```
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 SIX -- PHASE 38                              PAGE    1

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

 101                JOB   FORTRAN COMPILER -- ARITH PHASE SIX -- PHASE 38
 102                CTL   6611
 103         *
 104         * OPTIMIZATION OF TEMPORARY STORAGE AREAS TAKES PLACE.
 105         * THESE AREAS ARE ASSIGNED DEFINITE LOCATIONS IN STORAGE.
 106         *
 107         * ON ENTRY X1 IS AT THE BOTTOM OF THE BOTTOMMOST ASSIGNMENT
 108         * STATEMENT IN LOW CORE, X2 IS AT THE AT THE BOTTOM OF THE
 109         * BOTTOMMOST ASSIGNMENT STATEMENT IN HIGH CORE, AND X3 IS
 110         * THE BOTTOM OF THE BOTTOM OF THE BOTTOMMOST STATEMENT IN
 111         * HIGH CORE THAT IS NEITHER AN ASSIGNMENT NOR IF STATEMENT.
 112         *
 113         X1     EQU   89                                               0089
 114         X2     EQU   94                                               0094
 115         X3     EQU   99                                               0099
 116         *
 117         * STUFF IN THE RESIDENT AREA
 118         *
 119         PHASID EQU   110  PHASE ID, FOR SNAPSHOT DUMPS                 0110
 120         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR          0184
 121         SNAPSH EQU   333  CORE DUMP SNAPSHOT                           0333
 122         IMOD   EQU   690  INTEGER MODULUS -- NUMBER OF DIGITS          0690
 123         MANTIS EQU   692  FLOATING POINT MANTISSA DIGITS               0692
 124         LOADNX EQU   700  LOAD NEXT OVERLAY                            0700
 125         CLEARL EQU   707  CS AT START OF OVERLAY LOADER                0707
 126         *
 127                ORG   838                                                   0838
 128         LOADDD EQU   *&1          LOAD ADDRESS                         0838
 129     838 BEGINN BCE   DONE,X2,.                                    8   0838  B S51 094 .       4
 130     846        SBR   SX2,0&X2                                      7   0846  H N31 0!0        4
 131     853        MN    0&X3                                         4   0853  D 0?0             4
 132     857        MN                                                 1   0857  D                 4
 133     858        SAR   SX3                                          4   0858  Q N34             4
 134     862        SBR   SX1,0&X1                                     7   0862  H N37 0|0        4
 135     869        MCW   86,S86                                       7   0869  M 086 N66        4
 136     876        MCW   MANTIS,NUMWID                                7   0876  M 692 N40        5
 137     883        MN    KPZERO,NUMWID-2                              7   0883  D N41 N38        5
 138     890        A     KP2,NUMWID  WASN'T THIS DONE A LONG TIME AGO? 7   0890  A N42 N40        5
 139     897        C     NUMWID,IMOD                                  7   0897  C N40 690        5
 140     904        BL    *&8                                          5   0904  B 916 T           5
 141     909        MCW   IMOD,NUMWID  NUMWID IS MAX(IMOD,MANTIS&4)    7   0909  M 690 N40        6
 142     916 LOOP   C     X2,SX3                                       7   0916  C 094 N34        6
 143     923        BE    ALMOST                                       5   0923  B S21 S           6
 144     928        MCW   WORK,WORK-1  FILL WORK WITH RECORD MARKS     7   0928  M M94 M93        6
 145     935 GETLES BCE   GOTLES,2&X2,<                                8   0935  B 959 0!2 <       6
 146     943        SBR   X2                                           4   0943  H 094             6
 147     947        BCE   ENDSTM,1&X2,}                                8   0947  B S10 0!1 } GMARK 7
```

FORTRAN COMPILER -- ARITH PHASE SIX -- PHASE 38   PAGE   2

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

148    955         B     GETLES                                        4  0955  B 935              7
149    959  GOTLES MN    4&X2,W3                                       7  0959  D 0!4 N45          7
150    966         MN                                                  1  0966  D                  7
151    967         MCW   KZERO                                         4  0967  M N46              7
152    971         BWZ   ZONEX3,4&X2,2                                 8  0971  V |16 0!4 2         7
153    979         A     KP100,W3                                      7  0979  A N49 N45          7
154    986         BWZ   ZONEX3,4&X2,S                                 8  0986  V |16 0!4 S         8
155    994         A     KP100,W3                                      7  0994  A N49 N45          8
156  1 001         BWZ   ZONEX3,4&X2,K                                 8  1001  V |16 0!4 K         8
157  1 009         A     KP100,W3                                      7  1009  A N49 N45          8
158  1 016  ZONEX3 MCW   W3,X3  4&X2 & &100*ZONE TO X3                 7  1016  M N45 099          8
159  1 023         A     X3                                            4  1023  A 099              9
160  1 027         A     W3,X3  TIMES 3                                7  1027  A N45 099          9
161  1 034         BCE   GOTASG,5&X2,#                                 8  1034  B |60 0!5 #         9
162  1 042         MCW   WRKBOT&X3,X1                                  7  1042  M T?5 089          9
163  1 049         MCW   RM,WRKMID&X1                                  7  1049  M N50 LS8          9
164  1 056         B     NOTASG                                        4  1056  B |89              9
165  1 060  GOTASG MCM   WRKMID&1                                      4  1060  P L29             10
166  1 064         SAR   X1                                            4  1064  Q 089             10
167  1 068         MA    A13671,X1                                     7  1068  # N53 089         10
168  1 075         MCW   *-6,WRKMID&X1                                 7  1075  M |75 LS8         10
169  1 082         MCW   X1,WRKBOT&X3                                  7  1082  M 089 T?5         10
170  1 089  NOTASG ZA    X1,W7-4                                       7  1089  ? 089 N56         10
171  1 096         M     NUMWID,W7                                     7  1096  @ N40 N60         11
172  1 103         SW    W7-4                                          4  1103  , N56            11
173  1 107         MN    W7,4&X2  CONVERT W7 TO MACHINE ADDRESS        7  1107  D N60 0!4         11
174  1 114         MN                                                  1  1114  D                 11
175  1 115         MN                                                  1  1115  D                 11
176  1 116         SAR   *&4                                          4  1116  Q /23            11
177  1 120         MCW   0,X3                                          7  1120  M 000 099         11
178  1 127         MCW   KZERO                                         4  1127  M N46             12
179  1 131         A     X3                                            4  1131  A 099             12
180  1 135         MZ    ZONES&X3,4&X2                                 7  1135  Y MI8 0!4         12
181  1 142         CW                                                  1  1142  )                 12
182  1 143         SBR   *&7                                          4  1143  H /53            12
183  1 147         MZ    ZONES-1&X3,0                                  7  1147  Y MI7 000         12
184  1 154         CW    W7-4                                          4  1154  ) N56            12
185  1 158         MA    86,4&X2                                       7  1158  # 086 0!4         13
186  1 165         C     X1,W3B                                        7  1165  C 089 N63         13
187  1 172         BH    NOTBIG                                        5  1172  B /99 U           13
188  1 177         MCW   X1,W3B                                        7  1177  M 089 N63         13
189  1 184         MCW   4&X2,S86                                      7  1184  M 0!4 N66         13
190  1 191         BWZ   TOOBIG,S86,2                                  8  1191  V S74 N66 2       14
191  1 199  NOTBIG SBR   X2,3&X2                                       7  1199  H 094 0!3         14
192  1 206         B     GETLES                                        4  1206  B 935            14
193         *
194         * END OF STATEMENT.
195         *
196  1 210  ENDSTM SBR   X2,4&X2                                       7  1210  H 094 0!4         14
197  1 217         B     LOOP                                          4  1217  B 916            14
```

```
                         FORTRAN COMPILER -- ARITH PHASE SIX -- PHASE 38                              PAGE    3

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

 198         *
 199         * ALMOST DONE
 200         *
 201  1 221  ALMOST MCW   SX2,X3                                             7  1221  M N31 099          14
 202  1 228         MCW   SX1,X1                                             7  1228  M N37 089          15
 203  1 235         C     0&X1                                               4  1235  C 0|0              15
 204  1 239         C                                                        1  1239  C                  15
 205  1 240         SAR   X1                                                 4  1240  Q 089              15
 206  1 244         MCW   S86,86                                             7  1244  M N66 086          15
 207         *
 208  1 251  DONE   BSS   SNAPSH,D                                           5  1251  B 333 D            15
 209  1 256         SBR   CLEARL&3,GMWM                                      7  1256  H 710 O10          15
 210  1 263         LCA   IO2,PHASID                                         7  1263  L N73 110          16
 211  1 270         B     LOADNX                                             4  1270  B 700              16
 212         *
 213         * PROGRAM IS TOO BIG
 214         *
 215  1 274  TOOBIG BW    NOTBIG,PRINTD                                      8  1274  V /99 M95 1        16
 216  1 282         CS    332                                                4  1282  / 332              16
 217  1 286         CS                                                       1  1286  /                  16
 218  1 287         MCW   ERROR2,270                                         7  1287  M O09 270          16
 219  1 294         W                                                        1  1294  2                  16
 220  1 295         SW    GLOBER,PRINTD                                      7  1295  , 184 M95          17
 221  1 302         B     NOTBIG                                             4  1302  B /99              17
 222         *
 223  1 305  WRKBOT EQU   *                                                     1305
 224  1 355         DCW   @                                            @  50 1355                        19
 225         ORG   2329                                                          2329
 226  2 328  WRKMID EQU   *                                                     2328
 227  2 378         DCW   @                                            @  50 2378                        21
 228  2 428         DC    @                                            @  50 2428                        23
 229  2 478         DC    @                                            @  50 2478                        25
 230  2 494  WORK   DC    @                  |@                          16 2494                        25
 231  2 495  PRINTD DC    @ @  WM MEANS *TOO BIG* MESSAGE HAS BEEN PRINTED   1 2495                     25
 232  2 497  KB9    DCW   @ 9@                                               2 2497                      25
 233  2 498  ZONES  EQU   *&1                                                   2498
 234  2 528         DCW   @9Z9R9I99ZZZRZIZ9RZRRRIR9IZIRIII@                 31 2528                      26
 235  2 531  SX2    DCW   #3                                                 3 2531                      26
 236  2 534  SX3    DCW   #3                                                 3 2534                      26
 237  2 537  SX1    DCW   #3                                                 3 2537                      27
 238  2 540  NUMWID DCW   #3                                                 3 2540                      27
 239  2 541  KPZERO DCW   @?@                                                1 2541                      27
 240  2 542  KP2    DCW   &2                                                 1 2542                      27
 241  2 545  W3     DCW   #3                                                 3 2545                      27
 242  2 546  KZERO  DCW   0                                                  1 2546                      27
 243  2 549  KP100  DCW   &100                                               3 2549                      27
 244  2 550  RM     DCW   @|@                                                1 2550                      28
 245  2 553  A13671 DSA   13671                                              3 2553  W7A                28
 246  2 560  W7     DCW   #7                                                 7 2560                      28
 247  2 563  W3B    DCW   #3                                                 3 2563                      28
```

```
                 FORTRAN COMPILER -- ARITH PHASE SIX -- PHASE 38                                    PAGE    4

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

248  2 566  S86     DCW   #3                                                          3  2566                      28
249  2 573  IO2     DCW   @I/O TWO@                                                   7  2573                      28
250  2 609  ERROR2  DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@                     36  2609                      29
251  2 610  GMWM    DCW   @}@                                                        1  2610           GMARK      29
252                 ORG   201                                                                  0201
253    203          DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM             3  0203  838                 30
254                 EX    BEGINN                                                               B 838               31
255                 END                                                                        / 000 080
```

FORTRAN COMPILER -- ARITH PHASE SIX -- PHASE 38   PAGE   5

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
A13671	2553	ALMOST	1221	BEGINN	838	CLEARL	707	DONE	1251	ENDSTM	1210	ERROR2	2609
GETLES	935	GLOBER	184	GMWM	2610	GOTASG	1060	GOTLES	959	IMOD	690	IO2	2573
KB9	2497	KP100	2549	KP2	2542	KPZERO	2541	KZERO	2546	LOADDD	838	LOADNX	700
LOOP	916	MANTIS	692	NOTASG	1089	NOTBIG	1199	NUMWID	2540	PHASID	110	PRINTD	2495
RM	2550	S86	2566	SNAPSH	333	SX1	2537	SX2	2531	SX3	2534	TOOBIG	1274
W3	2545	W3B	2563	W7	2560	WORK	2494	WRKBOT	1305	WRKMID	2328	X1	89
X2	94	X3	99	ZONES	2498	ZONEX3	1016						