```
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 -- TAMROF PHASE ONE -- 23                                  PAGE    1

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

 101                JOB   FORTRAN COMPILER -- TAMROF PHASE ONE -- 23
 102                CTL   6611
 103         *
 104         * FORMAT STATEMENTS ARE CHECKED TO INSURE THAT THEY ARE
 105         * REFERENCED BY INPUT-OUTPUT STATEMENTS
 106         *
 107         * ON ENTRY, 81-83 IS ONE BELOW THE NUMBER TABLE, WHICH IS THE
 108         * GMWM ABOVE THE TOP STATEMENT IN HIGH CORE, X1 IS THE
 109         * GMWM BELOW THE BOTTOM STATEMENT IN LOW CORE, X2 IS ONE BELOW
 110         * THE GMWM BELOW THE BOTTOM STATEMENT IN HIGH CORE
 111         *
 112         * ON EXIT, X1 IS THE TOP OF STATEMENTS, X2 IS THE TOP OF
 113         * FORMATTED I/O STATEMENTS, AND 81-83 IS ONE BELOW THE NUMBER
 114         * TABLE
 115         *
 116         X1     EQU   89                                                         0089
 117         X2     EQU   94                                                         0094
 118         X3     EQU   99                                                         0099
 119         *
 120         * STUFF IN THE RESIDENT AREA
 121         *
 122         PHASID EQU   110  PHASE ID, FOR SNAPSHOT DUMPS                          0110
 123         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR                   0184
 124         SNAPSH EQU   333  CORE DUMP SNAPSHOT                                    0333
 125         LOADNX EQU   700  LOAD NEXT OVERLAY                                     0700
 126         CLEARL EQU   707  CS AT START OF OVERLAY LOADER                         0707
 127         CDOVLY EQU   769  1 IF RUNNING FROM CARDS, N IF FROM TAPE               0769
 128         TPREAD EQU   780  TAPE READ INSTRUCTION IN OVERLAY LOADER               0780
 129         CLRBOT EQU   833  BOTTOM OF CORE TO CLEAR IN OVERLAY LOADER             0833
 130         *
 131                ORG   838                                                              0838
 132         LOADDD EQU   *&1          LOAD ADDRESS                                  0838
 133         *
 134         * THE TOOBIG AND MSG ROUTINES ARE NOT REFERENCED HERE.  WHY ARE
 135         * NOT SIMPLY IN PHASE 24?
 136         *
 137    838  TOOBIG CS    332                                                    4  0838  / 332               4
 138    842         CS                                                          1  0842  /                   4
 139    843         CC    1                                                     2  0843  F 1                 4
 140    845         MCW   ERROR2,270                                            7  0845  M 963 270           4
 141    852         W                                                           1  0852  2                   4
 142    853         CC    1                                                     2  0853  F 1                 4
 143    855         BCE   HALT,CDOVLY,1                                         8  0855  B 868 769 1         4
 144    863         RWD   1                                                     5  0863  U %U1 R             5
 145    868  HALT   H     HALT                                                  4  0868  . 868               5
 146         *
 147    872  SEMIC  DCW   @;@                                                   1  0872                      5
```

```
                        FORTRAN COMPILER -- TAMROF PHASE ONE -- 23                                              PAGE    2

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

 148    875  SX3    DCW   #3  USED TO SAVE X3 EXACTLY ONCE                             3  0875                      5
 149    879  SEQCOD DCW   #4                                                           4  0879                      5
 150         *
 151         * FILL IN ERROR MESSAGE BOILERPLATE
 152         *
 153    880  MSG    SBR   MSGX&3                                                       4  0880  H 927               5
 154    884         BCV   *&5                                                          5  0884  B 893 @             5
 155    889         B     *&3                                                          4  0889  B 895               6
 156    893         CC    1                                                            2  0893  F 1                 6
 157    895         CS    332                                                          4  0895  / 332               6
 158    899         CS                                                                 1  0899  /                   6
 159    900         SW    GLOBER                                                       4  0900  , 184               6
 160    904         MN    SEQCOD,250                                                   7  0904  D 879 250           6
 161    911         MN                                                                 1  0911  D                   6
 162    912         MN                                                                 1  0912  D                   7
 163    913         MCW   STMT                                                         4  0913  M 974               7
 164    917         MCW   ERR,205                                                      7  0917  M 979 205           7
 165    924  MSGX   B     0                                                            4  0924  B 000               7
 166    963  ERROR2 DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@                      36  0963                      8
 167    974  STMT   DCW   @STATEMENT  @                                               11  0974                      9
 168    979  ERR    DCW   @ERROR@                                                      5  0979                      9
 169         *
 170    980  BEGINN CS    1&X2                                                         4  0980  / 0!1               9
 171    984         SBR   X1                                                           4  0984  H 089               9
 172    988         SW    GMWM                                                         4  0988  , V03               9
 173    992  CLRL   CS    0&X1                                                         4  0992  / 0|0               9
 174    996         SBR   X1                                                           4  0996  H 089               9
 175  1 000         C     X1,KBOT                                                      7  1000  C 089 U36          10
 176  1 007         BU    CLRL                                                         5  1007  B 992 /            10
 177  1 012         LCA   GMWM,2601                                                    7  1012  L V03 O01          10
 178  1 019         SBR   X1,2602                                                      7  1019  H 089 O02          10
 179  1 026         SBR   X2,2&X2                                                      7  1026  H 094 0!2          10
 180  1 033         MCW   DOT,96  NO FORMAT STATEMENT SEEN                             7  1033  M U37 096          11
 181  1 040         SW    FLAG                                                         4  1040  , U38              11
 182  1 044  LOOP   MCW   83,X3  TOP OF STATEMENTS IN TOP CORE                         7  1044  M 083 099          11
 183  1 051         SBR   X3,1&X3                                                      7  1051  H 099 0?1          11
 184  1 058         C     X3,X2  MOVED TOP STATEMENT UP?                               7  1058  C 099 094          11
 185  1 065         BE    DONE   YES                                                   5  1065  B S16 S            11
 186  1 070         CW    FLAG2  MOVING BODY                                           4  1070  ) U39              12
 187  1 074         MN    0&X2                                                         4  1074  D 0!0              12
 188  1 078         SAR   X3                                                           4  1078  Q 099              12
 189  1 082         MCW   SEMIC                                                        4  1082  M 872              12
 190  1 086  MOVEDN MN    0&X1                                                         4  1086  D 0|0              12
 191  1 090         SAR   X1                                                           4  1090  Q 089              12
 192  1 094  MORE   MCM   0&X2                                                         4  1094  P 0!0              12
 193  1 098         SAR   SX2&6                                                        4  1098  Q /20              13
 194  1 102         MCM   0&X2,1&X1                                                    7  1102  P 0!0 0|1          13
 195  1 109         MN                                                                 1  1109  D                  13
 196  1 110         SBR   X1                                                           4  1110  H 089              13
 197  1 114  SX2    SBR   X2,0                                                         7  1114  H 094 000          13
```

```
                          FORTRAN COMPILER -- TAMROF PHASE ONE -- 23                                  PAGE    3

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

 198  1 121         BCE   MORE,0&X1,|                                            8  1121  B |94 0|0 |         13
 199  1 129         MN    0&X2                                                   4  1129  D 0!0               13
 200  1 133         CW                                                           1  1133  )                   14
 201  1 134         SW    0&X1                                                   4  1134  , 0|0               14
 202  1 138         SBR   X1,1&X1                                                7  1138  H 089 0|1           14
 203  1 145         BW    PREFIX,FLAG2  PROCESSING PREFIX?                       8  1145  V /61 U39 1         14
 204  1 153         SW    FLAG2  MOVING PREFIX                                   4  1153  , U39               14
 205  1 157         B     MOVEDN                                                 4  1157  B |86               14
 206  1 161  PREFIX MN    0&X1                                                   4  1161  D 0|0               14
 207  1 165         MN                                                           1  1165  D                   15
 208  1 166         SAR   X3                                                     4  1166  Q 099               15
 209  1 170         SBR   SETZON&6                                               4  1170  H T97               15
 210  1 174         MCW   0&X3,SEQCOD                                            7  1174  M 0?0 879           15
 211  1 181         SAR   X3                                                     4  1181  Q 099               15
 212  1 185         BCE   FORMAT,SEQCOD-3,F  FORMAT STATEMENT?                   8  1185  B T15 876 F         15
 213  1 193         MCW   SEQCOD-3,*&8                                           7  1193  M 876 S07           15
 214  1 200         BCE   FMTIO,STMTS,X  FORMATTED I/O STATEMENT?                8  1200  B S91 U44 X         16
 215  1 208         CHAIN 4                                                                          MACRO
 216                BCE                                                          1  1208  B          GEN      16
 217                BCE                                                          1  1209  B          GEN      16
 218                BCE                                                          1  1210  B          GEN      16
 219                BCE                                                          1  1211  B          GEN      16
 220  1 212         B     LOOP                                                   4  1212  B |44               16
 221         *
 222         * GOT TO BOTTOM OF STATEMENTS
 223         *
 224  1 216  DONE   MN    0&X1                                                   4  1216  D 0|0               16
 225  1 220         MN                                                           1  1220  D                   17
 226  1 221         SAR   X1          TOP OF STATEMENTS                          4  1221  Q 089               17
 227  1 225         MCW   SX1,X2      TOP OF TOP FORMATTED I/O STATEMENT         7  1225  M U57 094           17
 228  1 232         MCW   83,X3       ONE BELOW NUMBER TABLE                     7  1232  M 083 099           17
 229  1 239         MCW   KB1,0&X3    CLEAR STATEMENTS                           7  1239  M U45 0?0           17
 230  1 246         MCW   0&X3          RECENTLY MOVED DOWN                      4  1246  M 0?0               17
 231  1 250         MCW   SEMIC,0&X3  BELOW NUMBER TABLE                         7  1250  M 872 0?0           17
 232  1 257         BSS   SNAPSH,C                                               5  1257  B 333 C             18
 233  1 262         SBR   TPREAD&6,980                                           7  1262  H 786 980           18
 234  1 269         SBR   CLRBOT                                                 4  1269  H 833               18
 235  1 273         SBR   CLEARL&3,2600                                          7  1273  H 710 O00           18
 236  1 280         LCA   FMT2,PHASID                                            7  1280  L U53 110           18
 237  1 287         B     LOADNX                                                 4  1287  B 700               18
 238         *
 239         * FOUND FORMATTED I/O STATEMENT
 240         *
 241  1 291  FMTIO  MZ    ABZONE,3&X3  BOTTOM OF SEQUENCE NUMBER                 7  1291  Y U54 0?3           19
 242  1 298         CW    FLAG                                                   4  1298  ) U38               19
 243  1 302         MN    0&X1                                                   4  1302  D 0|0               19
 244  1 306         MN                                                           1  1306  D                   19
 245  1 307         SAR   SX1  TOP OF SEQUENCE NUMBER                            4  1307  Q U57               19
 246  1 311         B     LOOP                                                   4  1311  B |44               19
 247         *
```

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

               * FOUND A FORMAT STATEMENT
               *
     1 315  FORMAT MCW   KB1,96  SAW A FORMAT STATEMENT                             7  1315  M U45 096           19
     1 322         BW    UNREF,FLAG    NO FORMATTED I/O SEEN                        8  1322  V T61 U38 1         20
     1 330         BCE   UNREF,0&X3,}  CAN'T BE REFERENCED WITH NO LABEL            8  1330  B T61 0?0 } GMARK   20
     1 338         MCW   0&X3,FMTLAB                                                7  1338  M 0?0 U60           20
     1 345         MCW   SX1,X3  SEQ NO OF TOP FORMATTED I/O STATEMENT              7  1345  M U57 099           20
     1 352  CHKREF BWZ   CHKLAB,0&X3,B                                              8  1352  V U02 0?0 B         20
     1 360         BWZ                                                              1  1360  V                   20
     1 361  UNREF  CS    332                                                        4  1361  / 332               21
     1 365         CS                                                               1  1365  /                   21
     1 366         MN    SEQCOD,245                                                 7  1366  D 879 245           21
     1 373         MN                                                               1  1373  D                   21
     1 374         MN                                                               1  1374  D                   21
     1 375         MCW   ERR14  UNREFERENCED                                        4  1375  M V02               21
     1 379         W                                                                1  1379  2                   21
     1 380         BCV   *&5                                                        5  1380  B T89 @             22
     1 385         B     *&3                                                        4  1385  B T91               22
     1 389         CC    1                                                          2  1389  F 1                 22
     1 391  SETZON MZ    ABZONE,0-0  LOW-ORDER DIGIT OF SEQUENCE NUMBER             7  1391  Y U54 000           22
     1 398         B     LOOP                                                       4  1398  B |44               22
            *
            * CHECK WHETHER FORMAT LABEL APPEARS IN FORMATTED I/O
            * STATEMENT.  THE FORMATTED I/O STATEMENTS ARE ALL BELOW
            * (PROCESSED BEFORE IN THIS PHASE) THE FORMAT STATEMENTS.
            *
     1 402  CHKLAB C     0&X3  SKIP                                                 4  1402  C 0?0               22
     1 406         SAR   X3      PREFIX                                             4  1406  Q 099               22
     1 410         C     0&X3,FMTLAB  LABEL IN STMT SAME AS THE FORMAT?             7  1410  C 0?0 U60           23
     1 417         BE    LOOP         YES, GO DO NEXT STATEMENT                     5  1417  B |44 S             23
     1 422         C     0&X3  SKIP                                                 4  1422  C 0?0               23
     1 426         SAR   X3      BODY                                               4  1426  Q 099               23
     1 430         B     CHKREF                                                     4  1430  B T52               23
            *
     1 436  KBOT   DSA   BOT  BOTTOM OF CORE CLEARING                               3  1436  V99                 23
     1 437  DOT    DCW   @.@                                                        1  1437                      23
     1 438  FLAG   DCW   #1  INITIALLY SET, CLEARED WHEN FORMATTED I/O SEEN         1  1438                      24
     1 439  FLAG2  DCW   #1  SET FOR PREFIX, CLEARED FOR BODY                       1  1439                      24
     1 444  STMTS  DCW   @56ULP@  FORMATTED I/O STATEMENTS CODES                    5  1444                      24
     1 445  KB1    DCW   #1                                                         1  1445                      24
     1 453  FMT2   DCW   @TAMROF 2@                                                 8  1453                      24
     1 454  ABZONE DCW   @A@                                                        1  1454                      24
     1 457  SX1    DCW   #3  TOP OF SEQUENCE NUMBER OF TOP FORMATTED I/O            3  1457                      24
     1 460  FMTLAB DCW   #3  LABEL FROM FORMAT STATEMENT                            3  1460                      25
     1 502  ERR14  DCW   @ERROR 14 - UNREFERENCED FORMAT, STATEMENT @              42  1502                      27
     1 503  GMWM   DCW   @}@                                                        1  1503              GMARK   27
                   ORG   *&X00                                                             1600
            BOT    EQU   *                                                            1599
                   ORG   201                                                               0201
       203         DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM            3  0203  838                 28
```

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

 298                EX    BEGINN                                                             B 980                29
 299                END                                                                      / 000 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
ABZONE	1454	BEGINN	980	BOT	1599	CDOVLY	769	CHKLAB	1402	CHKREF	1352	CLEARL	707
CLRBOT	833	CLRL	992	DONE	1216	DOT	1437	ERR	979	ERR14	1502	ERROR2	963
FLAG	1438	FLAG2	1439	FMT2	1453	FMTIO	1291	FMTLAB	1460	FORMAT	1315	GLOBER	184
GMWM	1503	HALT	868	KB1	1445	KBOT	1436	LOADDD	838	LOADNX	700	LOOP	1044
MORE	1094	MOVEDN	1086	MSG	880	MSGX	924	PHASID	110	PREFIX	1161	SEMIC	872
SEQCOD	879	SETZON	1391	SNAPSH	333	STMT	974	STMTS	1444	SX1	1457	SX2	1114
SX3	875	TOOBIG	838	TPREAD	780	UNREF	1361	X1	89	X2	94	X3	99