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

101               JOB   FORTRAN COMPILER -- GEAUX PHASE ONE -- PHASE 61
102               CTL   6611
103         *
104         * THIS PHASE PRINTS THE END OF COMPILATION MESSAGE, INITIALIZES
105         * THE SENSE LIGHTS, AND PREPARES THE BRANCH INTO THE OBJECT
106         * PROGRAM CODING.
107         *
108         X1     EQU   89                                                      0089
109         *
110         * ADDRESSES IN THE RESIDENT AREA
111         *
112         NSTMTS EQU   183  NUMBER OF STATEMENTS, INCLUDING GENERATED STOP    0183
113         *                 BEGINNING OF CODE BY NOW
114         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR               0184
115         GOTXL  EQU   185  XLINKF WAS REFERENCED IF NO WM                    0185
116         CONDNS EQU   693  P FOR CONDENSED DECK                              0693
117         *
118               EXT00   SNAPSH, LOADNX, CDOVLY                                      MACRO
119         SNAPSH EQU   333                                                    0333  GEN
120         PHASLD EQU   381                                                    0381  GEN
121         SNAPEX EQU   564                                                    0564  GEN
122         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                         0700  GEN
123         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE         0700  GEN
124         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                          0704  GEN
125         TPERR  EQU   728                                                    0728  GEN
126         *
127               EXT03   START, TOP OR PHASE 3                                     MACRO
128         BEGIN3 EQU   838                                                    0838  GEN
129         TOP3   EQU   2600                                                   2600  GEN
130         *
131         PHAS61 LDPH  GEAUX ONE,LOADAD,BEGN61,,,61                               MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]    GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                       GEN
            *                                                                   GEN
            * LOAD A BLOCK                                                      GEN
            *                                                                   GEN
132         )6J003 EQU   110  PHASE ID                                         0110  GEN
133         )6K003 EQU   700  LOAD NEXT PHASE                                  0700  GEN
134         )6L003 EQU   704  TAPE READ INSTRUCTION                            0704  GEN
135         )6M003 EQU   728  TAPE ERROR HANDLER                               0728  GEN
            *                                                                   GEN
136               ORG   201                                                         0201
137         PHAS61 EQU   *&1                                                    0201  GEN
138               LCA   )9J003,)6J003                                     7     0201  L 252 110    GEN      1   252     110
139               BCE   )6K003,)6K003,1      Q: LOADING FROM CARDS?       8     0208  B 700 700 1  GEN      1   700     700
140               BCE   )6K003,)6L003&4,0    Q: LOADING FROM AUTOCODER TAPE? 8  0216  B 700 708 0  GEN      1   700     708
141               RTW   1,LOADAD             READ THE BLOCK               8     0224  L %U1 838 R  GEN      1   %U1     838
142               BER   )6M003               Q: TAPE ERROR?               5     0232  B 728 L      GEN      1   728
143               CS    BEGN61,)9R003        ENTER THE BLOCK              7     0237  / 838 256    GEN      2   838     256
144         )9J003 DCW   @GEAUX ONE@          PHASE ID                     9     0252               GEN      2
```

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

145            DC    #1                                                      1  0253            GEN      2
146            DC    @61@          PHASE NUMBER                              2  0255            GEN      2
147        )9R003 DCW   @}@                                                   1  0256            GEN      2
148            XFR   PHAS61                                                        B 201                 3   201
149        *
150            ORG   BEGIN3                                                       0838
151        LOADAD EQU   *&1                                                    0838
152 *  838 BEGN61 LCA   W4,84  INITIALIZE                                      7  0838  L |22 084           4  1022     084
153    845        SW    84       SENSE                                       4  0845  , 084               4   084
154    849        SW               LIGHTS                                   1  0849  ,                   4
155    850        SW                                                        1  0850  ,                   4
156    851        CC    1                                                   2  0851  F 1                 4
157    853        CS    332                                                 4  0853  / 332               4   332
158    857        CS                                                        1  0857  /                   4
159    858        MCW   ENDMSG,218                                          7  0858  M |40 218           5  1040     218
160    865        W                                                         1  0865  2                   5
161    866        MCW   NSTMTS,X1  ENTRY ADDRESS FOR GENERATED CODE         7  0866  M 183 089           5   183     089
162    873        BW    ERRORS,GLOBER                                       8  0873  V |00 184 1         5  1000     184
163    881        CC    J                                                   2  0881  F J                 5
164    883        CS    332                                                 4  0883  / 332               5   332
165    887        CS                                                        1  0887  /                   5
166    888        MCW   START,217                                           7  0888  M |57 217           6  1057     217
167    895        W                                                         1  0895  2                   6
168    896 AFTERR SW    GMWM                                                4  0896  , /74               6  1174
169    900        LCA   GMWM,CONDNS  WHY HERE???                            7  0900  L /74 693           6  1174     693
170        * ASSUME THE SNAPSHOT ROUTINE IS NOT OVERLAID BY XLINKF
171  1 006        LCA   NOP,PHASLD                                          7  0907  L |58 381           6  1058     381
172  1 013        LCA   HALT,SNAPEX                                         7  0914  L |59 564           6  1059     564
173            B     LOADNX    LOAD OR SKIP PHASE 61B DEPENDING ON GOTXL     4  0921  B 700               6   700
174        *
175        * SKIP A PHASE
176        *
177 *      SKIP61 BCE   SKIPTP,TPREAD&4,0   Q: LOADING FROM AUTOCODER TAPE?  8  0925  B 975 708 0         7   975     708
178            BCE   SKIPCD,CDOVLY,1                                         8  0933  B 962 700 1         7   962     700
179            SW    GMWM                                                    4  0941  , /74               7  1174
180            RTW   1,GMWM          SKIP A CORE-IMAGE BLOCK                 8  0945  L %U1 /74 R         7   %U1    1174
181            BER   TPERR                                                   5  0953  B 728 L             7   728
182            B     LOADNX                                                  4  0958  B 700               7   700
183        SKIPCD R                    SKIP A BLOCK FROM CARDS               1  0962  1                   7
184            BCE   LOADNX,68,B     Q: XFR CARD?                            8  0963  B 700 068 B         8   700     068
185            B     SKIPCD                                                  4  0971  B 962               8   962
186        SKIPTP RTW   1,1             SKIP A BLOCK FROM AUTOCODER TAPE     8  0975  L %U1 001 R         8   %U1     001
187            BER   TPERR                                                   5  0983  B 728 L             8   728
188            BCE   LOADNX,8,B      Q: XFR RECORD?                          8  0988  B 700 008 B         8   700     008
189            B     SKIPTP                                                  4  0996  B 975               8   975
190        *
191  1 056 ERRORS CC    J                                                   2  1000  F J                 8
192  1 058        CS    332                                                 4  1002  / 332               9   332
193  1 062        CS                                                        1  1006  /                   9
194  1 063        MCW   ERRMSG,228                                          7  1007  M |87 228           9  1087     228
```

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

195  1 070         W                                                        1  1014  2                    9
196  1 071         B     AFTERR                                             4  1015  B 896                9   896
197  1 078  W4     DCW   #4                                                 4  1022                       9
198  1 096  ENDMSG DCW   @END OF COMPILATION@                              18  1040                       9
199  1 113  START  DCW   @PRESS START TO GO@                               17  1057                      10
200  1 114  NOP    NOP                                                      1  1058  N                   10
201  1 115  HALT   H                                                        1  1059  .                   10
202  1 143  ERRMSG DCW   @CORRECT ERRORS AND RECOMPILE@                    28  1087                      11
203         CLRTOP EQU   *                                                    1087
204         *
205                ORG   *&X00  SO WE CAN CLEAR THE CLEAR ROUTINE AT THE END          1100
206         *
207         * RETURN HERE AFTER LOADING OR SKIPPING XLINKF LOADER
208         *
209         * CLEAR ROUTINE IS HERE BECAUSE THIS PHASE EITHER LOADS OR SKIPS
210         * THE NEXT ONE, SO IT CANNOT BE AN OVERLAY BETWEEN THEM.
211         *
212 *       GM61B  EQU   680    WHERE XLINKF GMWM IS WANTED IN V3M4            0680
213 *1 020  AFTOVL CW    GM61B  IN CASE OF XLINKF LOADER, CLEAR ITS GMWM       4  1100  ) 680              12   680
214                CLRA  BEGN61,CLRTOP,HERE,GMWM   CLRA HAS A GMWM AT ITS END                  MACRO
            *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                          GEN
            *                                                                                GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                              GEN
            *                                                                                GEN
            *                                                                                GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                        GEN
            *                                                                                GEN
215                EQU   *&1                                                 1104            GEN
216         )0J004 CS    CLRTOP         CLEAR FROM CLRTOP                   4  1104  / |87       GEN     12  1087
217                SBR   )0J004&3                                           4  1108  H /07       GEN     12  1107
218                SBR   )0L004&6                                           4  1112  H /53       GEN     12  1153
219                C     )0J004&3,)0M004   DOWN TO CLRBOT & X00?            7  1116  C /07 /64   GEN     12  1107    1164
220                BU    )0J004                                             5  1123  B /04 /     GEN     12  1104
            *                                                                              GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                        GEN
            *                                                                              GEN
221         )0K004 C     )0L004&6,)0N004                                    7  1128  C /53 /67   GEN     12  1153    1167
222                BU    )0L004                                             5  1135  B /47 /     GEN     13  1147
223                CS    LOADNX,)0Q004  LOAD THE NEXT BLOCK AT 1            7  1140  / 700 /74   GEN     13   700    1174
224         )0L004 LCA   )0P004,0-0     CLEAR WITH BLANK AND WORD MARK     7  1147  L /68 000   GEN     13  1168     000
225                SBR   )0L004&6                                           4  1154  H /53       GEN     13  1153
226                B     )0K004                                             4  1158  B /28       GEN     13  1128
227         )0M004 DSA   )0R004         CLRBOT & X00 - 1                   3  1164  899         GEN     13   899
228         )0N004 DSA   BEGN61         CLRBOT                             3  1167  838         GEN     13   838
229         )0P004 DCW   #1                                                 1  1168              GEN     14
230                DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP      5  1173              GEN     14
231         )0Q004 DCW   @}@                                                1  1174              GEN     14
232         GMWM   EQU   )0Q004                                               1174              GEN
233                ORG   BEGN61&X00                                                  0900
234         )0R004 EQU   *           CLRBOT & X00 - 1                         0899              GEN
```

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION TYPE	CARD	A-ADDR	B-ADDR
235				XFR	BEGN61				B 838	15	838	

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J004	1104: 0	)0K004	1128: 0	)0L004	1147: 0	)0M004	1164: 0	)0N004	1167: 0	)0P004	1168: 0
)0Q004	1174: 0	)0R004	0899: 0	)6J003	0110: 0	)6K003	0700: 0	)6L003	0704: 0	)6M003	0728: 0
)9J003	0252: 0	)9R003	0256: 0	AFTERR	0896: 0	AFTOVL	1100: 0	BEGIN3	0838: 0	BEGN61	0838: 0
CDOVLY	0700: 0	CLRTOP	1087: 0	CONDNS	0693: 0	ENDMSG	1040: 0	ERRMSG	1087: 0	ERRORS	1000: 0
GLOBER	0184: 0	GM61B	0680: 0	GMWM	1174: 0	GOTXL	0185: 0	HALT	1059: 0	LOADAD	0838: 0
LOADNX	0700: 0	NOP	1058: 0	NSTMTS	0183: 0	PHAS61	0201: 0	PHASLD	0381: 0	SKIP61	0925: 0
SKIPCD	0962: 0	SKIPTP	0975: 0	SNAPEX	0564: 0	SNAPSH	0333: 0	START	1057: 0	TOP3	2600: 0
TPERR	0728: 0	TPREAD	0704: 0	W4	1022: 0	X1	0089: 0				

UNREFERENCED SYMBOLS

AFTOVL GOTXL SKIP61 SNAPSH TOP3