```
SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

101               JOB   FORTRAN COMPILER -- INSERT GROUP-MARK PHASE -- 07
102               CTL   6611
103         *
104         * REPLACE THE COLON (5-8) THAT SEPARATES EACH STATEMENT FROM
105         * ITS APPENDAGE (PREFIX) BY A GROUP MARK WITH A WORD MARK.
106         * REPLACE INTEGER MODULUS BY 05 IF IT'S ZERO.
107         * REPLACE MANTISSA DIGITS BY 08 IF IT'S ZERO.
108         * 81-83 = START (TOP ADDRESS) OF FIRST (TOP IN MEMORY)
109         * STATEMENT.  REMEMBER, STATEMENTS ARE SORTED BY TYPE NOW.
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         TOPCOR EQU   688  TOP CORE ADDRESS FROM PARAM CARD               0688
118         IMOD   EQU   690  INTEGER MODULUS -- NUMBER OF DIGITS            0690
119         MANTIS EQU   692  FLOATING POINT MANTISSA DIGITS                 0692
120         *
121               EXT00   SNAPSH, LOADNX, CDOVLY                                        MACRO
122         SNAPSH EQU   333                                                 0333       GEN
123         PHASLD EQU   381                                                 0381       GEN
124         SNAPEX EQU   564                                                 0564       GEN
125         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                      0700       GEN
126         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE      0700       GEN
127         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                       0704       GEN
128         TPERR  EQU   728                                                 0728       GEN
129         *
130               EXT03      START, TOP OF PHASE 3                                    MACRO
131         BEGIN3 EQU   838                                                 0838       GEN
132         TOP3   EQU   2600                                                2600       GEN
133         *
134         110    DCW   @GROUP MARK@                                  10  0110                1
135         089    DCW   000                                            3  0089                2
136         091    DC    00                                             2  0091                2
137         094    DCW   000                                            3  0094                2
138         096    DC    00                                             2  0096                2
139         *
140         PHAS7  LDPH  GROUP MARK,LOADAD,BEGIN7,,,7                             MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]     GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                        GEN
            *                                                                    GEN
            * LOAD A BLOCK                                                      GEN
            *                                                                    GEN
141         )6J003 EQU   110  PHASE ID                                       0110       GEN
142         )6K003 EQU   700  LOAD NEXT PHASE                                0700       GEN
143         )6L003 EQU   704  TAPE READ INSTRUCTION                          0704       GEN
144         )6M003 EQU   728  TAPE ERROR HANDLER                             0728       GEN
            *                                                                    GEN
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

145             ORG   201                                                      0201
146         PHAS7  EQU   *&1                                                 0201          GEN
147             LCA   )9J003,)6J003                                        7  0201  L 253 110   GEN      3   253     110
148             BCE   )6K003,)6K003,1      Q: LOADING FROM CARDS?          8  0208  B 700 700 1 GEN      3   700     700
149             BCE   )6K003,)6L003&4,0    Q: LOADING FROM AUTOCODER TAPE? 8  0216  B 700 708 0 GEN      3   700     708
150             RTW   1,LOADAD             READ THE BLOCK                  8  0224  L %U1 838 R GEN      3   %U1     838
151             BER   )6M003               Q: TAPE ERROR?                  5  0232  B 728 L     GEN      3   728
152             CS    BEGIN7,)9R003        ENTER THE BLOCK                 7  0237  / 838 256   GEN      4   838     256
153         )9J003 DCW   @GROUP MARK@          PHASE ID                   10  0253                GEN      4
154             DC    #1                                                 1  0254                GEN      4
155             DC    @7@          PHASE NUMBER                          1  0255                GEN      4
156         )9R003 DCW   @}@                                              1  0256                GEN      4
157             XFR   PHAS7                                                    B 201                      4   201
158         *
159             ORG   BEGIN3                                                    0838
160         LOADAD EQU   *&1                                                 0838
161    838  BEGIN7 MCW   83,X1                                             7  0838  M 083 089           5   083     089
162    845         SW    GM                                               4  0845  , |77               5  1077
163    849  LOOP   BCE   COLON,0&X1,:                                     8  0849  B 881 0|0 :         5   881     000+1
164    857  SWITCH BCE   DONE,0&X1,  NOP IF WORKING ON FORMAT             8  0857  B 949 0|0           5   949     000+1
165    865         BCE   SEEGM,0&X1,}                                     8  0865  B 904 0|0 } GMARK   5   904     000+1
166    873         SBR   X1                                               4  0873  H 089               5   089
167    877         B     LOOP                                             4  0877  B 849               6   849
168    881  COLON  LCA   GM,0&X1  REPLACE COLON BY GMWM                   7  0881  L |77 0|0           6  1077     000+1
169    888         SBR   X1       GET BELOW COLON                         4  0888  H 089               6   089
170    892         C     0&X1       AND THEN                             4  0892  C 0|0               6   000+1
171    896         SAR   X1           BELOW BOTTOM WORD MARK               4  0896  Q 089               6   089
172    900         B     LOOP     PROCESS NEXT STATEMENT                  4  0900  B 849               6   849
173    904  SEEGM  MCW   0&X1,PREFIX                                       7  0904  M 0|0 |82           6   000+1  1082
174    911         BCE   FORMAT,PREFIX-4,F  FORMAT STATEMENT?             8  0911  B 938 |78 F         7   938    1078
175    919         MCW   BRANCH,SWITCH                                    7  0919  M |83 857           7  1083     857
176    926  NEXT   MN    0&X1     DECREASE X1                             4  0926  D 0|0               7   000+1
177    930         SBR   X1         TO NEXT STATEMENT                     4  0930  H 089               7   089
178    934         B     LOOP                                             4  0934  B 849               7   849
179    938  FORMAT MCW   NOP,SWITCH                                       7  0938  M |84 857           7  1084     857
180    945         B     NEXT                                             4  0945  B 926               7   926
181         *
182         * CLEAR FROM TOP CORE DOWN TO TOP OF STATEMENTS & X00
183         *
184    949  DONE   MCW   TOPCOR,X2                                        7  0949  M 688 094           8   688     094
185    956         MZ    83,K999  COMPUTE TOP                            7  0956  Y 083 |76           8   083    1076
186    963         MZ               OF STATEMENTS                       1  0963  Y                   8
187    964         MCW                & X00                             1  0964  M                   8
188    965  CLEAR  CS    0&X2                                             4  0965  / 0!0               8   000+2
189    969         SBR   X2                                               4  0969  H 094               8   094
190    973         C     X2,K999                                          7  0973  C 094 |76           8   094    1076
191    980         BU    CLEAR                                            5  0980  B 965 /             9   965
192         *
193         * CLEAR FROM TOP OF STATEMENTS & X00 TO TOP OF STATEMENTS
194         *
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195    985  CLEAR2 C     83,X2                                       7  0985  C 083 094           9   083     094
196    992         BE    DONE2                                       5  0992  B |16 S             9  1016
197    997         MCW   BLANK,0&X2                                  7  0997  M |85 0!0           9  1085     000+2
198  1 004         CW    0&X2                                        4  1004  ) 0!0               9   000+2
199  1 008         SBR   X2                                          4  1008  H 094               9   094
200  1 012         B     CLEAR2                                      4  1012  B 985               9   985
201  1 016  DONE2  SW    IMOD-1                                      4  1016  , 689              10   689
202  1 020         A     BLANK,MANTIS                                7  1020  A |85 692          10  1085     692
203  1 027         C     IMOD,KZ2   INTEGER MODULUS EQUAL ZERO?      7  1027  C 690 |87          10   690    1087
204  1 034         BU    NOTZI      NO                               5  1034  B |46 /            10  1046
205  1 039         MCW   K05,IMOD   YES, USE 05                     7  1039  M |89 690          10  1089     690
206  1 046  NOTZI  C     MANTIS,KZ2   MANTISSA DIGITS EQUAL ZERO?    7  1046  C 692 |87          10   692    1087
207  1 053         BU    NOTZF        NO                             5  1053  B |65 /            11  1065
208  1 058         MCW   K08,MANTIS   YES, USE 08                   7  1058  M |91 692          11  1091     692
209         *
210         * LOAD NEXT OVERLAY
211         *
212  1 065  NOTZF  BSS   SNAPSH,C                                    5  1065  B 333 C            11   333
213  1 084         B     LOADNX     LOAD IT                          4  1070  B 700              11   700
214  1 090  K999   DCW   999                                         3  1076                     11
215  1 091  GM     DC    @}@                                         1  1077             GMARK   11
216  1 096  PREFIX DCW   #5                                          5  1082                     11
217  1 097  BRANCH B                                                 1  1083  B                  11
218  1 098  NOP    NOP                                               1  1084  N                  12
219  1 099  BLANK  DCW   #1                                          1  1085                     12
220  1 101  KZ2    DCW   00                                          2  1087                     12
221  1 103  K05    DCW   05                                          2  1089                     12
222  1 105  K08    DCW   08                                          2  1091                     12
223  1 112  GMWM   DCW   @}@                                         1  1092             GMARK   12
224         *
225                XFR   BEGIN7                                                B 838            12   838
226         *
227         CLRME  CLRA  BEGIN7,GMWM                                                    MACRO
            *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                     GEN
            *                                                                           GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                         GEN
            *                                                                           GEN
228                ORG   201                                                    0201
            *                                                                           GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                   GEN
            *                                                                           GEN
229         CLRME  EQU   *&1                                            0201            GEN
230         )0J004 CS    GMWM         CLEAR FROM CLRTOP                 4  0201  / |92        GEN     13  1092
231                SBR   )0J004&3                                       4  0205  H 204        GEN     13   204
232                SBR   )0L004&6                                       4  0209  H 250        GEN     13   250
233                C     )0J004&3,)0M004   DOWN TO CLRBOT & X00?        7  0213  C 204 261    GEN     13   204     261
234                BU    )0J004                                         5  0220  B 201 /      GEN     13   201
            *                                                                           GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                    GEN
            *                                                                           GEN
```

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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

235         )0K004 C     )0L004&6,)0N004                               7  0225  C 250 264   GEN     13   250     264
236                BU    )0L004                                        5  0232  B 244 /     GEN     13   244
237                CS    LOADNX,)0Q004  LOAD THE NEXT BLOCK AT 1       7  0237  / 700 271   GEN     14   700     271
238         )0L004 LCA   )0P004,0-0     CLEAR WITH BLANK AND WORD MARK  7  0244  L 265 000   GEN     14   265     000
239                SBR   )0L004&6                                      4  0251  H 250       GEN     14   250
240                B     )0K004                                        4  0255  B 225       GEN     14   225
241         )0M004 DSA   )0R004         CLRBOT & X00 - 1              3  0261  899         GEN     14   899
242         )0N004 DSA   BEGIN7         CLRBOT                        3  0264  838         GEN     14   838
243         )0P004 DCW   #1                                           1  0265              GEN     14
244                DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP 5  0270              GEN     14
245         )0Q004 DCW   @}@                                          1  0271              GEN     15
246                ORG   BEGIN7&X00                                          0900
247         )0R004 EQU   *           CLRBOT & X00 - 1                    0899              GEN
248                XFR   CLRME                                                 B 201               15   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J004	0201: 0	)0K004	0225: 0	)0L004	0244: 0	)0M004	0261: 0	)0N004	0264: 0	)0P004	0265: 0
)0Q004	0271: 0	)0R004	0899: 0	)6J003	0110: 0	)6K003	0700: 0	)6L003	0704: 0	)6M003	0728: 0
)9J003	0253: 0	)9R003	0256: 0	BEGIN3	0838: 0	BEGIN7	0838: 0	BLANK	1085: 0	BRANCH	1083: 0
CDOVLY	0700: 0	CLEAR	0965: 0	CLEAR2	0985: 0	CLRME	0201: 0	COLON	0881: 0	DONE	0949: 0
DONE2	1016: 0	FORMAT	0938: 0	GM	1077: 0	GMWM	1092: 0	IMOD	0690: 0	K05	1089: 0
K08	1091: 0	K999	1076: 0	KZ2	1087: 0	LOADAD	0838: 0	LOADNX	0700: 0	LOOP	0849: 0
MANTIS	0692: 0	NEXT	0926: 0	NOP	1084: 0	NOTZF	1065: 0	NOTZI	1046: 0	PHAS7	0201: 0
PHASLD	0381: 0	PREFIX	1082: 0	SEEGM	0904: 0	SNAPEX	0564: 0	SNAPSH	0333: 0	SWITCH	0857: 0
TOP3	2600: 0	TOPCOR	0688: 0	TPERR	0728: 0	TPREAD	0704: 0	X1	0089: 0	X2	0094: 0
X3	0099: 0										

UNREFERENCED SYMBOLS

CDOVLY PHASLD SNAPEX TOP3 TPERR TPREAD X3