  U %U0 B           1409
7563 74 39           MLC   NOP,RSTONE-11                                   #   7  5573  M 614 U6U         1409
7564 74 40           B     TWOSEQ                                          #   4  5580  B U8W             1409
7565 74 41   HSSD    CS    332                SENSE SWITCH D ON            #   4  5584  / 332             1410
7566 74 42           CS                                                    #   1  5588  /                 1410
7567 74 43           MLC   PRMSF,222                                       #   7  5589  M Y8| 222         1410
7568 74 44           W                        PRINT DENSITY CHANGE MESSAGE #   1  5596  2                 1410
7569 74 45           CC    1                                               #   2  5597  F 1               1410
7570 74 46           H     IWRCK              RETURN TO INIT PRIOR TO WT CHKPT #  4  5599  . 75U           1410
7571 74 47   *                               LAST MERGE PASS INTERRUPT
7572 74 48   *                                 SENSE SWITCH B ON
7573 74 49   LPMSGP  CS    332                                             #   4  5603  / 332             1410
7574 74 50           CS                                                    #   1  5607  /                 1411
7575 74 51           MLC   TPNOBK,PRMSH-10                                 #   7  5608  M 732 Z1|         1411
7576 74 52           SW    216                                             #   4  5615  , 216             1411
7577 74 53           MLC   PRMSH,231                                       #   7  5619  M Z2| 231         1411
7578 74 54           MLC   PMSLPP                                          #   4  5626  M Y5Y             1411
7579 74 55           W                                                     #   1  5630  2                 1411
7580 74 56           CC    1                                               #   2  5631  F 1               1411
7581 74 57           H     SLMP1&5                                         #   4  5633  . 92V             1412
7582 74 58   PDTYQP  DCW   @HIGH DENSITY@                                  #  12  5648                    1412
7583 74 59   *                          NO LABELS RTN-EXEC IN LAST PASS INIT
7584 74 60   BYLBL   MLC   TPNOBK,WROM1          SET UP CHANGE REEL MESSAGE #   7  5649  M 732 X5S         1412
7585 74 61           MLCWA WROM1,WROM                                      #   7  5656  L X5S !94         1412
7586 74 62           SBR   LPSQCP-1,RTRN2                                  #   7  5663  H !52 974         1412
7587 74 63           MLC   TPNOBK,MARTIF&3                                 #   7  5670  M 732 X2Y         1413
7588 74 64           MLC   TPNOBK,MARTEF-2                                 #   7  5677  M 732 X3T         1413
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

7589 74 65          MLCWA MARTEF&4,WROM-15                                #   7  5684  L X3Z !79          1413
7590 74 66          MLCWA                                                 #   1  5691  L                 1413
7591 74 67          MLCWA                                                 #   1  5692  L                 1413
7592 74 68          MLCWA                                                 #   1  5693  L                 1413
7593 74 69          MLC   NOP,WOBR&13        NOP INST TO CLEAR FIRST POS OUTPT #   7  5694  M 614 962         1413
7594 74 70   BYLBL1 R                        BYPASS FINAL LABEL ROUTINE     #   1  5701  1                 1414
7595 74 71          BCE   *&5,68,B                                         #   8  5702  B X1U 068 B       1414
7596 74 72          B     BYLBL1                                          #   4  5710  B X0/             1414
7597 74 73          SBR   BYLBL1&4,PDCHKP-8                               #   7  5714  H X0V /9V         1414
7598 74 74          B     BYLBL1                                          #   4  5721  B X0/             1414
7599 74 75   MARTIF WTM   0                                               #   5  5725  U %U0 M           1414
7600 74 76          RWU   0                                               #   5  5730  U %U0 U           1414
7601 74 77   MARTEF B     EOFW1&4                                         #   4  5735  B !34             1415
7602 74 78          DCW   @ @                                             #   1  5739                    1415
7603 74 79   WROM1  DCW   @CHANGE UNIT 0@                                 #  13  5752                    1415
7604 74 80   *                             SENSE SWITCH E ON  INTERRUPT
7605 74 81   INTRPP MLC   PRMSH,240                                       #   7  5753  M Z2| 240         1415
7606 74 82          W                                                     #   1  5760  2                 1415
7607 74 83          CS    240                                             #   4  5761  / 240             1415
7608 74 84          MLC   PDTYQP,212                                      #   7  5765  M W4Y 212         1415
7609 74 85          W                                                     #   1  5772  2                 1416
7610 74 86          CC    1                                               #   2  5773  F 1               1416
7611 74 87          H     SCLINP                                          #   4  5775  . E75             1416
7612 74 88   *                          WRITE CHECKPOINT ERROR ROUTINE
7613 74 89   WRDCK  BSP   0                                               #   5  5779  U %U0 B           1416
7614 74 90          BCE   ERCKP,CNRR,1                                    #   8  5784  B Y0T 728 1       1416
7615 74 91          A     AONE,CNRR                                       #   7  5792  A 616 728         1416
7616 74 92          B     WRCKT                                           #   4  5799  B 84V             1416
7617 74 93   ERCKP  A     AONE,CNEOR                                      #   7  5803  A 616 730         1417
7618 74 94          BCE   HRTRY,CNEOR,0      TEN SKIPS BRANCH            #   8  5810  B Y3U 730 0       1417
7619 74 95   ERSE1  SKP   0                                               #   5  5818  U %U0 E           1417
7620 74 96          MLC   TWOBL,CNRR                                      #   7  5823  M 620 728         1417
7621 74 97          B     WRCKT                                           #   4  5830  B 84V             1417
7622 74 98   HRTRY  H     IWRCK                                           #   4  5834  . 75U             1417
7623 74 99   WFCK2P H     TF1                                             #   4  5838  . 86T             1417
7624 75 00   AZERO1 DCW   @01@                                           #   2  5843                    1418
7625 75 01   PMSLPP DCW   @LAST MERGE PASS@                              #  15  5858                    1418
7626 75 02   PRMSF  DCW   @DENSITY MAY BE CHANGED@                       #  22  5880                    1418
7627 75 03   PRMSH  DCW   @PASS 00-CKPT 0-INP 0,0,0 OUT-0 INTERRUPT@     #  40  5920                    1420
7628 75 04   PRMSI  DCW   @RESTART@                                       #   7  5927                    1420
7629 75 05          LTORG *                                               #            5928
                    DCW   @I9@                                           #   2  5929             LIT    1420
       7423               &HRES                                         #   3  5932  E94          ADCON  1420
                          @ LOW@                                        #   4  5936             LIT    1420
                          @N00@                                         #   3  5939             LIT    1421
                          @A@                                           #   1  5940             LIT    1421
                          @U@                                           #   1  5941             LIT    1421
       7542  I2HOLD       #01                                           #   1  5942             AREA   1421
7630 75 06          ORG   WKLAND                                        #            3075
7631 75 07   *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

7632 75 08   *             LABELS ROUTINE TO CLEAR AREAS AND SET WORDMARKS
7633 75 09   *
7634 75 10   ENTRTN MLC   NOP,RDFST1         RETURN FROM READING INPUT TAPE[S] #   7  3075  M 614 |95         1422
7635 75 11          MLC   NOP,RDFST2                                         #   7  3082  M 614 S28         1422
7636 75 12          MLC   NOP,RDFST3                                         #   7  3089  M 614 T61         1422
7637 75 13          NOP   REDETP&3,EOSTSP    SBR INST IF NUM SEQ 1,2,4,5 OR 6 #   7  3096  N 779 U41         1422
7638 75 14          SBR   RDFST3&3,RUNOTP                                    #   7  3103  H T64 780         1422
7639 75 15          CS    3599               CLEAR OUTPUT AREA               #   4  3110  / E99             1422
7640 75 16          CS                                                       #   1  3114  /                 1423
7641 75 17   ENCSTN CS                                                       #   1  3115  /                 1423
7642 75 18          CS                                                       #   1  3116  /                 1423
7643 75 19          B     LGMEOP                                             #   4  3117  B 741             1423
7644 75 20   COAP   SBR   RDFST3&3,ENTRTN                                   #   7  3121  H T64 ?75         1423
7645 75 21          C     ASIX,CNTRB         TEST FOR NUM OF SEQ LESS THAN 7 #   7  3128  C L15 560         1423
7646 75 22          BH    ENTREC                                             #   5  3135  B A64 U           1423
7647 75 23          C     LIT003,CNTRB                                       #   7  3140  C 607 560         1424
7648 75 24          BE    CNTRB3             NUM OF SEQ IS 3                 #   5  3147  B B49 S           1424
7649 75 25          BL    CNTRB2             NUM OF SEQ IS 1 OR 2            #   5  3152  B A99 T           1424
7650 75 26          SBR   RDFST1&3,STRD3     NUM OF SEQ IS 4, 5 OR 6         #   7  3157  H |98 S88         1424
7651 75 27   *                               RESTORE FIRST RCD SWITCHES AND
7652 75 28   *                               BACKSPACE TWO TAPES
7653 75 29   ENTREC MLC   KB,RDFST3                                          #   7  3164  M 615 T61         1424
7654 75 30          MLC   KB,RDFST2                                          #   7  3171  M 615 S28         1424
7655 75 31   BACK2  BSP   0                                                  #   5  3178  U %U0 B           1425
7656 75 32          MLC   KB,RDFST1                                          #   7  3183  M 615 |95         1425
7657 75 33   BACK1  BSP   0                                                  #   5  3190  U %U0 B           1425
7658 75 34   *                               READ INPUT TAPES
7659 75 35          B     STRD1                                              #   4  3195  B |22             1425
7660 75 36   CNTRB2 MN    O1TUHP,*&4                                         #   7  3199  D 637 B09         1425
7661 75 37          RWD   0                                                  #   5  3206  U %U0 R           1425
7662 75 38          BCE   ENTRTN,CNTRB,3                                   #   8  3211  B ?75 560 3       1426
7663 75 39          BCE   CNTQQ1,CNTRB,2                                   #   8  3219  B B38 560 2       1426
7664 75 40          SBR   RDFST1&3,ENTRTN                                   #   7  3227  H |98 ?75         1426
7665 75 41          B     BACK2-7                                          #   4  3234  B A71             1426
7666 75 42   CNTQQ1 SBR   RDFST2&3,ENTRTN                                   #   7  3238  H S31 ?75         1426
7667 75 43          B     BACK2-7                                          #   4  3245  B A71             1426
7668 75 44   CNTRB3 SBR   RDFST2&3,CNTRB2                                   #   7  3249  H S31 A99         1427
7669 75 45          MLC   KB,RDFST2                                         #   7  3256  M 615 S28         1427
7670 75 46          B     STRD2                                            #   4  3263  B /55             1427
7671 75 47          SW    3600                                             #   4  3267  , F00             1427
7672 75 48   CLINPP CS    0                  CLEAR INPUT AREAS               #   4  3271  / 000             1427
7673 75 49          SBR   CLINPP&3                                         #   4  3275  H B74             1427
7674 75 50          BWZ   CLINPP,3600,1                                    #   8  3279  V B71 F00 1       1427
7675 75 51          LCA   0,0                SET GMWMS IN INPUT AREAS PRIOR  #   7  3287  L 000 000         1428
7676 75 52          LCA   0,0                TO READING TAPES                #   7  3294  L 000 000         1428
7677 75 53          LCA   0,0                                               #   7  3301  L 000 000         1428
7678 75 54          MLC   TWOBL,PCNCF        SET WORD MARKS IN               #   7  3308  M 620 728         1428
7679 75 55   PNWM12 MLC   AIRA1,PICF12       INPUT AREAS FOR CONTROL         #   7  3315  M 702 552         1428
7680 75 56          MA    CF1SLM,PICF12      FIELD DESIGNATION               #   7  3322  # 353 552         1429
7681 75 57          MLC   PICF12,PWMS12&3                                    #   7  3329  M 552 C46         1429
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
7682 75 58           MLC   SIX 0S-3,PCNTB                             #   7  3336  M 610 E74         1429
7683 75 59   PWMS12  SW    0                                          #   4  3343  , 000             1429
7684 75 60           A     AONE,PCNTB                                 #   7  3347  A 616 E74         1429
7685 75 61           C     PCNTB,BMULTI                               #   7  3354  C E74 199         1429
7686 75 62   *                            BRANCH TO GET NEXT CF
7687 75 63           BE    PSWNCF                                     #   5  3361  B C77 S           1430
7688 75 64           MA    LMULTI,PWMS12&3                            #   7  3366  # 347 C46         1430
7689 75 65           B     PWMS12                                     #   4  3373  B C43             1430
7690 75 66   PSWNCF  A     AONE,PCNCF                                 #   7  3377  A 616 728         1430
7691 75 67           C     PCNCF,NCFMLT                               #   7  3384  C 728 096         1430
7692 75 68   *                            BRANCH TO INIT NEXT INPUT AREA
7693 75 69           BE    PWIRA2                                     #   5  3391  B D07 S           1430
7694 75 70           MA    LIT003,PNWM12&10                           #   7  3396  # 607 C25         1431
7695 75 71           B     PNWM12                                     #   4  3403  B C15             1431
7696 75 72   PWIRA2  NOP   PWIRA3                                     #   4  3407  N D36             1431
7697 75 73           MLC   KB,PWIRA2                                 #   7  3411  M 615 D07         1431
7698 75 74           SBR   PNWM12&3,AIRA2                           #   7  3418  H C18 705         1431
7699 75 75           SBR   PNWM12&10,CF1SLM                          #   7  3425  H C25 353         1431
7700 75 76           B     PNWM12-7                                   #   4  3432  B C08             1432
7701 75 77   PWIRA3  NOP   PWMSET                                     #   4  3436  N D65             1432
7702 75 78           MLC   KB,PWIRA3                                 #   7  3440  M 615 D36         1432
7703 75 79           SBR   PNWM12&3,AIRA3                           #   7  3447  H C18 708         1432
7704 75 80           SBR   PNWM12&10,CF1SLM                          #   7  3454  H C25 353         1432
7705 75 81           B     PNWM12-7                                   #   4  3461  B C08             1432
7706 75 82   PWMSET  BCE   COAP,CNOPML,1      WM ALREADY SET IN FIRST POS  #   8  3465  B A21 086 1     1433
7707 75 83   PNWMBI  MLC   AIRA1,PICF12                               #   7  3473  M 702 552         1433
7708 75 84           MLC   PICF12,PSW12&3                            #   7  3480  M 552 D97         1433
7709 75 85           MLC   SIX 0S-3,PCNTB#3                          #   7  3487  M 610 E74         1433
7710 75 86   *                            SET WORD MARK IN FIRST POS OF EACH
7711 75 87   *                            RECORD IN INPUT AREAS
7712 75 88   PSW12   SW    0                                          #   4  3494  , 000             1433
7713 75 89           A     AONE,PCNTB                                 #   7  3498  A 616 E74         1434
7714 75 90           C     PCNTB,BMULTI                               #   7  3505  C E74 199         1434
7715 75 91           BE    PMIRA2                                     #   5  3512  B E28 S           1434
7716 75 92           MA    LMULTI,PSW12&3                             #   7  3517  # 347 D97         1434
7717 75 93           B     PSW12                                      #   4  3524  B D94             1434
7718 75 94   PMIRA2  NOP   PMIRA3                                     #   4  3528  N E50             1434
7719 75 95           MLC   KB,PMIRA2                                 #   7  3532  M 615 E28         1435
7720 75 96           MLC   AIRA2,PICF12                               #   7  3539  M 705 552         1435
7721 75 97           B     PNWMBI&7                                   #   4  3546  B D80             1435
7722 75 98   PMIRA3  NOP   COAP                                       #   4  3550  N A21             1435
7723 75 99           MLC   KB,PMIRA3                                 #   7  3554  M 615 E50         1435
7724 76 00           MLC   AIRA3,PICF12                               #   7  3561  M 708 552         1435
7725 76 01           B     PNWMBI&7                                   #   4  3568  B D80             1436
7726 76 02           LTORG *                                          #            3572
      7709   PCNTB   DCW   #03                                        #   3  3574              AREA  1436
7727 76 03   PCNCF   EQU   CNRR                                       #      0728
7728 76 04   PICF12  EQU   CSTCNS                                     #      0552
7729 76 05   SCLINP  MLC   NDRA3P,CLINPP&3                           #   7  3575  M 684 B74         1436
7730 76 06           MLC   TWOBL,CNRR                                #   7  3582  M 620 728         1436
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

7731 76 07           B     CLINPP-4                                 #   4  3589  B B67             1436
7732 76 08           NOP                                            #   1  3593  N                 1436
7733 76 09   RSTORG ORG   *                                        #      3594   3594
7734 76 10           EX    LBLCK                                    #             B 21/             1437
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 SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
7735 76 11           JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
7736 76 12   *
7737 76 13   *              NO LABELS ROUTINE TO CLEAR AREAS AND SET WORDMARKS
7738 76 14   *
7739 76 15           ORG   RESUME                                            #          4023
7740 76 16           BE    NLST                                              #   5  4023  B N04 S           1440
7741 76 17           ORG   FSTLP-4                                           #          4061
7742 76 18           B     NLST                                              #   4  4061  B N04             1441
7743 76 19           ORG   WKLBLI&11                                         #          2265
7744 76 20           NOP   MLHENT                                            #   4  2265  N P31             1442
7745 76 21           ORG   GO ON-11                                          #          4481
7746 76 22           NOP   MLHENT                                            #   4  4481  N P31             1443
7747 76 23           ORG   STBCK                                             #          4713
7748 76 24           MLC   I1TUHP,NLBK2&3                                    #   7  4713  M 630 M18         1444
7749 76 25           MLC   I2TUHP,NLBK1&3                                    #   7  4720  M 629 M30         1444
7750 76 26           ORG   TF1&5                                             #          4868
7751 76 27           B     NLST                                              #   4  4868  B N04             1445
7752 76 28           ORG   MKSBR                                             #          5464
7753 76 29           MLC   FIVSEQ,NLENT&21                                   #   7  5464  M U1/ L37         1446
7754 76 30           ORG   INTRPP&22                                         #          5775
7755 76 31           H     NLST                                              #   4  5775  . N04             1447
7756 76 32           ORG   MLEND                                             #          2316
7757 76 33   NLENT   MLC   NOP,RDFST1         RETURN FROM READING INPUT TAPE[S] #   7  2316  M 614 |95         1448
7758 76 34           MLC   NOP,RDFST2                                        #   7  2323  M 614 S28         1448
7759 76 35           MLC   NOP,RDFST3                                        #   7  2330  M 614 T61         1448
7760 76 36           NOP   REDETP&3,EOSTSP    SBR INST IF NUM SEQ 1,2,4,5 OR 6  #   7  2337  N 779 U41         1448
7761 76 37           SBR   RDFST3&3,RUNOTP                                  #   7  2344  H T64 780         1448
7762 76 38           CS    LGMEOP,2899                                       #   7  2351  / 741 Q99         1449
7763 76 39   NLCLO   SBR   RDFST3&3,NLENT                                   #   7  2358  H T64 L16         1449
7764 76 40           C     ASIX,CNTRB         TEST FOR NUM SEQ LESS THAN 7   #   7  2365  C L15 560         1449
7765 76 41           BH    NLREC                                             #   5  2372  B M01 U           1449
7766 76 42           C     LIT003,CNTRB                                      #   7  2377  C 607 560         1449
7767 76 43           BE    BCNTR3             NUM OF SEQ IS 3                #   5  2384  B M86 S           1449
7768 76 44           BL    BCNTR2             NUM OF SEQ IS 1 OR 2           #   5  2389  B M36 T           1450
7769 76 45           SBR   RDFST1&3,STRD3     NUM OF SEQ IS 4,5, OR 6        #   7  2394  H |98 S88         1450
7770 76 46   NLREC   MLC   KB,RDFST3                                         #   7  2401  M 615 T61         1450
7771 76 47           MLC   KB,RDFST2                                         #   7  2408  M 615 S28         1450
7772 76 48   NLBK2   BSP   0                                                 #   5  2415  U %U0 B           1450
7773 76 49           MLC   KB,RDFST1                                         #   7  2420  M 615 |95         1450
7774 76 50   NLBK1   BSP   0                                                 #   5  2427  U %U0 B           1451
7775 76 51           B     STRD1              READ INPUT TAPE[S]             #   4  2432  B |22             1451
7776 76 52   BCNTR2  MN    O1TUHP,*&4                                        #   7  2436  D 637 M46         1451
7777 76 53           RWD   0                                                 #   5  2443  U %U0 R           1451
7778 76 54           BCE   NLENT,CNTRB,3                                    #   8  2448  B L16 560 3       1451
7779 76 55           BCE   NLCTQ,CNTRB,2                                    #   8  2456  B M75 560 2       1451
7780 76 56           SBR   RDFST1&3,NLENT                                   #   7  2464  H |98 L16         1452
7781 76 57           B     NLBK2-7                                           #   4  2471  B M08             1452
7782 76 58   NLCTQ   SBR   RDFST2&3,NLENT                                   #   7  2475  H S31 L16         1452
7783 76 59           B     NLBK2-7                                           #   4  2482  B M08             1452
7784 76 60   BCNTR3  SBR   RDFST2&3,BCNTR2                                  #   7  2486  H S31 M36         1452
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
7785 76 61          MLC   KB,RDFST2                                  #   7  2493  M 615 S28         1452
7786 76 62          B     STRD2                                      #   4  2500  B /55             1453
7787 76 63   NLST   MLC   NDRA3P,NLCLI&3                            #   7  2504  M 684 N18         1453
7788 76 64          SW    2900                                       #   4  2511  , R00             1453
7789 76 65   NLCLI  CS    0                 CLEAR INPUT AREAS AND TO 2900     #   4  2515  / 000             1453
7790 76 66          SBR   NLCLI&3                                   #   4  2519  H N18             1453
7791 76 67          BWZ   NLCLI,2900,1                             #   8  2523  V N15 R00 1       1453
7792 76 68          LCA   0,0               SET GMWMS IN INPUT AREAS PRIOR    #   7  2531  L 000 000         1453
7793 76 69          LCA   0,0               TO READING TAPES                  #   7  2538  L 000 000         1454
7794 76 70          LCA   0,0                                        #   7  2545  L 000 000         1454
7795 76 71          MLC   TWOBL,NLCNF#2     SET WORD MARKS IN INPUT AREAS FOR #   7  2552  M 620 Q17         1454
7796 76 72   NLAR1  MLC   AIRA1,NLPCF#3     CONTROL FIELD DESIGNATION         #   7  2559  M 702 Q20         1454
7797 76 73          MA    CF1SLM,NLPCF                               #   7  2566  # 353 Q20         1454
7798 76 74          MLC   NLPCF,NLSWM&3                            #   7  2573  M Q20 N90         1455
7799 76 75          MLC   @   @,NLCNT#3                            #   7  2580  M Q23 Q26         1455
7800 76 76   NLSWM  SW    0                                          #   4  2587  , 000             1455
7801 76 77          A     AONE,NLCNT                                 #   7  2591  A 616 Q26         1455
7802 76 78          C     NLCNT,BMULTI                               #   7  2598  C Q26 199         1455
7803 76 79          BE    NLNCF             BRANCH TO GET NEXT CF            #   5  2605  B O21 S           1455
7804 76 80          MA    LMULTI,NLSWM&3                             #   7  2610  # 347 N90         1456
7805 76 81          B     NLSWM                                      #   4  2617  B N87             1456
7806 76 82   NLNCF  A     AONE,NLCNF                                 #   7  2621  A 616 Q17         1456
7807 76 83          C     NLCNF,NCFMLT                               #   7  2628  C Q17 096         1456
7808 76 84          BE    NLAR2             BRANCH TO INIT NEXT INPUT AREA   #   5  2635  B O51 S           1456
7809 76 85          MA    LIT003,NLAR1&10                            #   7  2640  # 607 N69         1456
7810 76 86          B     NLAR1                                      #   4  2647  B N59             1457
7811 76 87   NLAR2  NOP   NLAR3                                      #   4  2651  N O80             1457
7812 76 88          MLC   KB,NLAR2                                   #   7  2655  M 615 O51         1457
7813 76 89          SBR   NLAR1&3,AIRA2                            #   7  2662  H N62 705         1457
7814 76 90          SBR   NLAR1&10,CF1SLM                          #   7  2669  H N69 353         1457
7815 76 91          B     NLAR1-7                                    #   4  2676  B N52             1457
7816 76 92   NLAR3  NOP   NLWMST                                    #   4  2680  N P09             1457
7817 76 93          MLC   KB,NLAR3                                   #   7  2684  M 615 O80         1458
7818 76 94          SBR   NLAR1&3,AIRA3                            #   7  2691  H N62 708         1458
7819 76 95          SBR   NLAR1&10,CF1SLM                          #   7  2698  H N69 353         1458
7820 76 96          B     NLAR1-7                                    #   4  2705  B N52             1458
7821 76 97   NLWMST BCE   NLCLO,CNOPML,1     WM ALREADY SET IN FIRST POS      #   8  2709  B L58 086 1       1458
7822 76 98   NLWMBI MLC   AIRA1,NLPCF                               #   7  2717  M 702 Q20         1459
7823 76 99          MLC   NLPCF,NLST1&3                            #   7  2724  M Q20 P41         1459
7824 77 00          MLC   @   @,NLCNT                              #   7  2731  M Q23 Q26         1459
7825 77 01   NLST1  SW    0                 SET WORD MARK IN FIRST POS OF     #   4  2738  , 000             1459
7826 77 02          A     AONE,NLCNT        EACH RECORD IN INPUT AREAS       #   7  2742  A 616 Q26         1459
7827 77 03          C     NLCNT,BMULTI                               #   7  2749  C Q26 199         1459
7828 77 04          BE    NLST2                                      #   5  2756  B P72 S           1460
7829 77 05          MA    LMULTI,NLST1&3                             #   7  2761  # 347 P41         1460
7830 77 06          B     NLST1                                      #   4  2768  B P38             1460
7831 77 07   NLST2  NOP   NLST3                                      #   4  2772  N P94             1460
7832 77 08          MLC   KB,NLST2                                   #   7  2776  M 615 P72         1460
7833 77 09          MLC   AIRA2,NLPCF                                #   7  2783  M 705 Q20         1460
7834 77 10          B     NLWMBI&7                                   #   4  2790  B P24             1460
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 SEQ PG LIN  LABEL  OP    OPERANDS                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
7835 77 11   NLST3  NOP   NLCLO                       #   4  2794  N L58            1461
7836 77 12          MLC   KB,NLST3                    #   7  2798  M 615 P94        1461
7837 77 13          MLC   AIRA3,NLPCF                 #   7  2805  M 708 Q20        1461
7838 77 14          B     NLWMBI&7                    #   4  2812  B P24            1461
       7795  NLCNF  DCW   #02                         #   2  2817             AREA  1461
       7796  NLPCF        #03                         #   3  2820             AREA  1461
                          @   @                       #   3  2823             LIT   1461
       7799  NLCNT        #03                         #   3  2826             AREA  1462
7839 77 15          EX    RDBY1                       #          B 26Y          1463
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

7840 77 16          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
7841 77 17   ***
7842 77 18   ***            MULTIPHASE BYPASS CONSTANT
7843 77 19   ***
7844 77 20          SFX
7845 77 21   HEADER DCW   @HEADER-TRAILER-PHASE2@                    21  2847                  1466
7846 77 22          EX    PASMLT                                                B 31S           1467
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

7847 77 23          JOB   ** IBM 1401 SORT 7 VERSION 2  PHASE 2
7848 77 24   ***
7849 77 25   ***            PHASE 2 - FINAL HEADER/TRAILER LABEL ROUTINE
7850 77 26   ***
7851 77 27          SFX
7852 77 28          ORG   INIT1                                                          5286
7853 77 29   *
7854 77 30   *      INIT. FINAL PASS HEADER TRAILER ROUTINE
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

7855 77 31           JOB   ** IBM 1401 SORT 7 VERSION 2 PHASE 2
7856 77 32   ***
7857 77 33   ***             PHASE 2 - FINAL HEADER/TRAILER LABEL ROUTINE
7858 77 34   ***
7859 77 35           ORG   INIT1                                                      5286
7860 77 36   *
7861 77 37   *               INITIALIZATION FINAL PASS HDR-TRL ROUTINE
7862 77 38   *
7863 77 39   REDEMP  BCE   RDMP,LBBUCK,                                        8  5286  B T1W 414          1470
7864 77 40           CS    80                                                  4  5294  / 080              1470
7865 77 41           SW    24,56                                               7  5298  , 024 056          1470
7866 77 42           SW    63,67                                               7  5305  , 063 067          1470
7867 77 43           R     056                                                 4  5312  1 056             1470
7868 77 44   RDMP    R                                                         1  5316  1                  1470
7869 77 45           BCE   *&5,40,/                                            8  5317  B T2Z 040 /        1470
7870 77 46           B     RDMP                                                4  5325  B T1W              1471
7871 77 47           BCE   CLSTX1-7,LABELS,   BRANCH IF BYPASSING LABELS      8  5329  B J84 413          1471
7872 77 48           MN    O2TUHA,LPHDX2&12                                    7  5337  D 566 C65          1471
7873 77 49           MN    O2TUHA,LPHDX2&7                                     7  5344  D 566 C60          1471
7874 77 50           MN    O2TUHA,LPHDX3&15                                    7  5351  D 566 C90          1471
7875 77 51           MN    O2TUHA,LPHDS3-10                                    7  5358  D 566 B28          1472
7876 77 52           MN    O2TUHA,LPHDS3&3                                     7  5365  D 566 B41          1472
7877 77 53           MN    O2TUHA,LPPSW-2                                      7  5372  D 566 E99          1472
7878 77 54           MN    O2TUHA,LPPARX-2                                     7  5379  D 566 F42          1472
7879 77 55           MN    O2TUHA,LPTSMG                                       7  5386  D 566 G12          1472
7880 77 56           MN    O2TUHA,LPTRS1&29                                    7  5393  D 566 G42          1473
7881 77 57           MN    O2TUHA,LPTRX1&21                                    7  5400  D 566 H12          1473
7882 77 58           MN    O2TUHA,LPTRX2&14                                    7  5407  D 566 H36          1473
7883 77 59           MN    O2TUHA,LPTRX2&19                                    7  5414  D 566 H41          1473
7884 77 60           MLCWA NOPINC-1,THDTP-10                                   7  5421  L U5W J48          1473
7885 77 61           MLC   LPPSW,REWIND&14                                     7  5428  M F01 J44          1474
7886 77 62           MLC   CENSIG,LPHDSH&7                                     7  5435  M 415 B53          1474
7887 77 63           SBR   CLSTX1-12,NXTPS                                     7  5442  H J79 677          1474
7888 77 64           B     LPTRET&7                                            4  5449  B A52              1474
7889 77 65           NOP                                                       1  5453  N                  1474
7890 77 66   NOPINC  DC    @0000@                                              4  5457                     1474
7891 77 67           ORG   HTHAL1                                                       3080
7892 77 68   OHLI    EQU   OTLI                                                   0189
7893 77 69   OTMO    EQU   HTMO                                                   0190
7894 77 70   *
7895 77 71   *          HALT AREA FOR FINAL OUTP HEADER TRAILER ROUTINE
7896 77 72   *
7897 77 73   LPHDH1  MLC   N99P2,LPHDC1                                        7  3080  M P23 H63          1475
7898 77 74           H     LPHDX1              PRESS START TO ACCEPT           4  3087  . B80              1475
7899 77 75   *                               UNREADABLE BLK AS H.L.
7900 77 76   *                               RETEN CYC WILL NOT BE CK
7901 77 77           B     LPPSW-5             PRESS START/RESET AND START     4  3091  B E96              1475
7902 77 78   *                               TO RETRY UP TO 99 MORE TIMES
7903 77 79   *                               -A NEW REEL MAY BE MOUNTED
7904 77 80   *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
7905 77 81   LPHDH2 H     LPHDS2        PRESS START TO PROCESS NEW REEL      4  3095  . B00             1475
7906 77 82          MLC   @10@,LPHDC2   PRESS START RESET AND START TO       7  3099  M H60 H65         1475
7907 77 83          B     LPPARX-5       RETRY UP TO 10 SKIPS MORE           4  3106  B F39             1475
7908 77 84   *
7909 77 85   LPHDH3 H     LPHDX1             PRESS START TO ACCEPT THIS TAPE 4  3110  . B80             1475
7910 77 86          B     LPHDS2        PRESS START RESET AND START IF       4  3114  B B00             1476
7911 77 87   *                             A NEW REEL IS TO BE PROCESSED
7912 77 88   *
7913 77 89   LPTRH1 H     LPTRX2        PRESS START TO ACCEPT T.L.AS WT.     4  3118  . H22             1476
7914 77 90          MLC   @10@,LPHDC2   PRESS START RESET AND START TO       7  3122  M H60 H65         1476
7915 77 91   *                          TRY WRITING
7916 77 92          B     LPPARX-5       T.L.UP TO 10 MORE SKIPS             4  3129  B F39             1476
7917 77 93   *
7918 77 94   LPTRH2 H     LPHDS1&7      PRESS START AFTER MOUNTING A         4  3133  . A82             1476
7919 77 95   *                             NEW REEL FOR OUTPUT
7920 77 96   *
7921 77 97   CKPTET SBR   LPHDEX&3           ENTER FROM RESTART ROUT.        4  3137  H D14             1476
7922 77 98          B     *&8                                               4  3141  B A52             1476
7923 77 99   LPTRET SBR   LPHDEX&3,RTRN2-7  ENTER FROM TRAILER ROUTINE      7  3145  H D14 S25         1477
7924 78 00          B     LPHDS1                                            4  3152  B A75             1477
7925 78 01          CS    332                                               4  3156  / 332             1477
7926 78 02          CS                                                      1  3160  /                 1477
7927 78 03          MLC   LPTSMG,228                                       7  3161  M G12 228         1477
7928 78 04          W                       CHANGE TAPE MESSAGE             1  3168  2                 1477
7929 78 05          CC    1                                                 2  3169  F 1               1477
7930 78 06          B     LPTRH2                                            4  3171  B A33             1478
7931 78 07   LPHDS1 MLC   @N@,LPTRET&7                                     7  3175  M H61 A52         1478
7932 78 08          CS    179                                               4  3182  / 179             1478
7933 78 09          MLC   GPMARK,*&4                                        7  3186  M 350 A96         1478
7934 78 10          MLCWA 0,180             LOAD A G/M-W/M                  7  3193  L 000 180         1478
7935 78 11   LPHDS2 MLC   N99P2,LPHDC1#2                                   7  3200  M P23 H63         1478
7936 78 12          MLC   @10@,LPHDC2#2                                    7  3207  M H60 H65         1479
7937 78 13          CS    179                                               4  3214  / 179             1479
7938 78 14          MLC   CENSIG,113                                        7  3218  M 415 113         1479
7939 78 15          RWD   0                                                 5  3225  U %U0 R           1479
7940 78 16          BCE   LPHDEX&4,OHLI,    IF NO NEW H.L.-COL.22 CC.1      8  3230  B D15 189         1479
7941 78 17   LPHDS3 RT    0,100                                             8  3238  M %U0 100 R       1479
7942 78 18   LPHDSH BCE   LPHDNR,113,                                      8  3246  B D19 113         1480
7943 78 19          BEF   *&1                                               5  3254  B B59 K           1480
7944 78 20          BER   LPERRT                                            5  3259  B E67 L           1480
7945 78 21          BCE   LPHDRC,WLBKT,1   IF NO RETEN CYC CK-COL.4 CC.3   8  3264  B D36 417 1       1480
7946 78 22          BCE   LPHDRC,OHLOP,1   IF NO RETEN CYC CK-COL.1 CC.5   8  3272  B D36 419 1       1480
7947 78 23   LPHDX1 NOP   0                 EXIT-ACCESS TO H.L.             4  3280  N 000             1480
7948 78 24          BCE   LPHDX2,OHLI,      IF NO H.L.-COL.22 CC.1          8  3284  B C53 189         1481
7949 78 25          MLC   RTCYCL&1,139      H.L. INFORMATION                7  3292  M 462 139         1481
7950 78 26          MLC                      TO WRITE FIELD                 1  3299  M                 1481
7951 78 27          MLC                                                     1  3300  M                 1481
7952 78 28          MLC   HDRTAG,104        HEADER FLAG                     7  3301  M 427 104         1481
7953 78 29          SW    140                                               4  3308  , 140             1481
7954 78 30          MLC   331,179                                           7  3312  M 331 179         1481
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
7955 78 31           SW    105                                           4  3319  , 105             1482
7956 78 32           BCE   *&8,TPSROP,        IF TO RETAIN TAPE SERIAL #  8  3323  B C38 422        1482
7957 78 33   *                                    COL.34 CC.5
7958 78 34           MLC   TPSERL,109          NEW TAPE SERIAL #           7  3331  M 432 109        1482
7959 78 35           BCE   *&8,FLSROP,         COL.2 CC.5                  8  3338  B C53 420        1482
7960 78 36           MLC   109,114             TAPE SERIAL # REPLACES FILE 7  3346  M 109 114        1482
7961 78 37   *                                    SERIAL #
7962 78 38   LPHDX2  NOP   0                   EXIT-BEFORE WRITING H.L.    4  3353  N 000             1482
7963 78 39           BSP   0                                               5  3357  U %U0 B           1483
7964 78 40           WT    0,100                                           8  3362  M %U0 100 W       1483
7965 78 41           BER   LPERWT                                          5  3370  B F66 L           1483
7966 78 42   LPHDX3  NOP   0                   EXIT AFTER WRITING H.L.     4  3375  N 000             1483
7967 78 43           BCE   *&6,OTMO,           IF NO T/M AFTER H.L.        8  3379  B C92 190         1483
7968 78 44   *                                    COL.23 CC.1
7969 78 45           WTM   0                                               5  3387  U %U0 M           1483
7970 78 46           BCE   *&8,RLSQOP,         NO REEL SEQ UPDATE          8  3392  B D07 421         1484
7971 78 47   *                                    COL.3 CC.5
7972 78 48           A     &1,REELSQ                                       7  3400  A H66 441         1484
7973 78 49           CS    181                                             4  3407  / 181             1484
7974 78 50   LPHDEX  B     CLSTX1-7            GENERAL EXIT                4  3411  B J84             1484
7975 78 51           B     LPHDEX-4                                        4  3415  B D07             1484
7976 78 52   LPHDNR  CS    120                 CLEAR NOISE REC AREA        4  3419  / 120             1484
7977 78 53           B     LPHDS3                                          4  3423  B B38             1484
7978 78 54   ****          RETENTION CYCLE CHECK
7979 78 55           DCW   @  @                                           2  3428                    1485
7980 78 56           DCW   @   @                                          3  3431                    1485
7981 78 57   CRTC2   DCW   @    @                                         4  3435                    1485
7982 78 58   LPHDRC  ZA    138,CRTC2           MOVE LABEL INFORMATION      7  3436  ? 138 D35         1485
7983 78 59           MLC                          INTO CHECK BUCKET        1  3443  M                 1485
7984 78 60           MLC                                                   1  3444  M                 1485
7985 78 61           SW    OHDATE-2                                        4  3445  , 455             1485
7986 78 62   CLWL2   C     OHDATE-3,CRTC2-7                                7  3449  C 454 D28         1486
7987 78 63           BU    MODYR2                                          5  3456  B E27 /           1486
7988 78 64           A     CRTC2-4,CRTC2          ADD TAPE DAYS TO RT. CYL. 7  3461  A D31 D35         1486
7989 78 65           S     OHDATE,CRTC2           SUB. CONT. DAYS FROM RT. CYL. 7  3468  S 457 D35      1486
7990 78 66           CW    OHDATE-2                                        4  3475  ) 455             1486
7991 78 67           BWZ   LPHDX1,CRTC2,K         CAN TAPE BE WRITTEN ON    8  3479  V B80 D35 K       1486
7992 78 68           CS    332                    NO                       4  3487  / 332             1487
7993 78 69           CS                                                    1  3491  /                 1487
7994 78 70           MLC   SAVMP2,227             PRINT MESSAGE INDICATING 7  3492  M E66 227         1487
7995 78 71           MLNS  CRTC2,222              DAYS TAPE IS TO BE RETAINED 7  3499  D D35 222      1487
7996 78 72           MLNS                                                  1  3506  D                 1487
7997 78 73           MLNS                                                  1  3507  D                 1487
7998 78 74           MLC   SAVMP1                                         4  3508  M E61             1487
7999 78 75           MLC   O2TUHA                                          4  3512  M 566             1488
8000 78 76           MLC   SAVMP3                                          4  3516  M E56             1488
8001 78 77           W                                                     1  3520  2                 1488
8002 78 78           CC    1                                               2  3521  F 1               1488
8003 78 79           B     LPHDH3                 BRANCH TO HALT           4  3523  B A10             1488
8004 78 80   MODYR2  S     TSF2,CRTC2             SUB. 365 FROM RET.       7  3527  S E44 D35         1488
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

8005 78 81          A                          CYCLE AND ADD 1 TO            1  3534  A                 1488
8006 78 82          A                          TAPE YEARS                    1  3535  A                 1489
8007 78 83          B     CLWL2                CHECK YEAR COMPARE AGAIN      4  3536  B D49             1489
8008 78 84          DCW   @1@                                                1  3540                    1489
8009 78 85          DCW   @0@                                                1  3541                    1489
8010 78 86   TSF2   DCW   @365@                                              3  3544                    1489
8011 78 87   SAVMP3 DCW   @RETAIN TAPE @                                    12  3556                    1489
8012 78 88   SAVMP1 DCW   @ FOR @                                            5  3561                    1489
8013 78 89   SAVMP2 DCW   @ DAYS@                                            5  3566                    1490
8014 78 90   *
8015 78 91   *       HEADER LABEL READ ERROR ENTRANCE
8016 78 92   *
8017 78 93   LPERRT SBR   LPPARX&3,LPHDS3                                    7  3567  H F47 B38         1490
8018 78 94          MLC   @B@,LPPSW                                          7  3574  M H67 F01         1490
8019 78 95          S     &1,LPHDC1                                          7  3581  S H66 H63         1490
8020 78 96          BM    LPHDH1,LPHDC1      UNREADABLE BLK                  8  3588  V ?80 H63 K       1490
8021 78 97          BSP   0                                                  5  3596  U %U0 B           1490
8022 78 98   LPPSW  B     LPPARX             NOP IF WRITE CONDITION          4  3601  B F44             1491
8023 78 99          BCE   *&5,LPHDC1,G       IF TIME TO SKIP                 8  3605  B F17 H63 G       1491
8024 79 00          B     LPPARX                                             4  3613  B F44             1491
8025 79 01          MLC   N99P2-1,LPHDC1                                    7  3617  M P22 H63         1491
8026 79 02          S     &1,LPHDC2                                          7  3624  S H66 H65         1491
8027 79 03          BM    LPHDH2,LPHDC2                                      8  3631  V ?95 H65 K       1491
8028 79 04          SKP   0                                                  5  3639  U %U0 E           1492
8029 79 05   LPPARX B     0                  ERROR ROUTINE EXIT              4  3644  B 000             1492
8030 79 06   *
8031 79 07   *         TRAILER LABEL WRITE ERROR ENTRANCE
8032 79 08   *
8033 79 09   LPTRPE SBR   LPPARX&3,LPTRX1&18                                 7  3648  H F47 H09         1492
8034 79 10          SBR   LPPARX-10,LPTRH1                                   7  3655  H F34 A18         1492
8035 79 11          B     *&15                                               4  3662  B F80             1492
8036 79 12   *
8037 79 13   *         HEADER LABEL WRITE ERROR ENTRANCE
8038 79 14   *
8039 79 15   LPERWT SBR   LPPARX&3,LPHDX2&9                                  7  3666  H F47 C62         1492
8040 79 16          SBR   LPPARX-10,LPHDH2                                   7  3673  H F34 ?95         1493
8041 79 17          MLC   @N@,LPPSW                                          7  3680  M H61 F01         1493
8042 79 18          B     LPERRT&14                                          4  3687  B E81             1493
8043 79 19   LPTSMG DCW   @ CHANGE REEL ON UNIT 0@                          22  3712                    1494
8044 79 20   *
8045 79 21   *     TRAILER LABEL ROUTINE-ENTER FROM EOF ON OUTP OR EOJ
8046 79 22   *
8047 79 23   LPTRS1 CS    180                                                4  3713  / 180             1494
8048 79 24          MLC   GPMARK,*&4                                         7  3717  M 350 G27         1494
8049 79 25          MLCWA 0,180              LOAD IN A G/M-W/M               7  3724  L 000 180         1495
8050 79 26          BCE   LPTRX2,TLO,    NO TRAILER LABEL-COL.25 CC.1       8  3731  B H22 192         1495
8051 79 27          WTM   0                                                  5  3739  U %U0 M           1495
8052 79 28          BCE   *&12,CNTRA,7       END OF JOB                      8  3744  B G63 572 7       1495
8053 79 29          MLC   @1EOR @,104                                       7  3752  M H72 104         1495
8054 79 30          B     *&8                                                4  3759  B G70             1495
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 SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

8055 79 31           MLC   @1EOF @,104                               7  3763  M H77 104         1496
8056 79 32           MLC   TAPBLC,109          TAPE BLK COUNT       7  3770  M Q91 109         1496
8057 79 33           MLC   ACTNR,*&4                                 7  3777  M P00 G87         1496
8058 79 34           MLC   000,119                                   7  3784  M 000 119         1496
8059 79 35   LPTRX1  NOP   0                    EXIT-ACCESS TO T.L.  4  3791  N 000             1496
8060 79 36           MLC   N99P2,LPHDC1                             7  3795  M P23 H63         1496
8061 79 37           MLC   @10@,LPHDC2                             7  3802  M H60 H65         1497
8062 79 38           WT    0,100                                     8  3809  M %U0 100 W       1497
8063 79 39           BER   LPTRPE                                   5  3817  B F48 L           1497
8064 79 40   LPTRX2  NOP   0                    EXIT-AFTER T.L.WRITE 4  3822  N 000             1497
8065 79 41           MLC   @000000@,TAPBLC                         7  3826  M H82 Q91         1497
8066 79 42           WTM   0                                       5  3833  U %U0 M           1497
8067 79 43           RWU   0                                       5  3838  U %U0 U           1498
8068 79 44           CS    181                                     4  3843  / 181             1498
8069 79 45           BCE   REWIND,CNTRA,7                          8  3847  B J30 572 7       1498
8070 79 46           B     LPTRET                                  4  3855  B A45             1498
                     DCW   @10@                                    2  3860              LIT   1498
                           @N@                                     1  3861              LIT   1498
       7935  LPHDC1        #02                                     2  3863              AREA  1498
       7936  LPHDC2        #02                                     2  3865              AREA  1499
                           &1                                      1  3866              LIT   1499
                           @B@                                     1  3867              LIT   1499
       8053                @1EOR @                                 5  3872              LIT   1499
       8055                @1EOF @                                 5  3877              LIT   1499
       8065                @000000@                                5  3882              LIT   1499
8071 79 47           EX    INIT1                                         B S8W             1500
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
8072 79 48           JOB   ** IBM 1401 SORT 7 VERSION 2 PHASE 2
8073 79 49    ***
8074 79 50    ***             FINAL PASS INIT FOR HEADER-TRAILER ROUTINE
8075 79 51    ***             120 CHARACTER LABELS
8076 79 52    ***
8077 79 53           ORG   INIT1                                                      5286
8078 79 54    *
8079 79 55    *
8080 79 56    REDMPS R                                                        1  5286  1                 1503
8081 79 57           BCE   *&5,40,/                                          8  5287  B S9Z 040 /       1503
8082 79 58           B     REDMPS                                            4  5295  B S8W             1503
8083 79 59           MLNS  O2TUHA,LPHEX2&12                                  7  5299  D 566 C34         1503
8084 79 60           MLNS  O2TUHA,LPHEX2&7                                   7  5306  D 566 C29         1503
8085 79 61           MLNS  O2TUHA,LPHEX3&15                                  7  5313  D 566 C63         1503
8086 79 62           MLNS  O2TUHA,LPHES3-10                                  7  5320  D 566 B25         1504
8087 79 63           MLNS  O2TUHA,LPHES3&3                                   7  5327  D 566 B38         1504
8088 79 64           MLNS  O2TUHA,LPPPSW-2                                   7  5334  D 566 E72         1504
8089 79 65           MLNS  O2TUHA,LPPERX-2                                   7  5341  D 566 F15         1504
8090 79 66           MLNS  O2TUHA,LPTMEG-1                                   7  5348  D 566 F85         1504
8091 79 67           MLNS  O2TUHA,LPTSS1&30                                  7  5355  D 566 G17         1505
8092 79 68           MLNS  O2TUHA,LPTSX1&21                                  7  5362  D 566 G80         1505
8093 79 69           MLC   CENSIG,LANOIS&7                                   7  5369  M 415 B50         1505
8094 79 70           MLNS  O2TUHA,LPTSX2&14                                  7  5376  D 566 H04         1505
8095 79 71           SBR   QTRL&3,LPTSS1                                     7  5383  H J19 F87         1505
8096 79 72           MLNS  O2TUHA,LPTSX2&19                                  7  5390  D 566 H09         1506
8097 79 73           MLCWA NOPINK-1,THDTP-10                                 7  5397  L U2V J48         1506
8098 79 74           MLC   LPPPSW,REWIND&14                                  7  5404  M E74 J44         1506
8099 79 75           SBR   CLSTX1-12,NXTPS                                   7  5411  H J79 677         1506
8100 79 76           B     LPTRAT&7                                          4  5418  B A52             1506
8101 79 77           NOP                                                     1  5422  N                 1506
8102 79 78    NOPINK DC    @0000@                                            4  5426                    1506
8103 79 79           ORG   HTHEL1                                                   3080
8104 79 80    UHLI   EQU   OTLI                                                0189
8105 79 81    UTMU   EQU   HTMO                                                0190
8106 79 82    *
8107 79 83    *               HALT AREA FOR FINAL OUTPUT HDR-TRL ROUTINE
8108 79 84    *
8109 79 85    LPHEH1 MLC   N99P2,LPHEC1        PRESS START TO ACCEPT UNREADABLE  7  3080  M P23 H32         1507
8110 79 86           H     LPHEX1              BLOCK AS H.L. RET CYCLE WILL NOT  4  3087  . B69            1507
8111 79 87           B     LPPPSW              BE CHECKED PRESS START RESET AND  4  3091  B E74            1507
8112 79 88    *                                  START TO RETRY UP TO 99 TIMES
8113 79 89    *                                  A NEW REEL MAY BE MOUNTED
8114 79 90    *
8115 79 91    LPHEH2 H     LPHES2              PRESS START TO PROCESS NEW REEL   4  3095  . A96            1507
8116 79 92           MLC   @10@,LPHEC2         PRESS START-RESET AND START TO    7  3099  M H29 H34        1507
8117 79 93           B     LPPERX-5            RETRY UP TO 10 MORE SKIPS         4  3106  B F12            1507
8118 79 94    LPHEH3 H     LPHEX1              PRESS START TO ACCEPT THIS TAPE   4  3110  . B69            1507
8119 79 95           B     LPHES2              PRESS START-RESET AND START IF A  4  3114  B A96            1508
8120 79 96    *                                  NEW REEL IS TO BE PROCESSED
8121 79 97    LPTSH1 H     LPTSX2              PRESS START TO ACCEPT TL AS WT.   4  3118  . G90            1508
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
8122 79 98          MLC   @10@,LPHEC2          PRESS START-RESET AND START TO      7  3122  M H29 H34         1508
8123 79 99          B     LPPERX-5             TRY WRITING-UP TO 10 MORE SKIPS     4  3129  B F12             1508
8124 80 00   LPTSH2 H     LPHES1&7             PRESS START AFTER MOUNTING A NEW    4  3133  . A82             1508
8125 80 01   *                                   REEL FOR OUTPUT
8126 80 02   CKPTAT SBR   LPHDAX&3             ENTER FROM RESTART ROUTINE          4  3137  H C87             1508
8127 80 03          B     *&8                                                      4  3141  B A52             1508
8128 80 04   LPTRAT SBR   LPHDAX&3,RTRN2-7     ENTER FROM TRAILER ROUTINE          7  3145  H C87 S25         1509
8129 80 05          B     LPHES1                                                   4  3152  B A75             1509
8130 80 06          CS    332                                                      4  3156  / 332             1509
8131 80 07          CS                                                             1  3160  /                 1509
8132 80 08          MLC   LPTMEG,228           CHANGE TAPE MESSAGE                 7  3161  M F86 228         1509
8133 80 09          W                                                              1  3168  2                 1509
8134 80 10          CC    1                                                        2  3169  F 1               1509
8135 80 11          B     LPTSH2                                                   4  3171  B A33             1510
8136 80 12   LPHES1 MLC   @N@,LPTRAT&7                                           7  3175  M H30 A52         1510
8137 80 13          MLC   GPMARK,*&4                                             7  3182  M 350 A92         1510
8138 80 14   LEMARK MLCWA 0,320                                                   7  3189  L 000 320         1510
8139 80 15   LPHES2 MLC   N99P2,LPHEC1#2                                         7  3196  M P23 H32         1510
8140 80 16          MLC   @10@,LPHEC2#2                                         7  3203  M H29 H34         1510
8141 80 17          CS    319                                                      4  3210  / 319             1511
8142 80 18          CS                                                             1  3214  /                 1511
8143 80 19   LENOSE MLC   CENSIG,213                                            7  3215  M 415 213         1511
8144 80 20          RWD   0                                                        5  3222  U %U0 R           1511
8145 80 21          BCE   LPHDAX&4,OHLI,                                         8  3227  B C88 189         1511
8146 80 22   LPHES3 RTW   0,200                                                   8  3235  L %U0 200 R       1511
8147 80 23   LANOIS BCE   LPHENR,213,                                           8  3243  B C92 213         1512
8148 80 24          BEF   *&1                                                      5  3251  B B56 K           1512
8149 80 25          BER   LPARRT                                                 5  3256  B E40 L           1512
8150 80 26          BCE   LPHERC,OHLOP,1      IF NO RET CYC CK-COL1 CC5           8  3261  B D09 419 1       1512
8151 80 27   LPHEX1 NOP   0                                                      4  3269  N 000             1512
8152 80 28          BCE   LPHEX2,OHLI,                                          8  3273  B C22 189         1512
8153 80 29          MLC   RESEQE,239                                           7  3281  M 461 239         1513
8154 80 30          MLC   FILESE,229                                           7  3288  M 452 229         1513
8155 80 31          MLC                                                        1  3295  M                 1513
8156 80 32          MLC   SYSCRE,255                                           7  3296  M 457 255         1513
8157 80 33          SW    225                                                  4  3303  , 225             1513
8158 80 34          BCE   *&8,FLSROP,          COL2 CC5                        8  3307  B C22 420         1513
8159 80 35          MLC   234,229                                             7  3315  M 234 229         1514
8160 80 36   LPHEX2 NOP   0                    EXIT-BEFORE WRITING HL          4  3322  N 000             1514
8161 80 37          BSP   0                                                    5  3326  U %U0 B           1514
8162 80 38          WT    0,200                                                8  3331  M %U0 200 W       1514
8163 80 39          CS    332                                                  4  3339  / 332             1514
8164 80 40          BER   LPARWT                                               5  3343  B F39 L           1514
8165 80 41   LPHEX3 NOP   0                    EXIT AFTER WRITING HL           4  3348  N 000             1514
8166 80 42          BCE   *&6,OTMO,            BRANCH IF NO TM AFT HL          8  3352  B C65 190         1515
8167 80 43   *                                   COL23 CC1
8168 80 44          WTM   0                                                    5  3360  U %U0 M           1515
8169 80 45          BCE   *&8,RLSQOP,                                          8  3365  B C80 421         1515
8170 80 46          A     &1,RESEQE                                            7  3373  A H35 461         1515
8171 80 47          CS    181                                                  4  3380  / 181             1515
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
8172 80 48   LPHDAX B     CLSTX1-7           GENERAL EXIT                4  3384  B J84             1515
8173 80 49          B     LPHDAX-4                                       4  3388  B C80             1516
8174 80 50   LPHENR CS    220                CLEAR NOISE RECORD          4  3392  / 220             1516
8175 80 51          B     LPHES3                                         4  3396  B B35             1516
8176 80 52   ****                  RETENTION CYCLE CHECK
8177 80 53          DCW   @    @                                         4  3403                    1516
8178 80 54          DCW   @  @                                          2  3405                    1516
8179 80 55   UTCRTY DCW   @   @                                         3  3408                    1516
8180 80 56   LPHERC MLC   214,UTCRTY                                    7  3409  M 214 D08         1516
8181 80 57          MLC                                                 1  3416  M                 1517
8182 80 58          MLC                                                 1  3417  M                 1517
8183 80 59          SW    CREATD-2                                      4  3418  , 435             1517
8184 80 60   CLWIL2 C     CREATD-3,UTCRTY-3                             7  3422  C 434 D05         1517
8185 80 61          BU    MUDIFY                                        5  3429  B E00 /           1517
8186 80 62          A     UTCRTY,UTCRTY-5                               7  3434  A D08 D03         1517
8187 80 63          S     CREATD,UTCRTY-5                               7  3441  S 437 D03         1517
8188 80 64          CW    CREATD-2                                      4  3448  ) 435             1518
8189 80 65          BWZ   LPHEX1,UTCRTY-5,K  CAN TAPE BE WRITTEN ON     8  3452  V B69 D03 K       1518
8190 80 66          CS    319                                           4  3460  / 319             1518
8191 80 67          CS                                                  1  3464  /                 1518
8192 80 68          MLC   S2VMEP,227                                    7  3465  M E39 227         1518
8193 80 69          MLNS  UTCRTY-5,222                                  7  3472  D D03 222         1518
8194 80 70          MLNS                                                1  3479  D                 1518
8195 80 71          MLNS                                                1  3480  D                 1519
8196 80 72          MLC   S1VMEP                                        4  3481  M E34             1519
8197 80 73          MLC   O2TUHA                                        4  3485  M 566             1519
8198 80 74          MLC   S3VMEP                                        4  3489  M E29             1519
8199 80 75          W                                                   1  3493  2                 1519
8200 80 76          CC    1                                             2  3494  F 1               1519
8201 80 77          B     LPHDH3             BRANCH TO HALT             4  3496  B A10             1519
8202 80 78   MUDIFY A     FST365&2,UTCRTY    SUB 365 FROM RET. CYC AND ADD 1  7  3500  A E17 D08         1520
8203 80 79          A                        TO TAPE YEARS              1  3507  A                 1520
8204 80 80          S                                                   1  3508  S                 1520
8205 80 81          B     CLWIL2             CHECK YEAR COMPARE AGAIN   4  3509  B D22             1520
8206 80 82   FST365 DCW   @365@                                         3  3515                    1520
8207 80 83          DCW   @1@                                           1  3516                    1520
8208 80 84          DCW   @0@                                           1  3517                    1520
8209 80 85   S3VMEP DCW   @RETAIN TAPE @                               12  3529                    1521
8210 80 86   S1VMEP DCW   @ FOR @                                      5  3534                    1521
8211 80 87   S2VMEP DCW   @ DAYS@                                      5  3539                    1521
8212 80 88   *
8213 80 89   *              HEADER LABEL READ ERROR ENTRANCE
8214 80 90   *
8215 80 91   LPARRT SBR   LPPERX&3,LPHES3                               7  3540  H F20 B35         1521
8216 80 92          MLC   @B@,LPPPSW                                    7  3547  M H36 E74         1521
8217 80 93          S     &1,LPHEC1                                     7  3554  S H35 H32         1522
8218 80 94          BM    LPHEH1,LPHEC1      UNREADABLE BLOCK           8  3561  V ?80 H32 K       1522
8219 80 95          BSP   0                                             5  3569  U %U0 B           1522
8220 80 96   LPPPSW B     LPPERX             NOP IF WRITE CONDITION     4  3574  B F17             1522
8221 80 97          BCE   *&5,LPHEC1,G                                  8  3578  B E90 H32 G       1522
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
8222 80 98           B     LPPERX                                    4  3586  B F17             1522
8223 80 99           MLC   N99P2-1,LPHEC1                           7  3590  M P22 H32         1523
8224 81 00           S     &1,LPHEC2                                 7  3597  S H35 H34         1523
8225 81 01           BM    LPHEH2,LPHEC2                             8  3604  V ?95 H34 K       1523
8226 81 02           SKP   0                                       5  3612  U %U0 E           1523
8227 81 03   LPPERX  B     0                 ERROR ROUTINE EXIT      4  3617  B 000             1523
8228 81 04   *
8229 81 05   *               TRAILER LABEL WRITE ERROR ENTRANCE
8230 81 06   *
8231 81 07   LPTSPE  SBR   LPPERX&3,LPTSX1&18                       7  3621  H F20 G77         1523
8232 81 08           SBR   LPPERX-10,LPTRH1                        7  3628  H F07 A18         1524
8233 81 09           B     *&15                                      4  3635  B F53             1524
8234 81 10   *
8235 81 11   *               HEADER LABEL WRITE ERROR ENTRANCE
8236 81 12   *
8237 81 13   LPARWT  SBR   LPPERX&3,LPHEX2&9                       7  3639  H F20 C31         1524
8238 81 14           SBR   LPPERX-10,LPHEH2                       7  3646  H F07 ?95         1524
8239 81 15           MLC   @N@,LPPPSW                              7  3653  M H30 E74         1524
8240 81 16           B     LPARRT&14                                 4  3660  B E54             1524
8241 81 17   LPTMEG  DCW   @ CHANGE REEL ON UNIT 0 @               23  3686                    1525
8242 81 18   *
8243 81 19   *               TRAILER LABEL ROUTINE
8244 81 20   *
8245 81 21   LPTSS1  CS    332                                       4  3687  / 332             1525
8246 81 22           CS                                            1  3691  /                 1525
8247 81 23           MLC   GPMARK,*&4                                7  3692  M 350 G02         1525
8248 81 24           MLCWA 0,320                                     7  3699  L 000 320         1526
8249 81 25           BCE   LPTSX2,TLO,       NO TRAILER LABEL        8  3706  B G90 192         1526
8250 81 26           WTM   0                                       5  3714  U %U0 M           1526
8251 81 27           BCE   *&12,CNTRA,7      END OF JOB              8  3719  B G38 572 7       1526
8252 81 28           MLC   @1EOR @,204                              7  3727  M H41 204         1526
8253 81 29           B     *&8                                       4  3734  B G45             1526
8254 81 30           MLC   @1EOF @,204                              7  3738  M H46 204         1527
8255 81 31           MLC   TAPBLC,271        TAPE BLK COUNT          7  3745  M Q91 271         1527
8256 81 32           MLC   N99P2,LPHEC1                            7  3752  M P23 H32         1527
8257 81 33   LPTSX1  NOP   0                 USER EXIT               4  3759  N 000             1527
8258 81 34           MLC   @10@,LPHEC2                             7  3763  M H29 H34         1527
8259 81 35           MLC   N99P2,LPHEC1                            7  3770  M P23 H32         1527
8260 81 36           WT    0,200                                     8  3777  M %U0 200 W       1528
8261 81 37           BER   LPTSPE                                   5  3785  B F21 L           1528
8262 81 38   LPTSX2  NOP   0                 USER EXIT               4  3790  N 000             1528
8263 81 39           MLC   @00000@,TAPBLC                          7  3794  M H51 Q91         1528
8264 81 40           WTM   0                                       5  3801  U %U0 M           1528
8265 81 41           RWU   0                                       5  3806  U %U0 U           1528
8266 81 42           CS    332                                       4  3811  / 332             1528
8267 81 43           CS                                            1  3815  /                 1529
8268 81 44           BCE   REWIND,CNTRA,7                            8  3816  B J30 572 7       1529
8269 81 45           B     LPTRAT                                    4  3824  B A45             1529
                     DCW   @10@                                      2  3829            LIT   1529
                           @N@                                       1  3830            LIT   1529
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
		8139	LPHEC1		#02		2	3832		AREA	1529
		8140	LPHEC2		#02		2	3834		AREA	1529
					&1		1	3835		LIT	1530
					@B@		1	3836		LIT	1530
		8252			@1EOR @		5	3841		LIT	1530
		8254			@1EOF @		5	3846		LIT	1530
		8263			@000000@		5	3851		LIT	1530
8270	81	46		EX	INIT1				B S8W		1531

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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

8271 81 47          JOB   ** IBM 1401 SORT 7 VERSION 2 MULTIPHASE
8272 81 48   *              MULTIPHASE FINAL OUTPUT LABEL ROUTINE TO WRITE
8273 81 49   *              STANDARD HEADER AND TRAILER LABELS ON FINAL
8274 81 50   *              OUTPUT TAPES
8275 81 51          SFX   #
8276 81 52          ORG   MLEND                                             #            2316
8277 81 53   *
8278 81 54   *     HALT AREA FOR FINAL OUTP HEADER TRAILER ROUTINE
8279 81 55   *
8280 81 56   FPHDH1 MLC   FTRAC3-3,FHTC1     PRESS START TO ACCEPT UNREADABLE  #   7  2316  M 609 ?63         1534
8281 81 57   *                                 BLK AS HDR--RETEN CYC WILL NOT
8282 81 58   *                                 BE CHECKED
8283 81 59          H     FPHDX1                                              #   4  2323  . M90             1534
8284 81 60          B     FPHDS2              PRESS START RESET AND START TO  #   4  2327  B M03             1534
8285 81 61   *                                 RETRY UP TO 99 MORE TIMES
8286 81 62   *                               A NEW REEL MAY BE MOUNTED
8287 81 63   FPHDH2 H     FPHDS2           PRESS START TO PROCESS A NEW REEL.  #   4  2331  . M03             1534
8288 81 64          MLC   FTRAC3-4,FHTC2  PRESS START RESET AND START TO      #   7  2335  M 608 ?64         1534
8289 81 65          B     FPHDX2              RETRY UP TO 9 SKIPS             #   4  2342  B N68             1534
8290 81 66   *
8291 81 67   FPHDH3 H     FPHDX1              RETEN CYC HALT  PRESS START TO  #   4  2346  . M90             1534
8292 81 68          B     FPHDS1           ACCEPT THIS TAPE.PRESS START       #   4  2350  B L92             1535
8293 81 69   *                               RESET AND START IF A NEW REEL
8294 81 70   *                               IS TO BE PROCESSED.
8295 81 71   *
8296 81 72   FPTRH1 H     FTREX2           PRESS START TO ACCEPT T.L.         #   4  2354  . ?25             1535
8297 81 73   *                               AS WRITTEN
8298 81 74          B     FTREX1&11        PRESS START RESET AND START TO     #   4  2358  B ?05             1535
8299 81 75   *                               TRY WRITING T.L. UP TO 10 MORE
8300 81 76   *                               SKIPS.
8301 81 77   FPTRH2 H     FPHDS1           PRESS START AFTER MOUNTING A       #   4  2362  . L92             1535
8302 81 78   *                               NEW REEL FOR OUTPUT
8303 81 79   FPTRET SBR   FPHDEX&3,RTRN2                                     #   7  2366  H O24 974         1535
8304 81 80          CS    332                                               #   4  2373  / 332             1535
8305 81 81          CS                                                      #   1  2377  /                 1535
8306 81 82          MLC   FPTSMG,228                                        #   7  2378  M R11 228         1536
8307 81 83          W                          CHANGE REEL MESSAGE          #   1  2385  2                 1536
8308 81 84          CC    1                                                 #   2  2386  F 1               1536
8309 81 85          B     FPTRH2                                            #   4  2388  B L62             1536
8310 81 86   FPHDS1 CS    180                                               #   4  2392  / 180             1536
8311 81 87          MLCWA 0,180                                             #   7  2396  L 000 180         1536
8312 81 88   FPHDS2 MLC   FTRAC3-3,FHTC1#2                                  #   7  2403  M 609 ?63         1536
8313 81 89          MLC   FTRAC3-4,FHTC2#1                                  #   7  2410  M 608 ?64         1537
8314 81 90          CS    179                                               #   4  2417  / 179             1537
8315 81 91          MLC   CENSIG,113                                        #   7  2421  M 415 113         1537
8316 81 92          MLC   CENSIG,MLNOIS&7                                   #   7  2428  M 415 M63         1537
8317 81 93          RWD   0                                                 #   5  2435  U %U0 R           1537
8318 81 94          BCE   FPHDEX&4,OHLIMP,   IF NO HEADER LABEL            #   8  2440  B O25 189         1537
8319 81 95   FPHDS3 RTW   0,100                                             #   8  2448  L %U0 100 R       1538
8320 81 96   MLNOIS BCE   FPHDNR,113,                                       #   8  2456  B O37 113         1538
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
8321 81 97           BEF   *&1                                          #   5  2464  B M69 K           1538
8322 81 98           BER   FPERRT                                       #   5  2469  B P82 L           1538
8323 81 99           BCE   FPHDRC,WLBKTM,1    IF RETEN CYC CK         #   8  2474  B O54 417 1       1538
8324 82 00           BCE   FPHDRC,OHLOPM,1                            #   8  2482  B O54 419 1       1539
8325 82 01   FPHDX1  NOP   0                   EXIT-ACCESS TO H.L.     #   4  2490  N 000             1539
8326 82 02           RWD   0                                          #   5  2494  U %U0 R           1539
8327 82 03           BCE   FPHDEX-4,OHLIMP,   IF NO HEADER LABEL      #   8  2499  B O17 189         1539
8328 82 04           MLC   RTCYCL&1,139        H.L.INFORMATION TO      #   7  2507  M 462 139         1539
8329 82 05           MLC                      READ-WRITE H.L.AREA     #   1  2514  M                 1539
8330 82 06           MLC                                              #   1  2515  M                 1539
8331 82 07           MLC   HDRTAG,104         HEADER FLAG             #   7  2516  M 427 104         1540
8332 82 08           SW    140                                        #   4  2523  , 140             1540
8333 82 09           MLC   331,179                                    #   7  2527  M 331 179         1540
8334 82 10           SW    105                                        #   4  2534  , 105             1540
8335 82 11           BCE   *&8,TPSROP,         IF TO RETAIN TAPE SERIAL #  #   8  2538  B N53 422         1540
8336 82 12           MLC   TPSERL,109         NEW TAPE SERIAL #       #   7  2546  M 432 109         1540
8337 82 13           BCE   *&8,FLSROP,                                #   8  2553  B N68 420         1541
8338 82 14           MLC   109,114            TAPE SERIAL # REPLACES THE  #   7  2561  M 109 114         1541
8339 82 15   *                                 FILE SERIAL #
8340 82 16   FPHDX2  NOP   0                   EXIT-BEFORE WRITING H.L.#   4  2568  N 000             1541
8341 82 17           WT    0,100                                      #   8  2572  M %U0 100 W       1541
8342 82 18           BER   FPERWT                                     #   5  2580  B Q56 L           1541
8343 82 19   FPHDX3  NOP   0                                          #   4  2585  N 000             1541
8344 82 20           BCE   *&6,OTMOMP,        IF NO TM AFTER H.L.     #   8  2589  B O02 190         1542
8345 82 21           WTM   0                                          #   5  2597  U %U0 M           1542
8346 82 22           BCE   *&8,RLSQOP,         IF NO REEL SEQ UPDATE   #   8  2602  B O17 421         1542
8347 82 23           A     AONE,REELSQ                                #   7  2610  A 616 441         1542
8348 82 24           CS    181                                        #   4  2617  / 181             1542
8349 82 25   FPHDEX  B     SPLCAS             RETURN TO LAST PASS INIT#   4  2621  B T4X             1542
8350 82 26           BCE   FPHDEX-4,WLBKTM,   NO WK TAPE HL CK       #   8  2625  B O17 417         1543
8351 82 27           B     FPHDS3                                     #   4  2633  B M48             1543
8352 82 28   FPHDNR  CS    120                CLEAR NOISE REC AREA    #   4  2637  / 120             1543
8353 82 29           B     FPHDS3                                     #   4  2641  B M48             1543
8354 82 30   *                      RETENTION CYCLE CK.
8355 82 31           DCW   #2                                         #   2  2646                     1543
8356 82 32           DCW   #3                                         #   3  2649                     1543
8357 82 33   CRTCY   DCW   #4                                         #   4  2653                     1543
8358 82 34   FPHDRC  ZA    138,CRTCY          MOVE TAPE INFO. TO CHECK BUCKET #   7  2654  ? 138 O53         1544
8359 82 35           MLC                                              #   1  2661  M                 1544
8360 82 36           MLC                                              #   1  2662  M                 1544
8361 82 37           SW    OHDATE-2                                   #   4  2663  , 455             1544
8362 82 38   CLW     C     OHDATE-3,CRTCY-7   COMPARE YEAR            #   7  2667  C 454 O46         1544
8363 82 39           BU    MODY                                       #   5  2674  B P41 /           1544
8364 82 40           A     CRTCY-4,CRTCY      ADD TAPE DAYS TO RT CYCLE #   7  2679  A O49 O53         1544
8365 82 41           S     OHDATE,CRTCY       SUB CONT DAYS FROM RT CYCLE #   7  2686  S 457 O53         1545
8366 82 42           CW    OHDATE-2                                   #   4  2693  ) 455             1545
8367 82 43           BWZ   FPHDX1,CRTCY,K     CAN WE WRITE ON TAPE    #   8  2697  V M90 O53 K       1545
8368 82 44           CS    332                NO-PRINT MESSAGE        #   4  2705  / 332             1545
8369 82 45           CS                       INDICATING DAYS TAPE    #   1  2709  /                 1545
8370 82 46           MLC   SAVMS,227          IS TO BE RETAINED       #   7  2710  M P81 227         1545
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
8371 82 47          MLNS  CRTCY,222                                 #   7  2717  D O53 222         1545
8372 82 48          MLNS                                           #   1  2724  D                 1546
8373 82 49          MLNS                                           #   1  2725  D                 1546
8374 82 50          MLC   SAVM1                                    #   4  2726  M P76             1546
8375 82 51          MLC   SAVM2                                    #   4  2730  M P71             1546
8376 82 52          W                                              #   1  2734  2                 1546
8377 82 53          CC    1                                        #   2  2735  F 1               1546
8378 82 54          B     FPHDH3                                   #   4  2737  B L46             1546
8379 82 55   MODY   S     TSF1,CRTCY         SUBTRACT 365 FROM     #   7  2741  S P58 O53         1547
8380 82 56          A                       RT CYCLE AND ADD 1 TO  #   1  2748  A                 1547
8381 82 57          A                       TAPE YEARS             #   1  2749  A                 1547
8382 82 58          B     CLW                                      #   4  2750  B O67             1547
8383 82 59          DCW   @1@                                      #   1  2754                    1547
8384 82 60          DCW   @0@                                      #   1  2755                    1547
8385 82 61   TSF1   DCW   @365@                                    #   3  2758                    1547
8386 82 62   SAVM2  DCW   @RETAIN TAPE  @                          #  13  2771                    1548
8387 82 63   SAVM1  DCW   @ FOR @                                   #   5  2776                    1548
8388 82 64   SAVMS  DCW   @ DAYS@                                   #   5  2781                    1548
8389 82 65   *
8390 82 66   *     HEADER LABEL READ ERROR ENTRANCE AND READ-WRITE
8391 82 67   *               ERROR  ROUTINE
8392 82 68   FPERRT MLC   KB,FPPSW                                 #   7  2782  M 615 Q09         1548
8393 82 69          A     AONE,FHTC1                               #   7  2789  A 616 ?63         1548
8394 82 70          BWZ   FPHDH1,FHTC1-1,S    IF UNREADABLE BLK  #   8  2796  V L16 ?62 S       1549
8395 82 71          BSP   0                                        #   5  2804  U %U0 B           1549
8396 82 72   FPPSW  B     FPHDS3             NOP IF WRITE CONDITION #   4  2809  B M48           1549
8397 82 73          BCE   *&5,FHTC1,2         IF TIME TO SKIP     #   8  2813  B Q25 ?63 2       1549
8398 82 74          B     FPPARX                                   #   4  2821  B Q52             1549
8399 82 75          MLC   FTRAC3-4,FHTC1                           #   7  2825  M 608 ?63         1549
8400 82 76          SKP   0                                        #   5  2832  U %U0 E           1550
8401 82 77          A     AONE,FHTC2                               #   7  2837  A 616 ?64         1550
8402 82 78          BCE   FPHDH2,FHTC2,0                           #   8  2844  B L31 ?64 0       1550
8403 82 79   FPPARX B     0                                        #   4  2852  B 000             1550
8404 82 80   *
8405 82 81   *     HEADER LABEL WRITE ERROR ENTRANCE
8406 82 82   *
8407 82 83   FPERWT SBR   FPPARX&3,FPHDX2                          #   7  2856  H Q55 N68         1550
8408 82 84          SBR   FPPARX-5,FPHDH2                          #   7  2863  H Q47 L31         1550
8409 82 85          MLC   NOP,FPPSW                                #   7  2870  M 614 Q09         1551
8410 82 86          B     FPERRT&7                                 #   4  2877  B P89             1551
8411 82 87   *
8412 82 88   *     TRAILER LABEL WRITE ERROR ENTRANCE
8413 82 89   *
8414 82 90   FPTRPE SBR   FPPARX&3,FTREX1&18                       #   7  2881  H Q55 ?12         1551
8415 82 91          SBR   FPPARX-5,FPTRH1                          #   7  2888  H Q47 L54         1551
8416 82 92          B     FPERWT&14                                #   4  2895  B Q70             1551
8417 82 93   FPTSMG DCW   @CHANGE UNIT 0@                         #  13  2911                    1552
8418 82 94   *
8419 82 95   *     TRAILER  LABEL  ROUTINE
8420 82 96   *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
8421 82 97   LMHLTP CS    180                                       #   4  2912  / 180             1552
8422 82 98           MLCWA 0,180              LOAD IN A G/M-W/M     #   7  2916  L 000 180         1552
8423 82 99           BCE   FTREX2,OTLIMP,     NO TRAILER LABEL      #   8  2923  B ?25 192         1552
8424 83 00           WTM   0                                       #   5  2931  U %U0 M           1552
8425 83 01           MLC   @1EOR @,104                             #   7  2936  M ?69 104         1553
8426 83 02           BCE   *&5,EOJBK,1        IF END OF JOB         #   8  2943  B R55 735 1       1553
8427 83 03           B     *&8                                     #   4  2951  B R62             1553
8428 83 04           MLC   @F@,103                                 #   7  2955  M ?70 103         1553
8429 83 05           MLC   MULBKC,109          TAPE BLOCK COUNT    #   7  2962  M 740 109         1553
8430 83 06           MLC   ACTNR,*&4                               #   7  2969  M 566 R79         1554
8431 83 07           MLC   000,119                                 #   7  2976  M 000 119         1554
8432 83 08           SW    110                                     #   4  2983  , 110             1554
8433 83 09           S     RMOVEP,119                              #   7  2987  S 699 119         1554
8434 83 10   FTREX1  NOP   0                   EXIT-ACCESS TO T.L. #   4  2994  N 000             1554
8435 83 11           MLC   FTRAC3-3,FHTC1                         #   7  2998  M 609 ?63         1554
8436 83 12           MLC   FTRAC3-4,FHTC2                         #   7  3005  M 608 ?64         1555
8437 83 13           WT    0,100                                   #   8  3012  M %U0 100 W       1555
8438 83 14           BER   FPTRPE                                  #   5  3020  B Q81 L           1555
8439 83 15   FTREX2  NOP   0                   EXIT-AFTER T.L. WRITE #  4  3025  N 000             1555
8440 83 16           CS    180                                     #   4  3029  / 180             1555
8441 83 17           BCE   RWINDP,EOJBK,1                          #   8  3033  B W51 735 1       1555
8442 83 18           MLC   FTRAC3,MULBKC                           #   7  3041  M 612 740         1556
8443 83 19           WTM   0                                       #   5  3048  U %U0 M           1556
8444 83 20           RWU   0                                       #   5  3053  U %U0 U           1556
8445 83 21           B     FPTRET              OPEN NEW REEL       #   4  3058  B L66             1556
8446 83 22   FTRAC3  EQU   SIX 0S-1            FIVE ZEROS          #      0612
8447 83 23           LTORG *                                       #           3062
       8312  FHTC1   DCW   #02                                     #   2  3063              AREA  1556
       8313  FHTC2         #01                                     #   1  3064              AREA  1556
       8425                @1EOR @                                 #   5  3069              LIT   1556
                           @F@                                     #   1  3070              LIT   1557
8448 83 24           EX    WELEAT                                  #           B |2V            1558
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 SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

8449 83 25           JOB   ** IBM 1401 SORT 7 VERSION 2 MULTIPHASE
8450 83 26   *               MULTIPHASE FINAL OUTPUT LABEL ROUTINE TO WRITE
8451 83 27   *               STANDARD HEADER AND TRAILER LABELS ON FINAL OUTPUT
8452 83 28   *               TAPES FOR 120 CHARACTER LABEL OPTION
8453 83 29           SFX   #
8454 83 30           ORG   INTLB                                             #          5061
8455 83 31           MLC   TPNOBK,FPHES3-24                                  #   7  5061  M 732 M26          1561
8456 83 32           MLC   TPNOBK,FPHES3&3                                   #   7  5068  M 732 M53          1561
8457 83 33           MLC   TPNOBK,FPHEX2&7                                   #   7  5075  M 732 N49          1561
8458 83 34           MLC   TPNOBK,FPHEX1&7                                   #   7  5082  M 732 M91          1561
8459 83 35           MLC   TPNOBK,FPHEX3&15                                  #   7  5089  M 732 N74          1561
8460 83 36           MLC   TPNOBK,FPPSSW-2                                   #   7  5096  M 732 P96          1562
8461 83 37           MLC   TPNOBK,FPPERX-17                                  #   7  5103  M 732 Q24          1562
8462 83 38           MLC   TPNOBK,LMHKTP&23                                  #   7  5110  M 732 R32          1562
8463 83 39           MLC   TPNOBK,FTRAX1&21                                  #   7  5117  M 732 R88          1562
8464 83 40           MLC   TPNOBK,FTRAX2&26                                  #   7  5124  M 732 ?24          1562
8465 83 41           MLC   TPNOBK,FTRAX2&31                                  #   7  5131  M 732 ?29          1563
8466 83 42           MLC   TPNOBK,FPTMEG                                     #   7  5138  M 732 R08          1563
8467 83 43           MLC   TPNOBK,SMVM2                                      #   7  5145  M 732 P61          1563
8468 83 44           BCE   *&15,OHLIMP,4                                     #   8  5152  B /7U 189 4        1563
8469 83 45           MLC   NOP,PRILAL                                        #   7  5160  M 614 N07          1563
8470 83 46           NOP   NOP,PRILAL                                        #   7  5167  N 614 N07          1564
8471 83 47           MLC   GPMARK,LMHKTP&8                                   #   7  5174  M 350 R17          1564
8472 83 48           MLC   GPMARK,FPHES1&8                                   #   7  5181  M 350 M00          1564
8473 83 49           MLC   BLKCNT&6,WOBR&19                                  #   7  5188  M 87Y 968          1564
8474 83 50           BCE   NWOUTP,PIMULT,6                                   #   8  5195  B S8U 193 6        1564
8475 83 51           ORG   MLEND                                             #          2316
8476 83 52   *
8477 83 53   *               HALT AREA FOR FINAL OUTPUT HEADER TRAILER ROUTINE
8478 83 54   *
8479 83 55   FPHEH1  MLC   FTREC3-3,FHTD1                                    #   7  2316  M 609 ?36          1565
8480 83 56   *                                 BLK AS HDR---RETEN CYC WILL NOT
8481 83 57           H     FPHEX1            BE CHECKED-PRESS START RESET AND #   4  2323  . M84            1565
8482 83 58           B     FPHES2            START TO RETRY UP TO 99 TIMES    #   4  2327  B M04            1565
8483 83 59   *                               A NEW REEL MAY BE MOUNTED
8484 83 60   FPHEH2  H     FPHES2            PRESS START TO PRO A NEW REEL.   #   4  2331  . M04            1565
8485 83 61           MLC   FTREC3-4,FHTD2                                    #   7  2335  M 608 ?37          1565
8486 83 62           B     FPHEX2            TO 9 SKIPS                       #   4  2342  B N42            1565
8487 83 63   FPHEH3  H     FPHEX1            RET CYC HALT PRESS START TO      #   4  2346  . M84            1565
8488 83 64           B     FPHES1            ACCEPT THIS TAPE.START RESET AND #   4  2350  B L92            1566
8489 83 65   *                               START IF A NEW REEL IS TO BE PRO-
8490 83 66   *                               CESSED
8491 83 67   FPTSH1  H     FTRAX2            PRESS START TO ACCEPT TL AS      #   4  2354  . R98            1566
8492 83 68           B     FTRAX1&11         WRITTEN-START RESET AND START TO #   4  2358  B R78            1566
8493 83 69   *                               WRITING TL UP TO 10 MORE SKIPS
8494 83 70   FPTSH2  H     FPHES1            PRESS START AFTER MOUNTING A NEW #   4  2362  . L92            1566
8495 83 71   *                               REEL FOR OUTPUT
8496 83 72   FPTRAT  SBR   FPHDAX&3,RTRN2                                   #   7  2366  H N99 974          1566
8497 83 73           CS    332                                               #   4  2373  / 332            1566
8498 83 74           CS                                                      #   1  2377  /                  1566
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD
8499 83 75          MLC   FPTMEG,228                               #   7  2378  M R08 228         1567
8500 83 76          W                        CHANGE REEL MESSAGE   #   1  2385  2                 1567
8501 83 77          CC    1                                        #   2  2386  F 1               1567
8502 83 78          B     FPTSH2                                   #   4  2388  B L62             1567
8503 83 79   FPHES1  CS    332                                      #   4  2392  / 332             1567
8504 83 80          CS                                             #   1  2396  /                 1567
8505 83 81          MLCWA 0,320                                    #   7  2397  L 000 320         1567
8506 83 82   FPHES2 MLC   FTREC3-3,FHTD1#2                         #   7  2404  M 609 ?36         1568
8507 83 83          MLC   FTREC3-4,FHTD2#1                         #   7  2411  M 608 ?37         1568
8508 83 84          CS    319                                      #   4  2418  / 319             1568
8509 83 85          CS                                             #   1  2422  /                 1568
8510 83 86          RWD   0                                        #   5  2423  U %U0 R           1568
8511 83 87          BCE   FPHDAX&4,OHLIMP,     IF NO HEADER LABEL  #   8  2428  B O00 189         1568
8512 83 88          MLC   CENSIG,213                               #   7  2436  M 415 213         1568
8513 83 89          MLC   CENSIG,FPNSSE&7                         #   7  2443  M 415 M65         1569
8514 83 90   FPHES3 RTW   0,200                                    #   8  2450  L %U0 200 R       1569
8515 83 91   FPNSSE BCE   FPHENR,213,        NOISE RECORD TEST     #   8  2458  B O12 213         1569
8516 83 92          BEF   *&1                                      #   5  2466  B M71 K           1569
8517 83 93          BER   FPARRT                                   #   5  2471  B P71 L           1569
8518 83 94          BCE   FPHERC,OHLOPM,1                         #   8  2476  B O29 419 1       1570
8519 83 95   FPHEX1 NOP   0                    USER EXIT           #   4  2484  N 000             1570
8520 83 96          RWD   0                                        #   5  2488  U %U0 R           1570
8521 83 97          MLC   RESEQE&1,239                            #   7  2493  M 462 239         1570
8522 83 98          MLC   FILESE,229                               #   7  2500  M 452 229         1570
8523 83 99   PRILAL MLC                                           #   1  2507  M                 1570
8524 84 00          NOP                                            #   1  2508  N                 1570
8525 84 01          MLC   HDRTAG,204                               #   7  2509  M 427 204         1571
8526 84 02          MLC   SYSCRE,255                               #   7  2516  M 457 255         1571
8527 84 03          BCE   *&12,FLSROP,                            #   8  2523  B N42 420         1571
8528 84 04          SW    225                                      #   4  2531  , 225             1571
8529 84 05          MLC   234,229                                 #   7  2535  M 234 229         1571
8530 84 06   FPHEX2 NOP   0                    USER EXIT           #   4  2542  N 000             1571
8531 84 07          WT    0,200                                    #   8  2546  M %U0 200 W       1572
8532 84 08          BER   FPARWT                                   #   5  2554  B Q45 L           1572
8533 84 09   FPHEX3 NOP   0                    USER AREA           #   4  2559  N 000             1572
8534 84 10          BCE   *&6,OTMOMP,         IF NO TM AFTER HL   #   8  2563  B N76 190         1572
8535 84 11          WTM   0                                        #   5  2571  U %U0 M           1572
8536 84 12          BCE   *&8,RLSQOP,         IF NO REEL SEQ UPDATE #   8  2576  B N91 421         1572
8537 84 13          A     AONE,REELSQ                              #   7  2584  A 616 441         1573
8538 84 14          CS    332                                      #   4  2591  / 332             1573
8539 84 15          CS                                             #   1  2595  /                 1573
8540 84 16   FPHDAX B     SPLCAS              RETURN TO LAST PASS INIT #   4  2596  B T4X           1573
8541 84 17          BCE   FPHDAX-5,WLBKTM,     NO WORK TAPE HL CHECK #   8  2600  B N91 417         1573
8542 84 18          B     FPHES3                                   #   4  2608  B M50             1573
8543 84 19   FPHENR CS    220                 CLEAR NOISE RECORD AREA #   4  2612  / 220             1573
8544 84 20          B     FPHES3                                   #   4  2616  B M50             1574
8545 84 21   *                RETENTION CYCLE CHECK
8546 84 22          DCW   #4                                       #   4  2623                    1574
8547 84 23          DCW   #2                                       #   2  2625                    1574
8548 84 24   UTCRTZ DCW    #3                                      #   3  2628                    1574
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
8549 84 25   FPHERC MLC   214,UTCRTZ                                 #   7  2629  M 214 O28         1574
8550 84 26          MLC                                             #   1  2636  M                 1574
8551 84 27          ZA                                              #   1  2637  ?                 1574
8552 84 28          SW    CREATD-2                                  #   4  2638  , 435             1575
8553 84 29   CLWIL8 C     CREATD-3,UTCRTZ-7                         #   7  2642  C 434 O21         1575
8554 84 30          BU    CHANGE                                    #   5  2649  B P31 /           1575
8555 84 31          A     UTCRTZ,UTCRTZ-5    ADD TAPE DAYS TO RETENTION CYCLE  #   7  2654  A O28 O23         1575
8556 84 32          S     CREATD,UTCRTZ-5                           #   7  2661  S 437 O23         1575
8557 84 33          CW    CREATD-2                                  #   4  2668  ) 435             1575
8558 84 34          BWZ   FPHEX1,UTCRTZ-5,K                         #   8  2672  V M84 O23 K       1576
8559 84 35          CS    180                                       #   4  2680  / 180             1576
8560 84 36          MLC   280,180            STORE LABEL PRO TEMPORE  #   7  2684  M 280 180         1576
8561 84 37          CS    319                                       #   4  2691  / 319             1576
8562 84 38          CS                       PRINT MESSAGE INDICATING DAYS  #   1  2695  /                 1576
8563 84 39          MLC   SMVMS,227          TAPE IS TO BE RETAINED   #   7  2696  M P70 227         1576
8564 84 40          MLNS  UTCRTZ-5                                  #   4  2703  D O23             1576
8565 84 41          MLNS                                            #   1  2707  D                 1577
8566 84 42          MLNS                                            #   1  2708  D                 1577
8567 84 43          MLC   SMVM1                                     #   4  2709  M P66             1577
8568 84 44          MLC   SMVM2                                     #   4  2713  M P61             1577
8569 84 45          W                                               #   1  2717  2                 1577
8570 84 46          CC    1                                         #   2  2718  F 1               1577
8571 84 47          MLC   180,280                                   #   7  2720  M 180 280         1577
8572 84 48          B     FPHEH3                                    #   4  2727  B L46             1578
8573 84 49   CHANGE A     FST364&2,UTCRTZ                           #   7  2731  A P48 O28         1578
8574 84 50          A                                               #   1  2738  A                 1578
8575 84 51          S                                               #   1  2739  S                 1578
8576 84 52          B     CLWIL8                                    #   4  2740  B O42             1578
8577 84 53   FST364 DCW   @365@                                     #   3  2746                    1578
8578 84 54          DCW   @1@                                       #   1  2747                    1578
8579 84 55          DCW   @0@                                       #   1  2748                    1579
8580 84 56   SMVM2  DCW   @RETAIN TAPE  @                          #  13  2761                    1579
8581 84 57   SMVM1  DCW   @ FOR @                                   #   5  2766                    1579
8582 84 58   SMVMS  DCW   @DAYS@                                    #   4  2770                    1579
8583 84 59   *             HEADER LABEL READ-WRITE ERROR ROUTINE
8584 84 60   FPARRT MLC   KB,FPPSSW                                 #   7  2771  M 615 P98         1579
8585 84 61          A     AONE,FHTD1                                #   7  2778  A 616 ?36         1579
8586 84 62          BWZ   FPHEH1,FHTD1,S     IF UNREADABLE BLOCK    #   8  2785  V L16 ?36 S       1580
8587 84 63          BSP   0                                         #   5  2793  U %U0 B           1580
8588 84 64   FPPSSW B     FPHES3             NOP IF WRITE CONDITION  #   4  2798  B M50             1580
8589 84 65          BCE   *&5,FHTD1,2                               #   8  2802  B Q14 ?36 2       1580
8590 84 66          B     FPPERX                                    #   4  2810  B Q41             1580
8591 84 67          MLC   FTREC3-4,FHTC1                           #   7  2814  M 608 ?63         1580
8592 84 68          SKP   0                                         #   5  2821  U %U0 E           1581
8593 84 69          A     AONE,FHTD2                                #   7  2826  A 616 ?37         1581
8594 84 70          BCE   FPHEH2,FHTD2,O                           #   8  2833  B L31 ?37 O       1581
8595 84 71   FPPERX B     0                                         #   4  2841  B 000             1581
8596 84 72   *
8597 84 73   *             HEADER LABEL WRITE ERROR ENTRANCE
8598 84 74   *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

8599 84 75   FPARWT SBR   FPPERX&3,FPHEX2                          #   7  2845  H Q44 N42         1581
8600 84 76          SBR   FPPERX-5,FPHEH2                         #   7  2852  H Q36 L31         1581
8601 84 77          MLC   NOP,FPPSSW                             #   7  2859  M 614 P98         1582
8602 84 78          B     FPARRT&7                                #   4  2866  B P78             1582
8603 84 79   *              TRAILER LABEL WRITE ERROR ENTRANCE
8604 84 80   FRTSPE SBR   FPPERX&3,FTRAX1&18                      #   7  2870  H Q44 R85         1582
8605 84 81          SBR   FPPERX-5,FPTSH1                       #   7  2877  H Q36 L54         1582
8606 84 82          B     FPARWT&14                               #   4  2884  B Q59             1582
8607 84 83   FPTMEG DCW   @CHANGE REEL ON UNIT 0@                 #  21  2908                   1583
8608 84 84   *
8609 84 85   *              TRAILER LABEL ROUTINE
8610 84 86   *
8611 84 87   LMHKTP CS    330                                     #   4  2909  / 330             1583
8612 84 88          CS                                           #   1  2913  /                 1583
8613 84 89          MLCWA 0,320                                  #   7  2914  L 000 320         1583
8614 84 90          BCE   FTRAX2,OTLIMP,     NO TRAILER LABELS   #   8  2921  B R98 192         1584
8615 84 91          WTM   0                                      #   5  2929  U %U0 M           1584
8616 84 92          BCE   *&12,EOJBK,1       IF END OF JOB       #   8  2934  B R53 735 1       1584
8617 84 93          MLC   @1EOR @,204                            #   7  2942  M ?42 204       1584
8618 84 94          B     *&8                                    #   4  2949  B R60           1584
8619 84 95          MLC   @1EOF @,204                            #   7  2953  M ?47 204       1584
8620 84 96          MLC   MULBKC,271                             #   7  2960  M 740 271       1585
8621 84 97   FTRAX1 NOP   0                    USERS EXIT         #   4  2967  N 000           1585
8622 84 98          MLC   FTREC3-3,FHTD1                         #   7  2971  M 609 ?36       1585
8623 84 99          MLC   FTREC3-4,FHTD2                         #   7  2978  M 608 ?37       1585
8624 85 00          WT    0,200                                  #   8  2985  M %U0 200 W     1585
8625 85 01          BER   FRTSPE                                 #   5  2993  B Q70 L         1585
8626 85 02   FTRAX2 NOP   0                    USERS EXIT         #   4  2998  N 000           1586
8627 85 03          CS    332                                    #   4  3002  / 332           1586
8628 85 04          BCE   RWINDP,EOJBK,1                         #   8  3006  B W51 735 1     1586
8629 85 05          MLC   FTREC3,MULBKC                          #   7  3014  M 612 740       1586
8630 85 06          WTM   0                                      #   5  3021  U %U0 M           1586
8631 85 07          RWU   0                                      #   5  3026  U %U0 U           1586
8632 85 08          B     FPTRAT             OPEN NEW REEL      #   4  3031  B L66           1586
8633 85 09   FTREC3 EQU   SIX 0S-1                               #      0612
8634 85 10          LTORG *                                      #           3035
       8506  FHTD1  DCW   #02                                    #   2  3036           AREA  1587
       8507  FHTD2        #01                                    #   1  3037           AREA  1587
       8617               @1EOR @                                #   5  3042           LIT   1587
       8619               @1EOF @                                #   5  3047           LIT   1587
8635 85 11          EX    INTLB                                  #          B |6/            1588
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

8636 85 12          JOB   ** IBM 1401 SORT 7 VERSION 2  MULTIPHASE
8637 85 13          ORG   3200                                              #             3200
8638 85 14   *                              INITIALIZE END OF JOB ROUTINE
8639 85 15   EOJ    MLC   ACNT,UNRDCK&6                                     #   7  3200  M 569 B48         1591
8640 85 16          MLC   ACNT,FERMS&3                                      #   7  3207  M 569 C96         1591
8641 85 17          MLC   ACTNR,PERCK&3                                     #   7  3214  M 566 B62         1591
8642 85 18          MLC   ACTNR,ERRC-8                                      #   7  3221  M 566 D55         1591
8643 85 19          MLC   ACTNR,PADQZ&11                                    #   7  3228  M 566 D55         1591
8644 85 20          MLC   PADQNQ,PADQZ&6                                    #   7  3235  M 628 D50         1592
8645 85 21   UNRDCK C     SIX 0S,0          UNREADABLE RCD CHECK            #   7  3242  C 613 000         1592
8646 85 22          CS    332                                               #   4  3249  / 332             1592
8647 85 23          CS                                                      #   1  3253  /                 1592
8648 85 24          BU    FERMS                                             #   5  3254  B C93 /           1592
8649 85 25   PERCK  C     0,CTNRML          TOTAL RCD CHECK                 #   7  3259  C 000 539         1592
8650 85 26          BU    ERRC                                              #   5  3266  B D63 /           1592
8651 85 27          MLC   CTNRML,TOTMS-24                                   #   7  3271  M 539 E14         1593
8652 85 28          MLC   TOTMS,230                                         #   7  3278  M E38 230         1593
8653 85 29          W                       PRINT TOTAL RCD MSG             #   1  3285  2                 1593
8654 85 30          CS    230                                               #   4  3286  / 230             1593
8655 85 31          MLC   RMOVEP,PDMSG-23                                   #   7  3290  M 699 E45         1593
8656 85 32          C     PDMSG-23,@      @ PADDED RCD CHECK                #   7  3297  C E45 E07         1593
8657 85 33          BU    PRNTQ                                             #   5  3304  B C16 /           1593
8658 85 34          MLC   SIX 0S,PDMSG-23                                   #   7  3309  M 613 E45         1594
8659 85 35   PRNTQ  MLC   PDMSG,229                                         #   7  3316  M E68 229         1594
8660 85 36          W                       PRINT PADDED RCD MSG            #   1  3323  2                 1594
8661 85 37          CS    230                                               #   4  3324  / 230             1594
8662 85 38          S     RMOVEP,CTNRML                                     #   7  3328  S 699 539         1594
8663 85 39          MZ    BLANK,CTNRML                                      #   7  3335  Y 619 539         1594
8664 85 40          MLC   CTNRML,FINMS-21                                   #   7  3342  M 539 E74         1595
8665 85 41   PTFIN  MLC   FINMS,227                                         #   7  3349  M E95 227         1595
8666 85 42          W                       PRINT FINAL RCD OUTPUT MSG      #   1  3356  2                 1595
8667 85 43          CC    K                                                 #   2  3357  F K               1595
8668 85 44          CS    332                                               #   4  3359  / 332             1595
8669 85 45          CS                                                      #   1  3363  /                 1595
8670 85 46          MLNS  O2TUHP,PRMS-12                                    #   7  3364  D 644 F31         1595
8671 85 47          MLC   PRMS,218                                          #   7  3371  M F43 218         1596
8672 85 48          W                       PRINT END OF SORT MSG           #   1  3378  2                 1596
8673 85 49          CC    1                                                 #   2  3379  F 1               1596
8674 85 50          BWZ   IWTM2P,URPIML,2   DUMP TAPE OPTION BRANCH         #   8  3381  V D74 186 2       1596
8675 85 51   ENDSRT H     *-3               FINAL HALT                      #   4  3389  . C89             1596
8676 85 52   FERMS  MLC   0,FINER-19                                        #   7  3393  M 000 F01         1596
8677 85 53          MLC   FINER,225                                         #   7  3400  M F20 225         1596
8678 85 54          W                       PRINT UNRD RCD MSG              #   1  3407  2                 1597
8679 85 55          CS    230                                               #   4  3408  / 230             1597
8680 85 56          SW    PTFIN-10,PTFIN-17                                 #   7  3412  , C39 C32         1597
8681 85 57          MLC   ERRC-8,PTFIN-4                                    #   7  3419  M D55 C45         1597
8682 85 58          MLC   ERRC-8                                            #   4  3426  M D55             1597
8683 85 59          MLC   ERRC-8,PTFIN-15                                   #   7  3430  M D55 C34         1597
8684 85 60          CW    PTFIN-10,PTFIN-17                                 #   7  3437  ) C39 C32         1597
8685 85 61   PADQZ  BCE   PERCK&12,0,                                       #   8  3444  B B71 000         1598
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
8686 85 62           MLC   0,FINMS-21                                #   7  3452  M 000 E74         1598
8687 85 63           B     PTFIN                                     #   4  3459  B C49             1598
8688 85 64   ERRC    MLC   ERCTMG,236                                #   7  3463  M F25 236         1598
8689 85 65           B     ERRC-11                                   #   4  3470  B D52             1598
8690 85 66   IWTM2P  MLC   URPIML,WTMBD&3     REWIND DUMP TAPE      #   7  3474  M 186 D91         1598
8691 85 67           MLC   URPIML,WTMBD&8                           #   7  3481  M 186 D96         1599
8692 85 68   WTMBD   WTM   0                                         #   5  3488  U %U0 M           1599
8693 85 69           RWU   0                                         #   5  3493  U %U0 U           1599
8694 85 70           B     ENDSRT                                    #   4  3498  B C89             1599
8695 85 71           LTORG *                                         #            3502
      8656           DCW   @      @                                 #   6  3507              LIT  1599
8696 85 72   TOTMS   DCW   @        TOTAL RECORDS PROCESSED@        #  31  3538                   1600
8697 85 73   PDMSG   DCW   @        PADDED RECORDS REMOVED@         #  30  3568                   1601
8698 85 74   FINMS   DCW   @       RECORDS FINAL OUTPUT@            #  27  3595                   1602
8699 85 75   FINER   DCW   @       UNREADABLE RECORDS@              #  25  3620                   1603
8700 85 76   ERCTMG  DCW   @ERROR@                                   #   5  3625                   1603
8701 85 77   PRMS    DCW   @OUTP  -END OF SORT@                     #  18  3643                   1604
8702 85 78           END   EOJ                                       #           / B00 080         1605
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