```
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 -- SORT TWO PHASE -- PHASE 05                          PAGE    1

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

 101               JOB   FORTRAN COMPILER -- SORT TWO PHASE -- PHASE 05
 102               CTL   6611
 103         *
 104         * SORT TWO PHASE: ADD THREE CHARACTERS TO EACH STATEMENT AND
 105         * CHAIN STATEMENTS OF THE SAME TYPE TOGETHER, LEAVING THE
 106         * ADDRESS OF THE FIRST STATEMENT OF EACH TYPE IN TYPTAB,
 107         * WHICH STARTS AT 838.
 108         * X1 HAS THE ADDRESS OF THE GROUP MARK WORD MARK AFTER (LOWER
 109         * ADDRESS) THE LAST (LOWEST ADDRESS) STATEMENT.
 110         *
 111         X1     EQU   89                                                    0089
 112         X2     EQU   94                                                    0094
 113         X3     EQU   99                                                    0099
 114         *
 115         * STUFF IN THE RESIDENT AREA
 116         *
 117         PHASID EQU   110  PHASE ID, FOR SNAPSHOT DUMPS                    0110
 118         SNAPSH EQU   333  CORE DUMP SNAPSHOT                              0333
 119         TOPCOR EQU   688  TOP CORE ADDRESS FROM PARAM CARD                0688
 120         LOADNX EQU   700  LOAD NEXT OVERLAY                               0700
 121         CLEARL EQU   707  CS AT START OF OVERLAY LOADER                    0707
 122         TYPTAB EQU   840  TYPE TABLE (WORD MARKS SET IN PHASE 3)          0840
 123         *                 INDEXED BY 30*(ZONE OF STATEMENT CODE) +
 124         *                 3*(NUMERIC PART OF STATEMENT CODE).  EACH
 125         *                 ENTRY IS THE ADDRESS OF THE EARLIEST (HIGHEST
 126         *                 ADDRESS) STATEMENT OF A TYPE.  EACH STATEMENT
 127         *                 HAS A POINTER TO THE NEXT ONE (LOWER IN CORE)
 128         *                 OF THE SAME TYPE AS ITS FIRST THREE (HIGHEST
 129         *                 ADDRESS) CHARACTERS.
 130         *
 131         * X1 IS THE ADDRESS AT THE BOTTOM OF THE LAST STATEMENT
 132         * X2 IS X1 - 3*(NUMBER OF STATEMENTS)
 133         *
 134               ORG   1022                                                      1022
 135         LOADDD EQU   *&1          LOAD ADDRESS                          1022
 136  1 022  BEGINN MCW   X1,X3                                          7  1022  M 089 099           4
 137  1 029         SW    GM                                             4  1029  , S19              4
 138  1 033         MCM   0&X1  ADDRESS AT BOTTOM OF NEXT STATEMENT      4  1033  P 0|0              4
 139  1 037         MN          ADDRESS OF GM BELOW NEXT STATEMENT       1  1037  D                  4
 140  1 038         MN          ADDRESS AT TOP OF THIS STATEMENT         1  1038  D                  4
 141  1 039         SAR   X1                                             4  1039  Q 089              4
 142  1 043         LCA   0&X1,STMT  SAVE THIS STATEMENT                 7  1043  L 0|0 Z19          4
 143  1 050         MCM   0&X1  ADDRESS AT BOTTOM OF NEXT STATEMENT      4  1050  P 0|0              5
 144  1 054         SAR   X1                                             4  1054  Q 089              5
 145  1 058         MCM   0&X3,0&X2  MOVE DOWN BY 3*(STATEMENT NUMBER)   7  1058  P 0?0 0!0          5
 146  1 065         SBR   X2                                             4  1065  H 094              5
 147  1 069         LCA   STMT&3,1&X2  MOVE AGAIN, THIS TIME WITH ITS GM 7  1069  L Z22 0!1          5
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD
148  1 076          S     X3&1  CLEAR X3                                    4  1076  S 100               5
149  1 080          MCW   0&X2,WORK6   COPY STATEMENT NUMBER AND STMT CODE   7  1080  M 0!0 !05          5
150  1 087          MN    WORK6-5,X3   NUMERIC PART OF STATEMENT CODE       7  1087  D !00 099          6
151  1 094          MCW   X3,WORK6-2                                        7  1094  M 099 !03          6
152  1 101          A     X3                                              4  1101  A 099              6
153  1 105          A     WORK6-2,X3   X3 = 3*(NUMERIC PART OF STMT CODE)   7  1105  A !03 099          6
154  1 112          BWZ   OVER,WORK6-5,2  STMT TYPE HAS NO ZONE           8  1112  V /57 !00 2        6
155  1 120          A     KP30,X3                                         7  1120  A !07 099          7
156  1 127          BWZ   OVER,WORK6-5,S  STMT TYPE HAS A ZONE            8  1127  V /57 !00 S        7
157  1 135          A     KP30,X3                                         7  1135  A !07 099          7
158  1 142          BM    OVER,WORK6-5    STMT TYPE HAS B ZONE            8  1142  V /57 !00 K        7
159  1 150          A     KP30,X3                                         7  1150  A !07 099          7
160          *
161          * HERE X3 IS 30*(ZONE OF STMT CODE) + 3*(NUMERIC PART OF STMT CODE)
162          * WORK IS INITIALLY AN ARRAY OF 3-CHARACTER EMPTY FIELDS, BUT
163          * WE STORE THE ADDRESS OF EACH RECORD IN TYPTAB&X3, RESULTING IN
164          * STATEMENTS OF THE SAME TYPE CODE BEING CHAINED TOGETHER
165          *
166  1 157  OVER   MCW   TYPTAB&X3,1&X2  LINK STATEMENT TO NEXT STATEMENT   7  1157  M 8D0 0!1          8
167  1 164          LCA   GM,2&X2  MARK BOTTOM OF NEXT STATEMENT            7  1164  L S19 0!2          8
168  1 171          SBR   TYPTAB&X3  SAVE STATEMENT ADDRESS IN TYPTAB       4  1171  H 8D0              8
169  1 175          MCM   2&X2     MOVE X2 ABOVE NEW STATEMENT BOTTOM       4  1175  P 0!2              8
170  1 179          SAR   X2                                              4  1179  Q 094              8
171  1 183          C     X2,TOPCOR  DONE?                                7  1183  C 094 688          8
172  1 190          BU    BEGINN   NO, DO ANOTHER ONE                     5  1190  B |22 /            8
173          *
174          * DONE -- LOAD NEXT OVERLAY
175          *
176  1 195          BSS   SNAPSH,C                                        5  1195  B 333 C            9
177  1 200          SBR   CLEARL&3,2899                                   7  1200  H 710 Q99          9
178  1 207          LCA   SORT3,PHASID                                    7  1207  L !13 110          9
179  1 214          B     LOADNX                                          4  1214  B 700              9
180          *
181          * DATA
182          *
183  1 218          DCW   0                                               1  1218                     9
184  1 219  GM      DC    @}@                                             1  1219             GMARK   9
185          STMT   EQU   1919  SAVE AREA FOR STATEMENT                     1919
186                 ORG   2000                                                  2000
187  2 005  WORK6   DCW   #6                                              6  2005                    10
188  2 007  KP30    DCW   &30                                             2  2007                    10
189  2 013  SORT3   DCW   @SORT 3@                                        6  2013                    10
190  2 014  GMWM    DCW   @}@                                             1  2014             GMARK  10
191                 ORG   201                                                   0201
192    203          DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM  3  0203  |22              11
193                 EX    BEGINN                                                B |22              12
194                 END                                                         / 000 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
BEGINN	1022	CLEARL	707	GM	1219	GMWM	2014	KP30	2007	LOADDD	1022	LOADNX	700
OVER	1157	PHASID	110	SNAPSH	333	SORT3	2013	STMT	1919	TOPCOR	688	TYPTAB	840
WORK6	2005	X1	89	X2	94	X3	99						