```
CLEAR STORAGE 1     ,008015,022026,030037,044,049,053053N000000N00001026                                    1
CLEAR STORAGE 2     L068116,105106,110117B101/I9I#071029C029056B026/B001/0991,001/001117I0?                  2
BOOTSTRAP           ,008015,022029,036040,047054,061068,072/061039             ,0010011040                  3

                         FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34                          PAGE    1

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

 101               JOB   FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34
 102               CTL   6611
 103         *
 104         * ALL ARITHMETIC AND IF STATEMENTS ARE UNNESTED USING A
 105         * FORCING TABLE TECHNIQUE.  ERROR CHECKING CONTINUES.
 106         *
 107         * ON ENTRY X1 IS THE TOP OF THE TOPMOST NON-ASSIGNMENT NON-IF
 108         * STATEMENT, X2 IS THE TOP OF THE TOPMOST ASSIGNMENT OR IF
 109         * STATEMENT IN HIGH CORE, AND X3 IS ONE BELOW THE BOTTOMMOST
 110         * ASSIGNMENT OR IF STATEMENT IN HIGH CORE.
 111         *
 112         X1     EQU   89                                                      0089
 113         X2     EQU   94                                                      0094
 114         X3     EQU   99                                                      0099
 115         *
 116         * STUFF IN THE RESIDENT AREA
 117         *
 118         PHASID EQU   110  PHASE ID, FOR SNAPSHOT DUMPS                       0110
 119         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR                0184
 120         SNAPSH EQU   333  CORE DUMP SNAPSHOT                                 0333
 121         LOADNX EQU   700  LOAD NEXT OVERLAY                                  0700
 122         CLEARL EQU   707  CS AT START OF OVERLAY LOADER                      0707
 123         CDOVLY EQU   769  1 IF RUNNING FROM CARDS, N IF FROM TAPE           0769
 124         *
 125               ORG   838                                                            0838
 126         LOADDD EQU   *&1          LOAD ADDRESS                               0838
 127    838  BEGINN BCE   DONE,X2,.                                          8  0838  B N47 094 .          4
 128    846         SW    GM                                                 4  0846  , N73                4
 129    850         MCW   X2,SX2                                             7  0850  M 094 P45            4
 130    857         SBR   X3,2&X3                                            7  0857  H 099 0?2            4
 131    864         SBR   X1,2&X1                                            7  0864  H 089 0|2            4
 132    871         MCW   X1,X2                                              7  0871  M 089 094            5
 133    878  GET00  MN    X2,CHKX2  GET X2                                   7  0878  D 094 P47            5
 134    885         MN                UP TO                                  1  0885  D                    5
 135    886         C     CHKX2,K00     X2 & X00                             7  0886  C P47 P49            5
 136    893         BE    GOT00                                              5  0893  B 913 S              5
 137    898         CW    0&X2                                               4  0898  ) 0!0                5
 138    902         SBR   X2,1&X2                                            7  0902  H 094 0!1            5
 139    909         B     GET00                                              4  0909  B 878                6
 140    913  GOT00  MN    0&X2                                               4  0913  D 0!0                6
 141    917         SAR   X2P99  X2 & X00 - 1                               4  0917  Q P52                6
 142    921         MN    0&X3                                               4  0921  D 0?0                6
 143    925         SAR   X2                                                 4  0925  Q 094                6
 144    929  CLRL   C     X2,X2P99  CLEAR DOWN                               7  0929  C 094 P52            6
 145    936         BE    CLRX        TO TOP                                 5  0936  B 953 S              6
 146    941         CS    0&X2          OF CODE                              4  0941  / 0!0                7
 147    945         SBR   X2              IN LOW                             4  0945  H 094                7
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
148    949         B     CLRL              CORE & X00                        4  0949  B 929               7
149    953  CLRX   MN    0&X1                                                4  0953  D 0|0               7
150    957         SAR   X1                                                  4  0957  Q 089               7
151    961  MORE   MCM   0&X3     MOVE CODE                                   4  0961  P 0?0               7
152    965         SAR   SX3&6      DOWN FROM                               4  0965  Q 987               7
153    969         MCM   0&X3,1&X1    TOP CORE                             7  0969  P 0?0 0|1           8
154    976         MN                  TO BOTTOM                           1  0976  D                   8
155    977         SBR   X1              OF BOTTOMMOST                     4  0977  H 089               8
156    981  SX3    SBR   X3,0               ASSIGNMENT                     7  0981  H 099 000           8
157    988         BCE   MORE,0&X1,|          OR IF                       8  0988  B 961 0|0 |         8
158    996         MN    0&X3                  STATEMENT                   4  0996  D 0?0               8
159  1 000         CW                                                      1  1000  )                   8
160  1 001         SW    0&X1                                              4  1001  , 0|0               9
161  1 005         C     X3,SX2                                            7  1005  C 099 P45           9
162  1 012         BU    MORE                                              5  1012  B 961 /             9
163  1 017         MN    0&X1                                              4  1017  D 0|0               9
164  1 021         SAR   X1                                                4  1021  Q 089               9
165          *
166          * X1 IS NOW THE TOP OF THE TOPMOST ASSIGNMENT OR IF STATEMENT
167          * IN LOW CORE AND X3 IS ONE ABOVE THE TOP OF THE TOPMOST
168          * ASSIGNMENT OR IF STATEMENT IN HIGH CORE.
169          *
170  1 025         MN    0&X3                                              4  1025  D 0?0               9
171  1 029         SBR   IXTOP  INDEX OF STATEMENT IN TOP CORE             4  1029  H P55               9
172  1 033         BCE   LOOP,0&X3,}                                       8  1033  B |60 0?0 } GMARK   10
173  1 041         SBR   X3                                                4  1041  H 099              10
174  1 045         LCA   GM                                                4  1045  L N73              10
175  1 049         SBR   IXTOP                                             4  1049  H P55              10
176  1 053         MCW   X3,SX2                                           7  1053  M 099 P45          10
177  1 060  LOOP   MCW   IXTOP,IXTSAV                                      7  1060  M P55 P58          10
178  1 067         MCW   0&X1,X3                                          7  1067  M 0|0 099          11
179  1 074         BWZ   *&5,X3,2  ZONE IN ONES OR                        8  1074  V |86 099 2        11
180  1 082         B     *&9          THOUSANDS MEANS ADDRESS OF           4  1082  B |94              11
181  1 086         BWZ   *&8,X3-2,2    SEQUENCE NUMBER IN SYMBOL TABLE     8  1086  V /01 097 2        11
182  1 094         MCW   0&X3,X3  GET SEQUENCE NUMBER FROM TABLE           7  1094  M 0?0 099          11
183  1 101         MCW   X3,SEQNO                                          7  1101  M 099 P61          12
184  1 108         MCW   KB12,W3B                                          7  1108  M Q14 Q28          12
185  1 115         MCW   KBRACK,40&X1  RIGHT BRACKET                      7  1115  M P62 0U0          12
186  1 122         SBR   LOCBRK&6,40&X1  REMEMBER WHERE WE PUT IT          7  1122  H /85 0U0          12
187  1 129         B     MOVEUP          MOVE PREFIX UP TO HIGH CORE       4  1129  B S57              12
188  1 133         BCE   IFSTMT,2&X1,E  IF STATEMENT?                     8  1133  B S21 0|2 E        13
189  1 141         C     2&X1,KR         ASSIGNMENT STATEMENT?             7  1141  C 0|2 P63          13
190  1 148         BU    ALMOST          NO, ALMOST DONE                   5  1148  B N19 /            13
191  1 153  READY  MCW   X1,X3                                            7  1153  M 089 099          13
192  1 160         SBR   LINK&3,0&X1                                       7  1160  H M96 0|0          13
193  1 167         C     0&X3                                              4  1167  C 0?0              13
194  1 171         SAR   SX3B                                              4  1171  Q P66              14
195  1 175         B     HUNT                                              4  1175  B S91              14
196  1 179  LOCBRK BCE   WHEW,0,]  RIGHT BRACKET                           8  1179  B T81 000 ]        14
197          *
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

198         * BRACKET HAVING BEEN CLOBBERED MEANS PROGRAM IS TOO BIG
199         *
200  1 187         CS    332                                              4  1187  / 332              14
201  1 191         CS                                                     1  1191  /                  14
202  1 192         CC    1                                                2  1192  F 1                14
203  1 194         MCW   ERR2,270                                         7  1194  M Q02 270          14
204  1 201         W                                                      1  1201  2                  15
205  1 202         CC    1                                                2  1202  F 1                15
206  1 204         BCE   HALT,CDOVLY,1                                   8  1204  B S17 769 1        15
207  1 212         RWD   1                                                5  1212  U %U1 R            15
208  1 217  HALT   H     HALT                                             4  1217  . S17              15
209         *
210         * IF STATEMENT, GET X3 DOWN TO A BLANK BELOW X1, THEN SET
211         * A WORD MARK ONE BELOW THERE
212         *
213  1 221  IFSTMT MCW   X1,X3                                           7  1221  M 089 099          15
214  1 228  GETB   BCE   GOTB,0&X3,,                                     8  1228  B S44 0?0 ,        15
215  1 236         SBR   X3                                             4  1236  H 099              16
216  1 240         B     GETB                                           4  1240  B S28              16
217  1 244  GOTB   MN    0&X3                                           4  1244  D 0?0              16
218  1 248         SW                                                   1  1248  ,                  16
219  1 249         B     MOVEUP                                         4  1249  B S57              16
220  1 253         B     READY                                          4  1253  B /53              16
221         *
222         * MOVE UP PREFIX OR BODY
223         *
224  1 257  MOVEUP SBR   MOVEUX&3                                       4  1257  H S90              16
225  1 261         MCW   IXTOP,X2                                       7  1261  M P55 094          17
226  1 268         LCA   0&X1,0&X2                                      7  1268  L 0|0 0!0          17
227  1 275         SBR   IXTOP                                          4  1275  H P55              17
228  1 279         C     0&X1                                           4  1279  C 0|0              17
229  1 283         SAR   X1                                             4  1283  Q 089              17
230  1 287  MOVEUX B     0                                              4  1287  B 000              17
231         *
232         * HUNT FOR INTERESTING CHARACTERS
233         *
234  1 291  HUNT   SBR   HUNTX&3                                        4  1291  H T46              17
235  1 295         BCE   SKPSUB,0&X3,$                                  8  1295  B T47 0?0 $        18
236  1 303  HUNTL  MCW   0&X3,CURR                                      7  1303  M 0?0 Q15          18
237  1 310         SAR   X3                                             4  1310  Q 099              18
238  1 314         MCW   CURR,*&8                                       7  1314  M Q15 T28          18
239  1 321         BCE   HUNTX,CHARS,0                                  8  1321  B T43 O42 0        18
240  1 329         CHAIN 10                                                                 MACRO
241               BCE                                                  1  1329  B           GEN    18
242               BCE                                                  1  1330  B           GEN    18
243               BCE                                                  1  1331  B           GEN    19
244               BCE                                                  1  1332  B           GEN    19
245               BCE                                                  1  1333  B           GEN    19
246               BCE                                                  1  1334  B           GEN    19
247               BCE                                                  1  1335  B           GEN    19
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

248                 BCE                                                     1  1336  B           GEN     19
249                 BCE                                                     1  1337  B           GEN     19
250                 BCE                                                     1  1338  B           GEN     20
251  1 339          B     HUNTL                                             4  1339  B T03             20
252  1 343  HUNTX   B     0                                                 4  1343  B 000             20
253          *
254          * SKIP SUBSCRIPT -- DECREASE X3 BY EITHER 12 OR 18
255          *
256  1 347  SKPSUB C     0&X3,KB12                                         7  1347  C 0?0 Q14         20
257  1 354          SAR   X3                                                4  1354  Q 099             20
258  1 358          BCE   HUNTX,2&X3,$                                      8  1358  B T43 0?2 $       20
259  1 366          C     0&X3,KB12-6                                       7  1366  C 0?0 Q08         20
260  1 373          SAR   X3                                                4  1373  Q 099             21
261  1 377          B     HUNTX                                             4  1377  B T43             21
262          *
263          * PROGRAM ISN'T TOO BIG
264          *
265  1 381  WHEW    MCW   1&X3,CURR    CURRENT OPERATOR OR ASSIGNMENT        7  1381  M 0?1 Q15         21
266  1 388          MCW   1&X1,PREV    PREVIOUS OPERATOR OR GM               7  1388  M 0|1 Q16         21
267  1 395          MCW   PREV,LOOKCH&7                                     7  1395  M Q16 V46         21
268  1 402          MCW   KB12,W3                                           7  1402  M Q14 Q19         21
269  1 409          B     LOOK                                              4  1409  B V16             22
270  1 413          MN    CHNUM,W3-1   PREVIOUS CHARS INDEX IS TENS         7  1413  D Q20 Q18         22
271  1 420          MCW   CURR,LOOKCH&7                                     7  1420  M Q15 V46         22
272  1 427          B     LOOK                                              4  1427  B V16             22
273  1 431          MN    CHNUM,W3     CURRENT CHARS INDEX IS ONES          7  1431  D Q20 Q19         22
274  1 438          MCW   W3,X2                                             7  1438  M Q19 094         22
275  1 445          MN    TABLE&X2,X2  GET ONE                              7  1445  D OM3 094         23
276  1 452          MCW   KB12           DIGIT FROM TABLE                   4  1452  M Q14             23
277  1 456          BWZ   MSG24,X2,S                                       8  1456  V K61 094 S       23
278  1 464          A     X2                                                4  1464  A 094             23
279  1 468          A     X2           QUADRUPLE IT                         4  1468  A 094             23
280  1 472          B     *&1&X2                                            4  1472  B UP6             23
281  1 476          B     ZERO   INDEX FROM TABLE IS ZERO                   4  1476  B W03             23
282  1 480          B     ONE    INDEX FROM TABLE IS ONE                    4  1480  B W18             24
283  1 484          B     TWO    INDEX FROM TABLE IS TWO                    4  1484  B W59             24
284  1 488          B     THREE  INDEX FROM TABLE IS THREE                  4  1488  B M58             24
285  1 492          B     FOUR   INDEX FROM TABLE IS FOUR                   4  1492  B Z48             24
286  1 496          B     FIVE   INDEX FROM TABLE IS FIVE                   4  1496  B Z81             24
287  1 500          B     MSG25  INDEX FROM TABLE IS SIX                    4  1500  B M13             24
288  1 504          B     MSG16  INDEX FROM TABLE IS SEVEN                  4  1504  B L75             24
289  1 508          B     MSG32  INDEX FROM TABLE IS EIGHT                  4  1508  B L37             25
290  1 512          B     MSG26  INDEX FROM TABLE IS NINE                   4  1512  B K99             25
291          *
292          * LOOK FOR A CHARACTER IN CHARS, TREATING MINUS AND PLUS
293          * EQUALLY, COUNTING AS WE LOOK
294          *
295  1 516  LOOK    SBR   LOOKCH&3                                          4  1516  H V42             25
296  1 520          BCE   LOOK3,LOOKCH&7,-                                  8  1520  B V62 V46 -       25
297  1 528  LOOK2   S     CHNUM  INDEX IN CHARS                             4  1528  S Q20             25
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SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD
298  1 532         MCW   ACHARS,LOOKCH&6                               7  1532  M Q23 V45           25
299  1 539  LOOKCH BCE   0,0,0                                         8  1539  B 000 000 0         25
300  1 547         SBR   LOOKCH&6                                      4  1547  H V45               26
301  1 551         A     K1,CHNUM                                      7  1551  A Q24 Q20           26
302  1 558         B     LOOKCH                                        4  1558  B V39               26
303  1 562  LOOK3  MCW   KPLUS,LOOKCH&7                               7  1562  M Q25 V46           26
304  1 569         B     LOOK2                                         4  1569  B V28               26
305         *
306  1 573  COUNT  SBR   COUNTX&3                                     4  1573  H W02               26
307  1 577         A     K1,W3B                                        7  1577  A Q24 Q28           26
308  1 584         MZ    W3B-1,CH                                      7  1584  Y Q27 N72           27
309  1 591         MN    W3B,CH                                        7  1591  D Q28 N72           27
310  1 598         MN                                                  1  1598  D                   27
311  1 599  COUNTX B     0                                             4  1599  B 000               27
312         *
313         * INDEX FROM TABLE IS ZERO.
314         * PREV *      CURR %. BLANK
315         * PREV %      CURR *%&@. BLANK ,
316         * PREV #      CURR *%&@. BLANK ,
317         * PREV GM     CURR #
318         * PREV &      CURR *%@. BLANK ,
319         * PREV @      CURR %. BLANK
320         * PREV .      CURR % BLANK
321         * PREV BLANK  CURR *%&@. BLANK ,
322         * PREV ,      CURR %. BLANK
323         *
324  1 603  ZERO   MCW   X3,X1  CURRENT TO PREVIOUS                    7  1603  M 099 089           27
325  1 610         B     HUNT   GET NEXT OPERATOR                      4  1610  B S91               27
326  1 614         B     WHEW                                          4  1614  B T81               27
327         *
328         * INDEX FROM TABLE IS ONE.
329         * PREV %  CURR )
330         *
331  1 618  ONE    SW    2&X3                                          4  1618  , 0?2               28
332  1 622         LCA   0&X1,1&X1                                     7  1622  L 0|0 0|1           28
333  1 629         CW    3&X3                                          4  1629  ) 0?3               28
334  1 633         CW                                                  1  1633  )                   28
335  1 634         LCA   0&X3,2&X3                                     7  1634  L 0?0 0?2           28
336  1 641         SBR   X1,1&X1                                       7  1641  H 089 0|1           28
337  1 648         SBR   X3,1&X3                                       7  1648  H 099 0?1           28
338  1 655         B     WHEW                                          4  1655  B T81               29
339         *
340         * INDEX FROM TABLE IS TWO
341         * PREV *  CURR *)G&@
342         * PREV &  CURR )G&
343         * PREV @  CURR *)G&@
344         * PREV .  CURR *)G&@
345         *
346  1 659  TWO    MCW   IXTOP,X2                                      7  1659  M P55 094           29
347  1 666         MZ    4&X3,SAVTAG                                   7  1666  Y 0?4 Q29           29
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SEQ PG LIN  LABEL   OP    OPERANDS                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
348  1 673          BCE   *&8,2&X3,$                          8  1673  B W88 0?2 $          29
349  1 681          MZ    3&X3,SAVTAG                         7  1681  Y 0?3 Q29            29
350  1 688          SW    2&X3                                4  1688  , 0?2                29
351  1 692          LCA   0&X1,0&X2                          7  1692  L 0|0 0!0            30
352  1 699          SBR   X2                                  4  1699  H 094                30
353  1 703          CW    1&X2                                4  1703  ) 0!1                30
354  1 707          SW    2&X1                                4  1707  , 0|2                30
355  1 711          SW                                        1  1711  ,                    30
356  1 712          LCA   1&X1,0&X2                          7  1712  L 0|1 0!0            30
357  1 719          SBR   X2                                  4  1719  H 094                30
358  1 723          SBR   IXTOP                               4  1723  H P55                31
359  1 727          CW    1&X2                                4  1727  ) 0!1                31
360  1 731          BCE   SUBTWO,2&X1,$                       8  1731  B Y90 0|2 $          31
361  1 739          LCA   4&X1,0&X2                          7  1739  L 0|4 0!0            31
362  1 746          SBR   IXTOP                               4  1746  H P55                31
363  1 750          MZ    3&X1,TAG1                           7  1750  Y 0|3 N71            31
364  1 757          SAR   X1                                  4  1757  Q 089                31
365  1 761  SUBBAK  B     COUNT                               4  1761  B V73                32
366  1 765          LCA   CH,2&X1                            7  1765  L N72 0|2            32
367  1 772          LCA   1&X3                                4  1772  L 0?1                32
368  1 776          CW    0&X1                                4  1776  ) 0|0                32
369  1 780          MN                                        1  1780  D                    32
370  1 781          SAR   X3                                  4  1781  Q 099                32
371  1 785          SBR   X1,2&X1                            7  1785  H 089 0|2            32
372  1 792          BWZ   TWOA,TAG1,S                         8  1792  V Y36 N71 S          33
373  1 800          BM    TWOA,TAG1                           8  1800  V Y36 N71 K          33
374  1 808          BWZ   LOCBRK,SAVTAG,2                    8  1808  V /79 Q29 2          33
375  1 816          BWZ   LOCBRK,SAVTAG,B                    8  1816  V /79 Q29 B          33
376  1 824          BCE   LOCBRK,PREV,.                       8  1824  B /79 Q16 .          34
377  1 832          B     MIXED                               4  1832  B Y52                34
378  1 836  TWOA    BWZ   LOCBRK,SAVTAG,S                    8  1836  V /79 Q29 S          34
379  1 844          BM    LOCBRK,SAVTAG                       8  1844  V /79 Q29 K          34
380          *
381          * MIXED MODE ARITHMETIC
382          *
383  1 852  MIXED   CS    332                                 4  1852  / 332                34
384  1 856          CS                                        1  1856  /                    34
385  1 857          SW    GLOBER                              4  1857  , 184                34
386  1 861          MN    SEQNO,241                           7  1861  D P61 241            35
387  1 868          MN                                        1  1868  D                    35
388  1 869          MN                                        1  1869  D                    35
389  1 870          MCW   ERR46                               4  1870  M Q67                35
390  1 874          W                                         1  1874  2                    35
391  1 875          BCV   *&5                                 5  1875  B Y84 @              35
392  1 880          B     *&3                                 4  1880  B Y86                35
393  1 884          CC    1                                   2  1884  F 1                  36
394  1 886          B     ERRFIN                              4  1886  B M47                36
395          *
396  1 890  SUBTWO  SBR   X2,10&X1                           7  1890  H 094 0/0            36
397  1 897          BCE   *&8,2&X2,$                         8  1897  B Z12 0!2 $          36
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SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

398  1 905          SBR   X2,6&X2                                     7  1905  H 094 0!6           36
399  1 912          MCW   IXTOP,*&7                                   7  1912  M P55 Z25           36
400  1 919          LCA   2&X2,0                                      7  1919  L 0!2 000           37
401  1 926          SBR   IXTOP                                      4  1926  H P55               37
402  1 930          MZ    4&X1,TAG1                                   7  1930  Y 0|4 N71           37
403  1 937          MCW   X2,X1                                      7  1937  M 094 089           37
404  1 944          B     SUBBAK                                      4  1944  B X61               37
405           *
406           * INDEX FROM TABLE IS FOUR
407           * PREV ,  CURR *)G&@
408           *
409  1 948  FOUR    MCW   KN,1&X1                                     7  1948  M Q68 0|1           37
410  1 955          MZ    4&X3,TAG1                                   7  1955  Y 0?4 N71           38
411  1 962          BCE   FIVEB,2&X3,$                               8  1962  B J17 0?2 $         38
412  1 970          MZ    3&X3,TAG1                                   7  1970  Y 0?3 N71           38
413  1 977          B     FIVEB                                       4  1977  B J17               38
414           *
415           * INDEX FROM TABLE IS FIVE
416           * PREV BLANK  CURR )
417           *
418  1 981  FIVE    MCW   3&X1,W2                                     7  1981  M 0|3 Q70           38
419  1 988          BCE   FIVEC,3&X1,X                               8  1988  B J75 0|3 X         39
420  1 996          MZ    *-4,TAG1                                    7  1996  Y Z98 N71           39
421  2 003  FIVEF   SW    2&X1                                        4  2003  , 0|2               39
422  2 007          MCW   2&X1,*&8                                   7  2007  M 0|2 !21           39
423  2 014          BCE   USRFNC,USRCOD,0                           8  2014  B !99 Q82 0         39
424  2 022          CHAIN 11                                                                 MACRO
425                 BCE                                             1  2022  B                   GEN     39
426                 BCE                                             1  2023  B                   GEN     39
427                 BCE                                             1  2024  B                   GEN     40
428                 BCE                                             1  2025  B                   GEN     40
429                 BCE                                             1  2026  B                   GEN     40
430                 BCE                                             1  2027  B                   GEN     40
431                 BCE                                             1  2028  B                   GEN     40
432                 BCE                                             1  2029  B                   GEN     40
433                 BCE                                             1  2030  B                   GEN     40
434                 BCE                                             1  2031  B                   GEN     41
435                 BCE                                             1  2032  B                   GEN     41
436  2 033          MZ    4&X3,SAVTAG                                 7  2033  Y 0?4 Q29           41
437  2 040          BCE   FIVEA,2&X3,$                               8  2040  B !55 0?2 $         41
438  2 048          MZ    3&X3,SAVTAG                                 7  2048  Y 0?3 Q29           41
439  2 055  FIVEA   BCE   FIVED,2&X1,F                               8  2055  B K07 0|2 F         41
440  2 063          BCE   FIVED,2&X1,I                               8  2063  B K07 0|2 I         42
441  2 071          C     W2,KAX                                      7  2071  C Q70 Q84           42
442  2 078          BE    FIVED                                       5  2078  B K07 S             42
443  2 083          BWZ   MSG28,SAVTAG,S                            8  2083  V K23 Q29 S         42
444  2 091          BM    MSG28,SAVTAG                                8  2091  V K23 Q29 K         42
445  2 099  USRFNC  MCW   2&X1,1&X1                                   7  2099  M 0|2 0|1           43
446  2 106          MCW   KLPAR,2&X1                                 7  2106  M Q85 0|2           43
447  2 113          CW    2&X1                                        4  2113  ) 0|2               43
```

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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD
448  2 117  FIVEB  MCW   IXTOP,X2                                      7  2117  M P55 094           43
449  2 124         SW    2&X3                                         4  2124  , 0?2               43
450  2 128         LCA   1&X1,0&X2                                    7  2128  L 0|1 0!0           43
451  2 135         SBR   IXTOP                                        4  2135  H P55               44
452  2 139         B     COUNT                                        4  2139  B V73               44
453  2 143         LCA   CH,1&X1                                      7  2143  L N72 0|1           44
454  2 150         LCA   1&X3                                         4  2150  L 0?1               44
455  2 154         MN    0&X1                                         4  2154  D 0|0               44
456  2 158         CW                                                 1  2158  )                   44
457  2 159         MN                                                 1  2159  D                   44
458  2 160         SAR   X3                                           4  2160  Q 099               45
459  2 164         SBR   X1,1&X1                                      7  2164  H 089 0|1           45
460  2 171         B     LOCBRK                                       4  2171  B /79               45
461  2 175  FIVEC  MZ    FIVEC,TAG1                                   7  2175  Y J75 N71           45
462  2 182         LCA   2&X1,3&X1                                    7  2182  L 0|2 0|3           45
463  2 189         SBR   X1,1&X1                                      7  2189  H 089 0|1           45
464  2 196         SBR   X3,1&X3                                      7  2196  H 099 0?1           46
465  2 203         B     FIVEF                                        4  2203  B !03               46
466  2 207  FIVED  BWZ   USRFNC,SAVTAG,S                             8  2207  V !99 Q29 S         46
467  2 215         BM    USRFNC,SAVTAG                                8  2215  V !99 Q29 K         46
468         *
469         * WRONG ARGUMENT TYPE FOR FUNCTION
470         *
471  2 223  MSG28  CS    332                                          4  2223  / 332               46
472  2 227         CS                                                 1  2227  /                   46
473  2 228         SW    GLOBER                                       4  2228  , 184               46
474  2 232         MN    SEQNO,261                                    7  2232  D P61 261           47
475  2 239         MN                                                 1  2239  D                   47
476  2 240         MN                                                 1  2240  D                   47
477  2 241         MCW   ERR28                                        4  2241  M O31               47
478  2 245         W                                                  1  2245  2                   47
479  2 246         BCV   *&5                                          5  2246  B K55 @             47
480  2 251         B     *&3                                          4  2251  B K57               47
481  2 255         CC    1                                            2  2255  F 1                 48
482  2 257         B     ERRFIN                                       4  2257  B M47               48
483         *
484         * SYSTEM ERROR
485         *
486  2 261  MSG24  CS    332                                          4  2261  / 332               48
487  2 265         CS                                                 1  2265  /                   48
488  2 266         SW    GLOBER                                       4  2266  , 184               48
489  2 270         MN    SEQNO,238                                    7  2270  D P61 238           48
490  2 277         MN                                                 1  2277  D                   48
491  2 278         MN                                                 1  2278  D                   49
492  2 279         MCW   ERR24                                        4  2279  M R20               49
493  2 283         W                                                  1  2283  2                   49
494  2 284         BCV   *&5                                          5  2284  B K93 @             49
495  2 289         B     *&3                                          4  2289  B K95               49
496  2 293         CC    1                                            2  2293  F 1                 49
497  2 295         B     ERRFIN                                       4  2295  B M47               49
```

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

498         *
499         * EXCESS OF # SIGNS
500         * INDEX FROM TABLE IS NINE
501         * PREV *      CURR #
502         * PREV #      CURR #
503         * PREV &      CURR #
504         * PREV @      CURR #
505         * PREV .      CURR #
506         * PREV BLANK  CURR #
507         * PREV ,      CURR #
508         *
509  2 299  MSG26  CS    332                                          4  2299  / 332              50
510  2 303         CS                                                 1  2303  /                  50
511  2 304         SW    GLOBER                                       4  2304  , 184              50
512  2 308         MN    SEQNO,243                                    7  2308  D P61 243          50
513  2 315         MN                                                 1  2315  D                  50
514  2 316         MN                                                 1  2316  D                  50
515  2 317         MCW   ERR26                                       4  2317  M R60              50
516  2 321         W                                                  1  2321  2                  51
517  2 322         BCV   *&5                                         5  2322  B L31 @            51
518  2 327         B     *&3                                          4  2327  B L33              51
519  2 331         CC    1                                            2  2331  F 1                51
520  2 333         B     ERRFIN                                       4  2333  B M47              51
521         *
522         * MULTIPLE EXPONENT
523         * INDEX FROM TABLE IS EIGHT
524         * PREV .  CURR .
525         *
526  2 337  MSG32  CS    332                                          4  2337  / 332              51
527  2 341         CS                                                 1  2341  /                  51
528  2 342         SW    GLOBER                                       4  2342  , 184              52
529  2 346         MN    SEQNO,243                                    7  2346  D P61 243          52
530  2 353         MN                                                 1  2353  D                  52
531  2 354         MN                                                 1  2354  D                  52
532  2 355         MCW   ERR32                                       4  2355  M ?00              52
533  2 359         W                                                  1  2359  2                  52
534  2 360         BCV   *&5                                         5  2360  B L69 @            52
535  2 365         B     *&3                                          4  2365  B L71              53
536  2 369         CC    1                                            2  2369  F 1                53
537  2 371         B     ERRFIN                                       4  2371  B M47              53
538         *
539         * PARENTHESIS ERROR
540         * INDEX FROM TABLE IS SEVEN
541         * PREV %      CURR GM
542         * PREV #      CURR )
543         * PREV BLANK  CURR GM
544         *
545  2 375  MSG16  CS    332                                          4  2375  / 332              53
546  2 379         CS                                                 1  2379  /                  53
547  2 380         SW    GLOBER                                       4  2380  , 184              53
```

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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
548  2 384          MN    SEQNO,243                                         7  2384  D P61 243           53
549  2 391          MN                                                      1  2391  D                   54
550  2 392          MN                                                      1  2392  D                   54
551  2 393          MCW   ERR16                                           4  2393  M ?40               54
552  2 397          W                                                       1  2397  2                   54
553  2 398          BCV   *&5                                             5  2398  B M07 @             54
554  2 403          B     *&3                                             4  2403  B M09               54
555  2 407          CC    1                                               2  2407  F 1                 54
556  2 409          B     ERRFIN                                          4  2409  B M47               55
557          *
558          * LEFT SIDE IS WRONG
559          * INDEX FROM TABLE IS SIX
560          * PREV GM  CURR *)%&@. BLANK ,
561          *
562  2 413  MSG25  CS    332                                             4  2413  / 332               55
563  2 417          CS                                                      1  2417  /                   55
564  2 418          SW    GLOBER                                          4  2418  , 184               55
565  2 422          MN    SEQNO,243                                         7  2422  D P61 243           55
566  2 429          MN                                                      1  2429  D                   55
567  2 430          MN                                                      1  2430  D                   55
568  2 431          MCW   ERR25                                           4  2431  M ?80               56
569  2 435          W                                                       1  2435  2                   56
570  2 436          BCV   *&5                                             5  2436  B M45 @             56
571  2 441          B     *&3                                             4  2441  B M47               56
572  2 445          CC    1                                               2  2445  F 1                 56
573  2 447  ERRFIN MCW   IXTSAV,IXTOP                                     7  2447  M P58 P55           56
574  2 454          B     RESTRT                                          4  2454  B N08               56
575          *
576          * INDEX FROM TABLE IS THREE
577          * PREV #  CURR G
578          *
579  2 458  THREE  MCW   IXTOP,X2                                         7  2458  M P55 094           57
580  2 465          SW    2&X3                                            4  2465  , 0?2               57
581  2 469          LCA   0&X1,0&X2                                       7  2469  L 0|0 0!0           57
582  2 476          LCA   KEQ                                             4  2476  L ?81               57
583  2 480          SBR   X2                                              4  2480  H 094               57
584  2 484          CW    2&X2                                            4  2484  ) 0!2               57
585  2 488          CW                                                    1  2488  )                   57
586  2 489          SW    2&X1                                            4  2489  , 0|2               58
587  2 493  LINK   LCA   0,0&X2                                           7  2493  L 000 0!0           58
588  2 500          LCA   GM                                              4  2500  L N73               58
589  2 504          SBR   IXTOP                                           4  2504  H P55               58
590  2 508  RESTRT MCW   SX3B,X1                                         7  2508  M P66 089           58
591  2 515          B     LOOP                                            4  2515  B |60               58
592          *
593  2 519  ALMOST SBR   X1,5&X1  GET BACK ABOVE PREFIX IN LOW CORE       7  2519  H 089 0|5           58
594  2 526          MCW   IXTOP,X3                                        7  2526  M P55 099           59
595  2 533          SBR   X2,5&X3                                         7  2533  H 094 0?5           59
596  2 540          MCW   SX2,X3                                          7  2540  M P45 099           59
597          *
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

598  2 547  DONE    BSS   SNAPSH,C                                            5  2547  B 333 C             59
599  2 552          SBR   CLEARL&3,GMWM                                       7  2552  H 710 ?91           59
600  2 559          LCA   ARITH3,PHASID                                      7  2559  L ?90 110           60
601  2 566          B     LOADNX                                              4  2566  B 700               60
602          *
603          * DATA
604          *
605  2 570          DCW   @<@                                                 1  2570                      60
606  2 571  TAG1    DC    @ @                                                 1  2571                      60
607  2 572  CH      DC    @ @                                                 1  2572                      60
608  2 573  GM      DC    @}@                                                 1  2573              GMARK   60
609  2 623          DCW   @ERROR 28 - INCORRECT MODE OF FUNCTION ARGUMENT, ST@ 50  2623                      62
610  2 631  ERR28   DC    @ATEMENT @                                          8  2631                      62
611  2 632          DCW   @-@                                                 1  2632                      62
612          *
613          * ROWS AND COLUMNS OF TABLE ARE INDEXED BY POSITIONS IN
614          * CHARS, TAKEN IN REVERSE ORDER.
615          *
616  2 642  CHARS   DCW   @, .@&}#%)*@  INTERESTING CHARACTERS?              10  2642                      62
617  2 643  TABLE   EQU   *&1                                                     2643
618          *         CURR  *)%#G&@. ,
619  2 652          DC    @220922200S@  *  PREV                             10  2652                      63
620  2 662          DC    @SSSSSSSSSS@  )                                   10  2662                      63
621  2 672          DC    @01097000000@  %                                  10  2672                      63
622  2 682          DC    @07093000000@  #                                  10  2682                      64
623  2 692          DC    @6660S66666@  GM                                  10  2692                      64
624  2 702          DC    @020922000S@  &                                   10  2702                      64
625  2 712          DC    @220922200S@  AT  WAS /                           10  2712                      65
626  2 722          DC    @220922280S@  .   WAS **                          10  2722                      65
627  2 732          DC    @0509700000@  BLANK                               10  2732                      65
628  2 742          DC    @440944400S@  ,   WAS NEGATE                      10  2742                      66
629  2 745  SX2     DCW   #3                                                  3  2745                      66
630  2 747  CHKX2   DCW   #2                                                  2  2747                      66
631  2 749  K00     DCW   00                                                  2  2749                      66
632  2 752  X2P99   DCW   #3  X2 & X00 - 1                                   3  2752                      66
633  2 755  IXTOP   DCW   #3  INDEX OF STATEMENT IN TOP CORE                 3  2755                      67
634  2 758  IXTSAV  DCW   #3                                                  3  2758                      67
635  2 761  SEQNO   DCW   #3                                                  3  2761                      67
636  2 762  KBRACK  DCW   @]@                                                 1  2762                      67
637  2 763  KR      DCW   @R@                                                 1  2763                      67
638  2 766  SX3B    DCW   #3                                                  3  2766                      67
639  2 802  ERR2    DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@             36  2802                      68
640  2 814  KB12    DCW   #12                                                12  2814                      69
641  2 815  CURR    DCW   #1                                                  1  2815                      69
642  2 816  PREV    DCW   #1                                                  1  2816                      69
643  2 819  W3      DCW   #3                                                  3  2819                      69
644  2 820  CHNUM   DCW   #1                                                  1  2820                      69
645  2 823  ACHARS  DSA   CHARS                                               3  2823  O42                 69
646  2 824  K1      DCW   1                                                   1  2824                      69
647  2 825  KPLUS   DCW   @&@                                                 1  2825                      70
```

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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
 648  2 828  W3B     DCW   #3                                                3  2828                      70
 649  2 829  SAVTAG  DCW   #1  TYPE TAG ZONE                                 1  2829                      70
 650  2 867  ERR46   DCW   @ERROR 46 - MIXING IN ARITH, STATEMENT @         38  2867                      71
 651  2 868  KN      DCW   @N@                                               1  2868                      71
 652  2 870  W2      DCW   #2                                                2  2870                      72
 653  2 882  USRCOD  DCW   @RUPWYZKJLMDH@  CODES FOR USER FUNCTIONS         12  2882                      72
 654  2 884  KAX     DCW   @AX@                                              2  2884                      72
 655  2 885  KLPAR   DCW   @%@                                               1  2885                      72
 656  2 920  ERR24   DCW   @ERROR 24 - SYSTEM ERROR, STATEMENT @            35  2920                      73
 657  2 960  ERR26   DCW   @ERROR 26 - EXCESS OF # SIGNS, STATEMENT @       40  2960                      75
 658  3 000  ERR32   DCW   @ERROR 32 - MULTIPLE EXPONENT, STATEMENT @      40  3000                      77
 659  3 040  ERR16   DCW   @ERROR 16 - PARENTHESIS ERROR, STATEMENT @      40  3040                      79
 660  3 080  ERR25   DCW   @ERROR 25 - LEFT SIDE INVALID, STATEMENT @      40  3080                      81
 661  3 081  KEQ     DCW   @#@                                               1  3081                      81
 662  3 090  ARITH3  DCW   @ARITH TRI@                                       9  3090                      81
 663  3 091  GMWM    DCW   @}@                                               1  3091            GMARK     81
 664                 ORG   201                                                      0201
 665    203          DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM   3  0203  838                 82
 666                 EX    BEGINN                                                   B 838                 83
 667                 END                                                            / 000 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
ACHARS	2823	ALMOST	2519	ARITH3	3090	BEGINN	838	CDOVLY	769	CH	2572	CHARS	2642
CHKX2	2747	CHNUM	2820	CLEARL	707	CLRL	929	CLRX	953	COUNT	1573	COUNTX	1599
CURR	2815	DONE	2547	ERR16	3040	ERR2	2802	ERR24	2920	ERR25	3080	ERR26	2960
ERR28	2631	ERR32	3000	ERR46	2867	ERRFIN	2447	FIVE	1981	FIVEA	2055	FIVEB	2117
FIVEC	2175	FIVED	2207	FIVEF	2003	FOUR	1948	GET00	878	GETB	1228	GLOBER	184
GM	2573	GMWM	3091	GOT00	913	GOTB	1244	HALT	1217	HUNT	1291	HUNTL	1303
HUNTX	1343	IFSTMT	1221	IXTOP	2755	IXTSAV	2758	K00	2749	K1	2824	KAX	2884
KB12	2814	KBRACK	2762	KEQ	3081	KLPAR	2885	KN	2868	KPLUS	2825	KR	2763
LINK	2493	LOADDD	838	LOADNX	700	LOCBRK	1179	LOOK	1516	LOOK2	1528	LOOK3	1562
LOOKCH	1539	LOOP	1060	MIXED	1852	MORE	961	MOVEUP	1257	MOVEUX	1287	MSG16	2375
MSG24	2261	MSG25	2413	MSG26	2299	MSG28	2223	MSG32	2337	ONE	1618	PHASID	110
PREV	2816	READY	1153	RESTRT	2508	SAVTAG	2829	SEQNO	2761	SKPSUB	1347	SNAPSH	333
SUBBAK	1761	SUBTWO	1890	SX2	2745	SX3	981	SX3B	2766	TABLE	2643	TAG1	2571
THREE	2458	TWO	1659	TWOA	1836	USRCOD	2882	USRFNC	2099	W2	2870	W3	2819
W3B	2828	WHEW	1381	X1	89	X2	94	X2P99	2752	X3	99	ZERO	1603