```
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


                          MERGE 7 * VERSION 3 * IBM 1401     12/04/65                3SM61              PAGE    1


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

 101    01   000    JOB   MERGE 7 * VERSION 3 * IBM 1401     12/04/65
 102    02          CTL   641111
 103    03          ORG   081                                                                      0081
 104    04   GPMRK  DCW   @}@                                                              1  0081                      4
 105    05   THREE  DCW   @003@                                                            3  0084                      4
 106    06   K3     DCW   @3@                                                              1  0085                      4
 107    07   K4     DCW   @4@                                                              1  0086                      4
 108    08          ORG   0087                                                                     0087
 109    09   X1     DCW   @   @                                                            3  0089                      4
 110    10   K5     DCW   @5@                                                              1  0090                      4
 111    11   SIX    DCW   @6@                                                              1  0091                      4
 112    12   X2     DCW   @   @                                                            3  0094                      5
 113    13   K2     DCW   @2@                                                              1  0095                      5
 114    14   K0     DCW   @0@                                                              1  0096                      5
 115    15   X3     DCW   @   @                                                            3  0099                      5
 116    16          ORG   181                                                                      0181
 117    17          DCW   @}@                                                              1  0181                      6
 118    18   SHARP  DCW   @#@                                                              1  0182                      6
 119    19   TWLVE  DCW   @I8I@               EQUIVALENT TO -11                            3  0185                      6
 120    20   H7D    DCW   @H5G@           EQUIVALENT TO -143                               3  0188                      6
 121    21   CTR    DCW   @ @                                                              1  0189                      6
 122    22          ORG   190                                                                      0190
 123    23   K1     DCW   @1@                                                              1  0190                      6
 124    24          DCW   @S@                                                              1  0191                      6
 125    25   EN     DCW   @N@                                                              1  0192                      7
 126    26   BEE    DCW   @B@                                                              1  0193                      7
 127    27   B850   DC    &M0401                                                           3  0196 |75                  7
 128    28   N99    DCW   @I9I@               EQUIVALENT TO -1                             3  0199                      7
 129    29          ORG   333                                                                      0333
 130    30          ORG   334                                                                      0334
 131    31   GMWM   DCW   @}@                                                              1  0334                      8
 132    32          DCW   @B@                                                              1  0335                      8
 133    33   LBL    DC    &ADR                                                             3  0338 ?34                  8
 134    34   OBCTR  DCW   @00000@             COUNT BLOCKS OUTPUT ON EACH TAPE             5  0343                      8
 135    35   TFLAG  DCW   @1EOR @                                                          5  0348                      8
 136    36   STDTL  EQU   201                                                                 0201
 137    37   NEXT   DCW   @011@                                                            3  0351                      8
 138    38   K013   DCW   @013@                                                            3  0354                      8
 139    39   I3H    DCW   @I3A@               EQUIVALENT TO -69                            3  0357                      8
 140    40   K04780 DCW   @05500@         LEFTMOST POSITION OF FIRST INPUT AREA            5  0362                      9
 141    41   EM     DCW   @M@                                                              1  0363                      9
 142    42   TCNT11 DCW   @0@                 TAPE COUNTERS                                1  0364                      9
 143    43   TCNT12 DCW   @0@                                                              1  0365                      9
 144    44   TCNT13 DCW   @0@                                                              1  0366                      9
 145    45   TCNT14 DCW   @0@                                                              1  0367                      9
 146    46   TCNT15 DCW   @0@                                                              1  0368                      9
 147    47   TCNT21 DCW   @0@                                                              1  0369                     10
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SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

148    48   TCNT22 DCW   @0@                                                      1  0370                      10
149    49   TCNT23 DCW   @0@                                                      1  0371                      10
150    50   TCNT24 DCW   @0@                                                      1  0372                      10
151    51   TCNT25 DCW   @0@                                                      1  0373                      10
152    52   COUNTR DCW   @  @                                                     2  0375                      10
153    53   COUNTT DCW   @   @                                                    3  0378                      10
154    54   RLD    DCW   @    @             RECORD LENGTH INDICATOR               4  0382                      11
155    55   OPTBLS DCW   @   @              OUTPUT AREA CONSTANTS                 3  0385                      11
156    56   OPTBL  DCW   @   @                                                    3  0388                      11
157    57   OPTBLO DCW   @   @                                                    3  0391                      11
158    58   OUTPUT DCW   @   @                                                    3  0394                      11
159    59   K001   DCW   @001@                                                    3  0397                      11
160    60   K004   DCW   @004@                                                    3  0400                      11
161    61   K16000 DCW   @16000@                                                  5  0405                      12
162    62   K000   DCW   @00000@                                                  5  0410                      12
163    63   CFCTR  DCW   #1                                                       1  0411                      12
164    64   SEQBKT DCW   #1                                                       1  0412                      12
165    65   LBBUCK DCW   @ @                                                      1  0413                      12
166    66   HLCD   DCW   @     @                                                  5  0418                      12
167    67   SAVED  DCW   @     @                                                  5  0423                      12
168    68   OMRG   DCW   @   @                                                    3  0426                      13
169    69   CF     DCW   @   @              CONTROL FIELD INFORMATION             3  0429                      13
170    70          DCW   @   @                                                    3  0432                      13
171    71          DCW   @   @                                                    3  0435                      13
172    72          DCW   @   @                                                    3  0438                      13
173    73          DCW   @   @                                                    3  0441                      13
174    74          DCW   @   @                                                    3  0444                      13
175    75          DCW   @   @                                                    3  0447                      14
176    76          DCW   @   @                                                    3  0450                      14
177    77          DCW   @   @                                                    3  0453                      14
178    78          DCW   @   @                                                    3  0456                      14
179    79   CF1    DCW   @   @                                                    3  0459                      14
180    80          DCW   @   @                                                    3  0462                      14
181    81          DCW   @   @                                                    3  0465                      14
182    82          DCW   @   @                                                    3  0468                      15
183    83          DCW   @   @                                                    3  0471                      15
184    84          DCW   @   @                                                    3  0474                      15
185    85          DCW   @   @                                                    3  0477                      15
186    86          DCW   @   @                                                    3  0480                      15
187    87          DCW   @   @                                                    3  0483                      15
188    88          DCW   @   @                                                    3  0486                      15
189    89   *THE FOLLOWING FIVE VALUES REPRESENT THE CORE POSITION IMMEDIATELY
190    90   *PRECEDING THE FIRST POSITION OF THEIR RESPECTIVE INPUT AREAS.
191    91   INPTA  DCW   @   @                                                    3  0489                      16
192    92   INPTB  DCW   @   @                                                    3  0492                      16
193    93   INPTC  DCW   @   @                                                    3  0495                      16
194    94   INPTD  DCW   @   @                                                    3  0498                      16
195    95   INPTE  DCW   @   @                                                    3  0501                      16
196    96          DCW   @000@              COMPARE INSTRUCTION ADDRESS CONST     3  0504                      16
197    97   CTLRAA DC    &AB&3                                                    3  0507  837                 16
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SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

198     98          DCW   &CA&6                                                    3  0510  988                 16
199     99          DCW   &DA&6                                                    3  0513  |24                 17
200  1 00           DCW   &EA&6                                                    3  0516  |60                 17
201  1 01           DCW   @000@                                                    3  0519                      17
202  1 02   CTLRBB DC     &AB&6                                                    3  0522  840                 17
203  1 03           DCW   &CB&6                                                    3  0525  876                 17
204  1 04           DCW   &DB&6                                                    3  0528  912                 17
205  1 05           DCW   &EB&6                                                    3  0531  948                 17
206  1 06           DCW   @000@                                                    3  0534                      17
207  1 07   CTLRCC DC     &CB&3                                                    3  0537  873                 18
208  1 08           DCW   &CA&3                                                    3  0540  985                 18
209  1 09           DCW   &DC&6                                                    3  0543  /04                 18
210  1 10           DCW   &EC&6                                                    3  0546  /40                 18
211  1 11           DCW   @000@                                                    3  0549                      18
212  1 12   CTLRDD DC     &DB&3                                                    3  0552  909                 19
213  1 13           DCW   &DA&3                                                    3  0555  |21                 19
214  1 14           DCW   &DC&3                                                    3  0558  /01                 19
215  1 15           DCW   &ED&6                                                    3  0561  /84                 19
216  1 16           DCW   @000@                                                    3  0564                      19
217  1 17   CTLREE DC     &EB&3                                                    3  0567  945                 20
218  1 18           DCW   &EA&3                                                    3  0570  |57                 20
219  1 19           DCW   &EC&3                                                    3  0573  /37                 20
220  1 20           DCW   &ED&3                                                    3  0576  /81                 20
221  1 21   *STANDARD HEADER LABELS OR SIGNIFICANT PORTIONS THEREOF ARE SAVED
222  1 22   *IN THE FOLLOWING AREAS.
223  1 23   SAVEHL DA     1X81,G                                                      0577   0657               20
                    DCW   @}@                                                      1  0658              GMARK   21
224  1 24   FILEA  DA     1X25                                                        0659   0683               21
225  1 25   FILEB  DA     1X25                                                        0684   0708               21
226  1 26   FILEC  DA     1X25                                                        0709   0733               21
227  1 27   FILED  DA     1X25                                                        0734   0758               21
228  1 28   FILEE  DA     1X25                                                        0759   0783               21
229  1 29           ORG   6990                                                               6990
230  1 30   BUKT   DCW    @15999@                                                  5  6994                      22
231  1 31   WKAREA DCW    @00000000@                                               8  7002                      22
232  1 32   FIELD  DCW    @00000000@                                               8  7010                      22
233  1 33   NCFCC2 DCW    @  @                                                     2  7012                      22
234  1 34   *CONTROL CARD CONTENTS ARE SAVED FOR PROCESSING IN THE FOLLOWING
235  1 35   *AREAS.
236  1 36   OBJCD  DA     1X81,G                                                      7013   7093               22
                    DCW   @}@                                                      1  7094              GMARK   23
237  1 37   CC5    DA     1X81,G                                                      7095   7175               23
                    DCW   @}@                                                      1  7176              GMARK   24
238  1 38   CC45   DA     1X81,G                                                      7177   7257               24
                    DCW   @}@                                                      1  7258              GMARK   25
239  1 39   CC44   DA     1X81,G                                                      7259   7339               25
                    DCW   @}@                                                      1  7340              GMARK   26
240  1 40   CC43   DA     1X81,G                                                      7341   7421               26
                    DCW   @}@                                                      1  7422              GMARK   27
241  1 41   CC42   DA     1X81,G                                                      7423   7503               27
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

                   DCW   @}@                                                  1  7504               GMARK   28
242  1 42   CC41   DA    1X81,G                                                  7505   7585                28
                   DCW   @}@                                                  1  7586               GMARK   29
243  1 43   CC3    DA    1X81,G                                                  7587   7667                29
                   DCW   @}@                                                  1  7668               GMARK   30
244  1 44   CC2    DA    1X81,G                                                  7669   7749                30
                   DCW   @}@                                                  1  7750               GMARK   31
245  1 45   CC1    DA    1X81,G                                                  7751   7831                31
                   DCW   @}@                                                  1  7832               GMARK   32
246  1 46   OM     DCW   @ @                  SAVE ORDER OF MERGE             1  7833                       32
247  1 47   ERRMSG CS    332                  CLEAR                           4  7834  / 332                32
248  1 48          CS                              PRINTER                    1  7838  /                    32
249  1 49   EMSG1  MRCM  0,201                MOVE IN MESSAGE                 7  7839  P 000 201            32
250  1 50          W                           PRINT                          1  7846  2                    32
251  1 51          CC    1                     DISPLAY MESSAGE                2  7847  F 1                  32
252  1 52          H                           HALT                           1  7849  .                    33
253  1 53          B     *-4                    STAY HALTED OR RESTART PROGRAM 4  7850  B H4Z                33
254  1 54   *WHEN INITIALIZED AND EXECUTED , THE FOLLOWING STATEMENTS DELIMIT
255  1 55   *THE RIGHTMOST POSITIONS OF INPUT AND OUTPUT AREAS.
256  1 56   STGME  LCA   0201,0001                                            7  7854  L 201 001            33
257  1 57   STGMD  LCA   0201,0001                                            7  7861  L 201 001            33
258  1 58   STGMC  LCA   0201,0001                                            7  7868  L 201 001            33
259  1 59   STGMA  LCA   0201,0001                                            7  7875  L 201 001            33
260  1 60   STGMB  LCA   0201,0001                                            7  7882  L 201 001            34
261  1 61   STGMOP LCA   0201,0000                                            7  7889  L 201 000            34
262  1 62          DCW   #1                                                   1  7896                       34
263  1 63          ORG   FILEE&26                                                       0785
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SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

264  1 64          JOB   CONTROL CARD EDITING
265  1 65   *   READ AND SAVE PROPER NO OF CONTROL CARDS
266  1 66   RDCC1  CS    80                                                4  0785  / 080                35
267  1 67          R                                                       1  0789  1                    35
268  1 68          SW    1                                                 4  0790  , 001                35
269  1 69   NC1    BCE   NCC1,1,,                                          8  0794  B /33 001 ,          35
270  1 70          SBR   NC1&3,PROCCD                                      7  0802  H 797 /44            35
271  1 71          A     K1,CDCTR                                          7  0809  A 190 T28            35
272  1 72          BCE   NOCCER,CDCTR-1,1                                  8  0816  B 996 T27 1          35
273  1 73   RDCCA  MLCWA 80,CC1&80                                         7  0824  L 080 H3/            36
274  1 74          SBR   RDCCA&6                                           4  0831  H 830                36
275  1 75          MA    @I9H@,RDCCA&6                                     7  0835  # E33 830            36
276  1 76          CS    332                                               4  0842  / 332                36
277  1 77          CS                                                      1  0846  /                    36
278  1 78          MLC   80,280                                            7  0847  M 080 280            36
279  1 79          W                                                       1  0854  2                    36
280  1 80          CC    L                                                 2  0855  F L                  37
281  1 81   BRSLF  B     *&1                                               4  0857  B 861                37
282  1 82          SBR   BRSLF&3,NCD2                                      7  0861  H 860 880            37
283  1 83          BCE   NCD2,CC1&29,1                                     8  0868  B 880 G8| 1          37
284  1 84          B     RDCC1                                             4  0876  B 785                37
285  1 85   NCD2   SBR   RDCCA&6,CC3&80                                    7  0880  H 830 F6X            37
286  1 86          SBR   BRSLF&3,CCD3                                      7  0887  H 860 898            37
287  1 87          B     RDCC1                                             4  0894  B 785                38
288  1 88   CCD3   SBR   BRSLF&3,CKCD4                                     7  0898  H 860 /14            38
289  1 89          BCE   RDCC1,CC1&21,2                                    8  0905  B 785 G7S 2          38
290  1 90          BCE   RDCC1,CC1&21,4                                    8  0913  B 785 G7S 4          38
291  1 91          BCE   CCD5-7,CC1&22,2                                   8  0921  B |41 G7T 2          38
292  1 92          BCE   CCD5-7,CC1&22,5                                   8  0929  B |41 G7T 5          39
293  1 93          BCE   SPECSE,CC1&22,3                                   8  0937  B 963 G7T 3          39
294  1 94          SBR   BRSLF&3,CKNONS                                    7  0945  H 860 988            39
295  1 95          SBR   NC1&3,RGHTCD                                      7  0952  H 797 |84            39
296  1 96          B     RDCC1                                             4  0959  B 785                39
297  1 97   SPECSE SBR   BRSLF&3,CKNONS                                    7  0963  H 860 988            40
298  1 98          SBR   NC1&3,RGHTCD                                      7  0970  H 797 |84            40
299  1 99          SBR   RDCCA&6,CC5&80                                    7  0977  H 830 A7V            40
300  2 00          B     RDCC1                                             4  0984  B 785                40
301  2 01   CKNONS BCE   RDCC1,CC1&22,3                                    8  0988  B 785 G7T 3          40
302  2 02   NOCCER SBR   EMSG1&3,MSG3                                      7  0996  H H4S |07            41
303  2 03          B     ERRMSG                                            4  1003  B H3U                41
304  2 04   MSG3   DA    1X33,G                                               1007   1039               41
                   DCW   @}@                                               1  1040             GMARK   42
305  2 05          ORG   MSG3                                                        1007
306  2 06          DCW   @NO OF CTL CDS INCORRECT - RESTART@              33  1039                       43
307  2 07          ORG   *&1                                                         1041
308  2 08          SBR   NC1&3,NOCCER                                      7  1041  H 797 996            44
309  2 09   CCD5   SBR   RDCCA&6,CC5&80                                    7  1048  H 830 A7V            44
310  2 10          SBR   BRSLF&3,*&5                                       7  1055  H 860 |66            44
311  2 11          B     RDCC1                                             4  1062  B 785                44
312  2 12          SBR   NC1&3,PROCCD                                      7  1066  H 797 /44            44
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SEQ PG LIN  LABEL  OP    OPERANDS                                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

313  2 13          SBR   BRSLF&3,NOCCER                                                 7  1073  H 860 996            44
314  2 14          B     RDCC1                                                          4  1080  B 785                45
315  2 15   RGHTCD BCE   CC3CC5,CC1&22,3                                                8  1084  B |96 G7T 3          45
316  2 16          B     PROCCD                                                         4  1092  B /44                45
317  2 17   CC3CC5 MLCWA CC3&80,CC5&80                                                  7  1096  L F6X A7V            45
318  2 18          MLCWA BLNK80,CC3&80                                                  7  1103  L D64 F6X            45
319  2 19          B     PROCCD                                                         4  1110  B /44                45
320  2 20   CKCD4  MA    @001@,*&7                                                      7  1114  # E36 /27            46
321  2 21          BCE   CCD5,CC1&1,                                                    8  1121  B |48 G5S            46
322  2 22          B     RDCC1                                                          4  1129  B 785                46
323  2 23   NCC1   SBR   EMSG1&3,MSG11                                                  7  1133  H H4S C52            46
324  2 24          B     ERRMSG                                                         4  1140  B H3U                46
325  2 25   PROCCD LCA   080,OBJCD&80   SAVE OBJECT CARD                                7  1144  L 080 ?9T            46
326  2 26          MRCM  CC1&1,001      MOVE CTL CD 1 BACK TO READER                    7  1151  P G5S 001            47
327  2 27          SW    CC1&7,CC1&9                                                    7  1158  , G5Y G6|            47
328  2 28          SW    CC1&13,CC1&16                                                  7  1165  , G6U G6X            47
329  2 29          SW    CC1&28,CC1&30                                                  7  1172  , G7Z G8/            47
330  2 30          SW    CC1&33,CC1&37                                                  7  1179  , G8U G8Y            47
331  2 31          SW    CC1&58,CC1&62                                                  7  1186  , H0Z H1T            48
332  2 32          SW    CC1&66,CC1&70                                                  7  1193  , H1X H2/            48
333  2 33          SBR   X1,080         PUT 080 INTO X1                                 7  1200  H 089 080            48
334  2 34   SCAN1  C     0&X1,@Z@       IS IT A NUMERIC CHARACTER                       7  1207  C 0|0 E37            48
335  2 35          BL    DECX1               YES                                        5  1214  B S31 T              48
336  2 36          C     0&X1,@ @                                                       7  1219  C 0|0 E38            49
337  2 37          BU    CKC19              IF NOT, CHECK COL 19                        5  1226  B S54 /              49
338  2 38   DECX1  MA    N99,X1             DECREMENT X1 BY ONE                         7  1231  # 199 089            49
339  2 39          C     X1,K000-2          IS SCAN FINISHED                            7  1238  C 089 408            49
340  2 40          BE    COL76              YES                                         5  1245  B T29 S              49
341  2 41          B     SCAN1              NO, CONTINUE SCANNING                       4  1250  B S07                49
342  2 42   CKC19  C     X1,@019@           IS X1 AT COL 19                             7  1254  C 089 E41            50
343  2 43          BU    CC1ERR             NO, GO TO ERROR ROUTINE                     5  1261  B S82 /              50
344  2 44          BCE   DECX1,0&X1,C       OK IF COL 19 IS EITHER A                    8  1266  B S31 0|0 C          50
345  2 45          BCE   DECX1,0&X1,P        C OR A P.                                  8  1274  B S31 0|0 P          50
346  2 46   CC1ERR MLC   X1,MSG20&17        MOVE COLUMN NO INTO ERROR MESSAGE           7  1282  M 089 T17            50
347  2 47          SBR   EMSG1&3,MSG20      MOD ERROR MESSAGE PRINT ROUTINE             7  1289  H H4S T00            51
348  2 48          B     ERRMSG                                                         4  1296  B H3U                51
349  2 49   MSG20  DA    1X26,G                                                            1300   1325              51
                   DCW   @}@                                                            1  1326             GMARK   52
350  2 50          ORG   MSG20                                                                    1300
351  2 51          DCW   @CTL CARD 1 COL XXX INVALID@                                  26  1325                       53
352  2 52          ORG   *&1                                                                      1327
353  2 53   CDCTR  DCW   @00@                                                           2  1328                       54
354  2 54   COL76  C     076,K0             IS COL 76 GREATER THAN ZERO                 7  1329  C 076 096            54
355  2 55          BL    COL75              YES, CONTINUE EDITING                       5  1336  B T52 T              54
356  2 56          SBR   MSG20&17,076       NO, ERROR                                   7  1341  H T17 076            54
357  2 57          B     CC1ERR&7                                                       4  1348  B S89                54
358  2 58   COL75  BCE   COL74,075,         COL 75 MUST BE EITHER A BLANK               8  1352  B T79 075            54
359  2 59          BCE   COL74,075,1         OR A ONE.                                  8  1360  B T79 075 1          55
360  2 60          SBR   MSG20&17,075         ALL ELSE ARE ERRORS                       7  1368  H T17 075            55
361  2 61          B     CC1ERR&7                                                       4  1375  B S89                55
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SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

362  2 62   COL74  BCE   COL57,074,         COL 74 MUST BE EITHER A BLANK          8  1379  B U06 074            55
363  2 63          BCE   COL57,074,1         OR A ONE.                             8  1387  B U06 074 1          55
364  2 64          SBR   MSG20&17,074         ALL ELSE ARE ERRORS.                 7  1395  H T17 074            56
365  2 65          B     CC1ERR&7                                                  4  1402  B S89                56
366  2 66   COL57  BCE   COL13V,057,1       COL 57 MUST BE EITHER A BLANK          8  1406  B U33 057 1          56
367  2 67          BCE   COL13F,057,         OR A ONE.                             8  1414  B Y26 057            56
368  2 68          SBR   MSG20&17,057         ALL ELSE ARE ERRORS.                 7  1422  H T17 057            56
369  2 69          B     CC1ERR&7                                                  4  1429  B S89                56
370  2 70   COL13V MLZS  EM,RCDBKT          MAKE NOTE OF VARIABLE RECORDS          7  1433  Y 363 U98            57
371  2 71          C     015,@   @     CHECK WHETHER BLOCKING                      7  1440  C 015 E44            57
372  2 72          BE    COL9V1              IS INDICATED                          5  1447  B U75 S              57
373  2 73          C     015,K001           BRANCH IF INPUT IS VARIABLE AND        7  1452  C 015 397            57
374  2 74          BE    COL9V2              UNBLOCKED                             5  1459  B V10 S              57
375  2 75          SBR   MSG20&17,013        ALL ELSE ARE ERRORS                   7  1464  H T17 013            57
376  2 76          B     CC1ERR&7                                                  4  1471  B S89                58
377  2 77   COL9V1 C     012,@0009@         REC LENGTH FOR BLOCKED VARIABLE        7  1475  C 012 E48            58
378  2 78          BL    COL9V3              RECORDS MUST BE 10 OR MORE.           5  1482  B U99 T              58
379  2 79          SBR   MSG20&17,009       NINE OR LESS ARE ERRORS                7  1487  H T17 009            58
380  2 80          B     CC1ERR&7                                                  4  1494  B S89                58
381  2 81   RCDBKT DCW   @ @                                                       1  1498                       58
382  2 82   COL9V3 MLNS  K2,RCDBKT          MAKE NOTE OF VAR BLOCKED RECORDS       7  1499  D 095 U98            58
383  2 83          B     COL9V4                                                    4  1506  B V33                59
384  2 84   COL9V2 C     012,@0012@          UNB VAR RECORDS MUST BE GREATER       7  1510  C 012 E52            59
385  2 85          BL    COL9V4              THAN 12 IN LENGTH                     5  1517  B V33 T              59
386  2 86          SBR   MSG20&17,009                                              7  1522  H T17 009            59
387  2 87          B     CC1ERR&7                                                  4  1529  B S89                59
388  2 88   COL9V4 BCE   COL58,RCDBKT,K     BR IF INPUT IS BLOCKED VARIABLE        8  1533  B V76 U98 K          59
389  2 89          C     065,@    @         FOR UNB V INPUT THIS FIELD MAY         7  1541  C 065 E56            60
390  2 90          BE    COL66               BE LEFT BLANK                         5  1548  B W34 S              60
391  2 91          C     065,@0012@         IF NOT BLANK, IT MUST BE GREATER       7  1553  C 065 E52            60
392  2 92          BL    COL66               THAN 12.                              5  1560  B W34 T              60
393  2 93          SBR   MSG20&17,062                                              7  1565  H T17 062            60
394  2 94          B     CC1ERR&7                                                  4  1572  B S89                60
395  2 95   COL58  C     061,@0002@         LOCATION OF RE OF RLI MUST BE IN       7  1576  C 061 E60            61
396  2 96          BL    COL62               THE THIRD OR HIGHER POSITION OF       5  1583  B V99 T              61
397  2 97          SBR   MSG20&17,058        THE RECORD.                           7  1588  H T17 058            61
398  2 98          B     CC1ERR&7                                                  4  1595  B S89                61
399  2 99   COL62  C     065,@    @         FOR BL VAR INPUT, THIS                 7  1599  C 065 E56            61
400  3 00          BE    COL66              FIELD MAY BE LEFT BLANK.               5  1606  B W34 S              61
401  3 01          C     065,@0009@       IF NOT BLANK, IT MUST BE GREATER         7  1611  C 065 E48            62
402  3 02          BL    COL66              THAN 9 FOR BLOCKED INPUT.              5  1618  B W34 T              62
403  3 03          SBR   MSG20&17,062                                              7  1623  H T17 062            62
404  3 04          B     CC1ERR&7                                                  4  1630  B S89                62
405  3 05   COL66  C     069,@0012@       MAX RCD LENGTH MUST EXCEED 0012          7  1634  C 069 E52            62
406  3 06          BL    COL661                                                    5  1641  B X07 T              62
407  3 07          BCE   COL663,RCDBKT,-    BR IF INPUT IS VAR UNBLOCKED           8  1646  B W58 U98 -          63
408  3 08          B     COL662             GO TO ERROR ROUTINE                    4  1654  B W96                63
409  3 09   COL663 C     069,@    @    MAX L MAY BE OMITTED FOR V UNB INPUT        7  1658  C 069 E56            63
410  3 10          BU    COL662                                                    5  1665  B W96 /              63
411  3 11          SW    066                USE THE MAX L VALUE FROM CTL CD 1      4  1670  , 066                63
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SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

412  3 12          MLC   012,069           COL 9 - 12 FOR COMPUTATIONS.          7  1674  M 012 069            63
413  3 13          MLC   69,CC1&69                                               7  1681  M 069 H2|            64
414  3 14          CW    066                                                     4  1688  ) 066                64
415  3 15          B     COL70                                                   4  1692  B X30                64
416  3 16   COL662 SBR   MSG20&17,066                                            7  1696  H T17 066            64
417  3 17          B     CC1ERR&7                                                4  1703  B S89                64
418  3 18   COL661 C     069,@4000@        TEST VALIDITY OF MAX INPUT BLOCK      7  1707  C 069 E64            64
419  3 19          BH    COL70               LENGTH.                             5  1714  B X30 U              64
420  3 20          SBR   MSG20&17,066                                            7  1719  H T17 066            65
421  3 21          B     CC1ERR&7                                                4  1726  B S89                65
422  3 22   COL70  C     073,@0012@   TEST VALIDITY OF MIN OUTPUT BLOCK          7  1730  C 073 E52            65
423  3 23          BL    COL701                  LENGTH.                         5  1737  B Y03 T              65
424  3 24          C     018,K001  BR IF OUTPUT IS VAR UNBLOCKED                 7  1742  C 018 397            65
425  3 25          BU    COL702    GO TO ERROR ROUTINE                           5  1749  B X92 /              65
426  3 26          C     073,@    @    IF MAX OUTPUT BLOCK SIZE UNSPECIFIED      7  1754  C 073 E56            66
427  3 27          BU    COL702            FOR UNBLOCKED RECORDS, USE VALUE      5  1761  B X92 /              66
428  3 28          SW    070               OF MAX L IN INPUT.                    4  1766  , 070                66
429  3 29          MLC   012,073                                                 7  1770  M 012 073            66
430  3 30          MLC   73,CC1&73                                               7  1777  M 073 H2U            66
431  3 31          CW    070                                                     4  1784  ) 070                66
432  3 32          B     COL701                                                  4  1788  B Y03                66
433  3 33   COL702 SBR   MSG20&17,070                                            7  1792  H T17 070            67
434  3 34          B     CC1ERR&7                                                4  1799  B S89                67
435  3 35   COL701 C     073,@4000@    TEST VALIDITY OF MAX OUTPUT BLOCK SIZE    7  1803  C 073 E64            67
436  3 36          BH    COL16                                                   5  1810  B Z18 U              67
437  3 37   COL704 SBR   MSG20&17,070                                            7  1815  H T17 070            67
438  3 38          B     CC1ERR&7                                                4  1822  B S89                67
439  3 39   COL13F MLZS  BEE,RCDBKT    TAKE NOTE OF FIXED LENGTH RECORDS.        7  1826  Y 193 U98            68
440  3 40          C     015,K001                                                7  1833  C 015 397            68
441  3 41          BE    COL9F1        BR IF INPUT UNBLOCKED.                    5  1840  B Y61 S              68
442  3 42          BL    COL9F         BR IF INPUT BLOCKED.                      5  1845  B Y84 T              68
443  3 43          SBR   MSG20&17,013   ERROR CONDITION.                         7  1850  H T17 013            68
444  3 44          B     CC1ERR&7                                                4  1857  B S89                68
445  3 45   COL9F1 C     012,@0012@    TEST VALIDITY OF UNBL RCD LENGTH--        7  1861  C 012 E52            69
446  3 46          BL    COL16           MUST EXCEED 0012.                       5  1868  B Z18 T              69
447  3 47          SBR   MSG20&17,009                                            7  1873  H T17 009            69
448  3 48          B     CC1ERR&7                                                4  1880  B S89                69
449  3 49   COL9F  C     012,@0010@    BLOCKED RCD LENGTH MUST EXCEED NINE.      7  1884  C 012 E68            69
450  3 50          BH    COL9F2                                                  5  1891  B Z07 U              69
451  3 51          MLNS  K2,RCDBKT     NOTE THAT INPUT IS FIXED BLOCKED.         7  1896  D 095 U98            70
452  3 52          B     COL16                                                   4  1903  B Z18                70
453  3 53   COL9F2 SBR   MSG20&17,009                                            7  1907  H T17 009            70
454  3 54          B     CC1ERR&7                                                4  1914  B S89                70
455  3 55   COL16  C     018,@   @     TEST OUTPUT BLOCKING FACTOR.              7  1918  C 018 E44            70
456  3 56          BU    COL161   BR IF VAR UNB OR FIXED LENGTH.                 5  1925  B Z83 /              70
457  3 57          MLC   CC1&12,MAXL   IF UNSPECIFIED, ASSUME BLOCKED VAR,       7  1930  M G6T Z63            71
458  3 58          MA    K004,MAXL       AND USE VALUE FROM CC1 COL 70-73.       7  1937  # 400 Z63            71
459  3 59          C     CC1&73,MAXL                                             7  1944  C H2U Z63            71
460  3 60          BH    COL704                                                  5  1951  B Y15 U              71
461  3 61          B     COL162                                                  4  1956  B Z64                71
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SEQ PG LIN  LABEL  OP    OPERANDS                                                 SFX CT  LOCN  INSTRUCTION TYPE  CARD

462  3 62   MAXL   DCW   @    @                                                        4  1963                      71
463  3 63   COL162 BWZ   COL7,RCDBKT,K      BR IF INPUT IS BLOCKED VARIABLE            8  1964  V !12 U98 K         72
464  3 64   COL160 SBR   MSG20&17,016                                                  7  1972  H T17 016           72
465  3 65          B     CC1ERR&7                                                      4  1979  B S89               72
466  3 66   COL161 C     018,K001           TEST FOR UNBL OUTPUT.                      7  1983  C 018 397           72
467  3 67          BE    COL7                                                          5  1990  B !12 S             72
468  3 68          BH    COL160                                                        5  1995  B Z72 U             72
469  3 69          BWZ   COL7,RCDBKT,B      BR IF INPUT IS BLOCKED FIXED               8  2000  V !12 U98 B         73
470  3 70          B     COL160                                                        4  2008  B Z72               73
471  3 71   COL7   C     008,K001-1  CHECK TOTAL NO OF INPUT REELS.                    7  2012  C 008 396           73
472  3 72          BL    COL7A                                                         5  2019  B !35 T             73
473  3 73          SBR   MSG20&17,007                                                  7  2024  H T17 007           73
474  3 74          B     CC1ERR&7                                                      4  2031  B S89               73
475  3 75   COL7A  C     008,@46@                                                      7  2035  C 008 E70           74
476  3 76          BH    COL19                                                         5  2042  B !87 U             74
477  3 77          SBR   EMSG1&3,MSG21                                                 7  2047  H H4S !58           74
478  3 78          B     ERRMSG                                                        4  2054  B H3U               74
479  3 79   MSG21  DA    1X28,G                                                           2058   2085              74
                   DCW   @}@                                                           1  2086              GMARK   75
480  3 80          ORG   MSG21                                                                  2058
481  3 81          DCW   @INVALID TOTAL OF INPUT TAPES@                               28  2085                      76
482  3 82          ORG   *&1                                                                    2087
483  3 83   COL19  BCE   COL21,019,C   TEST VALIDITY OF BAD BLOCK OPTION.              8  2087  B J38 019 C         77
484  3 84          BCE   COL21,019,P                                                   8  2095  B J38 019 P         77
485  3 85          C     019,K1                                                        7  2103  C 019 190           77
486  3 86          BH    COL19A                                                        5  2110  B J27 U             77
487  3 87          C     019,@7@                                                       7  2115  C 019 E71           77
488  3 88          BH    COL21                                                         5  2122  B J38 U             78
489  3 89   COL19A SBR   MSG20&17,019                                                  7  2127  H T17 019           78
490  3 90          B     CC1ERR&7                                                      4  2134  B S89               78
491  3 91   COL21  BCE   COL22,021,    TEST VALIDITY OF INPUT TAPE HDR LABEL           8  2138  B K34 021           78
492  3 92          BCE   COL22,021,1     OPTION.                                       8  2146  B K34 021 1         78
493  3 93          BCE   COL22,021,2                                                   8  2154  B K34 021 2         79
494  3 94          BCE   COL22-7,21,3                                                  8  2162  B K27 021 3         79
495  3 95          BCE   COL22-7,21,4                                                  8  2170  B K27 021 4         79
496  3 96          SBR   MSG20&17,021                                                  7  2178  H T17 021           79
497  3 97          B     CC1ERR&7                                                      4  2185  B S89               79
498  3 98   AC22CK MLNS  21,*&8                                                        7  2189  D 021 K03           80
499  3 99          BCE   RCKC22,OTTF,                                                  8  2196  B K15 K14           80
500  4 00          BCE                                                                 1  2204  B                   80
501  4 01          BCE                                                                 1  2205  B                   80
502  4 02          BCE                                                                 1  2206  B                   80
503  4 03          B     COL23-18                                                      4  2207  B K82               80
504  4 04   OTTF   DCW   @1234@                                                        4  2214                      80
505  4 05   RCKC22 BCE   COL23,22,1                                                    8  2215  B L00 022 1         81
506  4 06          B     COL23-7                                                       4  2223  B K93               81
507  4 07          MLC   @1@,LBBUCK                                                    7  2227  M E72 413           81
508  4 08   COL22  BCE   COL23,022,    TEST VALIDITY OF OUTPUT TAPE HDR LABEL          8  2234  B L00 022           81
509  4 09          BCE   AC22CK,22,1                                                   8  2242  B J89 022 1         81
510  4 10          BCE   COL23,022,2                                                   8  2250  B L00 022 2         82
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SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

511  4 11          BCE   COL23,022,3                                              8  2258  B L00 022 3          82
512  4 12          BCE   AC22CK,22,4                                              8  2266  B J89 022 4          82
513  4 13          BCE   COL23-7,22,5                                             8  2274  B K93 022 5          82
514  4 14          SBR   MSG20&17,022                                             7  2282  H T17 022            82
515  4 15          B     CC1ERR&7                                                 4  2289  B S89                83
516  4 16          MLC   @1@,LBBUCK                                               7  2293  M E72 413            83
517  4 17   COL23  BCE   COL24,023,     TEST OUTPUT TAPE  HDR TPMARK OPTION.      8  2300  B L27 023            83
518  4 18          BCE   COL24,023,1                                              8  2308  B L27 023 1          83
519  4 19          SBR   MSG20&17,023                                             7  2316  H T17 023            83
520  4 20          B     CC1ERR&7                                                 4  2323  B S89                83
521  4 21   COL24  BCE   COL25,024,     TEST INPUT TAPE TRAILER LABEL OPTION.     8  2327  B L85 024            84
522  4 22          BCE   COL25,024,1                                              8  2335  B L85 024 1          84
523  4 23          BCE   COL25,024,2                                              8  2343  B L85 024 2          84
524  4 24          BCE   COL25-7,24,3                                             8  2351  B L78 024 3          84
525  4 25          BCE   COL25-7,24,4                                             8  2359  B L78 024 4          85
526  4 26          SBR   MSG20&17,024                                             7  2367  H T17 024            85
527  4 27          B     CC1ERR&7                                                 4  2374  B S89                85
528  4 28          MLC   @1@,LBBUCK                                               7  2378  M E72 413            85
529  4 29   COL25  BCE   COL26,025,     TEST OUTPUT TAPE TRAILER OPTION.          8  2385  B M20 025            85
530  4 30          BCE   COL26,025,1                                              8  2393  B M20 025 1          86
531  4 31          BCE   COL26,025,2                                              8  2401  B M20 025 2          86
532  4 32          SBR   MSG20&17,025                                             7  2409  H T17 025            86
533  4 33          B     CC1ERR&7                                                 4  2416  B S89                86
534  4 34   COL26  BCE   COL27,026,     TEST VALIDITY OF PADDING CHARACTER.       8  2420  B M47 026            86
535  4 35          BCE   COL27,026,9                                              8  2428  B M47 026 9          87
536  4 36          SBR   MSG20&17,026                                             7  2436  H T17 026            87
537  4 37          B     CC1ERR&7                                                 4  2443  B S89                87
538  4 38   COL27  BCE   COL28,027,4    TEST VALIDITY OF MACHINE SIZE STATED.     8  2447  B M82 027 4          87
539  4 39          BCE   COL28,027,5                                              8  2455  B M82 027 5          87
540  4 40          BCE   COL28,027,6                                              8  2463  B M82 027 6          88
541  4 41          SBR   MSG20&17,027                                             7  2471  H T17 027            88
542  4 42          B     CC1ERR&7                                                 4  2478  B S89                88
543  4 43   COL28  C     029,@01@       TEST VALIDITY OF NO OF CTL FIELDS.        7  2482  C 029 E74            88
544  4 44          BH    COL28A                                                   5  2489  B N10 U              88
545  4 45          C     029,@10@                                                 7  2494  C 029 E76            88
546  4 46          BL    COL28A                                                   5  2501  B N10 T              89
547  4 47          B     COL30                                                    4  2506  B N21                89
548  4 48   COL28A SBR   MSG20&17,028                                             7  2510  H T17 028            89
549  4 49          B     CC1ERR&7                                                 4  2517  B S89                89
550  4 50   COL30  C     032,K000-2     TEST VALIDITY OF TOTAL NO OF CTL -        7  2521  C 032 408            89
551  4 51          BL    COL33            FIELD CHARACTERS.                       5  2528  B N44 T              89
552  4 52          SBR   MSG20&17,030                                             7  2533  H T17 030            89
553  4 53          B     CC1ERR&7                                                 4  2540  B S89                90
554  4 54   COL33  C     036,K000-1     TEST POSITION OF 1ST CTL FIELD.           7  2544  C 036 409            90
555  4 55          BL    COL33A           BR IF O K                               5  2551  B N67 T              90
556  4 56   COL33B SBR   MSG20&17,033                                             7  2556  H T17 033            90
557  4 57          B     CC1ERR&7                                                 4  2563  B S89                90
558  4 58   COL33A C     036,@3999@     TEST VALIDITY OF 1ST CTL FIELD POSIT-     7  2567  C 036 E80            90
559  4 59          BL    COL33B           ION.                                    5  2574  B N56 T              90
560  4 60          C     039,K000-2     TEST VALIDITY OF CF1 LENGTH.              7  2579  C 039 408            91
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

561  4 61          BL    TEST6                                                  5  2586  B O02 T             91
562  4 62          SBR   MSG20&17,037                                           7  2591  H T17 037           91
563  4 63          B     CC1ERR&7                                               4  2598  B S89               91
564  4 64   TEST6  BCE   TEST5,006,     TEST NO OF OUTPUT TAPE UNIT.            8  2602  B O33 006           91
565  4 65          C     006,K0                                                 7  2610  C 006 096           91
566  4 66          BL    CK6                                                    5  2617  B P88 T             92
567  4 67          SBR   MSG20&17,006                                           7  2622  H T17 006           92
568  4 68          B     CC1ERR&7                                               4  2629  B S89               92
569  4 69   TEST5  BCE   TEST4,005,     TEST FOR NOS OF INPUT TAPE UNITS.       8  2633  B O64 005           92
570  4 70          C     005,K0                                                 7  2641  C 005 096           92
571  4 71          BL    CK5                                                    5  2648  B Q18 T             92
572  4 72          SBR   MSG20&17,005                                           7  2653  H T17 005           93
573  4 73          B     CC1ERR&7                                               4  2660  B S89               93
574  4 74   TEST4  BCE   TEST3,004,                                             8  2664  B O95 004           93
575  4 75          C     004,K0                                                 7  2672  C 004 096           93
576  4 76          BL    CK4                                                    5  2679  B Q47 T             93
577  4 77          SBR   MSG20&17,004                                           7  2684  H T17 004           93
578  4 78          B     CC1ERR&7                                               4  2691  B S89               94
579  4 79   TEST3  BCE   TEST2,003,                                             8  2695  B P26 003           94
580  4 80          C     003,K0                                                 7  2703  C 003 096           94
581  4 81          BL    CK3                                                    5  2710  B Q75 T             94
582  4 82          SBR   MSG20&17,003                                           7  2715  H T17 003           94
583  4 83          B     CC1ERR&7                                               4  2722  B S89               94
584  4 84   TEST2  BCE   TEST1,002,                                             8  2726  B P57 002           95
585  4 85          C     002,K0                                                 7  2734  C 002 096           95
586  4 86          BL    CK2                                                    5  2741  B R02 T             95
587  4 87          SBR   MSG20&17,002                                           7  2746  H T17 002           95
588  4 88          B     CC1ERR&7                                               4  2753  B S89               95
589  4 89   TEST1  BCE   *&13,001,                                              8  2757  B P77 001           95
590  4 90          C     001,K0                                                 7  2765  C 001 096           96
591  4 91          BL    WTCC1                                                  5  2772  B R70 T             96
592  4 92          SBR   MSG20&17,001                                           7  2777  H T17 001           96
593  4 93          B     CC1ERR&7                                               4  2784  B S89               96
594  4 94   CK6    SBR   TNOER&3,006    TEST FOR MULTI-USE OF TAPE UNIT 6       7  2788  H R31 006           96
595  4 95          MLNS  006,*&8                                                7  2795  D 006 Q09           96
596  4 96          BCE   TNOER,005,                                             8  2802  B R28 005           97
597  4 97          BCE                                                          1  2810  B                   97
598  4 98          CHAIN 3                                                                      MACRO
599                BCE                                                          1  2811  B      GEN          97
600                BCE                                                          1  2812  B      GEN          97
601                BCE                                                          1  2813  B      GEN          97
602  4 99          B     TEST5                                                  4  2814  B O33               97
603  5 00   CK5    SBR   TNOER&3,005    TEST FOR MULTI-USE OF TAPE UNIT 5       7  2818  H R31 005           97
604  5 01          MLNS  005,*&8                                                7  2825  D 005 Q39           98
605  5 02          BCE   TNOER,004,                                             8  2832  B R28 004           98
606  5 03          BCE                                                          1  2840  B                   98
607  5 04          CHAIN 2                                                                      MACRO
608                BCE                                                          1  2841  B      GEN          98
609                BCE                                                          1  2842  B      GEN          98
610  5 05          B     TEST4                                                  4  2843  B O64               98
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SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

611  5 06   CK4    SBR   TNOER&3,004   TEST FOR MULTI-USE OF TAPE UNIT 4         7  2847  H R31 004            98
612  5 07          MLNS  004,*&8                                                 7  2854  D 004 Q68            99
613  5 08          BCE   TNOER,003,                                              8  2861  B R28 003            99
614  5 09          BCE                                                           1  2869  B                    99
615  5 10          BCE                                                           1  2870  B                    99
616  5 11          B     TEST3                                                   4  2871  B O95                99
617  5 12   CK3    SBR   TNOER&3,003   TEST FOR MULTI-USE OF TAPE UNIT 3         7  2875  H R31 003            99
618  5 13          MLNS  003,*&8                                                 7  2882  D 003 Q96            99
619  5 14          BCE   TNOER,002,                                              8  2889  B R28 002           100
620  5 15          BCE                                                           1  2897  B                   100
621  5 16          B     TEST2                                                   4  2898  B P26               100
622  5 17   CK2    SBR   TNOER&3,002   TEST FOR MULTI-USE OF TAPE UNIT 2         7  2902  H R31 002           100
623  5 18          MLNS  002,*&8                                                 7  2909  D 002 R23           100
624  5 19          BCE   TNOER,001,                                              8  2916  B R28 001           100
625  5 20          B     TEST1                                                   4  2924  B P57               100
626  5 21   TNOER  MLNS  0,MSG22&10    PREPARE ERROR MESSAGE FOR PRINTER.        7  2928  D 000 R56           101
627  5 22          SBR   EMSG1&3,MSG22                                           7  2935  H H4S R46           101
628  5 23          B     ERRMSG                                                  4  2942  B H3U               101
629  5 24   MSG22  DA    1X23,G                                                     2946   2968               101
                   DCW   @}@                                                     1  2969             GMARK  102
630  5 25          ORG   MSG22                                                             2946
631  5 26          DCW   @TAPE UNIT 0 DOUBLY USED@                              23  2968                      103
632  5 27          ORG   *&1                                                               2970
633  5 28   WTCC1  BCE   SWM,CC1&29,1        BRANCH IF NO SECOND CARD            8  2970  B ?91 G8| 1         104
634  5 29          MRCM  CC2&1,001                                               7  2978  P F7| 001           104
635  5 30          MLC   CC1&29,NCFCC2      COMPUTE NUMBER OF CONTROL FIELDS     7  2985  M G8| ?1S           104
636  5 31          S     K1,NCFCC2            ON CONTROL CARD 2.                 7  2992  S 190 ?1S           104
637  5 32          MLZS  K1,NCFCC2                                               7  2999  Y 190 ?1S           104
638  5 33   CC2CF  A     K7,CC2RE      COMPUTE AND CHECK AMOUNT OF DATA          7  3006  A C03 ?87           105
639  5 34          A     K1,CC2CTR       NECESSARY ON CTL CD 2.                  7  3013  A 190 ?90           105
640  5 35          C     CC2CTR,NCFCC2                                           7  3020  C ?90 ?1S           105
641  5 36          BU    CC2CF                                                   5  3027  B ?06 /             105
642  5 37          MLC   CC2RE,X1                                                7  3032  M ?87 089           105
643  5 38   SCAN2  C     0&X1,KZ       IS IT A NUMERIC CHARACTER                 7  3039  C 0|0 C84           106
644  5 39          BL    DECX12         YES                                      5  3046  B ?62 T             106
645  5 40          MLC   K2,MSG20&9     NO, GO TO                                7  3051  M 095 T09           106
646  5 41          B     CC1ERR                   ERROR ROUTINE                  4  3058  B S82               106
647  5 42   DECX12 MA    N99,X1        DECREMENT X1 BY ONE                       7  3062  # 199 089           106
648  5 43          C     X1,K000-2     IS CTL CD 2 ALL SCANNED                   7  3069  C 089 408           106
649  5 44          BE    RDCC3                                                   5  3076  B ?98 S             107
650  5 45          B     SCAN2          NO, CONTINUE SCANNING                    4  3081  B ?39               107
651  5 46   CC2RE  DCW   @   @                                                   3  3087                      107
652  5 47   CC2CTR DCW   @   @                                                   3  3090                      107
653  5 48   SWM    MLC   K1,CFCTR       SET INDICATOR FOR NEXT OVERLAY           7  3091  M 190 411           107
654  5 49   RDCC3  BCE   CK4WAY,CC1&5,                                           8  3098  B A17 G5W           107
655  5 50          MLC   K5,OM                REMEMBER OM FOR FUTURE OVERLAYS    7  3106  M 090 H3T           107
656  5 51          B     CKCL21                                                  4  3113  B B23               108
657  5 52   CK4WAY BCE   CK3WAY,CC1&4,                                           8  3117  B A36 G5V           108
658  5 53          MLC   K4,OM                REMEMBER OM FOR FUTURE OVERLAYS    7  3125  M 086 H3T           108
659  5 54          B     CKCL21                                                  4  3132  B B23               108
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SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

660  5 55  CK3WAY BCE   CK2WAY,CC1&3,                                          8  3136  B A55 G5U          108
661  5 56         MLC   K3,OM               REMEMBER OM FOR FUTURE OVERLAYS    7  3144  M 085 H3T          108
662  5 57         B     CKCL21                                                 4  3151  B B23              109
663  5 58  CK2WAY BCE   CK1WAY,CC1&2,                                          8  3155  B A74 G5T          109
664  5 59         MLC   K2,OM               REMEMBER OM FOR FUTURE OVERLAYS    7  3163  M 095 H3T          109
665  5 60         B     CKCL21                                                 4  3170  B B23              109
666  5 61  CK1WAY MLC   K1,OM               REMEMBER OM FOR FUTURE OVERLAYS    7  3174  M 190 H3T          109
667  5 62         BCE   CKCL74,CC1&6,                                          8  3181  B A93 G5X          109
668  5 63         B     PROCC1                                                 4  3189  B B35              110
669  5 64  CKCL74 BCE   SETSEQ,CC1&74,1  BR IF SEQCK IS WANTED.                8  3193  B B12 H2V 1        110
670  5 65         SBR   EMSG1&3,MSG1                                           7  3201  H H4S C04          110
671  5 66         B     ERRMSG                                                 4  3208  B H3U              110
672  5 67  SETSEQ MLC   K1,SEQBKT   INDICATE SEQCK TO SUBSEQUENT OVERLAYS      7  3212  M 190 412          110
673  5 68         B     PROCC1                                                 4  3219  B B35              110
674  5 69  CKCL21 BCE   CKCL74&8,CC1&6,    BR IF NO OUTPUT WANTED              8  3223  B B01 G5X          111
675  5 70         B     PROCC1                                                 4  3231  B B35              111
676  5 71  PROCC1 CS    080                READ IN NEXT OVERLAY.               4  3235  / 080              111
677  5 72         MLC   CC41&45,FILEE&24   SAVE PERTINENT PORTIONS OF HDR      7  3239  M E5| 783          111
678  5 73         MLC   CC42&45,FILED&24     LABEL CTL CDS FOR CHECKING        7  3246  M D6Y 758          111
679  5 74         MLC   CC43&45,FILEC&24     LABELS OF SUBSEQUENT INPUT REEL   7  3253  M C8W 733          111
680  5 75         MLC   CC44&45,FILEA&24                                       7  3260  M C0U 683          112
681  5 76         MLC   CC45&45,FILEB&24                                       7  3267  M B2S 708          112
682  5 77         SW    001                                                    4  3274  , 001              112
683  5 78         MLC   OBJCD&80,080                                           7  3278  M ?9T 080          112
684  5 79         SW    024,056                                                7  3285  , 024 056          112
685  5 80         SW    063,067                                                7  3292  , 063 067          112
686  5 81         B     056                                                    4  3299  B 056              113
687  5 82  K7     DCW   @7@                                                    1  3303                     113
688  5 83  MSG1   DA    1X47,G                                                    3304   3350              113
                  DCW   @}@                                                    1  3351            GMARK  114
689  5 84         ORG   MSG1                                                             3304
690  5 85         DCW   @NO OUTPUT TAPE SPECIFIED - SEQCK NOT BEING USED@     47  3350                     116
691  5 86         ORG   *&1                                                              3352
692  5 87  MSG11  DA    1X31,G                                                    3352   3382              116
                  DCW   @}@                                                    1  3383            GMARK  117
693  5 88         ORG   MSG11                                                            3352
694  5 89         DCW   @CONTROL CARDS OMITTED - RESTART@                     31  3382                     118
695  5 90         ORG   *&1                                                              3384
696  5 91  KZ     DCW   @Z@                                                    1  3384                     119
697  5 92         DCW   #52                                                   52  3436                     121
698  5 93  BLNK80 DC    #28                                                   28  3464                     122
699  5 94  GOHED  MLCWA HEDER,266                                              7  3465  L D97 266          122
700  5 95         W                                                            1  3472  2                  122
701  5 96         MLCWA HEDER1,277                                             7  3473  L E30 277          123
702  5 97         W                                                            1  3480  2                  123
703  5 98         CS    299                                                    4  3481  / 299              123
704  5 99         CC    K                                                      2  3485  F K                123
705  6 00         B     RDCC1                                                  4  3487  B 785              123
706  6 01  HEDER  DCW   @MERGE 7@                                              7  3497                     123
707  6 02  HEDER1 DCW   @VERSION 3  MODIFICATION LEVEL  0@                    33  3530                     124
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SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
708	6	03		LTORG	*				3531		
				DCW	@I9H@		3	3533		LIT	124
					@001@		3	3536		LIT	124
					@Z@		1	3537		LIT	125
					@ @		1	3538		LIT	125
					@019@		3	3541		LIT	125
					@ @		3	3544		LIT	125
					@0009@		4	3548		LIT	125
					@0012@		4	3552		LIT	125
					@ @		4	3556		LIT	125
					@0002@		4	3560		LIT	126
					@4000@		4	3564		LIT	126
					@0010@		4	3568		LIT	126
					@46@		2	3570		LIT	126
					@7@		1	3571		LIT	126
					@1@		1	3572		LIT	126
					@01@		2	3574		LIT	126
					@10@		2	3576		LIT	127
					@3999@		4	3580		LIT	127
709	6	04		EX	GOHED				B D65		128

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

710  6 05          JOB   MERGE PROGRAM MAIN LINE
711  6 06          ORG   RDCC1                                                                    0785
712  6 07   *              COMPARISON ROUTINE
713  6 08   START  B     READE              READ IN DATA.                                  4  0785  B H96              131
714  6 09          B     READD                                                             4  0789  B F50              131
715  6 10          B     READC                                                             4  0793  B D04              131
716  6 11          B     READA                                                             4  0797  B A58              131
717  6 12          SBR   LOOPA&3,M0103                                                     7  0801  H A44 826          131
718  6 13          B     READB                                                             4  0808  B R12              131
719  6 14          SBR   LOOPB&3,M0103                                                     7  0812  H Q98 826          131
720  6 15          MLC   &REWND,MLNOIS-2    MODIFY BEF FOR MAIN LINE MERGE                 7  0819  M 79X 02T          132
721  6 16   M0103  NOP   M0105              BRANCH FOR BEOF                                4  0826  N O99              132
722  6 17          NOP   M0107              BRANCH FOR AEOF                                4  0830  N 851              132
723  6 18   AB     C     0&X2,0&X2          A COMPARE B                                    7  0834  C 0!0 0!0          132
724  6 19          BH    M0106              A LOW                                          5  0841  B 963 U            132
725  6 20          BE    EQUAL                                                             5  0846  B /99 S            132
726  6 21   M0107  B     *&1                                                               4  0851  B 855              132
727  6 22          SBR   LOOPC&3                                                           4  0855  H C90              133
728  6 23          MA    NEXT,LOOPC&3                                                      7  0859  # 351 C90          133
729  6 24          NOP   M0301              BRANCH FOR CEOF                                4  0866  N 887              133
730  6 25   CB     C     0&X2,0&X2          C COMPARE B                                    7  0870  C 0!0 0!0          133
731  6 26          BH    M0401              C LOW                                          5  0877  B |75 U            133
732  6 27          BE    EQUAL                                                             5  0882  B /99 S            133
733  6 28   M0301  B     *&1                                                               4  0887  B 891              133
734  6 29          SBR   LOOPD&3                                                           4  0891  H F36              134
735  6 30          MA    NEXT,LOOPD&3                                                      7  0895  # 351 F36          134
736  6 31          NOP   M0303              BRANCH FOR DEOF                                4  0902  N 923              134
737  6 32   DB     C     0&X2,0&X2          D COMPARE B                                    7  0906  C 0!0 0!0          134
738  6 33          BH    M0204              D LOW                                          5  0913  B /55 U            134
739  6 34          BE    EQUAL                                                             5  0918  B /99 S            134
740  6 35   M0303  B     *&1                                                               4  0923  B 927              134
741  6 36          SBR   LOOPE&3                                                           4  0927  H H82              135
742  6 37          MA    NEXT,LOOPE&3                                                      7  0931  # 351 H82          135
743  6 38          NOP   PUTB               BRANCH FOR EEOF                                4  0938  N P33              135
744  6 39   EB     C     0&X2,0&X2          E COMPARE B                                    7  0942  C 0!0 0!0          135
745  6 40          BH    PUTE               E LOW                                          5  0949  B G17 U            135
746  6 41          BE    EQUAL                                                             5  0954  B /99 S            135
747  6 42          B     PUTB               B LOW                                          4  0959  B P33              135
748  6 43   M0106  B     *&1                                                               4  0963  B 967              136
749  6 44          SBR   LOOPC&3                                                           4  0967  H C90              136
750  6 45          MA    NEXT,LOOPC&3                                                      7  0971  # 351 C90          136
751  6 46          NOP   M0201              BRANCH FOR CEOF                                4  0978  N 999              136
752  6 47   CA     C     0&X2,0&X2          C COMPARE A                                    7  0982  C 0!0 0!0          136
753  6 48          BH    M0401              C LOW                                          5  0989  B |75 U            136
754  6 49          BE    EQUAL                                                             5  0994  B /99 S            136
755  6 50   M0201  B     *&1                                                               4  0999  B |03              137
756  6 51          SBR   LOOPD&3                                                           4  1003  H F36              137
757  6 52          MA    NEXT,LOOPD&3                                                      7  1007  # 351 F36          137
758  6 53          NOP   M0203              BRANCH FOR DEOF                                4  1014  N |35              137
759  6 54   DA     C     0&X2,0&X2          D COMPARE A                                    7  1018  C 0!0 0!0          137
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SEQ PG LIN  LABEL  OP    OPERANDS                                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

760  6 55          BH    M0204              D LOW                                       5  1025  B /55 U             137
761  6 56          BE    EQUAL                                                          5  1030  B /99 S             137
762  6 57   M0203  B     *&1                                                            4  1035  B |39               138
763  6 58          SBR   LOOPE&3                                                        4  1039  H H82               138
764  6 59          MA    NEXT,LOOPE&3                                                   7  1043  # 351 H82           138
765  6 60          NOP   PUTA               BRANCH FOR EEOF                             4  1050  N R79               138
766  6 61   EA     C     0&X2,0&X2                                                      7  1054  C 0!0 0!0           138
767  6 62          BH    PUTE               E LOW                                       5  1061  B G17 U             138
768  6 63          BE    EQUAL                                                          5  1066  B /99 S             138
769  6 64          B     PUTA               A LOW                                       4  1071  B R79               139
770  6 65   M0401  B     *&1                                                            4  1075  B |79               139
771  6 66          SBR   LOOPD&3                                                        4  1079  H F36               139
772  6 67          MA    NEXT,LOOPD&3                                                   7  1083  # 351 F36           139
773  6 68          NOP   M0402              BRANCH FOR DEOF                             4  1090  N P18               139
774  6 69          NOP   M0204              BRANCH FOR                                  4  1094  N /55               139
775  6 70   DC     C     0&X2,0&X2          D COMPARE C                                 7  1098  C 0!0 0!0           139
776  6 71          BH    M0204              D LOW                                       5  1105  B /55 U             140
777  6 72          BE    EQUAL                                                          5  1110  B /99 S             140
778  6 73   M0404  B     *&1                                                            4  1115  B /19               140
779  6 74          SBR   LOOPE&3                                                        4  1119  H H82               140
780  6 75          MA    NEXT,LOOPE&3                                                   7  1123  # 351 H82           140
781  6 76          NOP   PUTC               BRANCH FOR EEOF                             4  1130  N B25               140
782  6 77   EC     C     0&X2,0&X2          E COMPARE C                                 7  1134  C 0!0 0!0           140
783  6 78          BH    PUTE               E LOW                                       5  1141  B G17 U             141
784  6 79          BE    EQUAL                                                          5  1146  B /99 S             141
785  6 80          B     PUTC                                                           4  1151  B B25               141
786  6 81   M0204  B     *&1                                                            4  1155  B /59               141
787  6 82          SBR   LOOPE&3                                                        4  1159  H H82               141
788  6 83          MA    NEXT,LOOPE&3                                                   7  1163  # 351 H82           141
789  6 84          NOP   PUTE               BRANCH FOR DEOF                             4  1170  N G17               141
790  6 85          NOP   PUTD               BRANCH FOR EEOF                             4  1174  N D71               142
791  6 86   ED     C     0&X2,0&X2          E COMPARE D                                 7  1178  C 0!0 0!0           142
792  6 87          BH    PUTE               E LOW                                       5  1185  B G17 U             142
793  6 88          BE    EQUAL                                                          5  1190  B /99 S             142
794  6 89          B     PUTD               D LOW                                       4  1195  B D71               142
795  6 90   *        EQUAL ROUTINE
796  6 91   EQUAL  SBR   X3                                                             4  1199  H 099               142
797  6 92          MA    TWLVE,099                                                      7  1203  # 185 099           142
798  6 93          MLC   0&X3,EQCOMP&6                                                  7  1210  M 0?0 S44           143
799  6 94          MLC   CTR,COUNTR                                                     7  1217  M 189 375           143
800  6 95   MA     MA    THREE,*&4                                                      7  1224  # 084 S34           143
801  6 96          MLC   CF1,X2                                                         7  1231  M 459 094           143
802  6 97   EQCOMP C     0,0                                                            7  1238  C 000 000           143
803  6 98          BE    EQLP                                                           5  1245  B S73 S             144
804  6 99          MLC   CF1,X2                                                         7  1250  M 459 094           144
805  7 00          SBR   MA&10,CF1                                                      7  1257  H S34 459           144
806  7 01          BH    1&X3                                                           5  1264  B 0?1 U             144
807  7 02          B     11&X3                                                          4  1269  B 0A1               144
808  7 03   EQLP   A     K1,COUNTR                                                      7  1273  A 190 375           144
809  7 04          BCE   EQCOMP&12,COUNTR,0                                             8  1280  B S50 375 0         145
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

810  7 05          B     MA                                                     4  1288  B S24              145
811  7 06   *              DATA TRANSMISSION ERROR
812  7 07   ROPTER A     K1,ROPTCT                                              7  1292  A 190 T13          145
813  7 08          BCE   ROPT1,ROPTCT-2,1                                       8  1299  B T14 T11 1        145
814  7 09          B     ROPTHL-12                                              4  1307  B X07              145
815  7 10   ROPTCT DCW   @000@                                                  3  1313                     145
816  7 11   ROPT1  H     EXIT6   100 READ ATTEMPTS ON OUTPUT HEADER LABEL       4  1314  . Y35              145
817  7 12   *               PRESS START TO ACCEPT
818  7 13          MLC   K000,ROPTCT   PRESS START-RESET, AND START TO USE      7  1318  M 410 T13          146
819  7 14   *  OUTPUT TAPE
820  7 15          B     ROPTHL-12                                              4  1325  B X07              146
821  7 16   RHLER1 MLNS  NOIHL&14,RHLER2&3                                      7  1329  D Z87 T54          146
822  7 17          A     K1,RDCTR                                               7  1336  A 190 T77          146
823  7 18          BCE   HLHLT,RDCTR-2,1                                        8  1343  B T60 T75 1        146
824  7 19   RHLER2 BSP   0                                                      5  1351  U %U0 B            146
825  7 20          B     NOIHL                                                  4  1356  B Z73              147
826  7 21   HLHLT  H     EXIT8    100 READ ATTEMPTS ON TRAILER LABEL            4  1360  . !02              147
827  7 22   *          PUSH START TO ACCEPT AS IS
828  7 23   *          PUSH START-RESET , START TO RETRY
829  7 24          MLC   K000,RDCTR                                             7  1364  M 410 T77          147
830  7 25          B     RHLER2                                                 4  1371  B T51              147
831  7 26   RDCTR  DCW   #3                                                     3  1377                     147
832  7 27   RH1    MLNS  RHL&3,RH2&3                                            7  1378  D L67 U03          147
833  7 28          A     K1,RDCTR                                               7  1385  A 190 T77          147
834  7 29          BCE   HLHHH,RDCTR-2,1                                        8  1392  B U09 T75 1        148
835  7 30   RH2    BSP   0                                                      5  1400  U %U0 B            148
836  7 31          B     RHL-21                                                 4  1405  B L43              148
837  7 32   HLHHH  MLC   K000,RDCTR                                             7  1409  M 410 T77          148
838  7 33          H     EXIT5    100 READ ATTEMPTS ON HEADER LABEL             4  1416  . L97              148
839  7 34   *               PUSH START TO ACCEPT AS IS
840  7 35   *               PUSH START RESET, START TO RETRY
841  7 36          B     RH2                                                    4  1420  B U00              148
842  7 37   WHLERR SBR   WTERRX&3                                               4  1424  H U69              148
843  7 38          BSP   0                                                      5  1428  U %U0 B            149
844  7 39          B     WTERRD                                                 4  1433  B U37              149
845  7 40   WTERRD SBR   *-7,WTERR2                                             7  1437  H U36 U70          149
846  7 41          BCE   000,WLCTR,9                                            8  1444  B 000 V43 9        149
847  7 42          A     K1,WLCTR                                               7  1452  A 190 V43          149
848  7 43   WTERRM MA    @I8G@,WTERRX&3                                         7  1459  # 80| U69          149
849  7 44   WTERRX B     000                                                    4  1466  B 000              150
850  7 45   WTERR2 SBR   WTERRD-1,WTERRD                                        7  1470  H U36 U37          150
851  7 46          SKP   0                                                      5  1477  U %U0 E            150
852  7 47          B     WTERRM                                                 4  1482  B U59              150
853  7 48   WTERRB H     WTEREX   20 ATTEMPTS HAVE BEEN MADE TO WRITE BLOCK     4  1486  . V13              150
854  7 49   *                       PRESS START TO RETRY WRITE 20 MORE TIMES
855  7 50   *                       PRESS START/RESET AND START TO CHANGE TAPES
856  7 51          MLC   BEE,CLOSET                                             7  1490  M 193 Z35          150
857  7 52          WTM   0                                                      5  1497  U %U0 M            150
858  7 53          B     EXIT1                                                  4  1502  B V92              151
859  7 54          MLC   EN,CLOSET                                              7  1506  M 192 Z35          151
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

860  7 55   WTEREX MLC   K000,WLCTR                                              7  1513  M 410 V43           151
861  7 56          B     WTERRM                                                  4  1520  B U59               151
862  7 57   WTERRH H            20 ATTEMPTS HAVE BEEN MADE TO WRITE HEADER       1  1524  .                   151
863  7 58   *                       PRESS START TO RETRY WRITE 20 MORE TIMES
864  7 59          B     WTEREX                                                  4  1525  B V13               151
865  7 60   WTERRT H     WTEREX  20 ATTEMPTS HAVE BEEN MADE TO WRITE TRAILER     4  1529  . V13               151
866  7 61   *                       PRESS START TO RETRY WRITE 20 MORE TIMES
867  7 62   *                       PRESS START/RESET AND START TO OMIT TRAILER
868  7 63          B     EXIT4                                                   4  1533  B W53               152
869  7 64   WTERRR H            20 ATTEMPTS HAVE BEEN MADE TO WRITE BAD BLOCK    1  1537  .                   152
870  7 65   *                       PRESS START TO RETRY WRITE 20 MORE TIMES
871  7 66          B     WTEREX                                                  4  1538  B V13               152
872  7 67   WLCTR  DCW   #2                                                      2  1543                      152
873  7 68   CHECK  MLNS  RDTAP&3,BKSPC&3    INITIALIZE BACKSPACE COMMAND         7  1544  D 00U V69           152
874  7 69          A     K1,COUNTT                                               7  1551  A 190 378           152
875  7 70          BCE   BBP,COUNTT-2,1                                          8  1558  B 83T 376 1         152
876  7 71   BKSPC  BSP   %U0                                                     5  1566  U %U0 B             153
877  7 72          B     RDTAP              RETURN TO MAINLINE READ              4  1571  B 00/               153
878  7 73   *              END OF FILE ROUTINE
879  7 74   EOFOPT WTM   %U0                WRITE TAPE MARK ON OUTPUT TAPE       5  1575  U %U0 M             153
880  7 75          A     K1,OBCTR                                                7  1580  A 190 343           153
881  7 76          CS    332                                                     4  1587  / 332               153
882  7 77          CS                                                            1  1591  /                   153
883  7 78   **
884  7 79   EXIT1  NOP   000                USER EXIT NUMBER ONE                 4  1592  N 000               153
885  7 80   **
886  7 81          NOP   ALPHA1&5      BR IF NO OUTPUT TRAILER LABEL.            4  1596  N W62               154
887  7 82   TLBLCT MLC   OBCTR,STDTL&9                                           7  1600  M 343 210           154
888  7 83          SBR   WTERRD&10,WTERRT                                        7  1607  H U47 V29           154
889  7 84          MLC   TFLAG,STDTL&4                                           7  1614  M 348 205           154
890  7 85          MLCWA GMWM,281       MOVE GMWM TO END OF TRAILER              7  1621  L 334 281           154
891  7 86   ALPHA  WT    0,STDTL                                                 8  1628  M %U0 201 W         155
892  7 87          BER   WHLERR                                                  5  1636  B U24 L             155
893  7 88          BEF   *&1                                                     5  1641  B W46 K             155
894  7 89          MLC   K000,WLCTR                                              7  1646  M 410 V43           155
895  7 90   **
896  7 91   EXIT4  NOP   0                                                       4  1653  N 000               155
897  7 92   **
898  7 93   ALPHA1 WTM   0                  WRITE TM AFTER TRAILER LABEL         5  1657  U %U0 M             155
899  7 94          RWU   %U0                REWIND & UNLOAD OUTPUT IF EOR        5  1662  U %U0 U             155
900  7 95          MLC   K000,OBCTR          RESET OUTPUT BLOCK COUNTER          7  1667  M 410 343           156
901  7 96          MLNS  ALPHA&3,REWNDT&3                                        7  1674  D W31 !70           156
902  7 97          SBR   CNGMSG-13,*&5                                           7  1681  H L17 W92           156
903  7 98          B     CHNGRL                                                  4  1688  B K92               156
904  7 99   ALPHA2 SBR   CNGMSG-13,FL1-4                                         7  1692  H L17 I86           156
905  8 00          B     *&1                BR TO ADR IF EOJ                     4  1699  B X03               156
906  8 01   EXI6   B     EXIT6                                                   4  1703  B Y35               157
907  8 02          RWD   0                                                       5  1707  U %U0 R             157
908  8 03          MLCWA GMWM,281                                                7  1712  L 334 281           157
909  8 04   ROPTHL RTW   0,201    CHECK FOR STD HDR LABEL ON NEW OUTPUT TAPE     8  1719  L %U0 201 R         157
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SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

910  8 05          BEF   *&1                                                        5  1727  B X32 K            157
911  8 06          BER   ROPTER                                                     5  1732  B S92 L            157
912  8 07          C     205,@1HDR @                                                7  1737  C 205 80V          158
913  8 08          BU    EXIT6              NOT A HDR LABEL                         5  1744  B Y35 /            158
914  8 09          BCE   *&12,FILEE&25,1                                            8  1749  B X68 784 1        158
915  8 10          SW    206                                                        4  1757  , 206              158
916  8 11          MLC   210,SAVEHL&10                                              7  1761  M 210 587          158
917  8 12   YRCHEK C     232,@99@                                                   7  1768  C 232 80X          158
918  8 13          BE    HLHALT                                                     5  1775  B Y31 S            159
919  8 14   CRDATE MLC   235,HLCD                                                   7  1780  M 235 418          159
920  8 15          SW    237                                                        4  1787  , 237              159
921  8 16          A     239,HLCD                                                   7  1791  A 239 418          159
922  8 17          C     HLCD,SAVED    IS THE RETENTION CYCLE EXPIRED               7  1798  C 418 423          159
923  8 18          BH    EXIT6              YES                                     5  1805  B Y35 U            159
924  8 19          MLC   @RETAIN@,330    NO,  OUTPUT MESSAGE                        7  1810  M 81T 330          160
925  8 20          W                                                                1  1817  2                  160
926  8 21          CS    299                                                        4  1818  / 299              160
927  8 22          CC    1                                                          2  1822  F 1                160
928  8 23          MLCWA GMWM,281                                                   7  1824  L 334 281          160
929  8 24   HLHALT H     EXI6                                                       4  1831  . X03              160
930  8 25   **
931  8 26   EXIT6  NOP   000                                                        4  1835  N 000              160
932  8 27   **
933  8 28          SBR   WTERRD&10,WTERRH                                           7  1839  H U47 V24          161
934  8 29          MLCWA SAVEHL&80,280                                              7  1846  L 657 280          161
935  8 30          MLCWA GMWM,281                                                   7  1853  L 334 281          161
936  8 31          RWD   0             REWIND OUTPUT TAPE                           5  1860  U %U0 R            161
937  8 32   WRHL   WT    0,201                                                      8  1865  M %U0 201 W        161
938  8 33          BER   WHLERR                                                     5  1873  B U24 L            161
939  8 34          BEF   EOFOPT                                                     5  1878  B V75 K            162
940  8 35          BCE   *&5,FILEE&25,1                                             8  1883  B Y95 784 1        162
941  8 36          B     *&15                                                       4  1891  B Z09              162
942  8 37          SW    SAVEHL&6,SAVEHL&17                                         7  1895  , 583 594          162
943  8 38   UPTPSR A     K1,SAVEHL&10  INCREMENT TP SERIAL 2ND OUTPUT               7  1902  A 190 587          162
944  8 39          MLC   K000,WLCTR                                                 7  1909  M 410 V43          162
945  8 40          NOP   K001,SAVEHL&19  UPDATE NEXT REEL SEQ NO IF WANTED          7  1916  N 397 596          163
946  8 41          CW    SAVEHL&6,SAVEHL&17                                         7  1923  ) 583 594          163
947  8 42   RENT   WTM   0                                                          5  1930  U %U0 M            163
948  8 43   CLOSET NOP   WTEREX-7                                                   4  1935  N V06              163
949  8 44   NOHLIP B     REINIT                                                     4  1939  B 23W              163
950  8 45   REWND  SBR   STOP&3             EOR-EOF ON INPUT TAPE REELS             4  1943  H M73              163
951  8 46          MA    N99,3&X1                                                   7  1947  # 199 0|3          163
952  8 47          CS    332                                                        4  1954  / 332              164
953  8 48          CS                                                               1  1958  /                  164
954  8 49          MLNS  RDTAP&3,REWNDT&3                                           7  1959  D 00U !70          164
955  8 50          MLCWA GMWM,281                                                   7  1966  L 334 281          164
956  8 51   NOIHL  NOP   REWNDT               BRANCH IF NO T.L. IN INPUT            4  1973  N !67              164
957  8 52          MLNS  RDTAP&3,*&4                                                7  1977  D 00U Z87          164
958  8 53          RTW   0,201                                                      8  1984  L %U0 201 R        164
959  8 54          BEF   *&1                                                        5  1992  B Z97 K            165
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

 960  8 55          BER   RHLER1                                                     5  1997  B T29 L            165
 961  8 56   **
 962  8 57   EXIT8  NOP   000                 USER EXIT NO 8 - OPTIONAL              4  2002  N 000              165
 963  8 58   **
 964  8 59          W                                                                1  2006  2                  165
 965  8 60          MLC   K000,RDCTR                                                 7  2007  M 410 T77          165
 966  8 61          NOP   REWNDT                                                     4  2014  N !67              165
 967  8 62   NOIH1  C     210,0&X1                                                   7  2018  C 210 0|0          165
 968  8 63          BE    REWNDT              TRAILER BLOCK COUNT CHECKS OK          5  2025  B !67 S            166
 969  8 64          MLNS  REWNDT&3,TLRMSG&7    PUT TAPE NO INTO ERROR MESSAGE        7  2030  D !70 66W          166
 970  8 65   CNTERF MLC   210,TLRMSG&57                                              7  2037  M 210 71W          166
 971  8 66          MLC   0&X1,TLRMSG&32                                             7  2044  M 0|0 69/          166
 972  8 67          CS    332                                                        4  2051  / 332              166
 973  8 68          CS                                                               1  2055  /                  166
 974  8 69          MRCM  TLRMSG,201                                                 7  2056  P 65Z 201          166
 975  8 70          W                                                                1  2063  2                  167
 976  8 71          CC    1                                                          2  2064  F 1                167
 977  8 72          H               THE NUMBER OF RECORD BLOCKS ACTUALLY READ        1  2066  .                  167
 978  8 73   *                         DOES NOT AGREE WITH TRLAB BLOCK COUNT.
 979  8 74   REWNDT RWU   %U0                  REWIND & UNLOAD INPUT REEL            5  2067  U %U0 U            167
 980  8 75          MLC   K000,0&X1           REINIT BLOCK COUNT TO ZERO             7  2072  M 410 0|0          167
 981  8 76          BCE   TE,REWNDT&3,                                               8  2079  B J48 !70          167
 982  8 77          BCE   TD,REWNDT&3,                                               8  2087  B J85 !70          167
 983  8 78          BCE   TC,REWNDT&3,                                               8  2095  B K22 !70          168
 984  8 79          BCE   TA,REWNDT&3,                                               8  2103  B K59 !70          168
 985  8 80          A     K1,TCNT25                                                  7  2111  A 190 373          168
 986  8 81          C     TCNT25,TCNT15                                              7  2118  C 373 368          168
 987  8 82          BE    HALT-7                                                     5  2125  B M74 S            168
 988  8 83   TB1    NOP   K001,FILEB&8                                               7  2130  N 397 692          169
 989  8 84          SBR   RHL2&6,FILEB&19     INIT CHECK FOR MULTI-REEL STD HDR      7  2137  H M38 703          169
 990  8 85          B     CHNGRL                                                     4  2144  B K92              169
 991  8 86   TE     A     K1,TCNT21            CHECK FOR MULTIPLE INPUT REELS        7  2148  A 190 369          169
 992  8 87          C     TCNT21,TCNT11                                              7  2155  C 369 364          169
 993  8 88          BE    HALT-7                                                     5  2162  B M74 S            169
 994  8 89   TE1    NOP   K001,FILEE&8                                               7  2167  N 397 767          170
 995  8 90          SBR   RHL2&6,FILEE&19     INIT CHECK FOR MULTI-REEL STD HDR      7  2174  H M38 778          170
 996  8 91          B     CHNGRL                                                     4  2181  B K92              170
 997  8 92   TD     A     K1,TCNT22                                                  7  2185  A 190 370          170
 998  8 93          C     TCNT22,TCNT12                                              7  2192  C 370 365          170
 999  8 94          BE    HALT-7                                                     5  2199  B M74 S            170
1000  8 95   TD1    NOP   K001,FILED&8                                               7  2204  N 397 742          171
1001  8 96          SBR   RHL2&6,FILED&19     INIT CHECK FOR MULTI-REEL STD HDR      7  2211  H M38 753          171
1002  8 97          B     CHNGRL                                                     4  2218  B K92              171
1003  8 98   TC     A     K1,TCNT23                                                  7  2222  A 190 371          171
1004  8 99          C     TCNT23,TCNT13                                              7  2229  C 371 366          171
1005  9 00          BE    HALT-7                                                     5  2236  B M74 S            171
1006  9 01   TC1    NOP   K001,FILEC&8                                               7  2241  N 397 717          172
1007  9 02          SBR   RHL2&6,FILEC&19     INIT CHECK FOR MULTI-REEL STD HDR      7  2248  H M38 728          172
1008  9 03          B     CHNGRL                                                     4  2255  B K92              172
1009  9 04   TA     A     K1,TCNT24                                                  7  2259  A 190 372          172
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1010  9 05          C     TCNT24,TCNT14                                          7  2266  C 372 367           172
1011  9 06          BE    HALT-7                                                 5  2273  B M74 S             172
1012  9 07   TA1    NOP   K001,FILEA&8                                           7  2278  N 397 667           173
1013  9 08          SBR   RHL2&6,FILEA&19    INIT CHECK FOR MULTI-REEL STD HDR   7  2285  H M38 678           173
1014  9 09   CHNGRL CS    332                                                    4  2292  / 332               173
1015  9 10          CS                                                           1  2296  /                   173
1016  9 11          MLNS  REWNDT&3,CNGMSG                                        7  2297  D !70 L30           173
1017  9 12          MLC   CNGMSG,213                                             7  2304  M L30 213           173
1018  9 13          W                 NOTIFY USER WHICH REEL TO CHANGE           1  2311  2                   173
1019  9 14          CC    1                                                      2  2312  F 1                 174
1020  9 15   MESHLT H     FL1-4                                                  4  2314  . I86               174
1021  9 16   CNGMSG DCW   @CHANGE TAPE 0@                                       13  2330                      174
1022  9 17   SAMHL  MLNS  REWNDT&3,RHL&3     READ INPUT HDR LABEL                7  2331  D !70 L67           174
1023  9 18          CS    332                                                    4  2338  / 332               174
1024  9 19          CS                                                           1  2342  /                   174
1025  9 20          MLCWA GMWM,281                                               7  2343  L 334 281           174
1026  9 21          MLZS  *-6,214                                                7  2350  Y L50 214           175
1027  9 22          MN    RHL&3,RHL1&3                                           7  2357  D L67 M05           175
1028  9 23   RHL    RTW   0,201              READ THE TRAILER LABEL              8  2364  L %U0 201 R         175
1029  9 24          BEF   *&1                RESET INDICATOR                     5  2372  B L77 K             175
1030  9 25   MLBNOI BCE   SAMHL&7,214,                                           8  2377  B L38 214           175
1031  9 26          SBR   BKSPC&8,SAMHL                                          7  2385  H V74 L31           176
1032  9 27          BER   RH1                                                    5  2392  B T78 L             176
1033  9 28   **
1034  9 29   EXIT5  NOP   000                USER EXIT NO 5 - OPTIONAL           4  2397  N 000               176
1035  9 30   **
1036  9 31          W                        PRINT HEADER LABEL                  1  2401  2                   176
1037  9 32   RHL1   RT    0,332     CHECK FOR TAPE MARK FOLLOWING HDR LABEL      8  2402  M %U0 332 R         176
1038  9 33          BEF   RHL2                                                   5  2410  B M32 K             176
1039  9 34          BER   *&1                                                    5  2415  B M20 L             176
1040  9 35          MLNS  RHL1&3,*&4                                             7  2420  D M05 M30           177
1041  9 36          BSP   %U0                                                    5  2427  U %U0 B             177
1042  9 37   RHL2   NOP   229,0                                                  7  2432  N 229 000           177
1043  9 38             NS FL1-12      STD HDR LABELS IF DESIRED                  5  2439  N I78 S             177
1044  9 39   RHL4   B     RHL6                                                   4  2444  B M58               177
1045  9 40          MLC   @ERROR@,331                                            7  2448  M 81Y 331           177
1046  9 41          W                                                            1  2455  2                   177
1047  9 42          CC    1                                                      2  2456  F 1                 178
1048  9 43   RHL6   NOP   FL1-12        PRESS START TO USE TAPE AS IS OR...      4  2458  N I78               178
1049  9 44          NOP   SAMHL    REPLACE TAPE, PRESS START/RESET, AND START    4  2462  N L31               178
1050  9 45          B     0000                                                   4  2466  B 000               178
1051  9 46   STOP   B     0                                                      4  2470  B 000               178
1052  9 47          LCA   SHARP,MODFY        RESET MODIFY ROUTINE                7  2474  L 182 11Z           178
1053  9 48   HALT   BCE   NOPA,REWNDT&3,0    BR IF INPUT FILE HAS EXPIRED        8  2481  B N45 !70 0         178
1054  9 49          BCE   NOPB,REWNDT&3,0                                        8  2489  B N67 !70 0         179
1055  9 50          BCE   NOPC,REWNDT&3,0                                        8  2497  B N82 !70 0         179
1056  9 51          BCE   NOPD,REWNDT&3,0                                        8  2505  B O11 !70 0         179
1057  9 52          MLC   BEE,EB-4                                               7  2513  M 193 938           179
1058  9 53          MLC   BEE,EA-4                                               7  2520  M 193 |50           179
1059  9 54          MLC   BEE,EC-4                                               7  2527  M 193 /30           180
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                 SFX CT  LOCN  INSTRUCTION TYPE  CARD

1060  9 55          MLC   BEE,ED-4                                                      7  2534  M 193 /74            180
1061  9 56          B     BTOO                                                          4  2541  B O39                180
1062  9 57   NOPA   MLC   BEE,M0103&4         CLOSE OUT COMPARE LINE ON EOF             7  2545  M 193 830            180
1063  9 58          LCA   B850,CA-1           ON AN INPUT FILE                          7  2552  L 196 981            180
1064  9 59          SW    EA&11                                                         4  2559  , |65                180
1065  9 60          B     BTOO                                                          4  2563  B O39                181
1066  9 61   NOPB   MLC   BEE,M0103                                                     7  2567  M 193 826            181
1067  9 62          SW    EB&11                                                         4  2574  , 953                181
1068  9 63          B     ATOO                                                          4  2578  B O51                181
1069  9 64   NOPC   MLC   BEE,CB-4                                                      7  2582  M 193 866            181
1070  9 65          MLC   BEE,CA-4                                                      7  2589  M 193 978            181
1071  9 66          MLC   BEE,DC-4                                                      7  2596  M 193 |94            182
1072  9 67          SW    EC&11                                                         4  2603  , /45                182
1073  9 68          B     BTOO                                                          4  2607  B O39                182
1074  9 69   NOPD   MLC   BEE,DB-4                                                      7  2611  M 193 902            182
1075  9 70          MLC   BEE,DA-4                                                      7  2618  M 193 |14            182
1076  9 71          MLC   BEE,DC-8                                                      7  2625  M 193 |90            182
1077  9 72          MLC   BEE,ED-8                                                      7  2632  M 193 /70            183
1078  9 73   BTOO   BCE   ATOO,M0103,B        START CHECKING FOR EOJ                    8  2639  B O51 826 B          183
1079  9 74          B     M0103                                                         4  2647  B 826                183
1080  9 75   ATOO   BCE   CTOO,M0103&4,B                                                8  2651  B O63 830 B          183
1081  9 76          B     M0103                                                         4  2659  B 826                183
1082  9 77   CTOO   BCE   DTOO,DC-4,B                                                   8  2663  B O75 |94 B          183
1083  9 78          B     M0105                                                         4  2671  B O99                184
1084  9 79   DTOO   BCE   ETOO,ED-8,B                                                   8  2675  B O87 /70 B          184
1085  9 80          B     M0401                                                         4  2683  B |75                184
1086  9 81   ETOO   BCE   PAD,ED-4,B                                                    8  2687  B 61S /74 B          184
1087  9 82          B     PUTE                                                          4  2695  B G17                184
1088  9 83   M0105  SBR   LOOPC&3,DC-8                                                  7  2699  H C90 |90            184
1089  9 84          BCE   M0401,AB-4,B                                                  8  2706  B |75 830 B          185
1090  9 85          B     M0106                                                         4  2714  B 963                185
1091  9 86   M0402  BCE   ETOO,DC-4,B                                                   8  2718  B O87 |94 B          185
1092  9 87          B     M0404                                                         4  2726  B /15                185
1093  9 88   RCDLNB DCW   @   @               CURRENT RECORD LENGTH B FILE              3  2732                       185
1094  9 89   PUTB   MA    RCDLNB,OPTBL        ADD RECORD LENGTH TO OUTPUT CONST         7  2733  # P32 388            185
1095  9 90          BWZ   WRITE,OPTBL,2       BRANCH IF OUTPUT AREA FULL                8  2740  V 17/ 388 2          186
1096  9 91          NOP   SEQCK               BRANCH FOR SEQUENCE CHECK.                4  2748  N 28W                186
1097  9 92          MA    RCDLNB,BLKCNT       UPDATE MOVE TO OUTPUT INSTRUCTION         7  2752  # P32 58|            186
1098  9 93          MA    RCDLNB,MOVEB&3                                                7  2759  # P32 P83            186
1099  9 94          MA    RCDLNB,OPTBLO                                                 7  2766  # P32 391            186
1100  9 95          MLC   OPTBLO,MOVEB&6                                                7  2773  M 391 P86            187
1101  9 96   MOVEB  LCA   0000,0000           MOVE RECORD TO OUTPUT AREA                7  2780  L 000 000            187
1102  9 97          LCA                                                                 1  2787  L                    187
1103  9 98          CHAIN 10                                                                                 MACRO
1104                LCA                                                                 1  2788  L           GEN      187
1105                LCA                                                                 1  2789  L           GEN      187
1106                LCA                                                                 1  2790  L           GEN      187
1107                LCA                                                                 1  2791  L           GEN      187
1108                LCA                                                                 1  2792  L           GEN      188
1109                LCA                                                                 1  2793  L           GEN      188
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

1110                LCA                                                              1  2794  L           GEN    188
1111                LCA                                                              1  2795  L           GEN    188
1112                LCA                                                              1  2796  L           GEN    188
1113                LCA                                                              1  2797  L           GEN    188
1114  9 99          NOP                                                              1  2798  N                  188
1115 10 00          SBR   COMSQ&6                                                    4  2799  H 31X              189
1116 10 01          A     K1,RCCNT            INCREMENT RECORD COUNT                 7  2803  A 190 27V          189
1117 10 02          C     MOVEB&3,IPTBLB                                             7  2810  C P83 R06          189
1118 10 03          BE    READB              BRANCH IF INPUT AREA EMPTY              5  2817  B R12 S            189
1119 10 04   GETB   SBR   CTLRBB-3,RCDLNB    GET NEXT RECORD                         7  2822  H 519 P32          189
1120 10 05          MLC   CTLRBB,MODFY&6                                             7  2829  M 522 12V          189
1121 10 06          SW    MOVCTL&1                                                   4  2836  , 14Z              190
1122 10 07          MLC   GETB&10,MOVCTL&3                                           7  2840  M Q32 15/          190
1123 10 08          CW    MOVCTL&1                                                   4  2847  ) 14Z              190
1124 10 09          B     RESET               UPDATE COMPARE INSTRUCTIONS            4  2851  B 10Y              190
1125 10 10          LCA   SHARP,MODFY                                                7  2855  L 182 11Z          190
1126 10 11          MZ    K1,INPTB-1                                                 7  2862  Y 190 491          190
1127 10 12          B     SETZN              BRANCH IF VLR TO CONVERT RLI            4  2869  B 35T              190
1128 10 13          MLC   MOVEB&3,X1                                                 7  2873  M P83 089          191
1129 10 14          NOP   1&X1                                                       4  2880  N 0|1              191
1130 10 15          SW    1&X1,0&X1          SET WORD MARKS IN RECORD                7  2884  , 0|1 0|0          191
1131 10 16          B     GENSW                                                      4  2891  B 45/              191
1132 10 17   LOOPB  B     START&27           EXIT TO COMPARE LOOP                    4  2895  B 812              191
1133 10 18          DCW   #5             TOTAL NO OF BLOCKS READ FROM FILE B         5  2903                     191
1134 10 19   IPTBLB DCW   @   @              END ADDRESS OF CURRENT INPUT AREA       3  2906                     191
1135 10 20   IPTB   DCW   @     @            5-CHARACTER BEGINNING ADDRESS           5  2911                     192
1136 10 21   READB  SBR   CTLRBB-3,INPTB     INITIALIZE TAPE READ ROUTINE            7  2912  H 519 492          192
1137 10 22          MLC   INPTB,MOVEB&3      TO GET NEXT TAPE BLOCK                  7  2919  M 492 P83          192
1138 10 23          MLC   INPTB,X3                                                   7  2926  M 492 099          192
1139 10 24          MZ    EM,INPTB-1                                                 7  2933  Y 363 491          192
1140 10 25          LCA   EM,MODFY                                                   7  2940  L 363 11Z          193
1141 10 26          MLNS  TU5,RDTAP&3                                                7  2947  D 10X 00U          193
1142 10 27          MLC   INPTB,LEIPA                                                7  2954  M 492 79U          193
1143 10 28          MLC   IPTBLB,REIPA                                               7  2961  M R06 79/          193
1144 10 29          B     READ                                                       4  2968  B I60              193
1145 10 30          B     GETB&7                                                     4  2972  B Q29              193
1146 10 31   RCDLNA DCW   @   @              CURRENT RECORD LENGTH A FILE            3  2978                     193
1147 10 32   PUTA   MA    RCDLNA,OPTBL       ADD RECORD LENGTH TO OUTPUT CONST       7  2979  # R78 388          194
1148 10 33          BWZ   WRITE,OPTBL,2      BRANCH IF OUTPUT AREA FULL              8  2986  V 17/ 388 2        194
1149 10 34          NOP   SEQCK              BRANCH FOR SEQUENCE CHECK.              4  2994  N 28W              194
1150 10 35          MA    RCDLNA,BLKCNT      UPDATE MOVE TO OUTPUT INSTRUCTION       7  2998  # R78 58|          194
1151 10 36          MA    RCDLNA,MOVEA&3                                             7  3005  # R78 ?29          194
1152 10 37          MA    RCDLNA,OPTBLO                                              7  3012  # R78 391          195
1153 10 38          MLC   OPTBLO,MOVEA&6                                             7  3019  M 391 ?32          195
1154 10 39   MOVEA  LCA   0000,0000          MOVE RECORD TO OUTPUT AREA              7  3026  L 000 000          195
1155 10 40          LCA                                                              1  3033  L                  195
1156 10 41          CHAIN 10                                                                              MACRO
1157                LCA                                                              1  3034  L           GEN    195
1158                LCA                                                              1  3035  L           GEN    195
1159                LCA                                                              1  3036  L           GEN    195
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1160               LCA                                                          1  3037  L           GEN    196
1161               LCA                                                          1  3038  L           GEN    196
1162               LCA                                                          1  3039  L           GEN    196
1163               LCA                                                          1  3040  L           GEN    196
1164               LCA                                                          1  3041  L           GEN    196
1165               LCA                                                          1  3042  L           GEN    196
1166               LCA                                                          1  3043  L           GEN    196
1167 10 42         NOP                                                          1  3044  N                  197
1168 10 43         SBR   COMSQ&6                                                4  3045  H 31X              197
1169 10 44         A     K1,RCCNT           INCREMENT RECORD COUNT              7  3049  A 190 27V          197
1170 10 45         C     MOVEA&3,IPTBLA                                         7  3056  C ?29 A52          197
1171 10 46         BE    READA             BRANCH IF INPUT AREA EMPTY           5  3063  B A58 S            197
1172 10 47  GETA   SBR   CTLRAA-3,RCDLNA   GET NEXT RECORD                      7  3068  H 504 R78          197
1173 10 48         MLC   CTLRAA,MODFY&6                                         7  3075  M 507 12V          197
1174 10 49         SW    MOVCTL&1                                               4  3082  , 14Z              198
1175 10 50         MLC   GETA&10,MOVCTL&3                                       7  3086  M ?78 15/          198
1176 10 51         CW    MOVCTL&1                                               4  3093  ) 14Z              198
1177 10 52         B     RESET              UPDATE COMPARE INSTRUCTIONS         4  3097  B 10Y              198
1178 10 53         LCA   SHARP,MODFY                                            7  3101  L 182 11Z          198
1179 10 54         MZ    K1,INPTA-1                                             7  3108  Y 190 488          198
1180 10 55         B     SETZN             BRANCH IF VLR TO CONVERT RLI         4  3115  B 35T              198
1181 10 56         MLC   MOVEA&3,X1                                             7  3119  M ?29 089          199
1182 10 57         NOP   1&X1                                                   4  3126  N 0|1              199
1183 10 58         SW    1&X1,0&X1         SET WORD MARKS IN RECORD             7  3130  , 0|1 0|0          199
1184 10 59         B     GENSW                                                  4  3137  B 45/              199
1185 10 60  LOOPA  B     START&16          EXIT TO COMPARE LOOP                 4  3141  B 801              199
1186 10 61         DCW   #5           TOTAL NO OF BLOCKS READ FROM FILE A       5  3149                     199
1187 10 62  IPTBLA DCW   @   @             END ADDRESS OF CURRECT INPUT AREA    3  3152                     199
1188 10 63  IPTA   DCW   @     @           5-CHARACTER BEGINNING ADDRESS        5  3157                     200
1189 10 64  READA  SBR   CTLRAA-3,INPTA    INITIALIZE TAPE READ ROUTINE         7  3158  H 504 489          200
1190 10 65         MLC   INPTA,MOVEA&3     TO GET NEXT TAPE BLOCK               7  3165  M 489 ?29          200
1191 10 66         MLC   INPTA,X3                                               7  3172  M 489 099          200
1192 10 67         MZ    EM,INPTA-1                                             7  3179  Y 363 488          200
1193 10 68         LCA   EM,MODFY                                               7  3186  L 363 11Z          201
1194 10 69         MLNS  TU4,RDTAP&3                                            7  3193  D 10W 00U          201
1195 10 70         MLC   INPTA,LEIPA                                            7  3200  M 489 79U          201
1196 10 71         MLC   IPTBLA,REIPA                                           7  3207  M A52 79/          201
1197 10 72         B     READ                                                   4  3214  B I60              201
1198 10 73         B     GETA&7                                                 4  3218  B ?75              201
1199 10 74  RCDLNC DCW   @   @             CURRENT RECORD LENGTH C FILE         3  3224                     201
1200 10 75  PUTC   MA    RCDLNC,OPTBL      ADD RECORD LENGTH TO OUTPUT CONST    7  3225  # B24 388          202
1201 10 76         BWZ   WRITE,OPTBL,2     BRANCH IF OUTPUT AREA FULL           8  3232  V 17/ 388 2        202
1202 10 77         NOP   SEQCK             BRANCH FOR SEQUENCE CHECK.           4  3240  N 28W              202
1203 10 78         MA    RCDLNC,BLKCNT     UPDATE MOVE TO OUTPUT INSTRUCTION    7  3244  # B24 58|          202
1204 10 79         MA    RCDLNC,MOVEC&3                                         7  3251  # B24 B75          202
1205 10 80         MA    RCDLNC,OPTBLO                                          7  3258  # B24 391          203
1206 10 81         MLC   OPTBLO,MOVEC&6                                         7  3265  M 391 B78          203
1207 10 82  MOVEC  LCA   0000,0000          MOVE RECORD TO OUTPUT AREA          7  3272  L 000 000          203
1208 10 83         LCA                                                          1  3279  L                  203
1209 10 84         CHAIN 10                                                                          MACRO
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 SEQ PG LIN  LABEL  OP    OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

1210                LCA                                                            1  3280  L           GEN    203
1211                LCA                                                            1  3281  L           GEN    203
1212                LCA                                                            1  3282  L           GEN    203
1213                LCA                                                            1  3283  L           GEN    204
1214                LCA                                                            1  3284  L           GEN    204
1215                LCA                                                            1  3285  L           GEN    204
1216                LCA                                                            1  3286  L           GEN    204
1217                LCA                                                            1  3287  L           GEN    204
1218                LCA                                                            1  3288  L           GEN    204
1219                LCA                                                            1  3289  L           GEN    204
1220 10 85          NOP                                                            1  3290  N                  205
1221 10 86          SBR   COMSQ&6                                                  4  3291  H 31X              205
1222 10 87          A     K1,RCCNT             INCREMENT RECORD COUNT              7  3295  A 190 27V          205
1223 10 88          C     MOVEC&3,IPTBLC                                           7  3302  C B75 C98          205
1224 10 89          BE    READC               BRANCH IF INPUT AREA EMPTY           5  3309  B D04 S            205
1225 10 90   GETC   SBR   CTLRCC-3,RCDLNC     GET NEXT RECORD                      7  3314  H 534 B24          205
1226 10 91          MLC   CTLRCC,MODFY&6                                           7  3321  M 537 12V          205
1227 10 92          SW    MOVCTL&1                                                 4  3328  , 14Z              206
1228 10 93          MLC   GETC&10,MOVCTL&3                                         7  3332  M C24 15/          206
1229 10 94          CW    MOVCTL&1                                                 4  3339  ) 14Z              206
1230 10 95          B     RESET                UPDATE COMPARE INSTRUCTIONS         4  3343  B 10Y              206
1231 10 96          LCA   SHARP,MODFY                                              7  3347  L 182 11Z          206
1232 10 97          MZ    K1,INPTC-1                                               7  3354  Y 190 494          206
1233 10 98          B     SETZN               BRANCH IF VLR TO CONVERT RLI         4  3361  B 35T              206
1234 10 99          MLC   MOVEC&3,X1                                               7  3365  M B75 089          207
1235 11 00          NOP   1&X1                                                     4  3372  N 0|1              207
1236 11 01          SW    1&X1,0&X1           SET WORD MARKS IN RECORD             7  3376  , 0|1 0|0          207
1237 11 02          B     GENSW                                                    4  3383  B 45/              207
1238 11 03   LOOPC  B     START&12            EXIT TO COMPARE LOOP                 4  3387  B 797              207
1239 11 04          DCW   #5              TOTAL NO OF BLOCKS READ FROM FILE C      5  3395                     207
1240 11 05   IPTBLC DCW   @   @               END ADDRESS OF CURRECT INPUT AREA    3  3398                     207
1241 11 06   IPTC   DCW   @     @             5-CHARACTER BEGINNING ADDRESS        5  3403                     208
1242 11 07   READC  SBR   CTLRCC-3,INPTC      INITIALIZE TAPE READ ROUTINE         7  3404  H 534 495          208
1243 11 08          MLC   INPTC,MOVEC&3       TO GET NEXT TAPE BLOCK               7  3411  M 495 B75          208
1244 11 09          MLC   INPTC,X3                                                 7  3418  M 495 099          208
1245 11 10          MZ    EM,INPTC-1                                               7  3425  Y 363 494          208
1246 11 11          LCA   EM,MODFY                                                 7  3432  L 363 11Z          209
1247 11 12          MLNS  TU3,RDTAP&3                                              7  3439  D 10V 00U          209
1248 11 13          MLC   INPTC,LEIPA                                              7  3446  M 495 79U          209
1249 11 14          MLC   IPTBLC,REIPA                                             7  3453  M C98 79/          209
1250 11 15          B     READ                                                     4  3460  B I60              209
1251 11 16          B     GETC&7                                                   4  3464  B C21              209
1252 11 17   RCDLND DCW   @   @               CURRENT RECORD LENGTH D FILE         3  3470                     209
1253 11 18   PUTD   MA    RCDLND,OPTBL        ADD RECORD LENGTH TO OUTPUT CONST    7  3471  # D70 388          210
1254 11 19          BWZ   WRITE,OPTBL,2       BRANCH IF OUTPUT AREA FULL           8  3478  V 17/ 388 2        210
1255 11 20          NOP   SEQCK               BRANCH FOR SEQUENCE CHECK.           4  3486  N 28W              210
1256 11 21          MA    RCDLND,BLKCNT       UPDATE MOVE TO OUTPUT INSTRUCTION    7  3490  # D70 58|          210
1257 11 22          MA    RCDLND,MOVED&3                                           7  3497  # D70 E21          210
1258 11 23          MA    RCDLND,OPTBLO                                            7  3504  # D70 391          211
1259 11 24          MLC   OPTBLO,MOVED&6                                           7  3511  M 391 E24          211
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                 SFX CT  LOCN  INSTRUCTION TYPE  CARD

1260 11 25   MOVED  LCA   0000,0000         MOVE RECORD TO OUTPUT AREA                   7  3518  L 000 000          211
1261 11 26          LCA                                                                  1  3525  L                  211
1262 11 27          CHAIN 10                                                                                MACRO
1263                LCA                                                                  1  3526  L             GEN    211
1264                LCA                                                                  1  3527  L             GEN    211
1265                LCA                                                                  1  3528  L             GEN    211
1266                LCA                                                                  1  3529  L             GEN    212
1267                LCA                                                                  1  3530  L             GEN    212
1268                LCA                                                                  1  3531  L             GEN    212
1269                LCA                                                                  1  3532  L             GEN    212
1270                LCA                                                                  1  3533  L             GEN    212
1271                LCA                                                                  1  3534  L             GEN    212
1272                LCA                                                                  1  3535  L             GEN    212
1273 11 28          NOP                                                                  1  3536  N                  213
1274 11 29          SBR   COMSQ&6                                                        4  3537  H 31X              213
1275 11 30          A     K1,RCCNT           INCREMENT RECORD COUNT                      7  3541  A 190 27V          213
1276 11 31          C     MOVED&3,IPTBLD                                                 7  3548  C E21 F44          213
1277 11 32          BE    READD             BRANCH IF INPUT AREA EMPTY                   5  3555  B F50 S            213
1278 11 33   GETD   SBR   CTLRDD-3,RCDLND   GET NEXT RECORD                              7  3560  H 549 D70          213
1279 11 34          MLC   CTLRDD,MODFY&6                                                 7  3567  M 552 12V          213
1280 11 35          SW    MOVCTL&1                                                       4  3574  , 14Z              214
1281 11 36          MLC   GETD&10,MOVCTL&3                                               7  3578  M E70 15/          214
1282 11 37          CW    MOVCTL&1                                                       4  3585  ) 14Z              214
1283 11 38          B     RESET              UPDATE COMPARE INSTRUCTIONS                 4  3589  B 10Y              214
1284 11 39          LCA   SHARP,MODFY                                                    7  3593  L 182 11Z          214
1285 11 40          MZ    K1,INPTD-1                                                     7  3600  Y 190 497          214
1286 11 41          B     SETZN             BRANCH IF VLR TO CONVERT RLI                 4  3607  B 35T              214
1287 11 42          MLC   MOVED&3,X1                                                     7  3611  M E21 089          215
1288 11 43          NOP   1&X1                                                           4  3618  N 0|1              215
1289 11 44          SW    1&X1,0&X1         SET WORD MARKS IN RECORD                     7  3622  , 0|1 0|0          215
1290 11 45          B     GENSW                                                          4  3629  B 45/              215
1291 11 46   LOOPD  B     START&8           EXIT TO COMPARE LOOP                         4  3633  B 793              215
1292 11 47          DCW   #5            TOTAL NO OF BLOCKS READ FROM FILE D              5  3641                     215
1293 11 48   IPTBLD DCW   @   @             END ADDRESS OF CURRENT INPUT AREA            3  3644                     215
1294 11 49   IPTD   DCW   @     @           5-CHARACTER BEGINNING ADDRESS                5  3649                     216
1295 11 50   READD  SBR   CTLRDD-3,INPTD    INITIALIZE TAPE READ ROUTINE                 7  3650  H 549 498          216
1296 11 51          MLC   INPTD,MOVED&3     TO GET NEXT TAPE BLOCK                       7  3657  M 498 E21          216
1297 11 52          MLC   INPTD,X3                                                       7  3664  M 498 099          216
1298 11 53          MZ    EM,INPTD-1                                                     7  3671  Y 363 497          216
1299 11 54          LCA   EM,MODFY                                                       7  3678  L 363 11Z          217
1300 11 55          MLNS  TU2,RDTAP&3                                                    7  3685  D 10U 00U          217
1301 11 56          MLC   INPTD,LEIPA                                                    7  3692  M 498 79U          217
1302 11 57          MLC   IPTBLD,REIPA                                                   7  3699  M F44 79/          217
1303 11 58          B     READ                                                           4  3706  B I60              217
1304 11 59          B     GETD&7                                                         4  3710  B E67              217
1305 11 60   RCDLNE DCW   @   @             CURRENT RECORD LENGTH E FILE                 3  3716                     217
1306 11 61   PUTE   MA    RCDLNE,OPTBL      ADD RECORD LENGTH TO OUTPUT CONST            7  3717  # G16 388          218
1307 11 62          BWZ   WRITE,OPTBL,2     BRANCH IF OUTPUT AREA FULL                   8  3724  V 17/ 388 2        218
1308 11 63          NOP   SEQCK             BRANCH FOR SEQUENCE CHECK.                   4  3732  N 28W              218
1309 11 64          MA    RCDLNE,BLKCNT      UPDATE MOVE TO OUTPUT INSTRUCTIO            7  3736  # G16 58|          218
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 SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

1310 11 65          MA    RCDLNE,MOVEE&3                                         7  3743  # G16 G67          218
1311 11 66          MA    RCDLNE,OPTBLO                                          7  3750  # G16 391          219
1312 11 67          MLC   OPTBLO,MOVEE&6                                         7  3757  M 391 G70          219
1313 11 68   MOVEE  LCA   0000,0000          MOVE RECORD TO OUTPUT AREA          7  3764  L 000 000          219
1314 11 69          LCA                                                          1  3771  L                  219
1315 11 70          CHAIN 10                                                                         MACRO
1316                LCA                                                          1  3772  L          GEN     219
1317                LCA                                                          1  3773  L          GEN     219
1318                LCA                                                          1  3774  L          GEN     219
1319                LCA                                                          1  3775  L          GEN     220
1320                LCA                                                          1  3776  L          GEN     220
1321                LCA                                                          1  3777  L          GEN     220
1322                LCA                                                          1  3778  L          GEN     220
1323                LCA                                                          1  3779  L          GEN     220
1324                LCA                                                          1  3780  L          GEN     220
1325                LCA                                                          1  3781  L          GEN     220
1326 11 71          NOP                                                          1  3782  N                  221
1327 11 72          SBR   COMSQ&6                                                4  3783  H 31X              221
1328 11 73          A     K1,RCCNT            INCREMENT RECORD COUNT             7  3787  A 190 27V          221
1329 11 74          C     MOVEE&3,IPTBLE                                         7  3794  C G67 H90          221
1330 11 75          BE    READE              BRANCH IF INPUT AREA EMPTY          5  3801  B H96 S            221
1331 11 76   GETE   SBR   CTLREE-3,RCDLNE    GET NEXT RECORD                     7  3806  H 564 G16          221
1332 11 77          MLC   CTLREE,MODFY&6                                         7  3813  M 567 12V          221
1333 11 78          SW    MOVCTL&1                                               4  3820  , 14Z              222
1334 11 79          MLC   GETE&10,MOVCTL&3                                       7  3824  M H16 15/          222
1335 11 80          CW    MOVCTL&1                                               4  3831  ) 14Z              222
1336 11 81          B     RESET               UPDATE COMPARE INSTRUCTIONS        4  3835  B 10Y              222
1337 11 82          LCA   SHARP,MODFY                                            7  3839  L 182 11Z          222
1338 11 83          MZ    K1,INPTE-1                                             7  3846  Y 190 500          222
1339 11 84          B     SETZN              BRANCH IF VLR TO CONVERT RLI        4  3853  B 35T              222
1340 11 85          MLC   MOVEE&3,X1                                             7  3857  M G67 089          223
1341 11 86          NOP   1&X1                                                   4  3864  N 0|1              223
1342 11 87          SW    1&X1,0&X1          SET WORD MARKS IN RECORD            7  3868  , 0|1 0|0          223
1343 11 88          B     GENSW                                                  4  3875  B 45/              223
1344 11 89   LOOPE  B     START&4            EXIT TO COMPARE LOOP                4  3879  B 789              223
1345 11 90          DCW   #5             TOTAL NO OF BLOCKS READ FROM FILE E     5  3887                     223
1346 11 91   IPTBLE DCW   @   @              END ADDRESS OF CURRECT INPUT AREA   3  3890                     223
1347 11 92   IPTE   DCW   @     @            5-CHARACTER BEGINNGNG ADDRESS       5  3895                     224
1348 11 93   READE  SBR   CTLREE-3,INPTE     INITIALIZE TAPE READ ROUTINE        7  3896  H 564 501          224
1349 11 94          MLC   INPTE,MOVEE&3      TO GET NEXT TAPE BLOCK              7  3903  M 501 G67          224
1350 11 95          MLC   INPTE,X3                                               7  3910  M 501 099          224
1351 11 96          MZ    EM,INPTE-1                                             7  3917  Y 363 500          224
1352 11 97          LCA   EM,MODFY                                               7  3924  L 363 11Z          225
1353 11 98          MLNS  TU1,RDTAP&3                                            7  3931  D 10T 00U          225
1354 11 99          MLC   INPTE,LEIPA                                            7  3938  M 501 79U          225
1355 12 00          MLC   IPTBLE,REIPA                                           7  3945  M H90 79/          225
1356 12 01          B     READ                                                   4  3952  B I60              225
1357 12 02          B     GETE&7                                                 4  3956  B H13              225
1358 12 03   READ   SBR   X1             READ INPUT TAPE ROUTINE                 4  3960  H 089              226
1359 12 04          NOP   @I9F@,X3                                               7  3964  N 82/ 099          226
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

1360 12 05          MA    I3H,X1        PUT ADDR OF BLOCK COUNT INTO X1            7  3971  # 357 089          226
1361 12 06          S     COUNTT                                                   4  3978  S 378              226
1362 12 07          S     WLRCT                                                    4  3982  S U8T              226
1363 12 08          NOP   CLRTN                                                    4  3986  N 71Y              226
1364 12 09   FL1    NOP   FLWLR                                                    4  3990  N S3V              226
1365 12 10          MLC   BCKT,14&X3                                               7  3994  M 17| 0A4          227
1366 12 11   RDTAP  RTW   0,1&X3        READ INPUT TAPE                            8  4001  L %U0 0?1 R        227
1367 12 12          SBR   SVGMPO        SAVE POSITION OF GROUP MARK &1             4  4009  H U8W              227
1368 12 13          MA    N99,SVGMPO    MOD TO CONTAIN POS  OF GM                  7  4013  # 199 U8W          227
1369 12 14          BEF   BADTAP             MODIFIED FOR MAIN LINE MERGE          5  4020  B 82W K            227
1370 12 15   MLNOIS BCE   NSE,14&X3,                                               8  4025  B 15Z 0A4          227
1371 12 16          SBR   BKSPC&8,RDTAP                                            7  4033  H V74 00/          228
1372 12 17          BER   CHECK         CHECK TRANSMISSION ERROR                   5  4040  B V44 L            228
1373 12 18   FL2    NOP   FWLRCK                                                   4  4045  N S6|              228
1374 12 19   VL1    NOP   VWLRCK                                                   4  4049  N T7X              228
1375 12 20          MLC   SVGMPO,3&X1   EXECUTED ONLY FOR VL UNBLKED REC.          7  4053  M U8W 0|3          228
1376 12 21          MA    N99,3&X1       SAVE END  OF RECORD POS                   7  4060  # 199 0|3          228
1377 12 22   CONTIN MLC   SVGMPO,*&7                                               7  4067  M U8W 08|          229
1378 12 23          MLC   BLANKS-12,0                                              7  4074  M 40U 000          229
1379 12 24          A     K1,0&X1       COUNT NO OF BLOCKS READ IN                 7  4081  A 190 0|0          229
1380 12 25   **
1381 12 26   EXIT2  NOP   000           USER EXIT NUMBER TWO                       4  4088  N 000              229
1382 12 27   **
1383 12 28          MA    THREE,X1      PUT RE ADDR OF INPUT AREA INTO X1          7  4092  # 084 089          229
1384 12 29          B     66&X1         RETURN TO MERGING                          4  4099  B 0W6              229
1385 12 30   TU1    DCW   @ @                INPUT TAPE UNIT NUMBERS               1  4103                     229
1386 12 31   TU2    DCW   @ @                                                      1  4104                     230
1387 12 32   TU3    DCW   @ @                                                      1  4105                     230
1388 12 33   TU4    DCW   @ @                                                      1  4106                     230
1389 12 34   TU5    DCW   @ @                                                      1  4107                     230
1390 12 35   RESET  SBR   RETURN&3           UPDATE COMPARE LOOP                   4  4108  H 13W              230
1391 12 36          MLC   SIX,COUNTR                                               7  4112  M 091 375          230
1392 12 37   MODFY  MA    0000,0000                                                7  4119  # 000 000          230
1393 12 38          A     K1,COUNTR                                                7  4126  A 190 375          231
1394 12 39   RETURN BCE   0000,COUNTR,0                                            8  4133  B 000 375 0        231
1395 12 40          MA    THREE,MOVCTL&3                                           7  4141  # 084 15/          231
1396 12 41   MOVCTL MLC   0000,MODFY&6                                             7  4148  M 000 12V          231
1397 12 42          B     MODFY                                                    4  4155  B 11Z              231
1398 12 43   NSE    LCA   BLANKS,13&X3       CLEAR FIRST 12 CHARACTERS             7  4159  L 41W 0A3          232
1399 12 44          B     RDTAP              BRANCH TO READ TAPE                   4  4166  B 00/              232
1400 12 45   BCKT   DCW   @ @           BUCKET WILL CONTAIN AN A BIT               1  4170                     232
1401 12 46   WRITE  SBR   RTNRD&3            WRITE TAPE ROUTINE                    4  4171  H 26X              232
1402 12 47          NOP   BLOKCT             BRANCH IF VLR                         4  4175  N 49V              232
1403 12 48   **
1404 12 49   EXIT3  NOP   000                USER EXIT NUMBER THREE                4  4179  N 000              232
1405 12 50   **
1406 12 51          SBR   WTERRD&10,WTERRB                                         7  4183  H U47 U86          232
1407 12 52          MLC   OPTBLO,X3                                                7  4190  M 391 099          233
1408 12 53          MLC   K000,WLCTR                                               7  4197  M 410 V43          233
1409 12 54          LCA   GMWM,1&X3                                                7  4204  L 334 0?1          233
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

1410 12 55  WTAPE  WT    %U0,0               WRITE TAPE                           8  4211  M %U0 000 W         233
1411 12 56         BER   WHLERR                                                   5  4219  B U24 L             233
1412 12 57         BEF   EOFOPT                                                   5  4224  B V75 K             233
1413 12 58         A     K1,OBCTR            COUNT NO OF BLOCKS OUTPUT            7  4229  A 190 343           234
1414 12 59  REINIT MLC   OUTPUT,OPTBLO       REINITIALIZE OUTPUT AREA CONSTANT    7  4236  M 394 391           234
1415 12 60         MA    N99,OPTBLO                                               7  4243  # 199 391           234
1416 12 61         MLC   OPTBLS,OPTBL                                             7  4250  M 385 388           234
1417 12 62         MA    I5E,RTNRD&3                                              7  4257  # 45| 26X           234
1418 12 63  RTNRD  B     0000                 RETURN TO PUTX ROUTINE              4  4264  B 000               234
1419 12 64  RCCNT  DCW   @        @          RECORD COUNT                         8  4275                      235
1420 12 65  REC    DC    @ REC PROC@                                              9  4284                      235
1421 12 66         DCW   @}@                                                      1  4285                      235
1422 12 67  SEQCK  SBR   X1                  SEQUENCE CHECK ROUTINE               4  4286  H 089               235
1423 12 68         MA    31&X1,COMSQ&3                                            7  4290  # 0T1 31U           235
1424 12 69         MLC   X1,BACK&3                                                7  4297  M 089 33Y           235
1425 12 70         MZ    EM,COMSQ&5                                               7  4304  Y 363 31W           236
1426 12 71  COMSQ  C     0&X2,0&X2           COMPARE NEXT RECORD OUT WITH         7  4311  C 0!0 0!0           236
1427 12 72         BH    SEQER               LAST RECORD MOVED TO OUTPUT AREA     5  4318  B 33Z U             236
1428 12 73         BE    EQUAL                                                    5  4323  B /99 S             236
1429 12 74         MLC   COMPSQ,COMSQ&6      REINITIALIZE SEQ. CK. COMPARE        7  4328  M 35S 31X           236
1430 12 75  BACK   B     0000                 EXIT TO PUTX ROUTINE                4  4335  B 000               236
1431 12 76  SEQER  H     *-3                 SEQUENCE ERROR- HALT                 4  4339  . 33Z               236
1432 12 77         B     *-18                START-RESET,AND START TO CONTINUE    4  4343  B 32Y               237
1433 12 78  COMPSQ DCW   @0!00!0@                                                 6  4352                      237
1434 12 79  SETZN  SBR   X1             CONVERT RLI TO 3 CHARACTERS               4  4353  H 089               237
1435 12 80         MA    H7D,X1         GET LEFT ADDRESS OF OPTBLO INTO X1        7  4357  # 188 089           237
1436 12 81         MLC   53&X1,X3                                                 7  4364  M 0V3 099           237
1437 12 82  MVRLI  MLC   0&X3,2&X1      PUT CONTENTS OF OPTBLO INTO RCDLN BUKT    7  4371  M 0?0 0|2           237
1438 12 83         SAR   MZNE&3                                                   4  4378  Q 38Z               237
1439 12 84         NOP   RTNRLI                                                   4  4382  N 40|               238
1440 12 85  MZNE   MLNS  0,*&4                                                    7  4386  D 000 39W           238
1441 12 86         MZ    K1,0&X1                                                  7  4393  Y 190 0|0           238
1442 12 87  RTNRLI B     143&X1                                                   4  4400  B 1U3               238
1443 12 88  BLANKS DCW   @             @                                         13  4416                      238
1444 12 89  DECSEQ SBR   BPROG&3             IGNORE SEQ CK ON FIRST DESCENDING    4  4417  H 44X               238
1445 12 90         SBR   PUTB&18,SEQCK                                            7  4421  H P51 28W           239
1446 12 91         SBR   PUTA&18                                                  4  4428  H R97               239
1447 12 92         SBR   PUTC&18                                                  4  4432  H B43               239
1448 12 93         SBR   PUTD&18                                                  4  4436  H D89               239
1449 12 94         SBR   PUTE&18                                                  4  4440  H G35               239
1450 12 95  BPROG  B     0000                                                     4  4444  B 000               239
1451 12 96  I5E    DCW   @I8E@                                                    3  4450                      239
1452 12 97  GENSW  SBR   GENSWX&3                                                 4  4451  H 49U               240
1453 12 98         NOP   0&X1                                                     4  4455  N 0|0               240
1454 12 99         NOP   0&X1                                                     4  4459  N 0|0               240
1455 13 00         NOP   0&X1                                                     4  4463  N 0|0               240
1456 13 01         NOP   0&X1                                                     4  4467  N 0|0               240
1457 13 02         NOP   0&X1                                                     4  4471  N 0|0               240
1458 13 03         NOP   0&X1                                                     4  4475  N 0|0               240
1459 13 04         NOP   0&X1                                                     4  4479  N 0|0               241
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

1460 13 05          NOP   0&X1                                                         4  4483  N 0|0               241
1461 13 06          NOP   0&X1                                                         4  4487  N 0|0               241
1462 13 07   GENSWX B     GENSWX                                                       4  4491  B 49/               241
1463 13 08   *         THIS ROUTINE EXPANDS THE COUNT FOR BLOCKED VARIABLE
1464 13 09   *              LENGTH RECORDS TO A SIGNED FOUR CHARACTER VALUE.
1465 13 10   BLOKCT BWZ   BL2,BLKCNT-2,S     IS BLKCNT BETWEEN 1000 - 1999             8  4495  V 54U 57Y S         241
1466 13 11          BWZ   BL3,BLKCNT-2,K     IS BLKCNT BETWEEN 2000 - 2999             8  4503  V 55V 57Y K         241
1467 13 12          BWZ   BL4,BLKCNT-2,B     IS BLKCNT BETWEEN 3000 - 3999             8  4511  V 56W 57Y B         242
1468 13 13   BL1    MLZS  K1,BLKCNT-2        BLANK ANY ZONE OVER HUNDREDS POS.         7  4519  Y 190 57Y           242
1469 13 14   BLEX   LCA   BLKCNT,0           MOVE BLOCK COUNT INTO OUTPUT AREA         7  4526  L 58| 000           242
1470 13 15          ZA    BL2,BLKCNT         ALLOW FOR LENGTH OF BLKCNT                7  4533  ? 54U 58|           242
1471 13 16          B     WRITE&8            GO OUTPUT THIS BLOCK                      4  4540  B 17Z               242
1472 13 17   BL2    MLNS  K1,BLKCNT-3        CONVERT A-BIT TO 1000 VALUE               7  4544  D 190 57X           243
1473 13 18          B     BL1                                                          4  4551  B 51Z               243
1474 13 19   BL3    MLNS  K2,BLKCNT-3        CONVERT B-BIT TO 2000 VALUE               7  4555  D 095 57X           243
1475 13 20          B     BL1                                                          4  4562  B 51Z               243
1476 13 21   BL4    MLNS  K3,BLKCNT-3        CONVERT AB-BIT TO 3000 VALUE              7  4566  D 085 57X           243
1477 13 22          B     BL1                                                          4  4573  B 51Z               243
1478 13 23   BLKCNT DCW   @000D@        BLOCKED VAR RECORDS BLOCK CHAR COUNT           4  4580                      243
1479 13 24          SBR   NOPWRR&3           IGNORE 1ST BRANCH TO WRITE IF             4  4581  H 61/               244
1480 13 25          SBR   PUTB&10,WRITE      UNBLOCKED RECORDS                         7  4585  H P43 17/           244
1481 13 26          SBR   PUTA&10                                                      4  4592  H R89               244
1482 13 27          SBR   PUTC&10                                                      4  4596  H B35               244
1483 13 28          SBR   PUTD&10                                                      4  4600  H D81               244
1484 13 29          SBR   PUTE&10                                                      4  4604  H G27               244
1485 13 30   NOPWRR B     0                                                            4  4608  B 000               244
1486 13 31   PAD    CS    080                READ IN PADDING ROUTINE                   4  4612  / 080               245
1487 13 32          SW    024,056                                                      7  4616  , 024 056           245
1488 13 33          SW    063,067                                                      7  4623  , 063 067           245
1489 13 34          R     056                 EXECUTE PADDING IF NOT NOPPED            4  4630  1 056               245
1490 13 35          BCE   R056,068,B                                                   8  4634  B 64W 068 B         245
1491 13 36          B     PAD&18                                                       4  4642  B 63|               245
1492 13 37   R056   R     056                                                          4  4646  1 056               245
1493 13 38   PADCHR DCW   @ @                                                          1  4650                      246
1494 13 39   PDBKT  DCW   @0@                                                          1  4651                      246
1495 13 40   BKTSV  DCW   @     @                                                      5  4656                      246
1496 13 41   TSTBKT DCW   @ @                                                          1  4657                      246
1497 13 42   SVBKT  DCW   @ @                                                          1  4658                      246
1498 13 43   TLRMSG DA    1X58,G                                                          4659   4716               246
                    DCW   @}@                                                          1  4717            GMARK   247
1499 13 44          ORG   TLRMSG                                                                 4659
1500 13 45          DCW   @TAPE # 0 ACTUAL BLOCK COUNT 00000  LABEL BLOCK COU@        50  4708                      249
1501 13 46          DC    @NT @                                                        3  4711                      249
1502 13 47          DCW   @00000@                                                      5  4716                      249
1503 13 48          ORG   *&1                                                                    4718
1504 13 49   CLRTN  SBR   CLRTNX&3           PREPARE RETURN                            4  4718  H 78Y               250
1505 13 50          MZ    K1,LEIPA-1                                                   7  4722  Y 190 79T           250
1506 13 51          MLC   LEIPA,CLR2&3                                                 7  4729  M 79U 74W           250
1507 13 52          MA    K001,CLR2&3                                                  7  4736  # 397 74W           250
1508 13 53   CLR2   SW    0                  SET WM IN LEFTMOST POSITION               4  4743  , 000               250
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

1509 13 54          MLC   REIPA,X2                                                 7  4747  M 79/ 094          250
1510 13 55   CLR1   S     0&X2                                                     4  4754  S 0!0              251
1511 13 56          SBR   X2                                                       4  4758  H 094              251
1512 13 57          CW    1&X2                                                     4  4762  ) 0!1              251
1513 13 58          C     LEIPA,X2                                                 7  4766  C 79U 094          251
1514 13 59          BU    CLR1                                                     5  4773  B 75U /            251
1515 13 60          MLC   CF1,X2                                                   7  4778  M 459 094          251
1516 13 61   CLRTNX B     CLRTNX                                                   4  4785  B 78V              251
1517 13 62   REIPA  DCW   #3                                                       3  4791                     252
1518 13 63   LEIPA  DCW   #3                                                       3  4794                     252
1519 13 64          LTORG *                                                                  4795              252
        720         DCW   &REWND                                                   3  4797  Z43         ADCON  252
                          @I8G@                                                    3  4800              LIT    252
        912               @1HDR @                                                  5  4805              LIT    252
                          @99@                                                     2  4807              LIT    252
        924               @RETAIN@                                                 6  4813              LIT    252
       1045               @ERROR@                                                  5  4818              LIT    253
                          @I9F@                                                    3  4821              LIT    253
1520 13 65   CLRG   DCW   @   @                                                    3  4824                     253
1521 13 66   RCMRK  DCW   @|@                                                      1  4825                     253
1522 13 67   BADTAP H     *-3              BAD TAPE, DISCONTINUE MERGE             4  4826  . 82W              253
1523 13 68   SAVX   DCW   @   @                                                    3  4832                     253
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                 SFX CT  LOCN  INSTRUCTION TYPE  CARD

1524 13 69          JOB   INITIALIZATION AND ASSIGNMENT * MERGE 7
1525 13 70          ORG   5235                                                                5235
1526 13 71   FIVE23 SBR   F23X&3              INIT EXIT INSTRUCTION                   4  5235  H T8Z                254
1527 13 72          MLC   X1,KEEPX1           SAVE CONTENTS OF X1                     7  5239  M 089 T9S            254
1528 13 73          MLC   F23X&3,X1           LOAD ADDRESS OF 5 CHAR VALUE            7  5246  M T8Z 089            254
1529 13 74          MA    @002@,X1              INTO X1.                              7  5253  # U5Z 089            254
1530 13 75          MA    THREE,F23X&3        MODIFY EXIT ADDRESS                     7  5260  # 084 T8Z            254
1531 13 76          MLC   0&X1,CMPZN&3        INIT A-FIELD OF COMPARE INSTR.          7  5267  M 0|0 T2W            254
1532 13 77          MLC   K000-2,ZNUNIT&6                                             7  5274  M 408 T6U            255
1533 13 78          MLC   K000-2,ZNHUND&6                                             7  5281  M 408 T7Y            255
1534 13 79          SBR   CMPZN&6,ZNTBL                                               7  5288  H T2Z U5W            255
1535 13 80          MA    CMPZN&3,ZNUNIT&6    INIT                                    7  5295  # T2W T6U            255
1536 13 81          MA    CMPZN&3,ZNHUND&6       AND                                  7  5302  # T2W T7Y            255
1537 13 82          MA    @I9H@,ZNHUND&6            MODIFY INSTRUCTIONS               7  5309  # U6S T7Y            256
1538 13 83          MA    @I9G@,CMPZN&3                  IN MAIN LOOP.                7  5316  # U6V T2W            256
1539 13 84   CMPZN  C     0,ZNTBL             COMPARE FOR ZONE CONFIGURATION.         7  5323  C 000 U5W            256
1540 13 85          SBR   CMPZN&6             ADJUST                                  4  5330  H T2Z                256
1541 13 86          SBR   ZNUNIT&3                  INSTRUCTIONS                      4  5334  H T6/                256
1542 13 87          SBR   ZNHUND&3                                                    4  5338  H T7V                256
1543 13 88          MA    @I9H@,CMPZN&6                                               7  5342  # U6S T2Z            257
1544 13 89          BE    ZNUNIT              IS ZONE CONFIGURATION FOUND             5  5349  B T5Y S              257
1545 13 90          B     CMPZN                 NO, GO LOOK AGAIN.                    4  5354  B T2T                257
1546 13 91   ZNUNIT MZ    0,0                 MOVE PROPER ZONE OVER UNITS POS.        7  5358  Y 000 000            257
1547 13 92          MA    N99,ZNHUND&3        ADJ. FOR HUNDREDS ZONE.                 7  5365  # 199 T7V            257
1548 13 93   ZNHUND MZ    0,0                 MOVE PROPER ZONE OVER HUND. POS.        7  5372  Y 000 000            257
1549 13 94          MLC   KEEPX1,X1           RESTORE X1 VALUE                        7  5379  M T9S 089            258
1550 13 95   F23X   B     F23X                EXIT TO MAIN LINE                       4  5386  B T8W                258
1551 13 96   KEEPX1 DCW   @   @          SAVE CONTENTS OF X1 HERE.                    3  5392                       258
1552 13 97          DCW   @11@                                                        2  5394                       258
1553 13 98          DCW   @00@                                                        2  5396                       258
1554 13 99          DCW   @Z1@                                                        2  5398                       258
1555 14 00          DCW   @01@                                                        2  5400                       258
1556 14 01          DCW   @R1@                                                        2  5402                       259
1557 14 02          DCW   @02@                                                        2  5404                       259
1558 14 03          DCW   @I1@                                                        2  5406                       259
1559 14 04          DCW   @03@                                                        2  5408                       259
1560 14 05          DCW   @1Z@                                                        2  5410                       259
1561 14 06          DCW   @04@                                                        2  5412                       259
1562 14 07          DCW   @ZZ@                                                        2  5414                       259
1563 14 08          DCW   @05@                                                        2  5416                       260
1564 14 09          DCW   @RZ@                                                        2  5418                       260
1565 14 10          DCW   @06@                                                        2  5420                       260
1566 14 11          DCW   @IZ@                                                        2  5422                       260
1567 14 12          DCW   @07@                                                        2  5424                       260
1568 14 13          DCW   @1R@                                                        2  5426                       260
1569 14 14          DCW   @08@                                                        2  5428                       260
1570 14 15          DCW   @ZR@                                                        2  5430                       261
1571 14 16          DCW   @09@                                                        2  5432                       261
1572 14 17          DCW   @RR@                                                        2  5434                       261
1573 14 18          DCW   @10@                                                        2  5436                       261
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 SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

1574 14 19          DCW   @IR@                                                         2  5438                    261
1575 14 20          DCW   @11@                                                         2  5440                    261
1576 14 21          DCW   @1I@                                                         2  5442                    261
1577 14 22          DCW   @12@                                                         2  5444                    262
1578 14 23          DCW   @ZI@                                                         2  5446                    262
1579 14 24          DCW   @13@                                                         2  5448                    262
1580 14 25          DCW   @RI@                                                         2  5450                    262
1581 14 26          DCW   @14@                                                         2  5452                    262
1582 14 27          DCW   @II@                                                         2  5454                    262
1583 14 28   ZNTBL  DCW   @15@                                                         2  5456                    262
1584 14 29          LTORG *                                                                   5457
                    DCW   @002@                                                        3  5459              LIT   263
                          @I9H@                                                        3  5462              LIT   263
                          @I9G@                                                        3  5465              LIT   263
1585 14 30   MULT   SBR   MULTX&3        PREPARE EXIT TO MAIN LINE                     4  5466  H V6Z             263
1586 14 31          MLC   X1,SAVEX1      SAVE CONTENTS OF X1                           7  5470  M 089 V7V         263
1587 14 32          MLC   MULTX&3,X1     LOAD X1                                       7  5477  M V6Z 089         263
1588 14 33          MA    @009@,MULTX&3  MODIFY INSTRUCTIONS -- EXIT                   7  5484  # V7Y V6Z         263
1589 14 34          MLC   2&X1,M1&3                                  MULTIPLICAND      7  5491  M 0|2 V2Z         264
1590 14 35          MLC   5&X1,M2&3                                  MULTIPLIER        7  5498  M 0|5 V4T         264
1591 14 36          MLC   8&X1,M1&6                                  PRODUCT           7  5505  M 0|8 V3S         264
1592 14 37          MLC   8&X1,M3&6                                  PRODUCT           7  5512  M 0|8 V5Y         264
1593 14 38          MLC   K000,MCTR          ZERO COUNTER                              7  5519  M 410 V7S         264
1594 14 39   M1     A     0,0            ADD MULTIPLICAND TO PRODUCT BUCKET            7  5526  A 000 000         265
1595 14 40          A     K1,MCTR        COUNT NUMBER OF ADDITIONS                     7  5533  A 190 V7S         265
1596 14 41   M2     C     0,MCTR         ARE COUNTER AND MULTIPLIER EQUAL              7  5540  C 000 V7S         265
1597 14 42          BU    M1              NO, KEEP ADDING                              5  5547  B V2W /           265
1598 14 43   M3     MZ    K1,0            YES, REMOVE ANY SIGN FROM PRODUCT            7  5552  Y 190 000         265
1599 14 44          MLC   SAVEX1,X1      RESTORE CONTENTS OF X1                        7  5559  M V7V 089         266
1600 14 45   MULTX  B     MULTX          RETURN TO MAIN LINE                           4  5566  B V6W             266
1601 14 46   MCTR   DCW   #3        COUNT NUMBER OF REPETITIVE ADDITIONS               3  5572                    266
1602 14 47   SAVEX1 DCW   #3        SAVE PREVIOUS CONTENTS OF X1 HERE                  3  5575                    266
1603 14 48          LTORG *                                                                   5576
                    DCW   @009@                                                        3  5578              LIT   266
1604 14 49   PROC1  BCE   M5W,OM,5                                                     8  5579  B W1Z H3T 5       266
1605 14 50          BCE   M5W,OM,4                                                     8  5587  B W1Z H3T 4       266
1606 14 51          BCE   M3W,OM,3                                                     8  5595  B W3| H3T 3       267
1607 14 52          BCE   M2W,OM,2                                                     8  5603  B W4/ H3T 2       267
1608 14 53          BCE   M1W,OM,1                                                     8  5611  B W5S H3T 1       267
1609 14 54   M5W    SBR   OMRG,FRWAY                                                   7  5619  H 426 V9|         267
1610 14 55          B     M0W                                                          4  5626  B W5Z             267
1611 14 56   M3W    SBR   OMRG,THRWAY    INIT MAINLINE FOR ORDER OF MERGE              7  5630  H 426 W1W         268
1612 14 57          B     M0W                                                          4  5637  B W5Z             268
1613 14 58   M2W    SBR   OMRG,TWOWAY    INIT MAINLINE FOR ORDER OF MERGE              7  5641  H 426 X4|         268
1614 14 59          B     M0W                                                          4  5648  B W5Z             268
1615 14 60   M1W    SBR   OMRG,REBLK     INIT MAINLINE FOR ORDER OF MERGE              7  5652  H 426 W7|         268
1616 14 61   M0W    MLZS  *-6,MLNOIS&7                                                 7  5659  Y W5Z 03S         268
1617 14 62          MLZS  *-6,MLBNOI&7                                                 7  5666  Y W6W L84         269
1618 14 63          MLNS  CC1&80,TCNT15  SAVE                                          7  5673  D H3/ 368         269
1619 14 64          MLNS                     NUMBER                                    1  5680  D                 269
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1620 14 65          MLNS                         OF                              1  5681  D                  269
1621 14 66          MLNS                          INPUT                          1  5682  D                  269
1622 14 67          MLNS                               REELS.                    1  5683  D                  269
1623 14 68          A     TCNT11,CTER        CHECK TOTAL NUMBER OF INPUT TAPES   7  5684  A 364 X4T          269
1624 14 69          A     TCNT12,CTER                                            7  5691  A 365 X4T          270
1625 14 70          A     TCNT13,CTER                                            7  5698  A 366 X4T          270
1626 14 71          A     TCNT14,CTER                                            7  5705  A 367 X4T          270
1627 14 72          A     TCNT15,CTER                                            7  5712  A 368 X4T          270
1628 14 73   NTAPES C     CC1&8,CTER  COMPARE COMPUTED TO STATED TOTAL           7  5719  C G5Z X4T          270
1629 14 74          BE    CTER&1                                                 5  5726  B X4U S            271
1630 14 75          SBR   EMSG1&3,MSG2                                           7  5731  H H4S L1T          271
1631 14 76          B     ERRMSG                                                 4  5738  B H3U              271
1632 14 77   CTER   DCW   @00@                                                   2  5743                     271
1633 14 78          S     CTER                                                   4  5744  S X4T              271
1634 14 79          MLC   OM,CTER                                                7  5748  M H3T X4T          271
1635 14 80          C     CC1&8,CTER                                             7  5755  C G5Z X4T          271
1636 14 81          BH    NTAPES&12                                              5  5762  B X3/ U            272
1637 14 82          MN    CC1&1,REWNDT&19    INITIALIZE EOR ROUTINE              7  5767  D G5S !86          272
1638 14 83          MN    CC1&2,REWNDT&27                                        7  5774  D G5T !94          272
1639 14 84          MN    CC1&3,REWNDT&35                                        7  5781  D G5U J02          272
1640 14 85          MN    CC1&4,REWNDT&43                                        7  5788  D G5V J10          272
1641 14 86          BCE   CKSIZE,CC1&57,1     BRANCH IF VLR                      8  5795  B Y3Z H0Y 1        273
1642 14 87          B     MULT                                                   4  5803  B U6W              273
1643 14 88          DCW   CC1&12    MULTIPLICAND --INPUT RECORD LENGTH           3  5809  G6T                273
1644 14 89          DCW   CC1&18    MULTIPLIER   --OUTPUT BLOCKING FACTOR        3  5812  G6Z                273
1645 14 90          DCW   WKAREA    PRODUCT      --OUTPUT BLOCK SIZE             3  5815  ?0S                273
1646 14 91          C     WKAREA,@00004000@   CHECK VALIDITY OF MAX BO           7  5816  C ?0S M7Z          273
1647 14 92          BH    CKSIZE                                                 5  5823  B Y3Z U            273
1648 14 93          SBR   EMSG1&3,MSG16                                          7  5828  H H4S M4/          274
1649 14 94          B     ERRMSG                                                 4  5835  B H3U              274
1650 14 95   CKSIZE BCE   EHTK,CC1&27,4       CHECK MACHINE SIZE                 8  5839  B Y7X G7Y 4        274
1651 14 96          BCE   TWLVK,CC1&27,5                                         8  5847  B Y8Y G7Y 5        274
1652 14 97          BCE   SXTNK,CC1&27,6                                         8  5855  B Z0S G7Y 6        274
1653 14 98   T45    DCW   @07999@                                                5  5867                     275
1654 14 99   T85    DCW   @11999@                                                5  5872                     275
1655 15 00   TLCDF  DCW   @    @                                                 4  5876                     275
1656 15 01   EHTK   MLC   T45,BUKT           MOVE MACHINE SIZE TO BUKT           7  5877  M Y6X R9U          275
1657 15 02          B     WORKAR                                                 4  5884  B Z2S              275
1658 15 03   TWLVK  MLC   T85,BUKT           REMEMBER MACHINE SIZE               7  5888  M Y7S R9U          275
1659 15 04          MLC   @I9R@,SXTNK&7      MODIFY CS ROUTINE FOR 12K           7  5895  M M8S Z0Z          275
1660 15 05   SXTNK  SW    8000                                                   4  5902  , 00!              276
1661 15 06          CS    15999               CLEAR                              4  5906  / I9I              276
1662 15 07          SBR   *-4                     STORAGE                        4  5910  H Z0Z              276
1663 15 08          BWZ   SXTNK&4,8000,1                                         8  5914  V Z0W 00! 1        276
1664 15 09   WORKAR ZA    CC1&39,TLCDF        CALCULATE SUM OF CONTROL CHAR.     7  5922  ? G9| Y7W          276
1665 15 10          SW    CC2&5,CC2&12                                           7  5929  , F7U F8/          276
1666 15 11          SW    CC2&19,CC2&26                                          7  5936  , F8Y F9V          277
1667 15 12          SW    CC2&33,CC2&40                                          7  5943  , G0S G0Z          277
1668 15 13          SW    CC2&47,CC2&54                                          7  5950  , G1W G2T          277
1669 15 14          SW    CC2&61                                                 4  5957  , G3|              277
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

1670 15 15          A     CC2&7,TLCDF                                                7  5961  A F7W Y7W          277
1671 15 16          A     CC2&14,TLCDF                                               7  5968  A F8T Y7W          277
1672 15 17          A     CC2&21,TLCDF                                               7  5975  A F9| Y7W          278
1673 15 18          A     CC2&28,TLCDF                                               7  5982  A F9X Y7W          278
1674 15 19          A     CC2&35,TLCDF                                               7  5989  A G0U Y7W          278
1675 15 20          A     CC2&42,TLCDF                                               7  5996  A G1/ Y7W          278
1676 15 21          A     CC2&49,TLCDF                                               7  6003  A G1Y Y7W          278
1677 15 22          A     CC2&56,TLCDF                                               7  6010  A G2V Y7W          279
1678 15 23          A     CC2&63,TLCDF                                               7  6017  A G3S Y7W          279
1679 15 24          MZ    K1,TLCDF                                                   7  6024  Y 190 Y7W          279
1680 15 25          C     TLCDF,CC1&32        COMPARE AGAINST NUMBER SPECIFIED       7  6031  C Y7W G8T          279
1681 15 26          BU    CDFER2                                                     5  6038  B K7T /            279
1682 15 27          BCE   *&16,CC1&57,                                               8  6043  B !6W H0Y          280
1683 15 28          BCE   OUTTP,CC1&65,                                              8  6051  B !9T H1W          280
1684 15 29          SBR   *&7,CC1&65                                                 7  6059  H !7S H1W          280
1685 15 30          C     TLCDF,CC1&12        COMPARE AGAINST RECORD LENGTH          7  6066  C Y7W G6T          280
1686 15 31          BL    *&5                                                        5  6073  B !8S T            280
1687 15 32          B     OUTTP                                                      4  6078  B !9T              280
1688 15 33          SBR   EMSG1&3,MSG5                                               7  6082  H H4S L4X          281
1689 15 34          B     ERRMSG                                                     4  6089  B H3U              281
1690 15 35   OUTTP  MLNS  CC1&6,WTAPE&3      INIT OUTPUT TAPE INSTRUCTIONS           7  6093  D G5X 21U          281
1691 15 36          MLNS  CC1&6,WTEREX-13                                            7  6100  D G5X V00          281
1692 15 37          MLNS  CC1&6,WHLERR&7                                             7  6107  D G5X U31          281
1693 15 38          MLNS  CC1&6,WTERR2&10                                            7  6114  D G5X U80          281
1694 15 39          MLNS  CC1&6,EOFOPT&3                                             7  6121  D G5X V78          282
1695 15 40          MLNS  CC1&6,ALPHA&3                                              7  6128  D G5X W31          282
1696 15 41          MLNS  CC1&6,ALPHA1&3                                             7  6135  D G5X W60          282
1697 15 42          MLNS  CC1&6,ALPHA1&8                                             7  6142  D G5X W65          282
1698 15 43          MLNS  CC1&6,WRHL&3                                               7  6149  D G5X Y68          282
1699 15 44          MLNS  CC1&6,WRHL-2                                               7  6156  D G5X Y63          283
1700 15 45          MLNS  CC1&6,RENT&3                                               7  6163  D G5X Z33          283
1701 15 46          MLNS  CC1&6,ROPTHL&3                                             7  6170  D G5X X22          283
1702 15 47          MLNS  CC1&5,HALT&15       INIT INPUT TAPE INSTRUCTIONS           7  6177  D G5W M96          283
1703 15 48          MLNS  CC1&4,HALT&7                                               7  6184  D G5V M88          283
1704 15 49          MLNS  CC1&3,HALT&23                                              7  6191  D G5U N04          284
1705 15 50          MLNS  CC1&2,HALT&31                                              7  6198  D G5T N12          284
1706 15 51          MLNS  CC1&5,TU5                                                  7  6205  D G5W 10X          284
1707 15 52          MLNS                                                             1  6212  D                  284
1708 15 53          MLNS                                                             1  6213  D                  284
1709 15 54          MLNS                                                             1  6214  D                  284
1710 15 55          MLNS                                                             1  6215  D                  284
1711 15 56          MLC   CC1&26,PADCHR       MOVE PADDING CHAR TO BUCKET            7  6216  M G7X 65|          285
1712 15 57          C     CC1&36,@0001@       INITIALIZE COMMUNICATION TO PAD-       7  6223  C G8X M8W          285
1713 15 58          BE    NOP2MV             DING ROUTINE                            5  6230  B K5/ S            285
1714 15 59          C     CC1&36,@0002@                                              7  6235  C G8X M9|          285
1715 15 60          BE    NOP1MV                                                     5  6242  B K6S S            285
1716 15 61          B     OVLAY3                                                     4  6247  B K8U              285
1717 15 62   NOP2MV MLNS  K2,PDBKT                                                   7  6251  D 095 65/          286
1718 15 63          B     OVLAY3                                                     4  6258  B K8U              286
1719 15 64   NOP1MV MLNS  K1,PDBKT                                                   7  6262  D 190 65/          286
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 SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

1720 15 65          B     OVLAY3                                                  4  6269  B K8U              286
1721 15 66   CDFER2 SBR   EMSG1&3,MSG7                                            7  6273  H H4S L8Z          286
1722 15 67          B     ERRMSG                                                  4  6280  B H3U              286
1723 15 68   OVLAY3 CS    080                                                     4  6284  / 080              286
1724 15 69          MLZS  *-6,BCKT      MOVE A BIT TO NOISE CK BUCKET             7  6288  Y K8Y 17|          287
1725 15 70          SW    024,056                                                 7  6295  , 024 056          287
1726 15 71          SW    063,067                                                 7  6302  , 063 067          287
1727 15 72          R     056                                                     4  6309  1 056              287
1728 15 73   MSG2   DA    1X33,G                                                     6313   6345              287
                    DCW   @}@                                                     1  6346             GMARK  288
1729 15 74          ORG   MSG2                                                              6313
1730 15 75          DCW   @WRONG NO OF INPUT TAPES SPECIFIED@                    33  6345                     289
1731 15 76          ORG   *&1                                                               6347
1732 15 77   MSG5   DA    1X41,G                                                     6347   6387              289
                    DCW   @}@                                                     1  6388             GMARK  290
1733 15 78          ORG   MSG5                                                              6347
1734 15 79          DCW   @TOTAL CONTROL FIELDS EXCEED RECORD LENGTH@            41  6387                     292
1735 15 80          ORG   *&1                                                               6389
1736 15 81   MSG7   DA    1X51,G                                                     6389   6439              292
                    DCW   @}@                                                     1  6440             GMARK  293
1737 15 82          ORG   MSG7                                                              6389
1738 15 83          DCW   @TOTAL CONTROL FIELDS UNEQUAL TO CTL CARD1 COL 30-3@   50  6438                     295
1739 15 84          DC    @2@                                                     1  6439                     295
1740 15 85          ORG   *&1                                                               6441
1741 15 86   MSG16  DA    1X30,G                                                     6441   6470              295
                    DCW   @}@                                                     1  6471             GMARK  296
1742 15 87          ORG   MSG16                                                             6441
1743 15 88          DCW   @OUTPUT BLOCK SIZE EXCEEDS 3999@                       30  6470                     297
1744 15 89          ORG   *&1                                                               6472
       1646         DCW   @00004000@                                              8  6479             LIT    298
                          @I9R@                                                   3  6482             LIT    298
                          @0001@                                                  4  6486             LIT    298
                          @0002@                                                  4  6490             LIT    298
1745 15 90          EX    PROC1                                                            B V7Z              299
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1746 15 91          JOB   INITIALIZATION AND ASSIGNMENT  MERGE 7
1747 15 92          ORG   PROC1                                                          5579
1748 15 93   SWMA   BCE   STWM,CFCTR,1                                           8  5579  B V9/ 411 1        302
1749 15 94          B     CKSEQQ                                                 4  5587  B W1S              302
1750 15 95   STWM   LCA   BEE,CD1NP      INIT FOR 1 CONTROL FIELD                7  5591  L 193 K0|          302
1751 15 96          LCA   BEE,CDTOCF                                             7  5598  L 193 O1T          302
1752 15 97          LCA   BEE,CFMA                                               7  5605  L 193 O3Z          302
1753 15 98   CKSEQQ BCE   SEQQ,CC1&74,1                                          8  5612  B W2U H2V 1        303
1754 15 99          B     CMNOMV                                                 4  5620  B W5Z              303
1755 16 00   SEQQ   MLC   BEE,PUTB&15        INIT BR TO SEQCK ROUTINE            7  5624  M 193 P48          303
1756 16 01          MLC   BEE,PUTA&15                                            7  5631  M 193 R94          303
1757 16 02          MLC   BEE,PUTC&15                                            7  5638  M 193 B40          303
1758 16 03          MLC   BEE,PUTD&15                                            7  5645  M 193 D86          304
1759 16 04          MLC   BEE,PUTE&15                                            7  5652  M 193 G32          304
1760 16 05   CMNOMV MLC   CC1&29,LCTR        NOTE NO OF CONTROL FIELDS           7  5659  M G8| J4/          304
1761 16 06          C     CC1&61,BLANKS-9    TEST FOR PRESENCE OF RLI            7  5666  C H1S 40X          304
1762 16 07          BE    ADDRLI&7            NONE PRESENT                       5  5673  B Z4X S            304
1763 16 08          BCE   RLIV,CC3&2,0                                           8  5678  B X2X E8Z 0        305
1764 16 09          BCE   RLIV,CC3&3,0                                           8  5686  B X2X E9| 0        305
1765 16 10          MLC   K0,CC3&1                                               7  5694  M 096 E8Y          305
1766 16 11          C     CC1&12,@1000@                                          7  5701  C G6T Q3T          305
1767 16 12          BH    RLIV1                                                  5  5708  B X2| U            305
1768 16 13          MLC   K1,CC3&1                                               7  5713  M 190 E8Y          306
1769 16 14   RLIV1  A     K3,CC3&1   TEST VALIDITY OF RLI                        7  5720  A 085 E8Y          306
1770 16 15   RLIV   BCE   ADDRL,CC3&1,3                                          8  5727  B X8/ E8Y 3        306
1771 16 16          BCE   ADDRL,CC3&1,4                                          8  5735  B X8/ E8Y 4        306
1772 16 17          SBR   EMSG1&3,MSG8                                           7  5743  H H4S X5U          306
1773 16 18          B     ERRMSG                                                 4  5750  B H3U              307
1774 16 19   MSG8   DA    1X22,G                                                    5754   5775              307
                    DCW   @}@                                                    1  5776              GMARK  308
1775 16 20          ORG   MSG8                                                           5754
1776 16 21          DCW   @CTL CD 3 COL 1 INVALID@                              22  5775                     309
1777 16 22          ORG   *&1                                                            5777
1778 16 23   LRLI   DCW   @0000@                                                 4  5780                     310
1779 16 24   ADDRL  A     K1,LCTR  INIT CHAINED MOVES IN MAIN LINE               7  5781  A 190 J4/          310
1780 16 25          MLC   CC1&61,LRLI                                            7  5788  M H1S X8|          310
1781 16 26          S     CC3&1,LRLI                                             7  5795  S E8Y X8|          310
1782 16 27          C     LRLI,@000?@                                            7  5802  C X8| Q3X          310
1783 16 28          BE    ADDRLI                                                 5  5809  B Z4| S            310
1784 16 29          LCA   @L@,MOVEE&18                                           7  5814  L Q3Y G82          311
1785 16 30          LCA   @L@,MOVED&18                                           7  5821  L Q3Y E36          311
1786 16 31          LCA   @L@,MOVEC&18                                           7  5828  L Q3Y B90          311
1787 16 32          LCA   @L@,MOVEA&18                                           7  5835  L Q3Y ?44          311
1788 16 33          LCA   @L@,MOVEB&18                                           7  5842  L Q3Y P98          311
1789 16 34          LCA   @,@,LOOPE-15                                           7  5849  L Q3Z H64          312
1790 16 35          LCA   @,@,LOOPD-15                                           7  5856  L Q3Z F18          312
1791 16 36          LCA   @,@,LOOPC-15                                           7  5863  L Q3Z C72          312
1792 16 37          LCA   @,@,LOOPA-15                                           7  5870  L Q3Z A26          312
1793 16 38          LCA   @,@,LOOPB-15                                           7  5877  L Q3Z Q80          312
1794 16 39          MZ    K0,LRLI                                                7  5884  Y 096 X8|          313
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

1795 16 40          MLNS  LRLI-3,*&4                                                   7  5891  D X7X Z0/            313
1796 16 41          MLZS  K1,LRLI-2                                                    7  5898  Y 190 X7Y            313
1797 16 42          MA    LRLI,LOOPE-12                                                7  5905  # X8| H67            313
1798 16 43          MA    LRLI,LOOPD-12                                                7  5912  # X8| F21            313
1799 16 44          MA    LRLI,LOOPC-12                                                7  5919  # X8| C75            314
1800 16 45          MA    LRLI,LOOPA-12                                                7  5926  # X8| A29            314
1801 16 46          MA    LRLI,LOOPB-12                                                7  5933  # X8| Q83            314
1802 16 47   ADDRLI S     K1,LCTR  TEST FOR CF IN 1ST POSITION OF RECORD               7  5940  S 190 J4/            314
1803 16 48          C     CC1&36,POS1                                                  7  5947  C G8X J4V            314
1804 16 49          BE    SUB1                                                         5  5954  B !6X S              315
1805 16 50          C     CC2&60,POS1                                                  7  5959  C G2Z J4V            315
1806 16 51          BE    SUB1                                                         5  5966  B !6X S              315
1807 16 52          C     CC2&53,POS1                                                  7  5971  C G2S J4V            315
1808 16 53          BE    SUB1                                                         5  5978  B !6X S              315
1809 16 54          C     CC2&46,POS1                                                  7  5983  C G1V J4V            315
1810 16 55          BE    SUB1                                                         5  5990  B !6X S              316
1811 16 56          C     CC2&39,POS1                                                  7  5995  C G0Y J4V            316
1812 16 57          BE    SUB1                                                         5  6002  B !6X S              316
1813 16 58          C     CC2&32,POS1                                                  7  6007  C G0/ J4V            316
1814 16 59          BE    SUB1                                                         5  6014  B !6X S              316
1815 16 60          C     CC2&25,POS1                                                  7  6019  C F9U J4V            316
1816 16 61          BE    SUB1                                                         5  6026  B !6X S              317
1817 16 62          C     CC2&18,POS1                                                  7  6031  C F8X J4V            317
1818 16 63          BE    SUB1                                                         5  6038  B !6X S              317
1819 16 64          C     CC2&11,POS1                                                  7  6043  C F8| J4V            317
1820 16 65          BE    SUB1                                                         5  6050  B !6X S              317
1821 16 66          C     CC2&4,POS1                                                   7  6055  C F7T J4V            317
1822 16 67          BU    SUB1&7                                                       5  6062  B !7U /              318
1823 16 68   SUB1   S     K1,LCTR                                                      7  6067  S 190 J4/            318
1824 16 69          MLZS  K0,LCTR                                                      7  6074  Y 096 J4/            318
1825 16 70          SBR   NOPEL&6,MOVEE&17   INIT NOPEL ROUTINE                        7  6081  H J5Y G81            318
1826 16 71          B     NOPE                                                         4  6088  B J4Y                318
1827 16 72          SBR   NOPEL&6,MOVED&17                                             7  6092  H J5Y E35            318
1828 16 73          B     NOPE                                                         4  6099  B J4Y                319
1829 16 74          SBR   NOPEL&6,MOVEC&17                                             7  6103  H J5Y B89            319
1830 16 75          B     NOPE                                                         4  6110  B J4Y                319
1831 16 76          SBR   NOPEL&6,MOVEA&17                                             7  6114  H J5Y ?43            319
1832 16 77          B     NOPE                                                         4  6121  B J4Y                319
1833 16 78          SBR   NOPEL&6,MOVEB&17                                             7  6125  H J5Y P97            319
1834 16 79          B     NOPE                                                         4  6132  B J4Y                319
1835 16 80          B     NOPELX&4                                                     4  6136  B K0|                320
1836 16 81   LCTR   DCW   @  @                                                         2  6141                       320
1837 16 82   POS1   DCW   @0001@                                                       4  6145                       320
1838 16 83   ENCTR  DCW   @11@                                                         2  6147                       320
1839 16 84   NOPE   SBR   NOPELX&3                                                     4  6148  H J9Z                320
1840 16 85   NOPEL  LCA   EN,000                                                       7  6152  L 192 000            320
1841 16 86          SBR   *-4                                                          4  6159  H J5Y                320
1842 16 87          S     K1,ENCTR                                                     7  6163  S 190 J4X            321
1843 16 88          MLZS  K0,ENCTR                                                     7  6170  Y 096 J4X            321
1844 16 89          C     LCTR,ENCTR                                                   7  6177  C J4/ J4X            321
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 SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

1845 16 90          BU    NOPEL                                                 5  6184  B J5S /             321
1846 16 91          MLC   @11@,ENCTR                                            7  6189  M Q4/ J4X           321
1847 16 92   NOPELX B     NOPELX                                                4  6196  B J9W               321
1848 16 93   CD1NP  NOP   CD1NP1                                                4  6200  N N9V               322
1849 16 94          MLC   @057@,MSG12&15                                        7  6204  M Q4U Q2|           322
1850 16 95          SBR   X1,CC2&57     INIT CNVTCF ROUTINE                     7  6211  H 089 G2W           322
1851 16 96          B     CNVTCF                                                4  6218  B L7|               322
1852 16 97          MLC   @050@,MSG12&15                                        7  6222  M Q4X Q2|           322
1853 16 98          SBR   X1,CC2&50                                             7  6229  H 089 G1Z           322
1854 16 99          B     CNVTCF                                                4  6236  B L7|               323
1855 17 00          MLC   @043@,MSG12&15                                        7  6240  M Q5| Q2|           323
1856 17 01          SBR   X1,CC2&43                                             7  6247  H 089 G1S           323
1857 17 02          B     CNVTCF                                                4  6254  B L7|               323
1858 17 03          MLC   @036@,MSG12&15                                        7  6258  M Q5T Q2|           323
1859 17 04          SBR   X1,CC2&36                                             7  6265  H 089 G0V           323
1860 17 05          B     CNVTCF                                                4  6272  B L7|               324
1861 17 06          MLC   @029@,MSG12&15                                        7  6276  M Q5W Q2|           324
1862 17 07          SBR   X1,CC2&29                                             7  6283  H 089 F9Y           324
1863 17 08          B     CNVTCF                                                4  6290  B L7|               324
1864 17 09          MLC   @022@,MSG12&15                                        7  6294  M Q5Z Q2|           324
1865 17 10          SBR   X1,CC2&22                                             7  6301  H 089 F9/           324
1866 17 11          B     CNVTCF                                                4  6308  B L7|               325
1867 17 12          MLC   @015@,MSG12&15                                        7  6312  M Q6S Q2|           325
1868 17 13          SBR   X1,CC2&15                                             7  6319  H 089 F8U           325
1869 17 14          B     CNVTCF                                                4  6326  B L7|               325
1870 17 15          MLC   @008@,MSG12&15                                        7  6330  M Q6V Q2|           325
1871 17 16          SBR   X1,CC2&8                                              7  6337  H 089 F7X           325
1872 17 17          B     CNVTCF                                                4  6344  B L7|               326
1873 17 18          MLC   @001@,MSG12&15                                        7  6348  M Q6Y Q2|           326
1874 17 19          SBR   X1,CC2&1                                              7  6355  H 089 F7|           326
1875 17 20          B     CNVTCF                                                4  6362  B L7|               326
1876 17 21          B     CVTX&4                                                4  6366  B M7W               326
1877 17 22   CNVTCF SBR   CVTX&3   COMPRESS CF LOCATIONS TO 3 CHARACTERS        4  6370  H M7V               326
1878 17 23          BCE   CVTX,0&X1,                                            8  6374  B M7S 0|0           326
1879 17 24          BCE   CVTX,0&X1,0                                           8  6382  B M7S 0|0 0         327
1880 17 25          BCE   ZN1,0&X1,1                                            8  6390  B M2V 0|0 1         327
1881 17 26          BCE   Z2N,0&X1,2                                            8  6398  B M4T 0|0 2         327
1882 17 27          BCE   ZN3,0&X1,3                                            8  6406  B M5U 0|0 3         327
1883 17 28          SBR   EMSG1&3,MSG12                                         7  6414  H H4S Q0V           327
1884 17 29          B     ERRMSG                                                4  6421  B H3U               328
1885 17 30   ZN1    MA    K001,*&4                                              7  6425  # 397 M3V           328
1886 17 31          MLZS  K1,1&X1                                               7  6432  Y 190 0|1           328
1887 17 32          B     CVTX1                                                 4  6439  B M6V               328
1888 17 33   Z2N    MA    @002@,ZN1&10                                          7  6443  # Q7/ M3V           328
1889 17 34          B     ZN1&7                                                 4  6450  B M3S               328
1890 17 35   ZN3    MA    THREE,ZN1&10                                          7  6454  # 084 M3V           329
1891 17 36          B     ZN1&7                                                 4  6461  B M3S               329
1892 17 37   CVTX1  SBR   ZN1&10,K1                                             7  6465  H M3V 190           329
1893 17 38   CVTX   B     CVTX                                                  4  6472  B M7S               329
1894 17 39          MLC   CC2&60,CF&27        INITIALIZE CF WITH BEGINNING      7  6476  M G2Z 456           329
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

1895 17 40          MLC   CC2&53               ADDRESS OF CONTROL FIELDS                4  6483  M G2S              329
1896 17 41          MLC   CC2&46                                                        4  6487  M G1V              329
1897 17 42          MLC   CC2&39                                                        4  6491  M G0Y              330
1898 17 43          MLC   CC2&32                                                        4  6495  M G0/              330
1899 17 44          MLC   CC2&25                                                        4  6499  M F9U              330
1900 17 45          MLC   CC2&18                                                        4  6503  M F8X              330
1901 17 46          MLC   CC2&11                                                        4  6507  M F8|              330
1902 17 47          MLC   CC2&4                                                         4  6511  M F7T              330
1903 17 48   SWMII  BCE   CFBLNK,CC2&4,       INIT GENSW ROUTINE IN MAIN LINE           8  6515  B N3X F7T          330
1904 17 49          MA    CC2&4,GENSW&7                                                 7  6523  # F7T 45Y          331
1905 17 50          MLC   @,@,GENSW&4                                                   7  6530  M Q3Z 45V          331
1906 17 51   CFBLNK S     K1,NCFCC2                                                     7  6537  S 190 ?1S          331
1907 17 52          MZ    K0,NCFCC2                                                     7  6544  Y 096 ?1S          331
1908 17 53          C     NCFCC2,K000-3                                                 7  6551  C ?1S 407          331
1909 17 54          BE    CD1NP1                                                        5  6558  B N9V S            332
1910 17 55          MA    @007@,SWMII&6                                                 7  6563  # Q7U N2/          332
1911 17 56          MA    @007@,SWMII&11                                                7  6570  # Q7U N2W          332
1912 17 57          MA    K004,SWMII&14                                                 7  6577  # 400 N2Z          332
1913 17 58          MA    K004,CFBLNK-1                                                 7  6584  # 400 N3W          332
1914 17 59          B     SWMII                                                         4  6591  B N1V              332
1915 17 60   CD1NP1 SBR   X1,CC1&33                                                     7  6595  H 089 G8U          333
1916 17 61          B     CNVTCF                                                        4  6602  B L7|              333
1917 17 62          MLC   CC1&36,CF                                                     7  6606  M G8X 429          333
1918 17 63   CDTOCF NOP   CFMA-7              BRANCH IF NCF EQUAL 1                     4  6613  N O3S              333
1919 17 64          MLC   CF&27,CF1&27                                                  7  6617  M 456 486          333
1920 17 65          MLC                                                                 1  6624  M                  333
1921 17 66          MLC                                                                 1  6625  M                  333
1922 17 67          MLC                                                                 1  6626  M                  334
1923 17 68          MLC                                                                 1  6627  M                  334
1924 17 69          MLC                                                                 1  6628  M                  334
1925 17 70          MLC                                                                 1  6629  M                  334
1926 17 71          MLC                                                                 1  6630  M                  334
1927 17 72          MLC                                                                 1  6631  M                  334
1928 17 73          MLC   CF,CF1                                                        7  6632  M 429 459          334
1929 17 74   CFMA   NOP   ONECF               BRANCH IF NCF EQUAL 1                     4  6639  N P6Z              335
1930 17 75          MA    CC2&63,CF1&27        CALCULATE UNITS POSITION OF CF           7  6643  # G3S 486          335
1931 17 76          MA    CC2&56,CF1&24                                                 7  6650  # G2V 483          335
1932 17 77          MA    CC2&49,CF1&21                                                 7  6657  # G1Y 480          335
1933 17 78          MA    CC2&42,CF1&18                                                 7  6664  # G1/ 477          335
1934 17 79          MA    CC2&35,CF1&15                                                 7  6671  # G0U 474          335
1935 17 80          MA    CC2&28,CF1&12                                                 7  6678  # F9X 471          336
1936 17 81          MA    CC2&21,CF1&9                                                  7  6685  # F9| 468          336
1937 17 82          MA    CC2&14,CF1&6                                                  7  6692  # F8T 465          336
1938 17 83          MA    CC2&7,CF1&3                                                   7  6699  # F7W 462          336
1939 17 84          MA    N99,CF1&27                                                    7  6706  # 199 486          336
1940 17 85          MA    N99,CF1&24                                                    7  6713  # 199 483          337
1941 17 86          MA    N99,CF1&21                                                    7  6720  # 199 480          337
1942 17 87          MA    N99,CF1&18                                                    7  6727  # 199 477          337
1943 17 88          MA    N99,CF1&15                                                    7  6734  # 199 474          337
1944 17 89          MA    N99,CF1&12                                                    7  6741  # 199 471          337
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

1945 17 90          MA    N99,CF1&9                                                7  6748  # 199 468          338
1946 17 91          MA    N99,CF1&6                                                7  6755  # 199 465          338
1947 17 92          MA    N99,CF1&3                                                7  6762  # 199 462          338
1948 17 93   ONECF  MA    CC1&39,CF1                                               7  6769  # G9| 459          338
1949 17 94          MA    N99,CF1                                                  7  6776  # 199 459          338
1950 17 95          CS    80                                                       4  6783  / 080              338
1951 17 96          SW    24,56                                                    7  6787  , 024 056          339
1952 17 97          SW    63,67                                                    7  6794  , 063 067          339
1953 17 98          R     056                                                      4  6801  1 056              339
1954 17 99   MSG12  DA    1X24,G                                                      6805   6828              339
                    DCW   @}@                                                      1  6829             GMARK  340
1955 18 00          ORG   MSG12                                                            6805
1956 18 01          DCW   @CTL CD 2 COL XXX INVALID@                              24  6828                     341
1957 18 02          ORG   *&1                                                              6830
                    DCW   @1000@                                                   4  6833             LIT    342
                          @000?@                                                   4  6837             LIT    342
                          @L@                                                      1  6838             LIT    342
                          @,@                                                      1  6839             LIT    342
                          @11@                                                     2  6841             LIT    342
                          @057@                                                    3  6844             LIT    342
                          @050@                                                    3  6847             LIT    342
                          @043@                                                    3  6850             LIT    343
                          @036@                                                    3  6853             LIT    343
                          @029@                                                    3  6856             LIT    343
                          @022@                                                    3  6859             LIT    343
                          @015@                                                    3  6862             LIT    343
                          @008@                                                    3  6865             LIT    343
                          @001@                                                    3  6868             LIT    343
                          @002@                                                    3  6871             LIT    344
                          @007@                                                    3  6874             LIT    344
1958 18 03          EX    SWMA                                                            B V7Z              345
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 SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

1959 18 04          JOB   INITIALIZATION AND ASSIGNMENT * MERGE 7
1960 18 05          ORG   SWMA                                                           5579
1961 18 06   MRGOV  MLC   OMRG,ORDMRG&3                                           7  5579  M 426 V8Z           348
1962 18 07   ORDMRG B     ORDMRG               INIT MAINLINE FOR ORDER OF MERGE   4  5586  B V8W               348
1963 18 08   FRWAY  BCE   NOPEQ,CC1&29,1      INIT FOR 4-WAY MERGE                8  5590  B Y2S G8| 1         348
1964 18 09   FVWAY  S     K1,CC1&29            INIT EQUAL ROUTINE CONSTANT        7  5598  S 190 G8|           348
1965 18 10          MLNS  CC1&29,EQLP&14                                          7  5605  D G8| S87           348
1966 18 11          B     URPO                                                    4  5612  B Y9Z               348
1967 18 12   THRWAY LCA   EN,START&12         INIT FOR 3-WAY MERGE                7  5616  L 192 797           349
1968 18 13          LCA   BEE,M0103&4                                             7  5623  L 193 830           349
1969 18 14          LCA   B850,CA-1                                               7  5630  L 196 981           349
1970 18 15          LCA   EN,HALT                                                 7  5637  L 192 M81           349
1971 18 16          BCE   NOPEQ,CC1&29,1                                          8  5644  B Y2S G8| 1         349
1972 18 17          S     K1,CC1&29            INIT EQUAL ROUTINE CONSTANT        7  5652  S 190 G8|           350
1973 18 18          MLNS  CC1&29,EQLP&14                                          7  5659  D G8| S87           350
1974 18 19          B     URPO                                                    4  5666  B Y9Z               350
1975 18 20   REBLK  LCA   EN,STGMD            REBLOCKING INITIALIZATION           7  5670  L 192 H6/           350
1976 18 21          LCA   EN,D-7                                                  7  5677  L 192 J9T           350
1977 18 22          LCA   EN,D&7                                                  7  5684  L 192 K0X           350
1978 18 23          LCA   EN,HALT&24                                              7  5691  L 192 N05           351
1979 18 24          LCA   EN,GETE&29                                              7  5698  L 192 H35           351
1980 18 25          SBR   LOOPE&3,PUTE                                            7  5705  H H82 G17           351
1981 18 26          SBR   START&7,PUTE                                            7  5712  H 792 G17           351
1982 18 27          SBR   MLNOIS-2,REWND      CHANGE MAINLINE BEF                 7  5719  H 02T Z43           351
1983 18 28          LCA   BEE,ED-8                                                7  5726  L 193 /70           352
1984 18 29          MLC   K2,OM                                                   7  5733  M 095 H3T           352
1985 18 30   TWOWAY LCA   EN,START&8          INIT FOR 2-WAY MERGE                7  5740  L 192 793           352
1986 18 31          LCA   EN,START&12                                             7  5747  L 192 797           352
1987 18 32          LCA   BEE,M0103&4                                             7  5754  L 193 830           352
1988 18 33          LCA   BEE,CB-4                                                7  5761  L 193 866           353
1989 18 34          LCA   B850,CA-1                                               7  5768  L 196 981           353
1990 18 35          LCA   BEE,DC-4                                                7  5775  L 193 |94           353
1991 18 36          LCA   EN,HALT                                                 7  5782  L 192 M81           353
1992 18 37          LCA   EN,HALT&16                                              7  5789  L 192 M97           353
1993 18 38          BCE   NOPEQ,CC1&29,1                                          8  5796  B Y2S G8| 1         354
1994 18 39          S     K1,CC1&29            INIT EQUAL ROUTINE CONSTANT        7  5804  S 190 G8|           354
1995 18 40          MLNS  CC1&29,EQLP&14                                          7  5811  D G8| S87           354
1996 18 41          B     URPO                                                    4  5818  B Y9Z               354
1997 18 42   NOPEQ  LCA   EN,M0107-5          NOP BRANCH TO EQUAL ROUTINE         7  5822  L 192 846           354
1998 18 43          LCA   EN,M0301-5                                              7  5829  L 192 882           355
1999 18 44          LCA   EN,M0303-5                                              7  5836  L 192 918           355
2000 18 45          LCA   EN,M0106-9                                              7  5843  L 192 954           355
2001 18 46          LCA   EN,M0201-5                                              7  5850  L 192 994           355
2002 18 47          LCA   EN,M0203-5                                              7  5857  L 192 |30           355
2003 18 48          LCA   EN,M0401-9                                              7  5864  L 192 |66           356
2004 18 49          LCA   EN,M0404-5                                              7  5871  L 192 /10           356
2005 18 50          LCA   EN,M0204-9                                              7  5878  L 192 /46           356
2006 18 51          LCA   EN,ED&12                                                7  5885  L 192 /90           356
2007 18 52          LCA   EN,COMSQ&12                                             7  5892  L 192 32T           356
2008 18 53   URPO   BCE   PRINT,CC1&19,C       CORRECT-CONTINUE REDUND. OPTION    8  5899  B !2U G7| C         357
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                   SFX CT  LOCN  INSTRUCTION TYPE  CARD

2009 18 54          R                                                                     1  5907  1                  357
2010 18 55          BCE   *&5,0068,B                                                      8  5908  B Z2| 068 B        357
2011 18 56          B     *-12                                                            4  5916  B Z0X              357
2012 18 57          BCE   PUNCH,CC1&19,P      PUNCH REDUNDANCY OPYION                     8  5920  B !7S G7| P        357
2013 18 58          R                                                                     1  5928  1                  357
2014 18 59          BCE   *&5,0068,B                                                      8  5929  B Z4/ 068 B        357
2015 18 60          B     *-12                                                            4  5937  B Z2Y              358
2016 18 61          CS    0080               TAPE REDUNDANCY OPTION                       4  5941  / 080              358
2017 18 62          SW    0024,0056                                                       7  5945  , 024 056          358
2018 18 63          SW    0063,0067                                                       7  5952  , 063 067          358
2019 18 64          R     0056                                                            4  5959  1 056              358
2020 18 65   LOADTP MLNS  CC1&19,BBPT&3       INIT TAPE REDUNDANCY ROUTINE                7  5963  D G7| 89Z          358
2021 18 66          MLNS  CC1&19,TPBBP                                                    7  5970  D G7| |0Y          359
2022 18 67          MLNS  CC1&19,*&8                                                      7  5977  D G7| Z9/          359
2023 18 68          BCE   URPERR,CC1&6,                                                   8  5984  B !1T G5X          359
2024 18 69          BCE                                                                   1  5992  B                  359
2025 18 70          CHAIN 4                                                                                  MACRO
2026                BCE                                                                   1  5993  B         GEN      359
2027                BCE                                                                   1  5994  B         GEN      359
2028                BCE                                                                   1  5995  B         GEN      359
2029                BCE                                                                   1  5996  B         GEN      360
2030 18 71          MLNS  CC1&19,*&4                                                      7  5997  D G7| !0X          360
2031 18 72          RWD   %U0                REWIND REDUNDANCY TAPE                       5  6004  U %U0 R            360
2032 18 73          B     STCOMP                                                          4  6009  B J0X              360
2033 18 74   URPERR SBR   EMSG1&3,MSG19                                                   7  6013  H H4S J3/          360
2034 18 75          B     ERRMSG                                                          4  6020  B H3U              360
2035 18 76   PRINT  CS    0080                                                            4  6024  / 080              360
2036 18 77          SW    0024,0056                                                       7  6028  , 024 056          361
2037 18 78          SW    0063,0067                                                       7  6035  , 063 067          361
2038 18 79          R     0056                                                            4  6042  1 056              361
2039 18 80   RUN1   R                                                                     1  6046  1                  361
2040 18 81          BCE   *&5,0068,B                                                      8  6047  B !5Z 068 B        361
2041 18 82          B     *-12                                                            4  6055  B !4W              361
2042 18 83          R                                                                     1  6059  1                  361
2043 18 84          BCE   STCOMP,0068,B                                                   8  6060  B J0X 068 B        362
2044 18 85          B     *-12                                                            4  6068  B !5Z              362
2045 18 86   PUNCH  CS    0080                                                            4  6072  / 080              362
2046 18 87          SW    0024,0056                                                       7  6076  , 024 056          362
2047 18 88          SW    0063,0067                                                       7  6083  , 063 067          362
2048 18 89          R     0056                                                            4  6090  1 056              362
2049 18 90   RUN2   R                                                                     1  6094  1                  362
2050 18 91          BCE   STCOMP,0068,B                                                   8  6095  B J0X 068 B        363
2051 18 92          B     *-12                                                            4  6103  B !9U              363
2052 18 93   STCOMP CS    080                                                             4  6107  / 080              363
2053 18 94          SW    024,056                                                         7  6111  , 024 056          363
2054 18 95          SW    063,067                                                         7  6118  , 063 067          363
2055 18 96          R     056                                                             4  6125  1 056              363
2056 18 97          DCW   @ @                                                             1  6129                     363
2057 18 98          ORG   *&1                                                                       6131
2058 18 99   MSG19  DA    1X25,G                                                             6131   6155              364
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    DCW   @}@                                                  1  6156              GMARK  364
2059 19 00          ORG   MSG19                                                         6131
2060 19 01          DCW   @ERROR TAPE ALREADY IN USE@                         25  6155                     365
2061 19 02          ORG   *&1                                                           6157
2062 19 03          EX    MRGOV                                                        B V7Z               366
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

2063 19 04          JOB   BAD BLOCK PROCEDURE AND WLR CORRECT OPTION
2064 19 05          ORG   SAVX&1   ORIGIN ROUTINE IN SPACE RESERVED FOR IT.                4833
2065 19 06   *              CORRECT OPTION
2066 19 07   BBP    MA    N99,3&X1  RESET TO SHOW LAST OF INPUT AREA               7  4833  # 199 0|3           369
2067 19 08          MLC   X3,SAVX   SAVE CONTENTS OF X3                            7  4840  M 099 83S           369
2068 19 09          SBR   MOV&13,200      INIT B-FIELD OF INSTR TO PRINTER AREA    7  4847  H 88W 200           369
2069 19 10          CS    332             CLEAR                                    4  4854  / 332               369
2070 19 11          CS                         PRINTER                             1  4858  /                   369
2071 19 12          MA    K001,X3         PUT ADDR OF 1ST CHAR INTO X3             7  4859  # 397 099           369
2072 19 13          MA    K001,MOV&13     INCRE PRINTER ADDR CORRESPONDINGLY       7  4866  # 397 88W           370
2073 19 14   MOV    MLC   0&X3,SVBKT      MOVE CHAR THRU BUCKET                    7  4873  M 0?0 65Y           370
2074 19 15          MLC   SVBKT,200        INTO PRINT AREA.                        7  4880  M 65Y 200           370
2075 19 16          C     SVGMPO,X3     HAS LAST CHAR BEEN MOVED                   7  4887  C U8W 099           370
2076 19 17          BE    LASTWT            YES, EXIT                              5  4894  B 91V S             370
2077 19 18          BCE   WRT,MOV&11,3      NO, DOES PRINTER CONTAIN 100 CHAR      8  4899  B 91/ 88U 3         371
2078 19 19          B     MOV-14            NO, KEEP MOVING IN CHAR                4  4907  B 85Z               371
2079 19 20   WRT    W     BBP&14    PRINT AND MOVE IN MORE                         4  4911  2 84X               371
2080 19 21   LASTWT W                     PRINT AND EXIT                           1  4915  2                   371
2081 19 22          MLC   SAVX,X3         RESTORE X3                               7  4916  M 83S 099           371
2082 19 23          CS    332             CLEAR                                    4  4923  / 332               371
2083 19 24          CS                         PRINTER                             1  4927  /                   371
2084 19 25          MLC   8&X1,BBST       INIT PRINTER MESSAGE                     7  4928  M 0|8 |0V           372
2085 19 26          MLC   BBST,223                                                 7  4935  M |0V 223           372
2086 19 27          W                     PRINT                                    1  4942  2                   372
2087 19 28          CC    1               SKIP TO CHANNEL 1                        2  4943  F 1                 372
2088 19 29          MLC   SVGMPO,*&7         CLEAR GROUP MARK FROM READ            7  4945  M U8W 95Y           372
2089 19 30          MLC   BLANKS-12,0                                              7  4952  M 40U 000           372
2090 19 31          H                     HALT                                     1  4959  .                   372
2091 19 32          BSS   RECHEK,G        SET SW G ACCORDINGLY                     5  4960  B |0W G             373
2092 19 33          MLC   K000,COUNTT     REINITIALIZE REDUNDANCY COUNTER          7  4965  M 410 378           373
2093 19 34   FEEDBG MLCWA GMWM,281                                                 7  4972  L 334 281           373
2094 19 35          B     CONTIN&14         RETURN TO MERGE                        4  4979  B 08/               373
2095 19 36   BBST   DCW   @INPUT AREA STARTS      @                               23  5005                      374
2096 19 37   RECHEK MLC   K0,COUNTR             ZERO COUNTER AFTER REDUNDANCY      7  5006  M 096 375           374
2097 19 38          MLNS  RDTAP&3,*&4           MOVE IN TAPE UNIT NUMBER           7  5013  D 00U |2T           374
2098 19 39          BSP   %U0                   BACKSPACE TAPE                     5  5020  U %U0 B             375
2099 19 40          B     FL1                   RETURN TO MAIN LINE READ           4  5025  B I90               375
2100 19 41          ORG   SWMA                                                          5579
2101 19 42   BUCCHK BCE   RUN1,LBBUCK,                                             8  5579  B !4W 413           376
2102 19 43          SBR   FEEDBG&6,321                                             7  5587  H 97Y 321           376
2103 19 44          B     RUN1                                                     4  5594  B !4W               376
2104 19 45          DCW   @ @                                                      1  5598                      376
2105 19 46          EX    RUN1                                                              B !4W               377
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

2106 19 47          JOB   WLR AND BAD BLOCK PROCEDURE PUNCH OPTION
2107 19 48          ORG   BBP                                                        4833
2108 19 49   *              PUNCH OPTION
2109 19 50          MA    N99,3&X1  RESET TO SHOW LAST OF INPUT AREA            7  4833  # 199 0|3           380
2110 19 51          MLC   X3,SAVX        SAVE CONTENTS OF X3                    7  4840  M 099 83S           380
2111 19 52          SBR   MOVP&13,100    INIT B-FIELD TO PUNCH AREA ADDR.       7  4847  H 88V 100           380
2112 19 53          CS    180            CLEAR PUNCH                            4  4854  / 180               380
2113 19 54          MA    K001,X3        PUT ADDR OF 1ST CHAR INTO X3           7  4858  # 397 099           380
2114 19 55          MA    K001,MOVP&13   INCRE PUNCH ADDR CORRESPONDINGLY       7  4865  # 397 88V           380
2115 19 56   MOVP   MLC   0&X3,SVBKT     MOVE CHAR THRU BUCKET                  7  4872  M 0?0 65Y           381
2116 19 57          MLC   SVBKT,100       INTO PUNCH AREA.                      7  4879  M 65Y 100           381
2117 19 58          C     SVGMPO,X3     HAS LAST CHAR BEEN MOVED                7  4886  C U8W 099           381
2118 19 59          BE    LSTPUN         YES                                    5  4893  B 91X S             381
2119 19 60          BCE   PUN,MOVP&12,8  IS PUNCH AREA FULL                     8  4898  B 91| 88U 8         381
2120 19 61          B     MOVP-14         KEEP FILLING IT                       4  4906  B 85Y               381
2121 19 62   PUN    P                    PUNCH                                  1  4910  4                   381
2122 19 63          SS    4              SELECT STACKER                         2  4911  K 4                 382
2123 19 64          B     BBP&14                                                4  4913  B 84X               382
2124 19 65   LSTPUN P                    PUNCH LAST OF RECORD                   1  4917  4                   382
2125 19 66          SS    4              SELECT STACKER                         2  4918  K 4                 382
2126 19 67          MLC   SAVX,X3        RESTORE X3                             7  4920  M 83S 099           382
2127 19 68          B     FL1-12                                                4  4927  B I78               382
2128 19 69          EX    RUN2                                                           B !9U               383
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

2129 19 70          JOB   WLR AND BAD BLOCK PROCEDURE TAPE OPTION
2130 19 71          ORG   BBP                                                          4833
2131 19 72   *              TAPE OPTION
2132 19 73          MA    N99,3&X1  RESET TO SHOW LAST OF INPUT AREA          7  4833  # 199 0|3          386
2133 19 74          MLC   3&X1,RSETGM&6      INITIALIZE ROUTINE               7  4840  M 0|3 89V          386
2134 19 75          MLC   3&X1,CLRGM&6                                        7  4847  M 0|3 93U          386
2135 19 76          MLNS  BBPT&3,WHLERR&7                                     7  4854  D 89Z U31          386
2136 19 77          MLNS  BBPT&3,WTERR2&10                                    7  4861  D 89Z U80          386
2137 19 78          SBR   WTERRD&10,WTERRR                                    7  4868  H U47 V37          387
2138 19 79          MA    K001,RSETGM&6                                       7  4875  # 397 89V          387
2139 19 80          MA    K001,CLRGM&6                                        7  4882  # 397 93U          387
2140 19 81   RSETGM LCA   GPMRK,0            SET GM AT END OF AREA            7  4889  L 081 000          387
2141 19 82   BBPT   WTW   %U0,1&X3           WRITE BAD BLOCK ON TAPE          8  4896  L %U0 0?1 W        387
2142 19 83          BER   WHLERR                                              5  4904  B U24 L            388
2143 19 84          BEF   DTREOF                                              5  4909  B 95U K            388
2144 19 85          MLNS  WTAPE&3,WHLERR&7                                    7  4914  D 21U U31          388
2145 19 86          MLNS  WTAPE&3,WTERR2&10                                   7  4921  D 21U U80          388
2146 19 87   CLRGM  LCA   @ @,0              REMOVE GROUP MARK                7  4928  L |3X 000          388
2147 19 88          CS    0332                                                4  4935  / 332              388
2148 19 89          CS                                                        1  4939  /                  388
2149 19 90          MLC   TPBBP,0234                                          7  4940  M |0Y 234          389
2150 19 91          W                        PRINT BAD BLOCK MESSAGE          1  4947  2                  389
2151 19 92          CC    1                                                   2  4948  F 1                389
2152 19 93          B     FL1-12                                              4  4950  B I78              389
2153 19 94   DTREOF MLNS  BBPT&3,*&4         END OF REEL                      7  4954  D 89Z 96U          389
2154 19 95          WTM   %U0                                                 5  4961  U %U0 M            389
2155 19 96          MLNS  BBPT&3,*&4                                          7  4966  D 89Z 97W          389
2156 19 97          RWU   %U0                                                 5  4973  U %U0 U            390
2157 19 98          H     CLRGM-14           LOAD ANOTHER REDUNDANCY TAPE     4  4978  . 91U              390
2158 19 99   TPBBP  DCW   @BAD BLOCK WRITTEN ON TAPE  @                      27  5008                     390
2159 20 00   CLSDTR MLNS  BBPT&3,*&4         CLOSE REDUNDANCY TAPE            7  5009  D 89Z |1Z          391
2160 20 01          WTM   %U0                                                 5  5016  U %U0 M            391
2161 20 02          MLC   *-8,*&4                                             7  5021  M |1Z |3/          391
2162 20 03          RWU   %U0                                                 5  5028  U %U0 U            391
2163 20 04          B     BCLSDT&8                                            4  5033  B ?60              391
                    DCW   @ @                                                 1  5037             LIT     391
2164 20 05          EX    LOADTP                                                       B Z6T              392
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 SEQ PG LIN  LABEL  OP    OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

2165 20 06          JOB   RESUME INITIALIZATION PHASE
2166 20 07          ORG   SWMA                                                                5579
2167 20 08   INITOM BCE   OMEQ1,CC1&2,                                              8  5579  B V9/ G5T           395
2168 20 09          B     SETOM                                                     4  5587  B W1W               395
2169 20 10   OMEQ1  MLNS  K1,OM                                                     7  5591  D 190 H3T           395
2170 20 11          LCA   EN,D-7                                                    7  5598  L 192 J9T           395
2171 20 12          LCA   EN,D&7                                                    7  5605  L 192 K0X           395
2172 20 13          B     TWOWA                                                     4  5612  B W5Z               395
2173 20 14   SETOM  BCE   STGAST,OM,5          MAINLINE SET FOR 5-WAY MERGE         8  5616  B X4T H3T 5         396
2174 20 15          BCE   FRWA,OM,4      RESUME SETTING MAINLINE FOR 4-WAY.         8  5624  B X0/ H3T 4         396
2175 20 16          BCE   THRWA,OM,3     RESUME SETTING MAINLINE FOR 3-WAY.         8  5632  B W8| H3T 3         396
2176 20 17          BCE   TWOWA,OM,2     RESUME SETTING MAINLINE FOR 2-WAY.         8  5640  B W5Z H3T 2         396
2177 20 18          SBR   EMSG1&3,MSG9                                              7  5648  H H4S Q6Z           396
2178 20 19          B     ERRMSG                                                    4  5655  B H3U               397
2179 20 20   TWOWA  LCA   EN,STGMC             RESUME INIT FOR 2-WAY MERGE          7  5659  L 192 H6Y           397
2180 20 21          LCA   EN,C-7                                                    7  5666  L 192 K2/           397
2181 20 22          LCA   EN,C&7                                                    7  5673  L 192 K3V           397
2182 20 23   THRWA  LCA   EN,STGMA             RESUME INIT FOR 3-WAY MERGE          7  5680  L 192 H7V           397
2183 20 24          LCA   EN,A-7                                                    7  5687  L 192 K4Z           397
2184 20 25          LCA   EN,A&7                                                    7  5694  L 192 K6T           398
2185 20 26   FRWA   LCA   EN,STGMB             RESUME INIT FOR 4-WAY MERGE          7  5701  L 192 H8S           398
2186 20 27          LCA   EN,B-7                                                    7  5708  L 192 K7X           398
2187 20 28          LCA   EN,B&7                                                    7  5715  L 192 K9/           398
2188 20 29          LCA   EN,START&23                                               7  5722  L 192 808           398
2189 20 30          LCA   EN,HALT&8                                                 7  5729  L 192 M89           399
2190 20 31          LCA   BEE,M0103                                                 7  5736  L 193 826           399
2191 20 32   STGAST BCE   VLR1,CC1&57,1         BRANCH IF VLR                       8  5743  B Z2T H0Y 1         399
2192 20 33          B     MULT                                                      4  5751  B U6W               399
2193 20 34          DCW   CC1&12    MULTIPLICAND --INPUT RECORD LENGTH              3  5757  G6T                 399
2194 20 35          DCW   CC1&15    MULTIPLIER   --INPUT BLOCKING FACTOR            3  5760  G6W                 399
2195 20 36          DCW   FIELD     PRODUCT      --INPUT BLOCK SIZE                 3  5763  ?1|                 399
2196 20 37          C     FIELD,@00004000@      CHECK VALIDITY OF MAX BI            7  5764  C ?1| R5|           400
2197 20 38          BH    BIOK                                                      5  5771  B X8X U             400
2198 20 39          SBR   EMSG1&3,MSG17                                             7  5776  H H4S R1T           400
2199 20 40          B     ERRMSG                                                    4  5783  B H3U               400
2200 20 41   BIOK   SW    CC1&76                                                    4  5787  , H2X               400
2201 20 42          MLC   FIELD,CC1&80                                              7  5791  M ?1| H3/           400
2202 20 43          MLC   K04780,BKTSV         CALCULATE ADDRESS CONSTANTS FOR      7  5798  M 362 65W           401
2203 20 44          MLC   BKTSV,IPTE           BEGINNING OF INPUT AREAS-FLR         7  5805  M 65W H95           401
2204 20 45          A     FIELD,BKTSV                                               7  5812  A ?1| 65W           401
2205 20 46          A     K3,BKTSV                                                  7  5819  A 085 65W           401
2206 20 47          MLC   BKTSV,IPTD                                                7  5826  M 65W F49           401
2207 20 48          A     FIELD,BKTSV                                               7  5833  A ?1| 65W           402
2208 20 49          A     K3,BKTSV                                                  7  5840  A 085 65W           402
2209 20 50          MLC   BKTSV,IPTC                                                7  5847  M 65W D03           402
2210 20 51          A     FIELD,BKTSV                                               7  5854  A ?1| 65W           402
2211 20 52          A     K3,BKTSV                                                  7  5861  A 085 65W           402
2212 20 53          MLC   BKTSV,IPTA                                                7  5868  M 65W A57           403
2213 20 54          A     FIELD,BKTSV                                               7  5875  A ?1| 65W           403
2214 20 55          A     K3,BKTSV                                                  7  5882  A 085 65W           403
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

2215 20 56          MLC   BKTSV,IPTB                                               7  5889  M 65W R11          403
2216 20 57          C     CC1&18,K001                                              7  5896  C G6Z 397          403
2217 20 58          BU    *&8                                                      5  5903  B Z1V /            404
2218 20 59          LCA   EN,PAD&20                                                7  5908  L 192 63S          404
2219 20 60          LCA   EN                                                       4  5915  L 192              404
2220 20 61          B     ADDR1                                                    4  5919  B J5Y              404
2221 20 62   VLR1   MLC   @V0|@,T5                                                 7  5923  M R5T Q6Y          404
2222 20 63          LCA   EN,PAD&20                                                7  5930  L 192 63S          404
2223 20 64          LCA   EN                                                       4  5937  L 192              404
2224 20 65          C     CC1&18,K001          SET UP CONSTANT FOR FORMAT - VLR    7  5941  C G6Z 397          405
2225 20 66          BU    TESTIN                                                   5  5948  B Z6| /            405
2226 20 67          MLNS  K1,TSTBKT                                                7  5953  D 190 65X          405
2227 20 68   TESTIN C     CC1&15,K001         INPUT   OUTPUT   TSTBKT              7  5960  C G6W 397          405
2228 20 69          BE    UNBLIN              *****   ******   ******              5  5967  B Z9/ S            405
2229 20 70          BCE   YNBC,TSTBKT,1       BL      BL      BLANK                8  5972  B !2/ 65X 1        405
2230 20 71          MLC   BLANKS,TSTBKT       UNBL    BL      0                    7  5980  M 41W 65X          406
2231 20 72          B     YYBC                BL      UNBL    1                    4  5987  B !3S              406
2232 20 73   UNBLIN BCE   ADD1,TSTBKT,1       UNBL    UNBL    2                    8  5991  B !1| 65X 1        406
2233 20 74          MLNS  K0,TSTBKT                                                7  5999  D 096 65X          406
2234 20 75          B     NYBC                                                     4  6006  B !3Z              406
2235 20 76   ADD1   MLNS  K2,TSTBKT                                                7  6010  D 095 65X          406
2236 20 77          B     NNBC                                                     4  6017  B !4W              407
2237 20 78   YNBC   A     K004,CC1&69                                              7  6021  A 400 H2|          407
2238 20 79          B     NNBC                                                     4  6028  B !4W              407
2239 20 80   YYBC   A     K004,CC1&69                                              7  6032  A 400 H2|          407
2240 20 81   NYBC   NOP   K004,CC1&73                                              7  6039  N 400 H2U          407
2241 20 82   NNBC   MLC   CC1&69,CC1&80                                            7  6046  M H2| H3/          407
2242 20 83          MLC   CC1&73,WKAREA       MOVE MAX BOL TO WKAREA               7  6053  M H2U ?0S          408
2243 20 84          MLC   K04780,BKTSV         CALCULATE ADDRESS CONSTANTS FOR     7  6060  M 362 65W          408
2244 20 85          MLC   BKTSV,IPTE          BEGINNING OF INPUT AREAS - VLR       7  6067  M 65W H95          408
2245 20 86          A     CC1&69,BKTSV                                             7  6074  A H2| 65W          408
2246 20 87          A     K3,BKTSV                                                 7  6081  A 085 65W          408
2247 20 88          MLC   BKTSV,IPTD                                               7  6088  M 65W F49          409
2248 20 89          A     CC1&69,BKTSV                                             7  6095  A H2| 65W          409
2249 20 90          A     K3,BKTSV                                                 7  6102  A 085 65W          409
2250 20 91          MLC   BKTSV,IPTC                                               7  6109  M 65W D03          409
2251 20 92          A     CC1&69,BKTSV                                             7  6116  A H2| 65W          409
2252 20 93          A     K3,BKTSV                                                 7  6123  A 085 65W          410
2253 20 94          MLC   BKTSV,IPTA                                               7  6130  M 65W A57          410
2254 20 95          A     CC1&69,BKTSV                                             7  6137  A H2| 65W          410
2255 20 96          A     K3,BKTSV                                                 7  6144  A 085 65W          410
2256 20 97          MLC   BKTSV,IPTB                                               7  6151  M 65W R11          410
2257 20 98   ADDR1  MLNS  CC1&77,*&4                                               7  6158  D H2Y J6Y          411
2258 20 99          MZ    K1,CC1&78                                                7  6165  Y 190 H2Z          411
2259 21 00          MLC   T5,INPTE            CALCULATE BEGINNING & END            7  6172  M Q6Y 501          411
2260 21 01          MA    CC1&80,T5            ADDRESS OF I/O AREAS                7  6179  # H3/ Q6Y          411
2261 21 02          MA    T5,STGME&6                                               7  6186  # Q6Y H6|          411
2262 21 03          MA    THREE,T5                                                 7  6193  # 084 Q6Y          412
2263 21 04   D      MLC   T5,INPTD                                                 7  6200  M Q6Y 498          412
2264 21 05          MA    CC1&80,T5            ADDRESS OF I/O AREAS                7  6207  # H3/ Q6Y          412
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 SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

2265 21 06          MA    T5,STGMD&6                                              7  6214  # Q6Y H6X           412
2266 21 07          MA    THREE,T5                                                7  6221  # 084 Q6Y           412
2267 21 08   C      MLC   T5,INPTC                                                7  6228  M Q6Y 495           413
2268 21 09          MA    CC1&80,T5          ADDRESS OF I/O AREAS                 7  6235  # H3/ Q6Y           413
2269 21 10          MA    T5,STGMC&6                                              7  6242  # Q6Y H7U           413
2270 21 11          MA    THREE,T5                                                7  6249  # 084 Q6Y           413
2271 21 12   A      MLC   T5,INPTA                                                7  6256  M Q6Y 489           413
2272 21 13          MA    CC1&80,T5          ADDRESS OF I/O AREAS                 7  6263  # H3/ Q6Y           414
2273 21 14          MA    T5,STGMA&6                                              7  6270  # Q6Y H8/           414
2274 21 15          MA    THREE,T5                                                7  6277  # 084 Q6Y           414
2275 21 16   B      MLC   T5,INPTB                                                7  6284  M Q6Y 492           414
2276 21 17          MA    CC1&80,T5          ADDRESS OF I/O AREAS                 7  6291  # H3/ Q6Y           414
2277 21 18          MA    T5,STGMB&6                                              7  6298  # Q6Y H8Y           415
2278 21 19          MA    THREE,T5                                                7  6305  # 084 Q6Y           415
2279 21 20          MLC   STGME&6,IPTBLE                                          7  6312  M H6| H90           415
2280 21 21          MLC   STGMD&6,IPTBLD                                          7  6319  M H6X F44           415
2281 21 22          MLC   STGMC&6,IPTBLC                                          7  6326  M H7U C98           415
2282 21 23          MLC   STGMA&6,IPTBLA                                          7  6333  M H8/ A52           416
2283 21 24          MLC   STGMB&6,IPTBLB                                          7  6340  M H8Y R06           416
2284 21 25          MA    @I9H@,IPTBLE                                            7  6347  # R5W H90           416
2285 21 26          MA    @I9H@,IPTBLD                                            7  6354  # R5W F44           416
2286 21 27          MA    @I9H@,IPTBLC                                            7  6361  # R5W C98           416
2287 21 28          MA    @I9H@,IPTBLA                                            7  6368  # R5W A52           417
2288 21 29          MA    @I9H@,IPTBLB                                            7  6375  # R5W R06           417
2289 21 30          MLC   T5,OUTPUT                                               7  6382  M Q6Y 394           417
2290 21 31          MLC   T5,OPTBLO                                               7  6389  M Q6Y 391           417
2291 21 32          MA    N99,OPTBLO                                              7  6396  # 199 391           417
2292 21 33          MLNS  WKAREA-3,*&4                                            7  6403  D R9Z M1T           418
2293 21 34          MZ    K1,WKAREA-2                                             7  6410  Y 190 ?0|           418
2294 21 35          MA    WKAREA,T5                                               7  6417  # ?0S Q6Y           418
2295 21 36          MLC   T5,STGMOP&6                                             7  6424  M Q6Y H9V           418
2296 21 37          MLC   STGMOP&6,ENDPRO                                         7  6431  M H9V O8Z           418
2297 21 38          MA    THREE,ENDPRO                                            7  6438  # 084 O8Z           419
2298 21 39          MLNS  ENDPRO,PATCH                                            7  6445  D O8Z O9U           419
2299 21 40          MLNS  ENDPRO-1,PATCH-1                                        7  6452  D O8Y O9T           419
2300 21 41          MLNS  ENDPRO-2,PATCH-2                                        7  6459  D O8X O9S           419
2301 21 42          BWZ   G12K,ENDPRO,B  COMPUTE USER AREA MESSAGE                8  6466  V M9U O8Z B         419
2302 21 43          BWZ   G8K,ENDPRO,K                                            8  6474  V N6S O8Z K         420
2303 21 44          BWZ   G4K,ENDPRO,S                                            8  6482  V O3| O8Z S         420
2304 21 45          B     PATCHR&28                                               4  6490  B P5S               420
2305 21 46   G12K   BWZ   G15K,ENDPRO-2,B                                         8  6494  V N5/ O8X B         420
2306 21 47          BWZ   G14K,ENDPRO-2,K                                         8  6502  V N4| O8X K         420
2307 21 48          BWZ   G13K,ENDPRO-2,S                                         8  6510  V N2Z O8X S         421
2308 21 49          MLC   ZNTBL-12,PATCH-3                                        7  6518  M U4U O9/           421
2309 21 50          B     PATCHR                                                  4  6525  B P2U               421
2310 21 51   G13K   MLC   ZNTBL-8,PATCH-3                                         7  6529  M U4Y O9/           421
2311 21 52          B     PATCHR                                                  4  6536  B P2U               421
2312 21 53   G14K   MLC   ZNTBL-4,PATCH-3                                         7  6540  M U5S O9/           421
2313 21 54          B     PATCHR                                                  4  6547  B P2U               422
2314 21 55   G15K   MLC   ZNTBL,PATCH-3                                           7  6551  M U5W O9/           422
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

2315 21 56          B     PATCHR                                                  4  6558  B P2U               422
2316 21 57   G8K    BWZ   G11K,ENDPRO-2,B                                         8  6562  V O1Z O8X B         422
2317 21 58          BWZ   G10K,ENDPRO-2,K                                         8  6570  V O0Y O8X K         422
2318 21 59          BWZ   G9K,ENDPRO-2,S                                          8  6578  V N9X O8X S         422
2319 21 60          MLC   ZNTBL-28,PATCH-3                                        7  6586  M U2Y O9/           423
2320 21 61          B     PATCHR                                                  4  6593  B P2U               423
2321 21 62   G9K    MLC   ZNTBL-24,PATCH-3                                        7  6597  M U3S O9/           423
2322 21 63          B     PATCHR                                                  4  6604  B P2U               423
2323 21 64   G10K   MLC   ZNTBL-20,PATCH-3                                        7  6608  M U3W O9/           423
2324 21 65          B     PATCHR                                                  4  6615  B P2U               423
2325 21 66   G11K   MLC   ZNTBL-16,PATCH-3                                        7  6619  M U4| O9/           424
2326 21 67          B     PATCHR                                                  4  6626  B P2U               424
2327 21 68   G4K    BWZ   G7K,ENDPRO-2,B                                          8  6630  V O6V O8X B         424
2328 21 69          BWZ   G6K,ENDPRO-2,K                                          8  6638  V O7W O8X K         424
2329 21 70          BWZ   G5K,ENDPRO-2,S                                          8  6646  V P1X O8X S         424
2330 21 71          MLC   ZNTBL-44,PATCH-3                                        7  6654  M U1S O9/           425
2331 21 72          B     PATCHR                                                  4  6661  B P2U               425
2332 21 73   G7K    MLC   ZNTBL-32,PATCH-3                                        7  6665  M U2U O9/           425
2333 21 74          B     PATCHR                                                  4  6672  B P2U               425
2334 21 75   G6K    MLC   ZNTBL-36,PATCH-3                                        7  6676  M U2| O9/           425
2335 21 76          B     PATCHR                                                  4  6683  B P2U               425
2336 21 77   ENDPRO DCW   @   @                                                   3  6689                      425
2337 21 78   PATCH  DCW   @00000@        HIGHEST CORE POSITION USED BY PROGRAM    5  6694                      426
2338 21 79   USERAR DCW   @USER AREA STARTS@     @                               22  6716                      426
2339 21 80   G5K    MLC   ZNTBL-40,PATCH-3                                        7  6717  M U1W O9/           426
2340 21 81   PATCHR CS    0332                                                    4  6724  / 332               426
2341 21 82          CS                                                            1  6728  /                   426
2342 21 83          MZ    K1,PATCH-3                                              7  6729  Y 190 O9/           427
2343 21 84          C     PATCH,BUKT                                              7  6736  C O9U R9U           427
2344 21 85          BL    *&5                                                     5  6743  B P5S T             427
2345 21 86          B     SIZOK1                                                  4  6748  B P6T               427
2346 21 87          SBR   EMSG1&3,MSG10                                           7  6752  H H4S Q9/           427
2347 21 88          B     ERRMSG                                                  4  6759  B H3U               427
2348 21 89   SIZOK1 MLC   USERAR,240                                              7  6763  M P1W 240           428
2349 21 90          MLC   PATCH,0240                                              7  6770  M O9U 240           428
2350 21 91          CC    L                                                       2  6777  F L                 428
2351 21 92          CC    L                                                       2  6779  F L                 428
2352 21 93          W                        STORAGE AVAILABLE MESSAGE            1  6781  2                   428
2353 21 94          CC    L                                                       2  6782  F L                 428
2354 21 95          CS    0332                                                    4  6784  / 332               428
2355 21 96          CS                                                            1  6788  /                   429
2356 21 97          BCE   XXX,CC1&57,1        BRANCH IF VARIABLE                  8  6789  B Q0U H0Y 1         429
2357 21 98          B     FIVE23                                                  4  6797  B S3V               429
2358 21 99          DCW   FIELD                                                   3  6803  ?1|                 429
2359 22 00   XXX    MLC   CF1,X2                                                  7  6804  M 459 094           429
2360 22 01          MLC   CF,X1                                                   7  6811  M 429 089           429
2361 22 02          BCE   *&5,RCMRK,|         BRANCH IF NOT TAPE REDUNDANCY       8  6818  B Q3| 82V |         429
2362 22 03          B     *&8                                                     4  6826  B Q3X               430
2363 22 04          MLC   FIELD,CLRG          INIT. PUNCH-CORRECT-CONTINUE OPT.   7  6830  M ?1| 82U           430
2364 22 05          MA    OPTBLO,COMSQ&6      INITIALIZE SEQUENCE CHECK           7  6837  # 391 31X           430
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SEQ	PG	LIN	LABEL	OP	OPERANDS		SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
2365	22	06		CS	0080	READ IN NEXT BLOCK OF INITIALIZ.		4	6844	/ 080		430
2366	22	07		SW	0024,0056			7	6848	, 024 056		430
2367	22	08		SW	0063,0067			7	6855	, 063 067		430
2368	22	09		R	0056			4	6862	1 056		431
2369	22	10	T5	DCW	@V0|@			3	6868			431
2370	22	11	MSG9	DA	1X21,G				6869	6889		431
				DCW	@}@			1	6890		GMARK	432
2371	22	12		ORG	MSG9					6869		
2372	22	13		DCW	@ASSIGNMENT ERROR HALT@			21	6889			433
2373	22	14		ORG	*&1					6891		
2374	22	15	MSG10	DA	1X21,G				6891	6911		433
				DCW	@}@			1	6912		GMARK	434
2375	22	16		ORG	MSG10					6891		
2376	22	17		DCW	@MACHINE SIZE EXCEEDED@			21	6911			435
2377	22	18		ORG	*&1					6913		
2378	22	19	MSG17	DA	1X29,G				6913	6941		435
				DCW	@}@			1	6942		GMARK	436
2379	22	20		ORG	MSG17					6913		
2380	22	21		DCW	@INPUT BLOCK SIZE EXCEEDS 3999@			29	6941			437
2381	22	22		ORG	*&1					6943		
		2196		DCW	@00004000@			8	6950		LIT	438
					@V0|@			3	6953		LIT	438
					@I9H@			3	6956		LIT	438
2382	22	23		EX	INITOM					B V7Z		439

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

2383 22 24          JOB   INITIALIZATION PHASE  MERGE 7
2384 22 25          ORG   PROC1                                                          5579
2385 22 26   INIT2  BCE   INIT21,CC1&57,      BRANCH IF FLR                         8  5579  B W7S H0Y          442
2386 22 27          BCE   INIT21,TSTBKT,2    INITIALIZE FOR VLR FORMATS             8  5587  B W7S 65X 2        442
2387 22 28          BCE   INIT21,TSTBKT,0                                           8  5595  B W7S 65X 0        442
2388 22 29          BCE   YNBC11,TSTBKT,1                                           8  5603  B W2T 65X 1        442
2389 22 30          BCE   YNBC11,TSTBKT,                                            8  5611  B W2T 65X          443
2390 22 31          B     INIT21                                                    4  5619  B W7S              443
2391 22 32   YNBC11 MA    K004,INPTB                                                7  5623  # 400 492          443
2392 22 33          MA    K004,INPTA                                                7  5630  # 400 489          443
2393 22 34          MA    K004,INPTC                                                7  5637  # 400 495          443
2394 22 35          MA    K004,INPTD                                                7  5644  # 400 498          444
2395 22 36          MA    K004,INPTE                                                7  5651  # 400 501          444
2396 22 37          MLC   BEE,VL1    INITIALIZE VARIABLE WRONG LGTH REC CK          7  5658  M 193 04Z          444
2397 22 38          MLC   EN,BBP    3&X1 OK WHEN USING VLR IN BBP                   7  5665  M 192 83T          444
2398 22 39   INIT21 MLZS  ZN2,INPTB-1        INITIALIZE COMPARE INSTRUCTIONS        7  5672  Y Q5U 491          444
2399 22 40          MLC   INP 3B,AB&6                                                7  5679  M 492 840          445
 2400 22 41          MLC   INPTB,CB&6                                                7  5686  M 492 876          445
 2401 22 42          MLC   INPTB,DB&6                                                7  5693  M 492 912          445
 2402 22 43          MLC   INPTB,EB&6                                                7  5700  M 492 948          445
 2403 22 44          MLZS  ZNB,INPTB-1                                               7  5707  Y Q5V 491          445
 2404 22 45          MLZS  ZN2,INPTA-1                                               7  5714  Y Q5U 488          446
 2405 22 46          MLC   INPTA,AB&3                                                7  5721  M 489 837          446
 2406 22 47          MLC   INPTA,CA&6                                                7  5728  M 489 988          446
 2407 22 48          MLC   INPTA,DA&6                                                7  5735  M 489 |24          446
2408 22 49          MLC   INPTA,EA&6                                                7  5742  M 489 |60          446
2409 22 50          MLZS  ZNB,INPTA-1                                               7  5749  Y Q5V 488          447
2410 22 51          MLZS  ZN2,INPTC-1                                               7  5756  Y Q5U 494          447
2411 22 52          MLC   INPTC,CB&3                                                7  5763  M 495 873          447
2412 22 53          MLC   INPTC,CA&3                                                7  5770  M 495 985          447
2413 22 54          MLC   INPTC,DC&6                                                7  5777  M 495 /04          447
2414 22 55          MLC   INPTC,EC&6                                                7  5784  M 495 /40          448
2415 22 56          MLZS  ZNB,INPTC-1                                               7  5791  Y Q5V 494          448
2416 22 57          MLZS  ZN2,INPTD-1                                               7  5798  Y Q5U 497          448
2417 22 58          MLC   INPTD,DB&3                                                7  5805  M 498 909          448
2418 22 59          MLC   INPTD,DA&3                                                7  5812  M 498 |21          448
2419 22 60          MLC   INPTD,DC&3                                                7  5819  M 498 /01          449
2420 22 61          MLC   INPTD,ED&6                                                7  5826  M 498 /84          449
2421 22 62          MLZS  ZNB,INPTD-1                                               7  5833  Y Q5V 497          449
2422 22 63          MLZS  ZN2,INPTE-1                                               7  5840  Y Q5U 500          449
2423 22 64          MLC   INPTE,EB&3                                                7  5847  M 501 945          449
2424 22 65          MLC   INPTE,EA&3                                                7  5854  M 501 |57          450
2425 22 66          MLC   INPTE,EC&3                                                7  5861  M 501 /37          450
2426 22 67          MLC   INPTE,ED&3                                                7  5868  M 501 /81          450
2427 22 68          MLZS  ZNB,INPTE-1                                               7  5875  Y Q5V 500          450
2428 22 69          MLC   OUTPUT,WTAPE&6                                            7  5882  M 394 21X          450
2429 22 70          MA    CF,LOOPA-5         INITIALIZE SET WORD MARK INSTR.        7  5889  # 429 A36          451
2430 22 71          MA    CF,LOOPB-5                                                7  5896  # 429 Q90          451
2431 22 72          MA    CF,LOOPC-5                                                7  5903  # 429 C82          451
2432 22 73          MA    CF,LOOPD-5                                                7  5910  # 429 F28          451
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                   SFX CT  LOCN  INSTRUCTION TYPE  CARD

2433 22 74          MA    CF,LOOPE-5                                                      7  5917  # 429 H74           451
2434 22 75          BCE   ASEQ,CC1&75,        BRANCH IF ASCENDING SEQUENCE                8  5924  B !1W H2W           452
2435 22 76          MLC   @T@,AB&11          INITIALIZE FOR DESCENDING SEQ.               7  5932  M Q9| 845           452
2436 22 77          MLC   @T@,CB&11                                                       7  5939  M Q9| 881           452
2437 22 78          MLC   @T@,DB&11                                                       7  5946  M Q9| 917           452
2438 22 79          MLC   @T@,EB&11                                                       7  5953  M Q9| 953           452
2439 22 80          MLC   @T@,CA&11                                                       7  5960  M Q9| 993           453
2440 22 81          MLC   @T@,DA&11                                                       7  5967  M Q9| |29           453
2441 22 82          MLC   @T@,EA&11                                                       7  5974  M Q9| |65           453
2442 22 83          MLC   @T@,DC&11                                                       7  5981  M Q9| /09           453
2443 22 84          MLC   @T@,EC&11                                                       7  5988  M Q9| /45           453
2444 22 85          MLC   @T@,ED&11                                                       7  5995  M Q9| /89           454
2445 22 86          MLC   @T@,COMSQ&11                                                    7  6002  M Q9| 32S           454
2446 22 87          MLC   @T@,EQCOMP&30                                                   7  6009  M Q9| S68           454
2447 22 88   ASEQ   SBR   PUTB&18,DECSEQ                                                  7  6016  H P51 41X           454
2448 22 89          SBR   PUTA&18                                                         4  6023  H R97               454
2449 22 90          SBR   PUTC&18                                                         4  6027  H B43               454
2450 22 91          SBR   PUTD&18                                                         4  6031  H D89               455
2451 22 92          SBR   PUTE&18                                                         4  6035  H G35               455
2452 22 93          BCE   VRL2,CC1&57,1       BRANCH IF VLR                               8  6039  B J9Y H0Y 1         455
2453 22 94          MLC   BEE,FL1    INITIALIZE FIXED WRONG LGTH REC CK                   7  6047  M 193 I90           455
2454 22 95          MLC   BEE,FL2    INITIALIZE FIXED WRONG LGTH REC CK                   7  6054  M 193 04V           455
2455 22 96          MLNS  CC1&9,*&4                                                       7  6061  D G6| !7/           455
2456 22 97          MZ    K1,CC1&10                                                       7  6068  Y 190 G6/           456
2457 22 98          BCE   F4,CC1&9,4                                                      8  6075  B J7W G6| 4         456
2458 22 99   SETRL  MLC   CC1&12,RCDLNA       INIT RECORD LENGTH BUCKETS                  7  6083  M G6T R78           456
2459 23 00          MLC   CC1&12,RCDLNB       WITH A 3-CHAR. RECORD LENGTH.               7  6090  M G6T P32           456
2460 23 01          MLC   CC1&12,RCDLNC                                                   7  6097  M G6T B24           456
2461 23 02          MLC   CC1&12,RCDLND                                                   7  6104  M G6T D70           457
2462 23 03          MLC   CC1&12,RCDLNE                                                   7  6111  M G6T G16           457
2463 23 04          LCA   EN,LOOPE-26                                                     7  6118  L 192 H53           457
2464 23 05          LCA   EN,LOOPD-26                                                     7  6125  L 192 F07           457
2465 23 06          LCA   EN,LOOPC-26                                                     7  6132  L 192 C61           457
2466 23 07          LCA   EN,LOOPB-26                                                     7  6139  L 192 Q69           458
2467 23 08          LCA   EN,LOOPA-26                                                     7  6146  L 192 A15           458
2468 23 09          MLC   WKAREA,FIELD       MOVE BOL TO FIELD - FLR                      7  6153  M ?0S ?1|           458
2469 23 10          C     CC1&18,K001                                                     7  6160  C G6Z 397           458
2470 23 11          BE    NNBC1              OUTPUT BLOCKING EQUAL 1                      5  6167  B L0X S             458
2471 23 12          B     OPT                                                             4  6172  B N5|               458
2472 23 13   F4     MZ    BEE,CC1&12                                                      7  6176  Y 193 G6T           459
2473 23 14          B     SETRL                                                           4  6183  B !8T               459
2474 23 15   MDCOOP MLC   &VL1,FEEDBG&10     MODIFY CORR. OPTION FOR VRL REC              7  6187  M Q9T 98S           459
2475 23 16          B     VRL2&8                                                          4  6194  B K0W               459
2476 23 17   VRL2   BCE   MDCOOP,CC1&19,C     IS CORRECT OPTION USED                      8  6198  B J8X G7| C         459
2477 23 18          MLC   CC1&61,RLD       MOVE RLI POSITION TO RLD                       7  6206  M H1S 382           459
2478 23 19          MLC   CC1&73,FIELD        MOVE MAX BOL TO FIELD - VLR                 7  6213  M H2U ?1|           460
2479 23 20          MA    RLD,MVRLI&3        MOVE RLI POSITION TO SETZN RTN               7  6220  # 382 37U           460
2480 23 21          C     @1000@,RLD         MAX RL LESS THAN 1000                        7  6227  C Q9X 382           460
2481 23 22          BL    MDSTZN             NO                                           5  6234  B K5X T             460
2482 23 23          MLNS  RLD-3,*&4                                                       7  6239  D 379 K4Z           460
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

2483 23 24          MZ    K1,MVRLI&1                                               7  6246  Y 190 37S          461
2484 23 25          B     MDSTZN&7                                                 4  6253  B K6U              461
2485 23 26   MDSTZN LCA   BEE,MZNE-4          YES                                  7  6257  L 193 38S          461
2486 23 27          BCE   NNBC1,TSTBKT,2      CHECK VLR FORMAT                     8  6264  B L0X 65X 2        461
2487 23 28          BCE   YNBC1,TSTBKT,1                                           8  6272  B L0| 65X 1        461
2488 23 29          BCE   NYBC1,TSTBKT,0                                           8  6280  B N1V 65X 0        462
2489 23 30          BCE   YYBC1,TSTBKT,                                            8  6288  B N0Y 65X          462
2490 23 31          B     OPT                                                      4  6296  B N5|              462
2491 23 32   YNBC1  LCA   SHARP,READ&4                                             7  6300  L 182 I64          462
2492 23 33   NNBC1  LCA   EN,PUTB                                                  7  6307  L 192 P33          462
2493 23 34          LCA   EN,PUTA                                                  7  6314  L 192 R79          463
2494 23 35          LCA   EN,PUTC                                                  7  6321  L 192 B25          463
2495 23 36          LCA   EN,PUTD                                                  7  6328  L 192 D71          463
2496 23 37          LCA   EN,PUTE                                                  7  6335  L 192 G17          463
2497 23 38          LCA   B72,PUTB&10                                              7  6342  L Q7Z P43          463
2498 23 39          LCA   B72,PUTA&10                                              7  6349  L Q7Z R89          464
2499 23 40          LCA   B72,PUTC&10                                              7  6356  L Q7Z B35          464
2500 23 41          LCA   B72,PUTD&10                                              7  6363  L Q7Z D81          464
2501 23 42          LCA   B72,PUTE&10                                              7  6370  L Q7Z G27          464
2502 23 43          LCA   EN,PUTB&11                                               7  6377  L 192 P44          464
2503 23 44          LCA   EN,PUTA&11                                               7  6384  L 192 R90          465
2504 23 45          LCA   EN,PUTC&11                                               7  6391  L 192 B36          465
2505 23 46          LCA   EN,PUTD&11                                               7  6398  L 192 D82          465
2506 23 47          LCA   EN,PUTE&11                                               7  6405  L 192 G28          465
2507 23 48          LCA   EN,RTNRD-7                                               7  6412  L 192 25X          465
2508 23 49          BCE   OPT2,CC1&57,                                             8  6419  B N5Y H0Y          466
2509 23 50          BCE   NNBC11,CC1&61,                                           8  6427  B M3Z H1S          466
2510 23 51          B     OPT                                                      4  6435  B N5|              466
2511 23 52   NNBC11 LCA   PTAV,MOVEA-18                                            7  6439  L Q5Z ?08          466
2512 23 53          LCA   PTBV,MOVEB-18                                            7  6446  L Q6T P62          466
2513 23 54          LCA   PTCV,MOVEC-18                                            7  6453  L Q6X B54          467
2514 23 55          LCA   PTDV,MOVED-18                                            7  6460  L Q7/ E00          467
2515 23 56          LCA   PTEV,MOVEE-18                                            7  6467  L Q7V G46          467
2516 23 57          SBR   LOOPA-23,STZNV                                           7  6474  H A18 |3Y          467
2517 23 58          SBR   LOOPB-23                                                 4  6481  H Q72              467
2518 23 59          SBR   LOOPC-23                                                 4  6485  H C64              467
2519 23 60          SBR   LOOPD-23                                                 4  6489  H F10              468
2520 23 61          SBR   LOOPE-23                                                 4  6493  H H56              468
2521 23 62          NOP   000,000                                                  7  6497  N 000 000          468
2522 23 63          B     OPT                                                      4  6504  B N5|              468
2523 23 64   YYBC1  LCA   SHARP,READ&4                                             7  6508  L 182 I64          468
2524 23 65   NYBC1  MA    K004,OUTPUT                                              7  6515  # 400 394          468
2525 23 66          MA    K004,OPTBLO                                              7  6522  # 400 391          469
2526 23 67          MLC   OPTBLO,BLEX&6                                            7  6529  M 391 53S          469
2527 23 68          S     K4,FIELD                                                 7  6536  S 086 ?1|          469
2528 23 69          LCA   BEE,WRITE&4                                              7  6543  L 193 17V          469
2529 23 70   OPT    BCE   NOPASS,TSTBKT,2     BRANCH IF INPUT-OUTPUT UNBLOCKED     8  6550  B N8Z 65X 2        469
2530 23 71   OPT2   CS    080                 OMIT CONVERSION ROUTINE              4  6558  / 080              470
2531 23 72          SW    024,056                                                  7  6562  , 024 056          470
2532 23 73          SW    063,067                                                  7  6569  , 063 067          470
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

2533 23 74          R                                                          1  6576  1                  470
2534 23 75          BCE   OPT1,068,B                                           8  6577  B O1/ 068 B        470
2535 23 76          B     *-12                                                 4  6585  B N7W              470
2536 23 77   NOPASS CS    080      LOAD ROUTINE TO COMPRESS RLI                4  6589  / 080              470
2537 23 78          SW    024,056                                              7  6593  , 024 056          471
2538 23 79          SW    063,067                                              7  6600  , 063 067          471
2539 23 80          R     056                                                  4  6607  1 056              471
2540 23 81   OPT1   MZ    EM,WKAREA                                            7  6611  Y 363 ?0S          471
2541 23 82          A     K16000,WKAREA                                        7  6618  A 405 ?0S          471
2542 23 83          B     FIVE23                                               4  6625  B S3V              471
2543 23 84          DCW   WKAREA                                               3  6631  ?0S                471
2544 23 85          MA    N99,WKAREA                                           7  6632  # 199 ?0S          472
2545 23 86          MLC   WKAREA,OPTBLS                                        7  6639  M ?0S 385          472
2546 23 87          MLC   OPTBLS,OPTBL                                         7  6646  M 385 388          472
2547 23 88          BCE   HL0,CC1&57,                                          8  6653  B O9/ H0Y          472
2548 23 89          BCE   HL0,TSTBKT,1                                         8  6661  B O9/ 65X 1        472
2549 23 90          BCE   HL0,TSTBKT,2                                         8  6669  B O9/ 65X 2        473
2550 23 91          MA    K004,OPTBLS                                          7  6677  # 400 385          473
2551 23 92          MA    K004,OPTBL                                           7  6684  # 400 388          473
2552 23 93   HL0    MLNS  TU1,REWDIP&23      REWIND ALL WORK TAPES             7  6691  D 10T Q2/          473
2553 23 94          MLNS  TU2,REWDIP&18                                        7  6698  D 10U Q1W          473
2554 23 95          MLNS  TU3,REWDIP&13                                        7  6705  D 10V Q1/          474
2555 23 96          MLNS  TU4,REWDIP&8                                         7  6712  D 10W Q0W          474
2556 23 97          MLNS  TU5,REWDIP&3                                         7  6719  D 10X Q0/          474
2557 23 98          BCE   *&5,CC1&6,                                           8  6726  B P3Y G5X          474
2558 23 99          B     RWOPT                                                4  6734  B P5Z              474
2559 24 00          LCA   @N000@,REWDIP&28                                     7  6738  L R0/ Q2W          475
2560 24 01          LCA   NOPOT,WTAPE-3                                        7  6745  L Q8U 20Y          475
2561 24 02          LCA   NOPOT1,EOFOPT&4                                      7  6752  L Q8Z V79          475
2562 24 03   RWOPT  MLNS  WTAPE&3,REWDIP&28                                    7  6759  D 21U Q2W          475
2563 24 04          BCE   REWDIP&20,CC1&2,                                     8  6766  B Q1Y G5T          475
2564 24 05          BCE   REWDIP&15,CC1&3,                                     8  6774  B Q1T G5U          476
2565 24 06          BCE   REWDIP&10,CC1&4,                                     8  6782  B Q0Y G5V          476
2566 24 07          BCE   REWDIP&5,CC1&5,                                      8  6790  B Q0T G5W          476
2567 24 08   REWDIP RWD   %U0                                                  5  6798  U %U0 R            476
2568 24 09          RWD   %U0                                                  5  6803  U %U0 R            476
2569 24 10          RWD   %U0                                                  5  6808  U %U0 R            476
2570 24 11          RWD   %U0                                                  5  6813  U %U0 R            477
2571 24 12          RWD   %U0                                                  5  6818  U %U0 R            477
2572 24 13          RWD   %U0                                                  5  6823  U %U0 R            477
2573 24 14   **
2574 24 15   EXIT9  NOP   000                OPTIONAL USER EXIT                4  6828  N 000              477
2575 24 16   **
2576 24 17          CS    080           OVERLAY NEXT BLOCK OF INITIALIZATION     4  6832  / 080              477
2577 24 18          SW    024,056                                              7  6836  , 024 056          477
2578 24 19          SW    063,067                                              7  6843  , 063 067          477
2579 24 20          R     056                                                  4  6850  1 056              478
2580 24 21   ZN2    DCW   @-@                                                  1  6854                     478
2581 24 22   ZNB    DCW   @ @                                                  1  6855                     478
2582 24 23          DCW   @M@                                                  1  6856                     478
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

2583 24 24   PTAV   DC    &IPTBLA                                                   3  6859  A52                478
2584 24 25          DCW   @M@                                                       1  6860                     478
2585 24 26   PTBV   DC    &IPTBLB                                                   3  6863  R06                478
2586 24 27          DCW   @M@                                                       1  6864                     478
2587 24 28   PTCV   DC    &IPTBLC                                                   3  6867  C98                478
2588 24 29          DCW   @M@                                                       1  6868                     478
2589 24 30   PTDV   DC    &IPTBLD                                                   3  6871  F44                479
2590 24 31          DCW   @M@                                                       1  6872                     479
2591 24 32   PTEV   DC    &IPTBLE                                                   3  6875  H90                479
2592 24 33          DCW   @B@                                                       1  6876                     479
2593 24 34   B72    DC    &BLKCNT&1                                                 3  6879  58/                479
2594 24 35          B     REINIT                                                    4  6880  B 23W              479
2595 24 36   NOPOT  DC    @ @                                                       1  6884                     479
2596 24 37          B     EXI6-4                                                    4  6885  B W99              479
2597 24 38   NOPOT1 DC    @ @                                                       1  6889                     480
                    DCW   @T@                                                       1  6890             LIT     480
       2474               &VL1                                                      3  6893  04Z        ADCON   480
                          @1000@                                                    4  6897             LIT     480
                          @N000@                                                    4  6901             LIT     480
2598 24 39          EX    INIT2                                                              B V7Z              481
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

2599 24 40          JOB   INITIALIZATION PHASE   MERGE 7
2600 24 41          ORG   BBP&205            LOAD ABOVE BBP FOR MAIN LINE                          5038
2601 24 42   STZNV  SBR   X1                 CONVERSION OF 5 CHAR TO 3 CHAR        4  5038  H 089              484
2602 24 43          MLC   33&X1,CONVRT                                             7  5042  M 0T3 /7T          484
2603 24 44          MLC   BLANKS,HOLD1                                             7  5049  M 41W /7Y          484
2604 24 45          MN    CONVRT,HOLD1                                             7  5056  D /7T /7Y          484
2605 24 46          MN                                                             1  5063  D                  484
2606 24 47          MN                                                             1  5064  D                  484
2607 24 48          MZ    CONVRT,ZONE1                                             7  5065  Y /7T /8|          484
2608 24 49          MZ    CONVRT-2,ZONE1-1                                         7  5072  Y /7/ /7Z          485
2609 24 50          SBR   CZONE&6,TABLE&1    INITIALIZE COMPARE                    7  5079  H |9S /8S          485
2610 24 51   CZONE  C     ZONE1,000          COMPARE ON ZONES                      7  5086  C /8| 000          485
2611 24 52          BE    EXRTN                                                    5  5093  B /1W S            485
2612 24 53          A     K1,HOLD1-3                                               7  5098  A 190 /7V          485
2613 24 54          MA    @002@,CZONE&6      GET NEXT TABLE ENTRY                  7  5105  # S1V |9S          486
2614 24 55          B     CZONE                                                    4  5112  B |8W              486
2615 24 56   EXRTN  S     38&X1,HOLD1                                              7  5116  S 0T8 /7Y          486
2616 24 57          MZ    K1,HOLD1           MOVE ZONES OVER NUMBER                7  5123  Y 190 /7Y          486
2617 24 58          MN    HOLD1-3,*&4                                              7  5130  D /7V /4|          486
2618 24 59          MZ    K1,HOLD1-2                                               7  5137  Y 190 /7W          486
2619 24 60          MA    @H5I@,X1                                                 7  5144  # S1Y 089          487
2620 24 61          MLC   HOLD1,0&X1         MOVE 3 CHAR TO RECORD LENG. BKT       7  5151  M /7Y 0|0          487
2621 24 62          MA    K001,0&X1                                                7  5158  # 397 0|0          487
2622 24 63          B     141&X1                                                   4  5165  B 1U1              487
2623 24 64   CONVRT DCW   @     @                                                  5  5173                     487
2624 24 65   HOLD1  DCW   @     @                                                  5  5178                     487
2625 24 66   ZONE1  DCW   @99@                                                     2  5180                     487
2626 24 67   TABLE  DCW   @9@                ZONE TABLE                            1  5181                     488
2627 24 68          DC    9                                                        1  5182                     488
2628 24 69          DCW   @Z9@                                                     2  5184                     488
2629 24 70                @R9@                                                     2  5186                     488
2630 24 71                @I9@                                                     2  5188                     488
2631 24 72                @9Z@                                                     2  5190                     488
2632 24 73                @ZZ@                                                     2  5192                     488
2633 24 74                @RZ@                                                     2  5194                     488
2634 24 75                @IZ@                                                     2  5196                     489
2635 24 76                @9R@                                                     2  5198                     489
2636 24 77                @ZR@                                                     2  5200                     489
2637 24 78                @RR@                                                     2  5202                     489
2638 24 79                @IR@                                                     2  5204                     489
2639 24 80                @9I@                                                     2  5206                     489
2640 24 81                @ZI@                                                     2  5208                     489
2641 24 82                @RI@                                                     2  5210                     490
2642 24 83                @II@                                                     2  5212                     490
                    DCW   @002@                                                    3  5215             LIT     490
                          @H5I@                                                    3  5218             LIT     490
2643 24 84          EX    OPT1                                                              B O1/              491
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 SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

2644 24 85          JOB   INITIALIZATION PHASE MERGE 7
2645 24 86          ORG   FIVE23                                                          5235
2646 24 87   ITMODE BCE   OTMD,CC3&2,0        IS INPUT IN LOAD MODE               8  5235  B T2X E8Z 0        494
2647 24 88          MLC   BEE,RDTAP-15        PREPARE FOR MOVE MODE INPUT         7  5243  M 193 I86          494
2648 24 89          MLC   EM,RDTAP                                                7  5250  M 363 00/          494
2649 24 891         BCE   *&5,BBPT,L          WRITE BAD BLOCKS ON TAPE            8  5257  B S6Z 89W L        494
2650 24 892         B     *&8                 NO                                  4  5265  B S7W              494
2651 24 893         MLC   EM,BBPT             YES INIT MOVE MODE WRITE            7  5269  M 363 89W          495
2652 24 90          C     CC1&29,@01@                                             7  5276  C G8| O9U          495
2653 24 91          BL    MMODE                                                   5  5283  B S9S T            495
2654 24 92          B     OTMD                                                    4  5288  B T2X              495
2655 24 93   MMODE  MLC   BEE,LOOPE-4         PREPARE                             7  5292  M 193 H75          495
2656 24 94          MLC   BEE,LOOPD-4                BRANCH                       7  5299  M 193 F29          495
2657 24 95          MLC   BEE,LOOPC-4                      TO                     7  5306  M 193 C83          496
2658 24 96          MLC   BEE,LOOPA-4                        GENERALIZED          7  5313  M 193 A37          496
2659 24 97          MLC   BEE,LOOPB-4          SET WORD MARK ROUTINE.             7  5320  M 193 Q91          496
2660 24 98   OTMD   BCE   *&5,CC3&3,0         IS L MODE OUTPUT WANTED             8  5327  B T3Z E9| 0        496
2661 24 99          B     CKHL                                                    4  5335  B T4W              496
2662 25 00          MLC   MOVEA,WTAPE          YES                                7  5339  M ?26 21/          497
2663 25 01   CKHL   BCE   O120H,LBBUCK,1                                          8  5346  B W3Y 413 1        497
2664 25 02          BCE   HL00,CC1&21,                                            8  5354  B O7/ G7S          497
2665 25 03          SBR   MESHLT&3,SAMHL                                          7  5362  H L17 L31          497
2666 25 04          SBR   ALPHA2&6,SAMHL                                          7  5369  H W98 L31          497
2667 25 05          BCE   SAMEHL,CC1&21,1                                         8  5376  B U0| G7S 1        498
2668 25 06          BCE   RDSHL,CC1&21,2      BRANCH TO CHECK STD HDRS.           8  5384  B Y4Z G7S 2        498
2669 25 07          BCE   RDSHL,CC1&21,4                                          8  5392  B Y4Z G7S 4        498
2670 25 08   SAMEHL LCA   GMWM,0281           READ HEADER LABEL - TAPE 1          7  5400  L 334 281          498
2671 25 09          MLNS  CC1&1,RHL&3                                             7  5407  D G5S L67          498
2672 25 10          MLNS  CC1&1,RDTAP&3                                           7  5414  D G5S 00U          499
2673 25 11          MLNS  CC1&1,*&4                                               7  5421  D G5S U3/          499
2674 25 12          RWD   1                                                       5  5428  U %U1 R            499
2675 25 13          SBR   STOP-1,H1                                               7  5433  H M69 U5/          499
2676 25 14          SBR   BKSPC&08,RHL                                            7  5440  H V74 L64          499
2677 25 15          B     SAMHL&7                                                 4  5447  B L38              499
2678 25 16   H1     MLC   280,SAVEHL&80       SAVE HDR LABEL FROM 1ST INPUT TAP   7  5451  M 280 657          500
2679 25 17   H2     BCE   HLTM,CC1&2,                                             8  5458  B !5| G5T          500
2680 25 18          MLNS  CC1&2,RHL&3         READ HEADER LABEL - TAPE 2          7  5466  D G5T L67          500
2681 25 19          MLNS  CC1&2,RDTAP&3                                           7  5473  D G5T 00U          500
2682 25 20          MLNS  CC1&2,*&4                                               7  5480  D G5T U9|          500
2683 25 21          RWD   2                                                       5  5487  U %U2 R            501
2684 25 22          SBR   STOP-1,H3                                               7  5492  H M69 V0T          501
2685 25 23          B     SAMHL&7                                                 4  5499  B L38              501
2686 25 24   H3     BCE   HLTM,CC1&3,                                             8  5503  B !5| G5U          501
2687 25 25          MLNS  CC1&3,RHL&3          READ HEADER LABEL - TAPE 3         7  5511  D G5U L67          501
2688 25 26          MLNS  CC1&3,RDTAP&3                                           7  5518  D G5U 00U          501
2689 25 27          MLNS  CC1&3,*&4                                               7  5525  D G5U V3V          502
2690 25 28          RWD   3                                                       5  5532  U %U3 R            502
2691 25 29          SBR   STOP-1,H4                                               7  5537  H M69 V4Y          502
2692 25 30          B     SAMHL&7                                                 4  5544  B L38              502
2693 25 31   H4     BCE   HLTM,CC1&4,                                             8  5548  B !5| G5V          502
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 SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

2694 25 32          MLNS  CC1&4,RHL&3          READ HEADER LABEL - TAPE 4          7  5556  D G5V L67          502
2695 25 33          MLNS  CC1&4,RDTAP&3                                            7  5563  D G5V 00U          503
2696 25 34          MLNS  CC1&4,*&4                                                7  5570  D G5V V8|          503
2697 25 35          RWD   4                                                        5  5577  U %U4 R            503
2698 25 36          SBR   STOP-1,H5                                                7  5582  H M69 V9T          503
2699 25 37          B     SAMHL&7                                                  4  5589  B L38              503
2700 25 38   H5     BCE   HLTM,CC1&5,                                              8  5593  B !5| G5W          503
2701 25 39          MLNS  CC1&5,RHL&3          READ HEADER LABEL - TAPE 5          7  5601  D G5W L67          504
2702 25 40          MLNS  CC1&5,RDTAP&3                                            7  5608  D G5W 00U          504
2703 25 41          MLNS  CC1&5,*&4                                                7  5615  D G5W W2V          504
2704 25 42          RWD   5                                                        5  5622  U %U5 R            504
2705 25 43          SBR   STOP-1,HLTM                                              7  5627  H M69 !5|          504
2706 25 44          B     SAMHL&7                                                  4  5634  B L38              504
2707 25 45   O120H  SBR   OM00&13,215         INITIALIZATION FOR 120 CHARACTER     7  5638  H !8/ 215          505
2708 25 46          SBR   CC4C8&3,230         LABEL                                7  5645  H N0S 230          505
2709 25 47          SBR   CC4C28&3,215                                             7  5652  H N2V 215          505
2710 25 48          SBR   CC4C12&3,240                                             7  5659  H N4Y 240          505
2711 25 49          SBR   FNAME&3,225                                              7  5666  H N7/ 225          505
2712 25 50          SBR   TLBLCT&6,STDTL&71                                        7  5673  H W06 272          506
2713 25 51          SBR   ALPHA-1,321       120 OUTPUT TRAILER GMWM                7  5680  H W27 321          506
2714 25 52          SBR   YRCHEK&3,212                                             7  5687  H X71 212          506
2715 25 53          SBR   CRDATE&3,215                                             7  5694  H X83 215          506
2716 25 54          SBR   CRDATE&10,207                                            7  5701  H X90 207          506
2717 25 55          SBR   CRDATE&14,210                                            7  5708  H X94 210          507
2718 25 56          SBR   UPTPSR-1,SAVEHL&37                                       7  5715  H Z01 614          507
2719 25 57          SBR   UPTPSR-4,SAVEHL&31                                       7  5722  H Y98 608          507
2720 25 58          SBR   RENT-1,SAVEHL&37                                         7  5729  H Z29 614          507
2721 25 59          SBR   RENT-4,SAVEHL&31                                         7  5736  H Z26 608          507
2722 25 60          SBR   RENT-8,SAVEHL&40                                         7  5743  H Z22 617          508
2723 25 61          SBR   UPTPSR&6,SAVEHL&35                                       7  5750  H Z08 612          508
2724 25 62          SBR   CNTERF&3,272                                             7  5757  H !40 272          508
2725 25 63          SBR   NOIH1&3,272                                              7  5764  H !21 272          508
2726 25 64          SBR   RHL2&3,225                                               7  5771  H M35 225          508
2727 25 65          SBR   WRHL-6,321                                               7  5778  H Y59 321          509
2728 25 66          SBR   ROPTHL-1,321                                             7  5785  H X18 321          509
2729 25 67          SBR   RHL-15,321                                               7  5792  H L49 321          509
2730 25 68          SBR   NOIHL-1,321                                              7  5799  H Z72 321          509
2731 25 69          MLCWA @0@,OBCTR-5                                              7  5806  L O9V 338          509
2732 25 70          CW    OBCTR-4                                                  4  5813  ) 339              509
2733 25 71          SBR   HLHALT-1,321                                             7  5817  H Y30 321          510
2734 25 72          SBR   YRCHEK-8,231                                             7  5824  H X60 231          510
2735 25 73          SBR   YRCHEK-4,235                                             7  5831  H X64 235          510
2736 25 74          SBR   YRCHEK-1,SAVEHL&35                                       7  5838  H X67 612          510
2737 25 75          B     CKHL&8                                                   4  5845  B T5U              510
2738 25 76   RDSHL  BCE   OM5,OM,5      DETERMINE                                  8  5849  B Z2Z H3T 5        511
2739 25 77          BCE   OM4A,OM,4       HOW MANY                                 8  5857  B Y8Z H3T 4        511
2740 25 78          BCE   OM3A,OM,3         STANDARD                               8  5865  B Z0| H3T 3        511
2741 25 79          BCE   OM2A,OM,2           HEADER LABELS                        8  5873  B Z1/ H3T 2        511
2742 25 80          BCE   OM1A,OM,1             TO BE READ.                        8  5881  B Z2S H3T 1        512
2743 25 81   OM4A   SBR   OM1&3,OM0     ALTER                                      7  5889  H Z4Y Z4Z          512
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 SEQ PG LIN  LABEL  OP    OPERANDS                                      SFX CT  LOCN  INSTRUCTION TYPE  CARD

2744 25 82          B     OM5             STANDARD                            4  5896  B Z2Z               512
2745 25 83   OM3A   SBR   OM2&3,OM0         HEADER                            7  5900  H Z4U Z4Z           512
2746 25 84          B     OM5                 LABEL                           4  5907  B Z2Z               512
2747 25 85   OM2A   SBR   OM3&3,OM0             ROUTINE                       7  5911  H Z4| Z4Z           512
2748 25 86          B     OM5                     ACCORDINGLY.                4  5918  B Z2Z               513
2749 25 87   OM1A   SBR   OM4&3,OM0                                           7  5922  H Z3W Z4Z           513
2750 25 88   OM5    B     HDLBF1        READ                                  4  5929  B J4Z               513
2751 25 89   OM4    B     HDLBF2         AND                                  4  5933  B J8X               513
2752 25 90   OM3    B     HDLBF3          PROCESS                             4  5937  B K4Y               513
2753 25 91   OM2    B     HDLBF4           REQUIRED NUMBER                    4  5941  B L0Z               513
2754 25 92   OM1    B     HDLBF5            OF STANDARD HEADER LABELS.        4  5945  B L7|               513
2755 25 93   OM0    BCE   OM00,CC3&13,1  CHECK ENTIRE SUBSEQUENT HDR LABELS   8  5949  B !6Y F0| 1         514
2756 25 94          MLC   CC4C8,RHL2         NO, ONLY FILE NAME               7  5957  M M9Z M32           514
2757 25 95          SW    FILEB&10,FILEE&10                                   7  5964  , 694 769           514
2758 25 96          SW    FILED&10,FILEC&10                                   7  5971  , 744 719           514
2759 25 97          SW    FILEA&10                                            4  5978  , 669               514
2760 25 98          MLC   BEE,RHL2&7                                          7  5982  M 193 M39           515
2761 25 99          MLC   STOPH,RHL6                                          7  5989  M O2U M58           515
2762 26 00          MLC   BEE,RHL6&4                                          7  5996  M 193 M62           515
2763 26 01   UDIRS  BCE   *&5,CC3&14,1  UPDATE REEL SEQ NO ON NEXR REEL       8  6003  B !1V F0/ 1         515
2764 26 02          B     HLTM               NO                               4  6011  B !5|               515
2765 26 03          LCA   SHARP,TB1          YES, INIT FOR IT                 7  6015  L 182 J30           516
2766 26 04          LCA   SHARP,TE1                                           7  6022  L 182 J67           516
2767 26 05          LCA   SHARP,TD1                                           7  6029  L 182 K04           516
2768 26 06          LCA   SHARP,TC1                                           7  6036  L 182 K41           516
2769 26 07          LCA   SHARP,TA1                                           7  6043  L 182 K78           516
2770 26 08   HLTM   SBR   STOP-1,FL1-12                                       7  6050  H M69 I78           517
2771 26 09          SBR   BKSPC&08,RDTAP                                      7  6057  H V74 00/           517
2772 26 10          B     HL00                                                4  6064  B O7/               517
2773 26 11   OM00   MLC   CC4C8,RHL2    INIT TO CHECK SUBSEQUENT HDR LABELS   7  6068  M M9Z M32           517
2774 26 12          SBR   RHL2&3,235                                          7  6075  H M35 235           517
2775 26 13          MLC   BEE,RHL2&7                                          7  6082  M 193 M39           517
2776 26 14          MLC   STOPH,RHL6                                          7  6089  M O2U M58           518
2777 26 15          MLC   BEE,RHL6&4                                          7  6096  M 193 M62           518
2778 26 16          MLC   EN,RHL4                                             7  6103  M 192 M44           518
2779 26 17          SBR   TB1&13,FILEB&24                                     7  6110  H J43 708           518
2780 26 18          SBR   TE1&13,FILEE&24                                     7  6117  H J80 783           518
2781 26 19          SBR   TD1&13,FILED&24                                     7  6124  H K17 758           519
2782 26 20          SBR   TC1&13,FILEC&24                                     7  6131  H K54 733           519
2783 26 21          SBR   TA1&13,FILEA&24                                     7  6138  H K91 683           519
2784 26 22          B     UDIRS                                               4  6145  B !0T               519
2785 26 23   **             THESE FOLLOWING ROUTINES HANDLE STANDARD HEADER
2786 26 24   *              LABELS AND WILL BE EXCUTED ONLY WHEN COL 21 OF
2787 26 25   *              CTL CARD 1 CONTAINS A 2 OR 3 PUNCH
2788 26 26   HDLBF1 SBR   HDREXT&3           PREPARE RETURN TO MAINLINE       4  6149  H N9Y               519
2789 26 27          SW    CC41&21,CC41&26                                     7  6153  , E2W E3/           519
2790 26 28          SW    CC41&31,CC41&41                                     7  6160  , E3W E4W           520
2791 26 29          SW    CC41&46                                             4  6167  , E5/               520
2792 26 30          MN    CC1&1,RHL&3        MODIFY TAPE NO FOR RHL           7  6171  D G5S L67           520
2793 26 31          CS    320                                                 4  6178  / 320               520
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 SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

2794 26 32          CS                                                            1  6182  /                  520
2795 26 33          B     BEGIN                                                   4  6183  B M2X              520
2796 26 34   HDLBF2 SBR   HDREXT&3             PREPARE RETURN TO MAINLINE         4  6187  H N9Y              520
2797 26 35          SW    CC42&21,CC42&26                                         7  6191  , D4U D4Z          521
2798 26 36          SW    CC42&31,CC42&41     MAKE                                7  6198  , D5U D6U          521
2799 26 37          SW    CC42&46                MODIFICATIONS                    4  6205  , D6Z              521
2800 26 38          SBR   CC4C8&6,CC42&25            TO                           7  6209  H N0V D4Y          521
2801 26 39          SBR   CC4C28&6,CC42&45            PERTINENT                   7  6216  H N2Y D6Y          521
2802 26 40          SBR   CC4C12&6,CC42&29              INSTRUCTIONS              7  6223  H N5/ D5S          521
2803 26 41          SBR   FNAME&6,CC42&40                                         7  6230  H N7U D6T          522
2804 26 42          MN    CC1&2,RHL&3         MODIFY TAPE NO FOR RHL              7  6237  D G5T L67          522
2805 26 43          B     BEGIN                                                   4  6244  B M2X              522
2806 26 44   HDLBF3 SBR   HDREXT&3             PREPARE RETURN TO MAINLINE         4  6248  H N9Y              522
2807 26 45          SW    CC43&21,CC43&26                                         7  6252  , C6S C6X          522
2808 26 46          SW    CC43&31,CC43&41     MAKE                                7  6259  , C7S C8S          522
2809 26 47          SW    CC43&46                MODIFICATIONS                    4  6266  , C8X              523
2810 26 48          SBR   CC4C8&6,CC43&25            TO                           7  6270  H N0V C6W          523
2811 26 49          SBR   CC4C28&6,CC43&45            PERTINENT                   7  6277  H N2Y C8W          523
2812 26 50          SBR   CC4C12&6,CC43&29              INSTRUCTIONS              7  6284  H N5/ C7|          523
2813 26 51          SBR   FNAME&6,CC43&40                                         7  6291  H N7U C8/          523
2814 26 52          MN    CC1&3,RHL&3         MODIFY TAPE NO FOR RHL              7  6298  D G5U L67          523
2815 26 53          B     BEGIN                                                   4  6305  B M2X              524
2816 26 54   HDLBF4 SBR   HDREXT&3             PREPARE RETURN TO MAINLINE         4  6309  H N9Y              524
2817 26 55          SW    CC44&21,CC44&26                                         7  6313  , B8| B8V          524
2818 26 56          SW    CC44&31,CC44&41     MAKE                                7  6320  , B9| C0|          524
2819 26 57          SW    CC44&46                MODIFICATIONS                    4  6327  , C0V              524
2820 26 58          SBR   CC4C8&6,CC44&25            TO                           7  6331  H N0V B8U          524
2821 26 59          SBR   CC4C28&6,CC44&45            PERTINENT                   7  6338  H N2Y C0U          525
2822 26 60          SBR   CC4C12&6,CC44&29              INSTRUCTIONS              7  6345  H N5/ B8Y          525
2823 26 61          SBR   FNAME&6,CC44&40                                         7  6352  H N7U B9Z          525
2824 26 62          MN    CC1&4,RHL&3         MODIFY TAPE NO FOR RHL              7  6359  D G5V L67          525
2825 26 63          B     BEGIN                                                   4  6366  B M2X              525
2826 26 64   HDLBF5 SBR   HDREXT&3             PREPARE RETURN TO MAINLINE         4  6370  H N9Y              525
2827 26 65          SW    CC45&21,CC45&26                                         7  6374  , A9Y B0T          526
2828 26 66          SW    CC45&31,CC45&41     MAKE                                7  6381  , B0Y B1Y          526
2829 26 67          SW    CC45&46                MODIFICATIONS                    4  6388  , B2T              526
2830 26 68          SBR   CC4C8&6,CC45&25            TO                           7  6392  H N0V B0S          526
2831 26 69          SBR   CC4C28&6,CC45&45            PERTINENT                   7  6399  H N2Y B2S          526
2832 26 70          SBR   CC4C12&6,CC45&29              INSTRUCTIONS              7  6406  H N5/ B0W          526
2833 26 71          SBR   FNAME&6,CC45&40                                         7  6413  H N7U B1X          527
2834 26 72          MN    CC1&5,RHL&3         MODIFY TAPE NO FOR RHL              7  6420  D G5W L67          527
2835 26 73   BEGIN  MLC   BLANKS,COUNTR                                           7  6427  M 41W 375          527
2836 26 74          MLNS  RHL&3,HLERR-10      PUT HDR LABEL TAPE NO INTO MSG.     7  6434  D L67 O6|          527
2837 26 75          SBR   ALPHA2&6,SAMHL                                          7  6441  H W98 L31          527
2838 26 76          SBR   CNGMSG-13,SAMHL                                         7  6448  H L17 L31          528
2839 26 77   RETACK SBR   STOP-1,COMBKE                                           7  6455  H M69 M7T          528
2840 26 78          SBR   BKSPC&08,RHL        MODIFY ERROR ROUTINE FOR RHL        7  6462  H V74 L64          528
2841 26 79          B     SAMHL&7                                                 4  6469  B L38              528
2842 26 80   COMBKE SBR   RETACK&6,CC4C2                                          7  6473  H M6/ M9/          528
2843 26 81          MLC   280,SAVEHL&80                                           7  6480  M 280 657          528
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

2844 26 82          B     CC4C2                                                      4  6487  B M9/              529
2845 26 83   CC4C2  BCE   FNAME,CC3&13,      BR IF ONLY FILE NAME                    8  6491  B N6Y F0|          529
2846 26 84   CC4C8  C     215,CC41&25        COMPARE FILE SERIAL NUMBER              7  6499  C 215 E3|          529
2847 26 85          BE    CC4C28                                                     5  6506  B N2S S            529
2848 26 86          MLC   @FILE SER NO  @,WRONG-1                                    7  6511  M P0Y O5|          529
2849 26 87          B     ERRHDR                                                     4  6518  B N9Z              529
2850 26 88   CC4C28 C     235,CC41&45         COMPARE CREATION DATE                  7  6522  C 235 E5|          530
2851 26 89          BE    CC4C12                                                     5  6529  B N4V S            530
2852 26 90          MLC   @CREATION DATE@,WRONG-1                                    7  6534  M P2/ O5|          530
2853 26 91          B     ERRHDR                                                     4  6541  B N9Z              530
2854 26 92   CC4C12 C     219,CC41&29        COMPARE REEL SEQUENCE NUMBER            7  6545  C 219 E3U          530
2855 26 93          BE    FNAME                                                      5  6552  B N6Y S            530
2856 26 94          MLC   @REEL SEQ NO  @,WRONG-1                                    7  6557  M P3U O5|          531
2857 26 95          B     ERRHDR                                                     4  6564  B N9Z              531
2858 26 96   FNAME  C     230,CC41&40        COMPARE FILE NAME                       7  6568  C 230 E4V          531
2859 26 97          BE    CC4C3                                                      5  6575  B N9/ S            531
2860 26 98          MLC   @FILE NAME    @,WRONG-1                                    7  6580  M P4X O5|          531
2861 26 99          B     ERRHDR                                                     4  6587  B N9Z              531
2862 27 00   CC4C3  EQU   *&1                                                           6591
2863 27 01   **
2864 27 02   EXIT7  NOP   0                   USERS EXIT - OPTIONAL                  4  6591  N 000              531
2865 27 03   **
2866 27 04   HDREXT B     0                   RETURN TO MAINLINE                     4  6595  B 000              532
2867 27 05   ERRHDR SBR   STOPH&3            MODIFY RETURN                           4  6599  H O2X              532
2868 27 06          MLC   HLERR,320          SET UP ERROR MESSAGE                    7  6603  M O7| 320          532
2869 27 07          MLC   WRONG              SPECIFY ERROR WITHIN LABEL              4  6610  M O5/              532
2870 27 08          W                         PRINT                                  1  6614  2                  532
2871 27 09          CC    1                  ADVANCE PRINT FORM                      2  6615  F 1                532
2872 27 10          MLC   BLANKS-1,WRONG     GET SET FOR MORE ERROR MESSAGES         7  6617  M 41V O5/          532
2873 27 11   STOPH  H     EXIT7               PRESS START IF HLABEL CLOSE ENUF       4  6624  . N9/              533
2874 27 12          B     BEGIN              REPLACE TAPE, PRESS START-RESET         4  6628  B M2X              533
2875 27 13   *                                  AND START TO CHECK NEW HDR LABEL
2876 27 14   WRONG  DCW   @WRONG               @                                    20  6651                     533
2877 27 15   HLERR  DCW   @TAPE NO 0 HDR LABEL@                                     19  6670                     534
2878 27 16   HL00   CS    080                                                        4  6671  / 080              534
2879 27 17          SW    024,056                                                    7  6675  , 024 056          534
2880 27 18          SW    063,067                                                    7  6682  , 063 067          534
2881 27 19          R     056                                                        4  6689  1 056              535
2882 27 20          LTORG *                                                                6693
                    DCW   @01@                                                       2  6694            LIT      535
                          @0@                                                        1  6695            LIT      535
        2848              @FILE SER NO  @                                           13  6708            LIT      535
        2852              @CREATION DATE@                                           13  6721            LIT      535
        2856              @REEL SEQ NO  @                                           13  6734            LIT      536
        2860              @FILE NAME    @                                           13  6747            LIT      536
2883 27 21          EX    ITMODE                                                          B S3V              537
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

2884 27 22          JOB   WLR CHECK  LOADED BELOW INPUT AR. CONTIN. INIT.
2885 27 23          ORG   ITMODE                                                     5235
2886 27 24   FLWLR  MA    K001,3&X1                                            7  5235  # 397 0|3          540
2887 27 25          MLC   3&X1,*&7                                             7  5242  M 0|3 S5V          540
2888 27 26          MLC   BCKT,0                                               7  5249  M 17| 000          540
2889 27 27          B     RDTAP-7                                              4  5256  B I94              540
2890 27 28   FWLRCK C     SVGMPO,3&X1                                          7  5260  C U8W 0|3          540
2891 27 29          MA    N99,3&X1                                             7  5267  # 199 0|3          540
2892 27 30          BE    CONTIN                                               5  5274  B 06X S            541
2893 27 31          A     K1,WLRCT                                             7  5279  A 190 U8T          541
2894 27 32   WLRERR BCE   WLRHLT,WLRCT-1,1                                     8  5286  B T5| U8S 1        541
2895 27 33          MLNS  RDTAP&3,*&4                                          7  5294  D 00U T0U          541
2896 27 34          BSP   0                                                    5  5301  U %U0 B            541
2897 27 35          MA    @002@,3&X1                                           7  5306  # U8Z 0|3          541
2898 27 36          C     3&X1,SVGMPO                                          7  5313  C 0|3 U8W          542
2899 27 37          BE    *&15                                                 5  5320  B T3Z S            542
2900 27 38          MLC   SVGMPO,*&7                                           7  5325  M U8W T3Y          542
2901 27 39          MLC   BCKT,0                                               7  5332  M 17| 000          542
2902 27 40          MA    N99,3&X1                                             7  5339  # 199 0|3          542
2903 27 41          B     RDTAP-7                                              4  5346  B I94              542
2904 27 42   WLRHLT MLC   RDTAP&3,WLRMES&1                                     7  5350  M 00U U7X          543
2905 27 43          CS    332                                                  4  5357  / 332              543
2906 27 44          CS                                                         1  5361  /                  543
2907 27 45          MLC   WLRMES&1,270                                         7  5362  M U7X 270          543
2908 27 46          MLC                                                        1  5369  M                  543
2909 27 47          W                                                          1  5370  2                  543
2910 27 48          CC    1                                                    2  5371  F 1                543
2911 27 49          H     BBP&7     BRANCH TO BAD BLOCK OPTION & 7             4  5373  . 84|              544
2912 27 50   VWLRCK MLC   BLANKS-9,CNVRT1                                      7  5377  M 40X U8/          544
2913 27 51          MLC                                                        1  5384  M                  544
2914 27 52          MLNS  4&X3,CNVRT1   MOVE BLOCK COUNT FOR CONVER TO 3 CH    7  5385  D 0?4 U8/          544
2915 27 53          MLNS                                                       1  5392  D                  544
2916 27 54          MLNS                                                       1  5393  D                  544
2917 27 55          MLNS                                                       1  5394  D                  544
2918 27 56   CK3CHR BCE   R3CHAR,CNVRT1-3,0  BRANCH IF ALREADY 3               8  5395  B U2Y U7Y 0        545
2919 27 57          S     K1,CNVRT1-3                                          7  5403  S 190 U7Y          545
2920 27 58          MLZS  K1,CNVRT1-3                                          7  5410  Y 190 U7Y          545
2921 27 59          MA    @|00@,CNVRT1                                         7  5417  # U9S U8/          545
2922 27 60          B     CK3CHR                                               4  5424  B T9V              545
2923 27 61   R3CHAR MA    X3,CNVRT1                                            7  5428  # 099 U8/          546
2924 27 62          MLC   CNVRT1,3&X1                                          7  5435  M U8/ 0|3          546
2925 27 63          MA    K001,CNVRT1                                          7  5442  # 397 U8/          546
2926 27 64          C     CNVRT1,SVGMPO                                        7  5449  C U8/ U8W          546
2927 27 65          BE    CONTIN                                               5  5456  B 06X S            546
2928 27 66          B     WLRERR-7                                             4  5461  B S7Z              546
2929 27 67   WLRMES DCW   @WLR ON TAPE @                                      12  5476                     547
2930 27 68          DCW   @ @          BUCKET FOR TAPE DRIVE NUMBER            1  5477                     547
2931 27 69          DCW   @ @                                                  1  5478                     547
2932 27 70   CNVRT1 DCW   @   @                                                3  5481                     547
2933 27 71   WLRCT  DCW   @  @                                                 2  5483                     547
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

2934 27 72  SVGMPO DCW   @   @                                                     3  5486                       547
2935 27 73         LTORG *                                                                5487
                   DCW   @002@                                                     3  5489              LIT    547
                         @|00@                                                     3  5492              LIT    548
2936 27 74  HL001  BCE   NOPHL,CC1&22,    NO OUTPUT HDR LABEL WANTED               8  5493  B V9T G7T          548
2937 27 75         CS    332                                                       4  5501  / 332              548
2938 27 76         CS                                                              1  5505  /                  548
2939 27 77         BCE   *&15,CC1&23,1      BR IF TMK TO FOLLOW HDR LABEL          8  5506  B V2Y G7U 1        548
2940 27 78         MLC   EN,RENT            NO TMK TO FOLLOW HDR LABEL             7  5514  M 192 Z30          548
2941 27 79         SBR   RENT&3,000                                                7  5521  H Z33 000          548
2942 27 80         MLNS  CC1&6,WRHL-2                                              7  5528  D G5X Y63          549
2943 27 81         MLNS  CC1&6,WRHL&3                                              7  5535  D G5X Y68          549
2944 27 82         SBR   NOHLIP&3,TL                                               7  5542  H Z42 P2/          549
2945 27 83         BCE   WRHL41,CC1&22,1    USE HDR FROM 1ST INPUT TAPE            8  5549  B W2S G7T 1        549
2946 27 84         BCE   NEWOHL,CC1&22,2    GENERATE NEW HL FROM CC5 DATA          8  5557  B Y2W G7T 2        549
2947 27 85         BCE   NEWHL,CC1&22,3     USE HDR FROM CTL CARD 4                8  5565  B W0U G7T 3        550
2948 27 86         B     ONE120                                                    4  5573  B W3T              550
2949 27 87  RET120 BCE   NEWOHL,CC1&22,5                                           8  5577  B Y2W G7T 5        550
2950 27 88         BCE   WRHL41,CC1&22,4                                           8  5585  B W2S G7T 4        550
2951 27 89  NOPHL  SBR   EXI6&3,NOHLIP   BR AROUND H LABEL ROUTINE AT EOF          7  5593  H X06 Z39          550
2952 27 90         B     TL                 GO TEST TRAILER LABEL OPTION           4  5600  B P2/              550
2953 27 91  NEWHL  MRCM  CC5&1,SAVEHL&1                                            7  5604  P ?9W 578          551
2954 27 92         MRCM  SAVEHL&1,201                                              7  5611  P 578 201          551
2955 27 93         B     EXIT6              GO WRITE OUTPUT HEADER LABEL.          4  5618  B Y35              551
2956 27 94  WRHL41 MRCM  SAVEHL,201                                                7  5622  P 577 201          551
2957 27 95         B     EXIT6              GO WRITE OUTPUT HEADER LABEL.          4  5629  B Y35              551
2958 27 96  ONE120 SBR   CLHL&29,SAVEHL&25                                         7  5633  H !7T 602          551
2959 27 97         SBR   CLHL&36,SAVEHL&40                                         7  5640  H !8| 617          552
2960 27 98         SBR   CLHL&43,SAVEHL&30                                         7  5647  H !8X 607          552
2961 27 99         SBR   RETCY-1,SAVEHL&15                                         7  5654  H J1T 592          552
2962 28 00         SBR   RETCY&6,SAVEHL&10                                         7  5661  H J2| 587          552
2963 28 01         SBR   RETCY&13,SAVEHL&35                                        7  5668  H J2X 612          552
2964 28 02         SBR   CKC5DY&18,SAVEHL&15                                       7  5675  H J5| 592          553
2965 28 03         SBR   SWMDTC&3,211                                              7  5682  H J8U 211          553
2966 28 04         SBR   SWMDTC&6,207                                              7  5689  H J8X 207          553
2967 28 05         SBR   CWMDTC&3,211                                              7  5696  H K1S 211          553
2968 28 06         SBR   CWMDTC&6,207                                              7  5703  H K1V 207          553
2969 28 07         SBR   CWMDTC&13,FOR9S                                           7  5710  H K2S M8V          554
2970 28 08         SBR   CHKIT&3,210                                               7  5717  H J9/ 210          554
2971 28 09         SBR   CWMDTC-4,215                                              7  5724  H K0V 215          554
2972 28 10         SBR   CKFS&15,SAVEHL&31                                         7  5731  H N6S 608          554
2973 28 11         SBR   CKFS&22,SAVEHL&30                                         7  5738  H N6Z 607          554
2974 28 12         SBR   CKFS1&6,SAVEHL&30                                         7  5745  H N8| 607          555
2975 28 13         SBR   CKSEQ-1,SAVEHL&35                                         7  5752  H N9Z 612          555
2976 28 14         SBR   CKSEQ&3,SAVEHL&31                                         7  5759  H O0T 608          555
2977 28 15         SBR   RESETS&6,SAVEHL&41                                        7  5766  H O2Z 618          555
2978 28 16         SBR   RESETS&13,SAVEHL&25                                       7  5773  H O3W 602          555
2979 28 17         SBR   RESETS&20,SAVEHL&10                                       7  5780  H O4T 587          556
2980 28 18         SBR   RESETS&35,SAVEHL&35                                       7  5787  H O5Y 612          556
2981 28 19         SBR   BYBYBY&6,SAVEHL&15                                        7  5794  H O9U 592          556
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 SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

2982 28 20          SBR   BYBYBY&17,SAVEHL&15                                   7  5801  H P0V 592           556
2983 28 21          SBR   CLHL-1,321                                            7  5808  H !4T 321           556
2984 28 22          SBR   CKSEQ-4,235                                           7  5815  H N9W 235           557
2985 28 23          B     RET120                                                4  5822  B V7X               557
2986 28 24   NEWOHL SW    CC5&46,CC5&41                                         7  5826  , A4/ A3W           557
2987 28 25          SW    CC5&31,CC5&26                                         7  5833  , A2W A2/           557
2988 28 26          SW    CC5&21,CC3&19                                         7  5840  , A1W F0W           557
2989 28 27          SW    CC3&6                                                 4  5847  , E9T               557
2990 28 28          MLC   @1HDR @,SAVEHL&5                                      7  5851  M Q4/ 582           558
2991 28 29          MLNS  CC1&6,EXI6&7                                          7  5858  D G5X X10           558
2992 28 30          MLNS  CC1&6,RERD1&3                                         7  5865  D G5X Z5Y           558
2993 28 31          MLZS  *-6,213                                               7  5872  Y Y7S 213           558
2994 28 32          MLNS  CC1&6,RETI-2                                          7  5879  D G5X M6/           558
2995 28 33          MLZS  *-6,RENOIS&7                                          7  5886  Y Y8W Z2|           559
2996 28 34          MLNS  CC1&6,*&4                                             7  5893  D G5X Z0T           559
2997 28 35   NEWOH1 RTW   0,201                                                 8  5900  L %U0 201 R         559
2998 28 36          BEF   *&1                 RESET INDICATOR                   5  5908  B Z1T K             559
2999 28 37   RENOIS BCE   NOISEL,213,         TEST FOR NOISE RECORD             8  5913  B Z3| 213           559
3000 28 38          BER   REREAD              CHECK FOR TAPE REDUNDANCY         5  5921  B Z3Y L             560
3001 28 39          B     CKFLAG                                                4  5926  B Z7S               560
3002 28 40   NOISEL CS    220                                                   4  5930  / 220               560
3003 28 41          B     NEWOHL              GO READ AGAIN                     4  5934  B Y2W               560
3004 28 42   REREAD BAV   *&1                 RESET INDICATOR                   5  5938  B Z4T Z             560
3005 28 43          A     K1,COUNTR           COUNT TAPE READ ATTEMPTS          7  5943  A 190 375           560
3006 28 44          BAV   BADIT              100 FAILURES - GIVE UP             5  5950  B Z6U Z             560
3007 28 45   RERD1  BSP   0                   BACKSPACE TAPE                    5  5955  U %U0 B             561
3008 28 46          B     NEWOHL              GO TRY AGAIN                      4  5960  B Y2W               561
3009 28 47   BADIT  H     CKFLAG            100 FAILURES AT READING OUTPUT TAPE 4  5964  . Z7S               561
3010 28 48          B     RERD1              TO KEEP TRYING PRESS START-RESET   4  5968  B Z5V               561
3011 28 49   *                                    AND START
3012 28 50   CKFLAG C     205,@1HDR @                                           7  5972  C 205 Q4W           561
3013 28 51          BCE   *&12,CC3&18,                                          8  5979  B Z9Y F0V           561
3014 28 52          MLCWA K1,FILEE&25                                           7  5987  L 190 784           561
3015 28 53          B     *&30                                                  4  5994  B !2X               562
3016 28 54          MLCWA BLCK,FILEE&25                                         7  5998  L N4W 784           562
3017 28 55          MLC   EN,EXI6                                               7  6005  M 192 X03           562
3018 28 56          BCE   *&8,CC3&15,1                                          8  6012  B !2X F0S 1         562
3019 28 57          MLC   BLCK,HLHALT-22                                        7  6020  M N4W Y09           562
3020 28 58          BE    STDOHL                                                5  6027  B J5V S             562
3021 28 59          CS    332                                                   4  6032  / 332               563
3022 28 60          CS                                                          1  6036  /                   563
3023 28 61          MLCWA GMWM,281                                              7  6037  L 334 281           563
3024 28 62   CLHL   MLC   BLANKS,SAVEHL&79                                      7  6044  M 41W 656           563
3025 28 63          SBR   CLHL&6                                                4  6051  H !5|               563
3026 28 64          C     CLHL&6,&SAVEHL-1                                      7  6055  C !5| Q4Z           563
3027 28 65          BU    CLHL                                                  5  6062  B !4U /             563
3028 28 66          MLC   CC5&40,SAVEHL&30    ASSEMBLE FILE NAME                7  6067  M A3V 607           564
3029 28 67          MLC   CC5&29,SAVEHL&19    ASSEMBLE REEL SEQ. NO             7  6074  M A2U 596           564
3030 28 68          MLC   CC5&25,SAVEHL&15    ASSEMBLE FILE SERIAL NO.          7  6081  M A2| 592           564
3031 28 69          MLC   @1HDR @,SAVEHL&5    NO, CREATE ONE FROM CC5           7  6088  M Q5U 582           564
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 SEQ PG LIN  LABEL  OP    OPERANDS                                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

3032 28 70          C     BLANKS,CC3&10      IS DATE ON CTL CD 3                      7  6095  C 41W E9X           564
3033 28 71          BE    CKC5DY               NO, LOOK ON CD 5                       5  6102  B J3S S             565
3034 28 72          MLC   CC3&10,SAVEHL&35     YES, USE IT IN OUTPUT HDR              7  6107  M E9X 612           565
3035 28 73   RETCY  MLC   CC5&49,SAVEHL&39   ASSEMBLE RETENTION CYCLE                 7  6114  M A4U 616           565
3036 28 74          MLC   CC3&23,SAVEHL&10   ASSEMBLE TAPE SERIAL NO.                 7  6121  M F1| 587           565
3037 28 75          B     EXIT6              GO WRITE OUTPUT HEADER LABEL.            4  6128  B Y35               565
3038 28 76   CKC5DY C     BLANKS,CC5&45       IS DATE ON CC5                          7  6132  C 41W A4|           565
3039 28 77          BE    DATERR               NO, ERROR                              5  6139  B P1| S             566
3040 28 78          MLC   CC5&45,SAVEHL&35         YES, USE IT IN OUTPUT HDR.         7  6144  M A4| 612           566
3041 28 79          B     RETCY              RESUME CREATION OF HDR LABEL             4  6151  B J1U               566
3042 28 80   STDOHL BCE   OHDATE,CC3&15,1    CHECK RETENTION CYCLE                    8  6155  B J6X F0S 1         566
3043 28 81          B     CKFS               NO                                       4  6163  B N4X               566
3044 28 82   OHDATE MLC   EN,RETIND          INITIALIZE IF THIS IS SUBS HD            7  6167  M 192 M3X           566
3045 28 83          MLC   EN,EXI6            INIT FOR SUBS HDR IN MAIN LINE           7  6174  M 192 X03           567
3046 28 84   SWMDTC SW    231,237            SET WMS TO EXTRACT DATA                  7  6181  , 231 237           567
3047 28 85   CHKIT  ZA    239,HLDRTN         EXTRACT RET. PEROID                      7  6188  ? 239 M9V           567
3048 28 851         MLZS  K1,HLDRTN          CLEAR ZONE                               7  6195  Y 190 M9V           567
3049 28 86          MLC   235,HLDCRE         AND CREATION DATE                        7  6202  M 235 M9|           567
3050 28 87   CWMDTC CW    231,237            CLEAR WORD MARKS                         7  6209  ) 231 237           568
3051 28 88          C     HLDRTN,FOR9S-1     80 CHAR.  HOLD INDEF                     7  6216  C M9V M8U           568
3052 28 89          BE    RETAIN             YES                                      5  6223  B M7/ S             568
3053 28 90          C     BLANKS,CC3&10      NO FIND CURRENT DATE                     7  6228  C 41W E9X           568
3054 28 91          BE    CC5DAY             NOT IN CC 3 TRY CC 5                     5  6235  B K5/ S             568
3055 28 92          MLC   CC3&10,SAVED       DATE IN CC 3                             7  6240  M E9X 423           568
3056 28 93          B     CHKIT2             CHECK RETENTION                          4  6247  B K7|               569
3057 28 94   CC5DAY C     BLANKS,CC5&45      IS THE DATE IN CC 5                      7  6251  C 41W A4|           569
3058 28 95          BE    DATERR             NO   DATE UNSPECIFIED                    5  6258  B P1| S             569
3059 28 96          MLC   CC5&45,SAVED       YES SAVE IT                              7  6263  M A4| 423           569
3060 28 97   CHKIT2 SW    HLDCRE-2                                                    4  6270  , M8Y               569
3061 28 98          A     HLDCRE,HLDRTN      ADD CURR DAY TO RETENTION                7  6274  A M9| M9V           569
3062 28 99   SUB1YR S     @00365@,HLDRTN     PAST END OF YEAR                         7  6281  S Q5Z M9V           570
3063 29 00          BWZ   ADD,HLDRTN,K       NO                                       8  6288  V L0X M9V K         570
3064 29 01          A     K1,HLDCRE-3        YES                                      7  6296  A 190 M8X           570
3065 29 02          B     SUB1YR                                                      4  6303  B K8/               570
3066 29 03   ADD    A     @00365@,HLDRTN     ADD TO OBTAIN DAY EXPIRED                7  6307  A Q6U M9V           570
3067 29 04          MLZS  K1,HLDRTN                                                   7  6314  Y 190 M9V           571
3068 29 05          MLC   HLDRTN,HLDCRE      COMBINE DAY & YEAR EXPIRED               7  6321  M M9V M9|           571
3069 29 06          CW    HLDCRE-2                                                    4  6328  ) M8Y               571
3070 29 07          C     SAVED,HLDCRE       COMPARE EXPIRATION TO CURR.              7  6332  C 423 M9|           571
3071 29 08          BL    CKFS               OK                                       5  6339  B N4X T             571
3072 29 09   SUBTRK S     SAVED-3,HLDCRE-3   SAVE TAPE AND                            7  6344  S 420 M8X           571
3073 29 10          MLZS  K1,HLDCRE-3        CALCULATE DAYS TO BE SAVED               7  6351  Y 190 M8X           572
3074 29 11          C     @00@,HLDCRE-3                                               7  6358  C Q6W M8X           572
3075 29 12          BE    CALCDY                                                      5  6365  B L8Y S             572
3076 29 13          S     @01@,HLDCRE-3                                               7  6370  S Q6Y M8X           572
3077 29 14          A     @00365@,HLDRTN                                              7  6377  A Q7T M9V           572
3078 29 15          B     SUBTRK&7                                                    4  6384  B L5/               572
3079 29 16   CALCDY SW    SAVED-2,HLDRTN-3                                            7  6388  , 421 M9S           573
3080 29 17          S     SAVED,HLDRTN                                                7  6395  S 423 M9V           573
3081 29 18          MLC   HLDRTN,SVDAYS                                               7  6402  M M9V N2/           573
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

3082 29 181         MLZS  K1,SVDAYS         CLEAR ZONE IN MESSAGE                   7  6409  Y 190 N2/           573
3083 29 19          CW    SAVED-2,HLDRTN-3                                          7  6416  ) 421 M9S           573
3084 29 20   RETILL MLNS  NEWOH1&3,SVTNO                                            7  6423  D Z0T N0/           574
3085 29 21          MLCWA SAVEOT,332                                                7  6430  L N3/ 332           574
3086 29 22   RETIND NOP   INDEF,332                                                 7  6437  N N4V 332           574
3087 29 23          W                                                               1  6444  2                   574
3088 29 24          CC    1                                                         2  6445  F 1                 574
3089 29 25          CS    332                                                       4  6447  / 332               574
3090 29 26          MLC   BLANKS-9,299                                              7  6451  M 40X 299           574
3091 29 27          RWD   0                                                         5  6458  U %U0 R             575
3092 29 28   RETI   H     NEWOHL            BRANCH TO TRY AGAIN                     4  6463  . Y2W               575
3093 29 29          B     CKFS              START-RESET,START TO CONTINUE           4  6467  B N4X               575
3094 29 30   RETAIN MLCWA *-6,RETIND                                                7  6471  L M7/ M3X           575
3095 29 31          B     RETILL                                                    4  6478  B M2T               575
3096 29 32   FOR9S  DCW   @9999@                                                    4  6485                      575
3097 29 33   HLDCRE DCW   #5                BKT FOR CREATION DATE                   5  6490                      575
3098 29 34   HLDRTN DCW   #5                WORK AREA FOR RET CK                    5  6495                      576
3099 29 35   SAVEOT DCW   @TAPE 0 TO BE RETAINED 0000 MORE DAYS@                   36  6531                      577
3100 29 36   INDEF  DCW   @INDEFINITLY   @                                         14  6545                      578
3101 29 37   SVTNO  EQU   SAVEOT-30                                                    6501
3102 29 38   SVDAYS EQU   SAVEOT-10                                                    6521
3103 29 39   BLCK   DCW   @ @                                                       1  6546                      578
3104 29 40   CKFS   BCE   *&5,CC3&16,       WHATS FOR FILE SERIAL NO                8  6547  B N5Z F0T           578
3105 29 41          B     CKFS1                                                     4  6555  B N7U               578
3106 29 42          SW    SAVEHL&11                                                 4  6559  , 588               578
3107 29 43          MLC   CC5&25,SAVEHL&15    USE FILE SER NO FROM CC5 COL 25       7  6563  M A2| 592           578
3108 29 44          B     CKFS1&7                                                   4  6570  B N8/               579
3109 29 45   CKFS1  MLC   CC3&23,SAVEHL&15  CHECK SOURCE OF TAPE SERIAL NO          7  6574  M F1| 592           579
3110 29 46          BCE   CKSEQ-7,CC3&18,   TO BE OUTPUT                            8  6581  B N9T F0V           579
3111 29 47          B     CKSEQ                                                     4  6589  B O0|               579
3112 29 48          MLC   210,SAVEHL&10                                             7  6593  M 210 587           579
3113 29 49   CKSEQ  CW    SAVEHL&11                                                 4  6600  ) 588               579
3114 29 50          BCE   *&5,CC3&17,1      UPDATE REEL SEQ NO.                     8  6604  B O1W F0U 1         580
3115 29 51          B     *&8                NO                                     4  6612  B O2T               580
3116 29 52          MLC   *-6,UDRSEQ                                                7  6616  M O1W O5Z           580
3117 29 53   RESETS MLC   CC5&30,SAVEHL&20  GET REEL SEQ NO FROM CC5                7  6623  M A2V 597           580
3118 29 54          MLC   CC5&40,SAVEHL&30   GET FILE NAME FROM CC5                 7  6630  M A3V 607           580
3119 29 55          MLC   CC5&49,SAVEHL&39   GET RETENTION CYCLE FROM CC5           7  6637  M A4U 616           581
3120 29 56          BCE   UDRSEQ,CC3&18,                                            8  6644  B O5Z F0V           581
3121 29 57          MLC   CC3&23,SAVEHL&10   GET NEW ONE FROM CC5 COL 35-39         7  6652  M F1| 587           581
3122 29 58   UDRSEQ NOP   SHARP,RENT-14      INIT TO UPDATE REEL SEQ NO             7  6659  N 182 Z16           581
3123 29 59          SBR   NOHLIP&3,TL                                               7  6666  H Z42 P2/           581
3124 29 60          SBR   WRHL&6,201                                                7  6673  H Y71 201           582
3125 29 61          BCE   *&12,CC3&10,                                              8  6680  B O9Z E9X           582
3126 29 62   BYBYBY MLC   CC3&10,SAVEHL&35                                          7  6688  M E9X 612           582
3127 29 63          B     EXIT6                                                     4  6695  B Y35               582
3128 29 64          MLC   CC5&45,SAVEHL&35                                          7  6699  M A4| 612           582
3129 29 65          B     EXIT6             GO WRITE OUTPUT HEADER LABEL.           4  6706  B Y35               582
3130 29 66   DATERR SBR   EMSG1&3,MSG13                                             7  6710  H H4S Q1T           583
3131 29 67          B     ERRMSG                                                    4  6717  B H3U               583
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

3132 29 69   TL     SBR   NOHLIP&3,REINIT                                      7  6721  H Z42 23W          583
3133 29 70          BCE   NIPTL,CC1&24,      TEST FOR TRAILER LABEL OPTION     8  6728  B P6Y G7V          583
3134 29 71          BCE   RITL,CC1&24,1      GO READ INPUT TAPE TRAILER LABELS 8  6736  B P7Z G7V 1        583
3135 29 72          BCE   OPTTL,CC1&24,2     READ AND CHECK INPUT T LABELS     8  6744  B P8W G7V 2        584
3136 29 73          BCE   OPTTL,CC1&24,4                                       8  6752  B P8W G7V 4        584
3137 29 74          BCE   RITL,CC1&24,3                                        8  6760  B P7Z G7V 3        584
3138 29 75   NIPTL  MLC   BEE,NOIHL     ALTER EOR ROUTINE - OMIT TLAB READING  7  6768  M 193 Z73          584
3139 29 76          B     OPTTL         GO CHECK FOR OUTPUT TRAILER LABELS     4  6775  B P8W              584
3140 29 77   RITL   MLC   BEE,NOIH1-4        OMIT CHECKING INPUT T LABEL       7  6779  M 193 !14          585
3141 29 78   OPTTL  BCE   NEXTOL,CC1&25,1                                      8  6786  B Q0Z G7W 1        585
3142 29 79          BCE   NEXTOL,CC1&25,2                                      8  6794  B Q0Z G7W 2        585
3143 29 80          MLC   BEE,EXIT1&4      ALTER EOR TO OMIT OUTPUT OF TLABEL. 7  6802  M 193 V96          585
3144 29 81   NEXTOL R     040                                                  4  6809  1 040              585
3145 29 82   MSG13  DA    1X23,G                                                  6813   6835              585
                    DCW   @}@                                                  1  6836             GMARK  586
3146 29 83          ORG   MSG13                                                        6813
3147 29 84          DCW   @TODAYS DATE UNSPECIFIED@                           23  6835                     587
3148 29 85          ORG   *&1                                                          6837
        2990        DCW   @1HDR @                                              5  6841             LIT    588
        3012              @1HDR @                                              5  6846             LIT    588
        3026              &SAVEHL-1                                            3  6849  576        ADCON  588
        3031              @1HDR @                                              5  6854             LIT    588
        3062              @00365@                                              5  6859             LIT    588
        3066              @00365@                                              5  6864             LIT    588
                          @00@                                                 2  6866             LIT    588
                          @01@                                                 2  6868             LIT    589
        3077              @00365@                                              5  6873             LIT    589
3149 29 86          EX    HL001                                                         B U9T              590
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 SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

3150 29 87          JOB   CLEAR STORAGE FROM 8K TO PROGRAM AREA
3151 29 88          ORG   0201                                                          0201
3152 29 89          DCW   @}@                                                  1  0201                     593
3153 29 90   CLSTO  SW    5500                                                 4  0202  , V0|              593
3154 29 91          LCA   STGMOP&6,CST-1      MOVE INSTRUCTIONS TO SET GM/WM   7  0206  L H9V 275          593
3155 29 92          LCA                       INTO THIS ROUTINE                1  0213  L                  593
3156 29 93          LCA                                                        1  0214  L                  593
3157 29 94          LCA                                                        1  0215  L                  593
3158 29 95          LCA                                                        1  0216  L                  593
3159 29 96          LCA                                                        1  0217  L                  594
3160 29 97   CS     CS    7896           CLEAR STORAGE FOR MAIN LINE RUN       4  0218  / H9W              594
3161 29 98          SBR   CS&3                                                 4  0222  H 221              594
3162 29 99          BWZ   CS,5500,1                                            8  0226  V 218 V0| 1        594
3163 30 00          NOP   0000,0000           SET GM/WM IN I/O AREAS           7  0234  N 000 000          594
3164 30 01          NOP   0000,0000                                            7  0241  N 000 000          594
3165 30 02          NOP   0000,0000                                            7  0248  N 000 000          594
3166 30 03          NOP   0000,0000                                            7  0255  N 000 000          595
3167 30 04          NOP   0000,0000                                            7  0262  N 000 000          595
3168 30 05          NOP   0000,0000                                            7  0269  N 000 000          595
3169 30 06   CST    CS    0080                READ IN NEXT BLOCK OF INITIALIZ. 4  0276  / 080              595
3170 30 07          SW    0024,0056                                            7  0280  , 024 056          595
3171 30 08          SW    0063,0067                                            7  0287  , 063 067          595
3172 30 09          R                                                          1  0294  1                  596
3173 30 10          CS    0056,0299                                            7  0295  / 056 299          596
3174 30 11          EX    CLSTO                                                     B 202              597
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SEQ	PG	LIN	LABEL	OP	OPERANDS		SFX	CT	LOCN	INSTRUCTION TYPE	CARD
3175	30	12		JOB	SET WORDMARK ROUTINE FOR I/O AREAS						
3176	30	13		ORG	0202					0202	
3177	30	14	SWIPA	MLC	INPTE,SWHOP&3	SET WM OVER BEGINNING OF I/O AREA		7	0202	M 501 247	600
3178	30	15		MLC	INPTD,SWHOP&6			7	0209	M 498 250	600
3179	30	16		MLC	INPTC,SWHOP&10			7	0216	M 495 254	600
3180	30	17		MLC	INPTA,SWHOP&13			7	0223	M 489 257	600
3181	30	18		MLC	INPTB,SWHOP&17			7	0230	M 492 261	600
3182	30	19		MLC	OUTPUT,SWHOP&20			7	0237	M 394 264	601
3183	30	20	SWHOP	SW	000,000			7	0244	, 000 000	601
3184	30	21		SW	000,000			7	0251	, 000 000	601
3185	30	22		SW	000,000			7	0258	, 000 000	601
3186	30	23		CS	0080	READ IN NEXT BLOCK OF INITIALIZ.		4	0265	/ 080	601
3187	30	24		SW	0024,0056			7	0269	, 024 056	601
3188	30	25		SW	0063,0067			7	0276	, 063 067	602
3189	30	26		R				1	0283	1	602
3190	30	27		CS	0056,0299			7	0284	/ 056 299	602
3191	30	28		EX	SWIPA					B 202	603

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

3192 30 29          JOB   ADDRESS ADJUSTMENT FOR INPUT AREAS
3193 30 30          ORG   0201                                                                  0201
3194 30 31   STMVS  MA    N99,INPTA          ADJUST INPUT AREA ADDRESSES                7  0201  # 199 489          606
3195 30 32          MA    N99,INPTB                                                     7  0208  # 199 492          606
3196 30 33          MA    N99,INPTC                                                     7  0215  # 199 495          606
3197 30 34          MA    N99,INPTD                                                     7  0222  # 199 498          606
3198 30 35          MA    N99,INPTE                                                     7  0229  # 199 501          606
3199 30 36          MLC   INPTA,MOVEA&3      INITIALIZE MOVE RECORD INSTRUCT.           7  0236  M 489 ?29          607
3200 30 37          MLC   INPTB,MOVEB&3                                                 7  0243  M 492 P83          607
3201 30 38          MLC   INPTE,MOVEE&3                                                 7  0250  M 501 G67          607
3202 30 39          MLC   INPTD,MOVED&3                                                 7  0257  M 498 E21          607
3203 30 40          MLC   INPTC,MOVEC&3                                                 7  0264  M 495 B75          607
3204 30 41          CS    0080               READ IN NEXT BLOCK WITH ANY                4  0271  / 080              607
3205 30 42          SW    0024,0056          USER ROUTINES                              7  0275  , 024 056          608
3206 30 43          SW    0063,0067                                                     7  0282  , 063 067          608
3207 30 44          R                                                                   1  0289  1                  608
3208 30 45          CS    0056,0299                                                     7  0290  / 056 299          608
3209 30 46          EX    STMVS                                                              B 201              609
3210 30 47          EX    START              EXECUTE TO BEGIN PROGRAM                            B 785              612
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 SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

3211 30 48          JOB   PADDING ROUTINE MERGE 7
3212 30 49          ORG   PUTB                                                               2733
3213 30 50   PADRTN SBR   X1                  PADDING ROUTINE                      4  2733  H 089              615
3214 30 51          MA    K001,OPTBLO                                              7  2737  # 397 391          615
3215 30 52          MLC   OPTBLO,99  DID LAST PUT FILL THE OUTPUT AREA             7  2744  M 391 099          615
3216 30 53          BCE   0&X1,0&X3,}   IF NOT PAD THE OUTPUT AREA                 8  2751  B 0|0 0?0 }        615
3217 30 54          MZ    K1,INPTE-1          PUT INPUT ADDR INTO X2               7  2759  Y 190 500          615
3218 30 55          MLC   INPTE,094                                                7  2766  M 501 094          616
3219 30 56          MA    RCDLNE,094          UPDATE X2 TO SPAN A RECORD           7  2773  # G16 094          616
3220 30 57   CLRPDS CS    0&X2                CLEAR INPUT AREA                     4  2780  / 0!0              616
3221 30 58          SBR   *-4                                                      4  2784  H P83              616
3222 30 59          C     CLRPDS&3,INPTE                                           7  2788  C P83 501          616
3223 30 60          BU    CLRPDS                                                   5  2795  B P80 /            616
3224 30 61          MA    CLRPDS&3,*&4                                             7  2800  # P83 Q10          617
3225 30 62          SW    001                                                      4  2807  , 001              617
3226 30 63          MLC   PADCHR,0&X2   LOAD PADDING CHARACTER INTO AREA           7  2811  M 65| 0!0          617
3227 30 64          MLC   0&X2                  UNTILL FULL.                       4  2818  M 0!0              617
3228 30 65          MLC   @|@,0&X2      PUT RMK IN LOW ORDER POSITION              7  2822  M R38 0!0          617
3229 30 66          MLC   INPTE,094                                                7  2829  M 501 094          617
3230 30 67   PMOVE  MRCM  1&X2,0&X3     MOVE PADDED RCD TO OUTPUT AREA             7  2836  P 0!1 0?0          618
3231 30 68          SBR   099                                                      4  2843  H 099              618
3232 30 69          A     K1,COUNTE     COUNT NO OF PADDED RCDS                    7  2847  A 190 Q94          618
3233 30 70          BCE   PRSMP,0&X3,}   IS OUTPUT AREA FULL                       8  2854  B Q66 0?0 }        618
3234 30 71          B     PMOVE                 NO, KEEP PADDING                   4  2862  B Q36              618
3235 30 72   PRSMP  CS    332                                                      4  2866  / 332              618
3236 30 73          CS                                                             1  2870  /                  618
3237 30 74          MLC   PADMES,224                                               7  2871  M R15 224          619
3238 30 75          CC    L                                                        2  2878  F L                619
3239 30 76          W                         PRINT PADDING MESSAGE                1  2880  2                  619
3240 30 77          A     COUNTE,RCCNT                                             7  2881  A Q94 27V          619
3241 30 78          B     0&X1                RETURN TO END OF JOB ROUTINE         4  2888  B 0|0              619
3242 30 79   COUNTE DCW   @000@                                                    3  2894                     619
3243 30 80   PADMES DC    @ PADDED RECORDS ADDED@                                 21  2915                     620
3244 30 81   R0562  CS    80                                                       4  2916  / 080              620
3245 30 82          SW    24,56                                                    7  2920  , 024 056          620
3246 30 83          SW    63,67                                                    7  2927  , 063 067          620
3247 30 84          R     056                                                      4  2934  1 056              621
3248 30 85          LTORG *                                                                  2938
                    DCW   @|@                                                      1  2938              LIT    621
3249 30 86          ORG   EXIT3&11                                                           4190
3250 30 87          NOP   OPTBLO,X3                                                7  4190  N 391 099          622
3251 30 88          EX    R0562                                                             B R16              623
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 SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

3252 30 89          JOB   END OF JOB ROUTINE
3253 30 90          ORG   PUTA                                                                  2979
3254 30 91   REWIND LCA   EN,RTNRD-7          END OF JOB ROUTINE                      7  2979  L 192 25X          626
3255 30 92          BCE   *&5,PAD&19,N                                                8  2986  B R98 63/ N        626
3256 30 93          B     PADRTN                                                      4  2994  B P33              626
3257 30 94          B     WRITE                                                       4  2998  B 17/              626
3258 30 95          MLC   EN,EOFOPT&5                                                 7  3002  M 192 V80          626
3259 30 96          MLC   &ADR,EXI6-1                                                 7  3009  M ?88 X02          626
3260 30 97          MLC   @F@,TFLAG-1                                                 7  3016  M ?89 347          627
3261 30 98          MLC   EN,ALPHA2-4                                                 7  3023  M 192 W88          627
3262 30 99          B     EOFOPT                                                      4  3030  B V75              627
3263 31 00   ADR    CS    332                                                         4  3034  / 332              627
3264 31 01          CS                                                                1  3038  /                  627
3265 31 02          CC    L                                                           2  3039  F L                627
3266 31 03          MLC   REC,228            ASSEMBLE END OF JOB MESSAGE              7  3041  M 28U 228          627
3267 31 04          MLC   EOJ                                                         4  3048  M ?85              628
3268 31 05   BCLSDT BCE   CLSDTR,BBPT&1,%                                             8  3052  B |0Z 89X %        628
3269 31 06          W                        PRINT MESSAGES AT EOJ                    1  3060  2                  628
3270 31 07          CC    1                                                           2  3061  F 1                628
3271 31 08          H     *-3                END OF JOB HALT                          4  3063  . ?63              628
3272 31 09          SW    001                                                         4  3067  , 001              628
3273 31 10          R     001      PRESS START - RESET AND START TO LOAD .            4  3071  1 001              628
3274 31 11   EOJ    DCW   @END OF JOB @                                              11  3085                     629
        3259        DCW   &ADR                                                        3  3088  ?34         ADCON  629
                          @F@                                                         1  3089              LIT    629
3275 31 12          END   REWIND                                                           / R79 080          630
```