```
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 -- STMT NUMBERS THREE -- PHASE 29                      PAGE    1

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

 101               JOB   FORTRAN COMPILER -- STMT NUMBERS THREE -- PHASE 29
 102               CTL   6611
 103         *
 104         * THE THREE-CHARACTER EQUIVALENTS OF STATEMENT NUMBERS
 105         * APPEARING WITHIN STATEMENTS (GENERATED BY STATEMENT
 106         * NUMBERS PHASE ONE) ARE PLACED IN A TABLE.
 107         *
 108         * ON ENTRY, 83 IS ONE BELOW THE BOTTOM OF THE NUMBERS, FORMATS
 109         * AND I/O LISTS IN HIGH CORE, AND X1 AND X2 ARE THE TOP OF
 110         * CODE IN LOW 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         TBLBOT EQU   145  ONE BELOW NUMBERS, FORMATS, I/O LISTS           0145
 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         TPREAD EQU   780  TAPE READ INSTRUCTION IN OVERLAY LOADER         0780
 125         LOADXX EQU   793  EXIT FROM OVERLAY LOADER                        0793
 126         CLRBOT EQU   833  BOTTOM OF CORE TO CLEAR IN OVERLAY LOADER       0833
 127         *
 128         TOPCD9 EQU   840  TOP OF CODE & X00 - 1                           0840
 129         DIFF16 EQU   846  16 * (BOTTAB - 1 - TOPCD9)                      0846
 130         BNDRY  EQU   849  TOPCD9 + 0.48 * (BOTTAB - 1 - TOPCD9)           0849
 131         BOTTAB EQU   852  INPUT BOTTOM OF TABLES, OUTPUT TOP OF CODE & 2  0852
 132         MOVEDN EQU   853  MOVE STATEMENTS DOWN                            0853
 133         *
 134               ORG   937                                                         0937
 135         LOADDD EQU   *&1          LOAD ADDRESS                            0937
 136         *
 137         * MOVE EITHER PREFIX OR STATEMENT UP
 138         *
 139    937  MOVE   SBR   MOVEX&3                                          4  0937  H 963                4
 140    941         LCA   0&X1,0&X2                                        7  0941  L 0|0 0!0             4
 141    948         SAR   X1                                               4  0948  Q 089                4
 142    952         C     0&X2                                             4  0952  C 0!0                4
 143    956         SAR   X2                                               4  0956  Q 094                4
 144    960  MOVEX  B     0                                                4  0960  B 000                4
 145         *
 146         * COMPUTE HASH PROBE FOR SOUGHT AND LEAVE IT IN X1.  SAVE
 147         * -3&X1 IN SX1A.
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD
148         *
149     964 HASH    SBR   HASHX&3                                             4  0964  H |47                4
150     968         MCW   0&X1,SOUGHT                                        7  0968  M 0|0 |51            5
151     975         SAR   SX1A                                               4  0975  Q |54                5
152     979         MN    SOUGHT,W4                                          7  0979  D |51 |58            5
153     986         MN                                                       1  0986  D                    5
154     987         MN                                                       1  0987  D                    5
155     988         MN                                                       1  0988  D                    5
156     989         S     DIFF16-2,W4                                        7  0989  S 844 |58            5
157     996         BWZ   *-14,W4,B                                          8  0996  V 989 |58 B          6
158   1 004         A     DIFF16-2,W4                                        7  1004  A 844 |58            6
159   1 011         MZ    *-4,W4                                             7  1011  Y |13 |58            6
160   1 018         MCW   W4,X1                                              7  1018  M |58 089            6
161   1 025         A     X1                                                 4  1025  A 089                6
162   1 029         A     W4,X1                                              7  1029  A |58 089            7
163   1 036 SAVTOP  NOP   0-0  WHY NOT JUST                                   4  1036  N 000                7
164   1 040         SAR   X1     SBR X1,0-0 ?                               4  1040  Q 089                7
165   1 044 HASHX   B     0                                                  4  1044  B 000                7
166         *
167   1 048         DCW   #1                                                 1  1048                       7
168   1 051 SOUGHT  DCW   #3                                                 3  1051                       7
169   1 054 SX1A    DCW   #3                                                 3  1054                       7
170   1 058 W4      DCW   #4                                                 4  1058                       8
171   1 062 SEQCOD  DCW   #4                                                 4  1062                       8
172   1 065 SAVBOT  DCW   #3  BOTTOM OF I/O STRINGS, FORMAT, NUMBERS - 1     3  1065                       8
173         *
174   1 066 TOOBIG  CS    332                                                4  1066  / 332               8
175   1 070         CS                                                       1  1070  /                    8
176   1 071         CC    1                                                  2  1071  F 1                  8
177   1 073         MCW   ERR2,270                                           7  1073  M /79 270            8
178   1 080         W                                                        1  1080  2                    9
179   1 081         CC    1                                                  2  1081  F 1                  9
180   1 083         BCE   HALT,CDOVLY,1                                     8  1083  B |96 769 1          9
181   1 091         RWD   1                                                  5  1091  U %U1 R              9
182   1 096 HALT    H     HALT                                               4  1096  . |96                9
183         *
184   1 100 DONE    MCW   SX1,X1                                            7  1100  M /43 089            9
185   1 107         BSS   SNAPSH,C                                          5  1107  B 333 C              9
186   1 112         SBR   TPREAD&6,BEGINN                                   7  1112  H 786 /87           10
187   1 119         SBR   CLRBOT                                             4  1119  H 833               10
188   1 123         SBR   CLEARL&3,GMWM                                      7  1123  H 710 W89           10
189   1 130         LCA   STNUM4,PHASID                                      7  1130  L /86 110           10
190   1 137         B     LOADNX                                             4  1137  B 700               10
191   1 143 SX1     DCW   #3                                                 3  1143                      10
192   1 179 ERR2    DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@             36  1179                      11
193   1 186 STNUM4  DCW   @STNUM 4@                                          7  1186                      12
194         *
195   1 187 BEGINN  MCW   83,SAVBOT                                          7  1187  M 083 |65           12
196   1 194         MCW   83,TBLBOT                                          7  1194  M 083 145           12
197   1 201         MCW   TOPCD9,SAVTOP&3                                    7  1201  M 840 |39           12
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
198  1 208          MZ    X1ZONE,SAVTOP&2  X1 ZONE                          7  1208  Y W67 |38           12
199  1 215          SBR   BOTTAB,2&X2  BOTTAB IS NOT TOP OF CODE & 2        7  1215  H 852 0!2           13
200  1 222          MCW   X1,SX1                                           7  1222  M 089 /43           13
201  1 229  NXSTMT  MCW   0&X1,SEQCOD                                      7  1229  M 0|0 |62           13
202  1 236          BCE   COMPGO,SEQCOD-3,T  COMPUTED GOTO?               8  1236  B T67 |59 T         13
203  1 244          MCW   BRANCH,SWICH2                                   7  1244  M W68 V83           13
204  1 251          MCW   SAVBOT,83                                       7  1251  M |65 083           14
205  1 258          C     X1,X2                                           7  1258  C 089 094           14
206  1 265          BE    TSTEND                                          5  1265  B S74 S             14
207  1 270          B     MOVEDN                                          4  1270  B 853               14
208  1 274  TSTEND  BCE   DONE,0&X1,                                      8  1274  B /00 0|0           14
209  1 282          MCW   0&X1,SEQCOD                                      7  1282  M 0|0 |62           14
210  1 289          B     MOVE  MOVE UP PREFIX                            4  1289  B 937               15
211  1 293          MCW   SEQCOD-3,*&8                                    7  1293  M |59 T07           15
212  1 300          BCE   LABELS,STMTS,0                                  8  1300  B T21 W74 0         15
213  1 308          B                                                     1  1308  B                   15
214  1 309          B                                                     1  1309  B                   15
215  1 310          B                                                     1  1310  B                   15
216  1 311          B                                                     1  1311  B                   15
217  1 312          B                                                     1  1312  B                   16
218  1 313  CONT    B     MOVE  MOVE UP BODY                              4  1313  B 937               16
219  1 317          B     TSTEND                                          4  1317  B S74               16
220          *
221          * AN INTERESTING STATEMENT -- ONE CONTAINING LABELS OF OTHER
222          * EXECUTABLE STATEMENTS.  NOT AN I/O STATEMENT CONTAINING A
223          * FORMAT LABEL.
224          *
225          * ??? THIS DOESN'T WORK FOR COMPUTED GOTO, BECAUSE IT DOESN'T
226          * HAVE A COMMA.  IT ENDS UP PUTTING THE VARIABLE IN THE LABEL
227          * TABLE. ???
228          *
229  1 321  LABELS B     HASH                                            4  1321  B 964               16
230  1 325          B     LOOKUP                                          4  1325  B V33               16
231  1 329          MCW   X3,0&X2  MOVE TABLE ADDRESS TO CODE             7  1329  M 099 0!0           16
232  1 336          SBR   X2                                              4  1336  H 094               16
233  1 340          MCW   SX1A,X1                                         7  1340  M |54 089           17
234  1 347          BCE   CONT,0&X1,}                                    8  1347  B T13 0|0 } GMARK   17
235  1 355          BCE   CONT,0&X1,,                                    8  1355  B T13 0|0 ,         17
236  1 363          B     LABELS                                          4  1363  B T21               17
237          *
238          * COMPUTED GOTO
239          * ??? THIS LOOKS BUGGY.  COMPUTED GOTO DOESN'T HAVE
240          * A COMMA IN IT, AND X3 IS OFF BY ONE. ???
241          *
242  1 367  COMPGO  C     0&X1  GET TO TOP OF BODY                        4  1367  C 0|0               17
243  1 371          MN                                                    1  1371  D                   17
244  1 372          SAR   X3                                              4  1372  Q 099               17
245  1 376          S     W3B                                             4  1376  S W77               18
246  1 380  COMPL1  MN    0&X3                                            4  1380  D 0?0               18
247  1 384          MN                                                    1  1384  D                   18
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                        FORTRAN COMPILER -- STMT NUMBERS THREE -- PHASE 29                          PAGE    4

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

 248  1 385          MN                                                          1  1385  D                   18
 249  1 386          SAR   X3                                                    4  1386  Q 099               18
 250  1 390          A     K1,W3B                                                7  1390  A W78 W77           18
 251  1 397          BCE   *&5,1&X3,,                                           8  1397  B U09 0?1 ,         18
 252  1 405          B     COMPL1                                                4  1405  B T80               19
 253  1 409          S     KP11,W3B                                              7  1409  S W80 W77           19
 254  1 416          BWZ   COMPG2,W3B,B                                         8  1416  V U36 W77 B         19
 255  1 424          B     MOVE                                                  4  1424  B 937               19
 256  1 428  COMPFN  B     MOVE                                                  4  1428  B 937               19
 257  1 432          B     NXSTMT                                                4  1432  B S29               19
 258  1 436  COMPG2  MN    0&X1                                                  4  1436  D 0|0               19
 259  1 440          MN                                                          1  1440  D                   20
 260  1 441          MN                                                          1  1441  D                   20
 261  1 442          MCW   KH                                                    4  1442  M W81               20
 262  1 446          B     MOVE                                                  4  1446  B 937               20
 263  1 450          MCW   X3,SX3                                                7  1450  M 099 W84           20
 264  1 457          MN    0&X3                                                  4  1457  D 0?0               20
 265  1 461          MN                                                          1  1461  D                   20
 266  1 462          SAR   X1                                                    4  1462  Q 089               21
 267  1 466          A     KP9,W3B                                               7  1466  A W85 W77           21
 268  1 473  COMPL2  SBR   X1,6&X1                                              7  1473  H 089 0|6           21
 269  1 480          B     HASH                                                  4  1480  B 964               21
 270  1 484          B     LOOKUP                                                4  1484  B V33               21
 271  1 488          MCW   SX1A,X1                                              7  1488  M |54 089           21
 272  1 495          BCE   *&5,4&X1,}  END OF STATEMENT?                         8  1495  B V07 0|4 } GMARK   22
 273  1 503          B     COMPL2                                                4  1503  B U73               22
 274  1 507          MCW   SAVBOT,0&X2                                          7  1507  M |65 0!0           22
 275  1 514          MCW   W3B                                                   4  1514  M W77               22
 276  1 518          SBR   X2                                                    4  1518  H 094               22
 277  1 522          MCW   SX3,X1                                                7  1522  M W84 089           22
 278  1 529          B     COMPFN                                                4  1529  B U28               22
 279          *
 280          * LOOKUP SOUGHT IN THE HASH TABLE.  INSERT BOTTOM OF TABLES
 281          * ADDRESS IN HASH TABLE IF NOT FOUND, COPY SOUGHT TO
 282          * BOTTOM OF TABLES, AND DECREMENT BOTTOM OF TABLES ADDRESS.
 283          *
 284  1 533  LOOKUP SBR   LOOKX&3                                               4  1533  H W44               23
 285  1 537          MCW   NOP,SWITCH  INDICATE FIRST TIME                       7  1537  M W86 W45           23
 286  1 544  LOOKL  MCW   0&X1,X3                                               7  1544  M 0|0 099           23
 287  1 551          SAR   X1                                                    4  1551  Q 089               23
 288  1 555          BCE   EMPTY,3&X1,                                          8  1555  B W06 0|3           23
 289  1 563          BCE   SWITCH,3&X1,<                                        8  1563  B W45 0|3 <         23
 290  1 571          C     0&X3,SOUGHT                                           7  1571  C 0?0 |51           24
 291  1 578          BU    LOOKL                                                 5  1578  B V44 /             24
 292  1 583  SWICH2  NOP   LOOKX                                                 4  1583  N W41               24
 293  1 587          MCW   SAVBOT,0&X3                                          7  1587  M |65 0?0           24
 294  1 594          SBR   X3                                                    4  1594  H 099               24
 295  1 598          MZ    KBA,2&X3                                              7  1598  Y W88 0?2           24
 296  1 605          CW                                                          1  1605  )                   24
 297  1 606  EMPTY   LCA   SAVBOT,3&X1                                          7  1606  L |65 0|3           25
```

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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
298  1 613          MCW   SAVBOT,X3                                         7  1613  M |65 099           25
299  1 620          BCE   TOOBIG,0&X3,<                                    8  1620  B |66 0?0 <         25
300  1 628          B                                                       1  1628  B                   25
301  1 629          B                                                       1  1629  B                   25
302  1 630          LCA   SOUGHT,0&X3                                      7  1630  L |51 0?0           25
303  1 637          SBR   SAVBOT                                          4  1637  H |65               25
304  1 641  LOOKX    B     0                                               4  1641  B 000               26
305         *
306  1 645  SWITCH  NOP   TOOBIG                                          4  1645  N |66               26
307  1 649          MCW   BRANCH,SWITCH                                   7  1649  M W68 W45           26
308  1 656          MCW   BNDRY,X1                                        7  1656  M 849 089           26
309  1 663          B     LOOKL                                           4  1663  B V44               26
310         *
311  1 667  X1ZONE  DCW   @S@                                             1  1667                      26
312  1 668  BRANCH  B                                                     1  1668  B                   26
313  1 674  STMTS   DCW   @WTDEGK@  CODES FOR STATEMENTS WITH LABELS      6  1674                      27
314  1 677  W3B     DCW   #3                                              3  1677                      27
315  1 678  K1      DCW   1                                               1  1678                      27
316  1 680  KP11    DCW   &11                                             2  1680                      27
317  1 681  KH      DCW   @H@                                             1  1681                      27
318  1 684  SX3     DCW   #3                                              3  1684                      27
319  1 685  KP9     DCW   &9                                              1  1685                      27
320  1 686  NOP     NOP                                                   1  1686  N                   28
321  1 688  KBA     DCW   @ A@                                            2  1688                      28
322  1 689  GMWM    DCW   @}@                                             1  1689            GMARK     28
323                ORG   201                                                    0201
324    203         DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM  3  0203  937                 29
325                EX    BEGINN                                                 B /87                 30
326                END                                                          / 000 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
BEGINN	1187	BNDRY	849	BOTTAB	852	BRANCH	1668	CDOVLY	769	CLEARL	707	CLRBOT	833
COMPFN	1428	COMPG2	1436	COMPGO	1367	COMPL1	1380	COMPL2	1473	CONT	1313	DIFF16	846
DONE	1100	EMPTY	1606	ERR2	1179	GMWM	1689	HALT	1096	HASH	964	HASHX	1044
K1	1678	KBA	1688	KH	1681	KP11	1680	KP9	1685	LABELS	1321	LOADDD	937
LOADNX	700	LOADXX	793	LOOKL	1544	LOOKUP	1533	LOOKX	1641	MOVE	937	MOVEDN	853
MOVEX	960	NOP	1686	NXSTMT	1229	PHASID	110	SAVBOT	1065	SAVTOP	1036	SEQCOD	1062
SNAPSH	333	SOUGHT	1051	STMTS	1674	STNUM4	1186	SWICH2	1583	SWITCH	1645	SX1	1143
SX1A	1054	SX3	1684	TBLBOT	145	TOOBIG	1066	TOPCD9	840	TPREAD	780	TSTEND	1274
W3B	1677	W4	1058	X1	89	X1ZONE	1667	X2	94	X3	99		