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

101               JOB   FORTRAN COMPILER -- IF COND PHASE -- PHASE 44
102               CTL   6611
103         *
104         * IN-LINE INSTRUCTIONS ARE GENERATED FOR IF ( SENSE SWITCH I )
105         * AND IF ( SENSE LIGHT I )
106         *
107         X1     EQU   89                                                      0089
108         X2     EQU   94                                                      0094
109         X3     EQU   99                                                      0099
110         *
111         * STUFF IN THE RESIDENT AREA
112         *
113         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR               0184
114         *
115               EXT00   SNAPSH, LOADNX, CDOVLY                                          MACRO
116         SNAPSH EQU   333                                                    0333      GEN
117         PHASLD EQU   381                                                    0381      GEN
118         SNAPEX EQU   564                                                    0564      GEN
119         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                         0700      GEN
120         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE         0700      GEN
121         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                          0704      GEN
122         TPERR  EQU   728                                                    0728      GEN
123         *
124               EXT03   START, TOP OF PHASE 3                                     MACRO
125         BEGIN3 EQU   838                                                    0838      GEN
126         TOP3   EQU   2600                                                   2600      GEN
127         *
128         PHAS44 LDPH  IFCOND,LOADAD,BEGN44,,,44                                  MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]    GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                       GEN
            *                                                                   GEN
            * LOAD A BLOCK                                                     GEN
            *                                                                   GEN
129         )6J003 EQU   110  PHASE ID                                         0110      GEN
130         )6K003 EQU   700  LOAD NEXT PHASE                                  0700      GEN
131         )6L003 EQU   704  TAPE READ INSTRUCTION                            0704      GEN
132         )6M003 EQU   728  TAPE ERROR HANDLER                               0728      GEN
            *                                                                   GEN
133               ORG   201                                                          0201
134         PHAS44 EQU   *&1                                                    0201      GEN
135               LCA   )9J003,)6J003                                     7     0201  L 249 110   GEN      1   249     110
136               BCE   )6K003,)6K003,1      Q: LOADING FROM CARDS?       8     0208  B 700 700 1 GEN      1   700     700
137               BCE   )6K003,)6L003&4,0    Q: LOADING FROM AUTOCODER TAPE? 8  0216  B 700 708 0 GEN      1   700     708
138               RTW   1,LOADAD             READ THE BLOCK               8     0224  L %U1 838 R GEN      1   %U1     838
139               BER   )6M003               Q: TAPE ERROR?               5     0232  B 728 L     GEN      1   728
140               CS    BEGN44,)9R003        ENTER THE BLOCK              7     0237  / 838 253   GEN      2   838     253
141         )9J003 DCW   @IFCOND@          PHASE ID                      6     0249              GEN      2
142               DC    #1                                                1     0250              GEN      2
143               DC    @44@          PHASE NUMBER                      2     0252              GEN      2
144         )9R003 DCW   @}@                                              1     0253              GEN      2
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

145            XFR   PHAS44                                                    B 201              3   201
146         *
147            ORG   BEGIN3                                                     0838
148         LOADAD EQU   *&1          LOAD ADDRESS                            0838
149    838  BEGN44 BCE   DONE,0&X1,                                        8  0838  B 870 0|0          4   870     000+1
150    846         MCW   0&X1,SEQNO                                        7  0846  M 0|0 U31          4   000+1  1431
151    853         MCW        CODE                                         1  0853  M                  4
152    854         BCE   IFCOND,CODE,W  IF ( SENSE SWITCH I )             8  0854  B 879 U28 W        4   879    1428
153    862         BCE   IFCOND,CODE,K  IF ( SENSE LIGHT I )              8  0862  B 879 U28 K        4   879    1428
154    870  DONE   BSS   SNAPSH,C                                         5  0870  B 333 C            4   333
155    889         B     LOADNX                                           4  0875  B 700              5   700
156    893  IFCOND MCW   KLESS,2&X1                                       7  0879  M U48 0|2          5  1448     002+1
157    900         SBR   TSTLES&6,2&X1                                    7  0886  H /89 0|2          5  1189     002+1
158    907         LCA   0&X1,0&X3  SEQNO, CODE, GMWM                     7  0893  L 0|0 0?0          5   000+1   000+3
159    914         SAR   X1                                              4  0900  Q 089              5   089
160    918         C     0&X3                                             4  0904  C 0?0              5   000+3
161    922         SAR   X3                                              4  0908  Q 099              5   099
162    926         LCA   1&X3,2&X3  REPLACE STATEMENT CODE WITH GMWM       7  0912  L 0?1 0?2          6   001+3   002+3
163    933         SBR   X3                                              4  0919  H 099              6   099
164    937         MCW   0&X1,ON                                          7  0923  M 0|0 U22          6   000+1  1422
165    944         MCW                                                    1  0930  M                  6
166    945         SAR   X1                                              4  0931  Q 089              6   089
167    949         MZ    X2ZONE,ON-1                                      7  0935  Y U49 U21          6  1449    1421
168    956         MZ    X2ZONE,OFF-1                                     7  0942  Y U49 U18          6  1449    1418
169    963         BWZ   *&5,SEQNO,2                                     8  0949  V 961 U31 2        7   961    1431
170    971         B     *&9                                              4  0957  B 969              7   969
171    975         BWZ   *&15,SEQNO-2,2                                  8  0961  V 983 U29 2        7   983    1429
172    983         MCW   SEQNO,X2                                         7  0969  M U31 094          7  1431     094
173    990         MCW   0&X2,SEQNO                                      7  0976  M 0!0 U31          7   000+2  1431
174    997         B     MORE                                             4  0983  B |06              7  1006
175         *
176  1 001  BOTTOM C     0&X1                                             4  0987  C 0|0              8   000+1
177  1 005         SAR   X1                                               4  0991  Q 089              8   089
178  1 009         SBR   X3,4&X3                                          7  0995  H 099 0?4          8   099     004+3
179  1 016         B     BEGN44                                           4  1002  B 838              8   838
180         *
181  1 020  MORE   MN    0&X1                                             4  1006  D 0|0              8   000+1
182  1 024         SAR   X1                                               4  1010  Q 089              8   089
183  1 028         BCE   SLITE,CODE,K                                     8  1014  B S40 U28 K        8  1240    1428
184         *
185         * IF ( SENSE SWITCH I ) ON, OFF
186         *
187  1 036         MCW   0&X1,CH                                          7  1022  M 0|0 U50          9   000+1  1450
188  1 043         MCW   CH,*&8                                           7  1029  M U50 |43          9  1450    1043
189  1 050         BCE   OKSW,K0TO6,0                                     8  1036  B |88 U57 0        9  1088    1457
190  1 058         B                                                      1  1044  B                  9
191  1 059         B                                                      1  1045  B                  9
192  1 060         B                                                      1  1046  B                  9
193  1 061         B                                                      1  1047  B                  9
194  1 062         B                                                      1  1048  B                 10
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195  1 063          B                                                        1  1049  B                   10
196  1 064          CS    332                                                4  1050  / 332               10   332
197  1 068          CS                                                       1  1054  /                   10
198  1 069          SW    GLOBER                                             4  1055  , 184               10   184
199  1 073          MN    SEQNO,246                                          7  1059  D U31 246           10  1431     246
200  1 080          MN                                                       1  1066  D                   10
201  1 081          MN                                                       1  1067  D                   11
202  1 082          MCW   ERR37                                              4  1068  M V00               11  1500
203  1 086          W                                                        1  1072  2                   11
204  1 087          BCV   *&5                                                5  1073  B |82 @             11  1082
205  1 092          B     *&3                                                4  1078  B |84              11  1084
206  1 096          CC    1                                                  2  1082  F 1                 11
207  1 098          B     BOTTOM                                             4  1084  B 987               11   987
208          *
209          * SENSE SWITCH NUMBER IS OK
210          *
211  1 102  OKSW    A     KP1,CH                                             7  1088  A V01 U50           12  1501    1450
212  1 109          MN    CH,BIN                                             7  1095  D U50 U27           12  1450    1427
213  1 116          MCW   ON,BIN-1                                           7  1102  M U22 U26           12  1422    1426
214  1 123          MCW   OFF,X2                                            7  1109  M U19 094           12  1419     094
215  1 130          MCW   0&X2,X2                                           7  1116  M 0!0 094           12   000+2   094
216  1 137          S     KP10,X2&1                                          7  1123  S V03 095           13  1503     095
217  1 144          C     SEQNO,X2                                           7  1130  C U31 094           13  1431     094
218  1 151          BE    SAME                                               5  1137  B S25 S             13  1225
219  1 156          MCW   OFF,BRANCH                                        7  1142  M U19 U35           13  1419    1435
220  1 163          LCA   BRANCH,0&X3                                        7  1149  L U35 0?0           13  1435     000+3
221  1 170          LCA   BIN                                                4  1156  L U27               13  1427
222  1 174          SBR   X3                                                 4  1160  H 099               14   099
223  1 178  ALMOST  C     0&X1                                               4  1164  C 0|0               14   000+1
224  1 182          SAR   X1                                                 4  1168  Q 089               14   089
225  1 186          LCA   1&X1,0&X3                                         7  1172  L 0|1 0?0           14   001+1   000+3
226  1 193          SBR   X3                                                 4  1179  H 099               14   099
227  1 197  TSTLES  BCE   BEGN44,0,<  NOT TOO BIG IF LESS-THAN NOT CLOBBERED  8  1183  B 838 000 <         14   838     000
228  1 205          CS    332                                                4  1191  / 332               14   332
229  1 209          CS                                                       1  1195  /                   15
230  1 210          CC    1                                                  2  1196  F 1                 15
231  1 212          MCW   ERROR2,270                                        7  1198  M V39 270           15  1539     270
232  1 219          W                                                        1  1205  2                   15
233  1 220          CC    1                                                  2  1206  F 1                 15
234  1 222          BCE   HALT,CDOVLY,1                                     8  1208  B S21 700 1         15  1221     700
235  1 230          RWD   1                                                  5  1216  U %U1 R             15   %U1
236  1 235  HALT    H     HALT                                               4  1221  . S21               16  1221
237          *
238  1 239  SAME    LCA   BIN,0&X3                                          7  1225  L U27 0?0           16  1427     000+3
239  1 246          SBR   X3                                                 4  1232  H 099               16   099
240  1 250          B     ALMOST                                             4  1236  B /64               16  1164
241          *
242  1 254  SLITE   MCW   0&X1,CH                                           7  1240  M 0|0 U50           16   000+1  1450
243  1 261          MCW   CH,1275                                           7  1247  M U50 S75           16  1450    1275
244  1 268          BCE   OKLITE,K1234,0                                     8  1254  B T03 V43 0         17  1303    1543
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SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
245  1 276          B                                              1  1262  B                   17
246  1 277          B                                              1  1263  B                   17
247  1 278          B                                              1  1264  B                   17
248  1 279          CS    332                                      4  1265  / 332               17   332
249  1 283          CS                                             1  1269  /                   17
250  1 284          SW    GLOBER                                   4  1270  , 184               17   184
251  1 288          MN    SEQNO,245                                7  1274  D U31 245           18  1431     245
252  1 295          MN                                             1  1281  D                   18
253  1 296          MN                                             1  1282  D                   18
254  1 297          MCW   ERR36                                    4  1283  M V85               18  1585
255  1 301          W                                              1  1287  2                   18
256  1 302          BCV   *&5                                     5  1288  B S97 @             18  1297
257  1 307          B     *&3                                      4  1293  B S99               18  1299
258  1 311          CC    1                                        2  1297  F 1                 19
259  1 313          B     BOTTOM                                   4  1299  B 987               19   987
260          *
261  1 317  OKLITE  MCW   K080,W3                                  7  1303  M V88 V91           19  1588    1591
262  1 324          A     CH,W3                                    7  1310  A U50 V91           19  1450    1591
263  1 331          MCW   W3,BW-1                                  7  1317  M V91 U42           19  1591    1442
264  1 338          MCW   OFF                                      4  1324  M U19               19  1419
265  1 342          MCW   W3,SW                                    7  1328  M V91 U47           19  1591    1447
266  1 349          MCW   ON,X2                                    7  1335  M U22 094           20  1422     094
267  1 356          MCW   0&X2,X2                                  7  1342  M 0!0 094           20   000+2   094
268  1 363          S     KP10,X2&1                                7  1349  S V03 095           20  1503     095
269  1 370          C     SEQNO,X2                                 7  1356  C U31 094           20  1431     094
270  1 377          BE    SAME2                                    5  1363  B T98 S             20  1398
271  1 382          MCW   ON,BRANCH                               7  1368  M U22 U35           21  1422    1435
272  1 389          LCA   BRANCH,0&X3                              7  1375  L U35 0?0           21  1435     000+3
273  1 396          LCA   SW                                       4  1382  L U47               21  1447
274  1 400          LCA   BW                                       4  1386  L U43               21  1443
275  1 404          SBR   X3                                       4  1390  H 099               21   099
276  1 408          B     ALMOST                                   4  1394  B /64               21  1164
277  1 412  SAME2   LCA   SW,0&X3                                  7  1398  L U47 0?0           21  1447     000+3
278  1 419          LCA   BW                                       4  1405  L U43               22  1443
279  1 423          SBR   X3                                       4  1409  H 099               22   099
280  1 427          B     ALMOST                                   4  1413  B /64               22  1164
281          *
282          * DATA
283          *
284  1 433  OFF     DCW   #3                                       3  1419                      22
285  1 436  ON      DCW   #3                                       3  1422                      22
286  1 441  BIN     DCW   @B   &@                                  5  1427                      22
287  1 442  CODE    DCW   #1                                       1  1428                      22
288  1 445  SEQNO   DCW   #3                                       3  1431                      23
289  1 449  BRANCH  DCW   @B   @                                   4  1435                      23
290  1 457  BW      DCW   @V      1@                               8  1443                      23
291  1 461  SW      DCW   @,   @                                   4  1447                      23
292  1 470  KLESS   DCW   @<@                                     1  1448                      23
293  1 471  X2ZONE  DCW   @K@                                     1  1449                      23
294  1 472  CH      DCW   #1                                       1  1450                      23
```

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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
295  1 479  K0TO6  DCW   @0123456@                                          7  1457                      24
296  1 522  ERR37  DCW   @ERROR 37 - ILLEGAL SENSE SWITCH, STATEMENT @      43  1500                      26
297  1 523  KP1    DCW   &1                                                 1  1501                      26
298  1 525  KP10   DCW   &10                                                2  1503                      26
299  1 561  ERROR2 DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@            36  1539                      27
300  1 565  K1234  DCW   1234                                              4  1543                      28
301  1 607  ERR36  DCW   @ERROR 36 - ILLEGAL SENSE LIGHT, STATEMENT @      42  1585                      30
302  1 610  K080   DSA   80                                                3  1588  080                 30   080
303  1 613  W3     DCW   #3                                                3  1591                      30
304  1 614  GMWM   DCW   @}@                                               1  1592              GMARK   30
305                 XFR   BEGN44                                                  B 838               31   838
306         CLRME  CLRA  LOADAD,GMWM                                                          MACRO
            *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                           GEN
            *                                                                                 GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                               GEN
            *                                                                                 GEN
307                 ORG   201                                                      0201
            *                                                                               GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                       GEN
            *                                                                               GEN
308         CLRME  EQU   *&1                                                  0201            GEN
309         )0J004 CS    GMWM         CLEAR FROM CLRTOP                     4  0201  / V92       GEN     32  1592
310                SBR   )0J004&3                                           4  0205  H 204       GEN     32   204
311                SBR   )0L004&6                                           4  0209  H 250       GEN     32   250
312                C     )0J004&3,)0M004   DOWN TO CLRBOT & X00?            7  0213  C 204 261   GEN     32   204     261
313                BU    )0J004                                             5  0220  B 201 /     GEN     32   201
            *                                                                               GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                         GEN
            *                                                                               GEN
314         )0K004 C     )0L004&6,)0N004                                   7  0225  C 250 264   GEN     32   250     264
315                BU    )0L004                                             5  0232  B 244 /     GEN     32   244
316                CS    LOADNX,)0Q004  LOAD THE NEXT BLOCK AT 1            7  0237  / 700 271   GEN     33   700     271
317         )0L004 LCA   )0P004,0-0     CLEAR WITH BLANK AND WORD MARK     7  0244  L 265 000   GEN     33   265     000
318                SBR   )0L004&6                                           4  0251  H 250       GEN     33   250
319                B     )0K004                                             4  0255  B 225       GEN     33   225
320         )0M004 DSA   )0R004         CLRBOT & X00 - 1                  3  0261  899         GEN     33   899
321         )0N004 DSA   LOADAD         CLRBOT                            3  0264  838         GEN     33   838
322         )0P004 DCW   #1                                                1  0265              GEN     33
323                DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP     5  0270              GEN     33
324         )0Q004 DCW   @}@                                               1  0271              GEN     34
325                ORG   LOADAD&X00                                                0900
326         )0R004 EQU   *           CLRBOT & X00 - 1                          0899              GEN
327                XFR   CLRME                                                   B 201               35   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	0249: 0	)9R003	0253: 0	ALMOST	1164: 0	BEGIN3	0838: 0	BEGN44	0838: 0	BIN	1427: 0
BOTTOM	0987: 0	BRANCH	1435: 0	BW	1443: 0	CDOVLY	0700: 0	CH	1450: 0	CLRME	0201: 0
CODE	1428: 0	DONE	0870: 0	ERR36	1585: 0	ERR37	1500: 0	ERROR2	1539: 0	GLOBER	0184: 0
GMWM	1592: 0	HALT	1221: 0	IFCOND	0879: 0	K080	1588: 0	K0TO6	1457: 0	K1234	1543: 0
KLESS	1448: 0	KP1	1501: 0	KP10	1503: 0	LOADAD	0838: 0	LOADNX	0700: 0	MORE	1006: 0
OFF	1419: 0	OKLITE	1303: 0	OKSW	1088: 0	ON	1422: 0	PHAS44	0201: 0	PHASLD	0381: 0
SAME	1225: 0	SAME2	1398: 0	SEQNO	1431: 0	SLITE	1240: 0	SNAPEX	0564: 0	SNAPSH	0333: 0
SW	1447: 0	TOP3	2600: 0	TPERR	0728: 0	TPREAD	0704: 0	TSTLES	1183: 0	W3	1591: 0
X1	0089: 0	X2	0094: 0	X2ZONE	1449: 0	X3	0099: 0				

UNREFERENCED SYMBOLS

PHASLD SNAPEX TOP3 TPERR TPREAD