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

101                JOB   FORTRAN COMPILER -- EQUIVALENCE PHASE ONE -- 10
102                CTL   6611
103         *
104         * EXTERNALLY REFERENCED SYMBOLS ARE MARKED WITH ASTERISK IN COLUMN 1.
105         *
106         * 1. ASSURE ALL ARRAYS PRESENT IN EQUIVALENCE STATEMENTS ARE
107         *    DEFINED
108         * 2. ADD SIMPLE VARIABLES PRESENT IN EQUIVALENCE STATEMENTS
109         *    TO THE TABLE OF ARRAYS GENERATED BY THE PREVIOUS PHASE.
110         *    THESE VARIABLES ARE TREATED, IN EFFECT, AS ONE-ELEMENT
111         *    ARRAYS.
112         *
113         * ON ENTRY, 81-83 = START (TOP ADDRESS) OF FIRST (TOP IN MEMORY)
114         * STATEMENT (REMEMBER, STATEMENTS ARE SORTED BY TYPE NOW, AND
115         * PUSHED TO THE BOTTOM OF AVAILABLE CORE), 84-86 = ADDRESS OF THE
116         * TOPMOST (FIRST) DIMENSION TABLE (ELEVEN BELOW THE BOTTOM OF THE
117         * NAME), X1 = ADDRESS OF THE LAST DIGIT OF THE SEQUENCE NUMBER OF
118         * THE FIRST (TOPMOST) UNPROCESSED STATEMENT, X2 = ADDRESS OF THE
119         * LOWEST-ADDRESS CHARACTER OF THE ARRAY TABLE, AND X3 = ADDRESS
120         * OF THE FIRST (TOPMOST) CHARACTER OF THE X1 STATEMENT (FIRST
121         * CHARACTER AFTER KEYWORD AND LEFT PAREN IF NOT ARITHMETIC). 6&X2
122         * IS THE "NEXT" LINK AND 9&X2 IS THE "PREVIOUS" LINK IN EACH
123         * ARRAY TABLE ELEMENT.  BLANK MEANS "END OF CHAIN".
124         *
125         * EACH ELEMENT OF THE ARRAY TABLE HAS ONE OR TWO VARIABLE-WIDTH
126         * DIMENSION FIELDS (FIRST DIMENSION HIGHER IN CORE), WITH THE
127         * DIGITS OF THE DIMENSIONS NOT REVERSED, A FIVE DIGIT OFFSET FROM
128         * THE BASE OF THE EQUIVALENCE CLASS (X2 POINTS AT THE LOW-ORDER
129         * DIGIT), A THREE-CHARACTER LINK TO THE NEXT MEMBER OF THE
130         * EQUIVALENCE CLASS, A THREE-CHARACTER LINK TO THE NEXT ELEMENT,
131         * A THREE-CHARACTER LINK TO THE PREVIOUS ELEMENT, THE NAME
132         * (VARIABLE WIDTH), AND A GROUP MARK WITH A WORD MARK.  THE GMWM
133         * OF THE TOPMOST ELEMENT IS AT TOPCOR-3, AND TOPCOR-2 .. TOPCOR
134         * ARE BLANK.
135         *
136         X1     EQU   89                                                  0089
137         X2     EQU   94                                                  0094
138         X3     EQU   99                                                  0099
139         *
140         * STUFF IN THE RESIDENT AREA
141         *
142                EXT00   SNAPSH, LOADNX, CDOVLY                                      MACRO
143         SNAPSH EQU   333                                                 0333       GEN
144         PHASLD EQU   381                                                 0381       GEN
145         SNAPEX EQU   564                                                 0564       GEN
146         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                       0700       GEN
147         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE       0700       GEN
148         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                        0704       GEN
149         TPERR  EQU   728                                                 0728       GEN
150         *
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

151             EXT09   STUFF IN DIMENSION ONE PHASE -- PHASE 9                        MACRO
152         DIFF    EQU   838   WM IF FP WIDTH /= INTEGER WIDTH              0838      GEN
153         BEGIN9  EQU   839                                                0839      GEN
154             EXT11   STUFF IN EQUIVALENCE TWO PHASE -- PHASE 11                     MACRO
155         DONE2   EQU   1735                                               1735      GEN
156         NOTIN2  EQU   1769                                               1769      GEN
157         *
158         110     DCW   @EQUIV ONE@                                   9    0110                1
159         099     DCW   000                                           3    0099                2
160         100     DC    0                                             1    0100                2
161         *
162         PHAS10  LDPH  EQUIV ONE,GM,BEGN10,,,10                                 MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]       GEN
            *       XFR  PHASZ     PROHIBITED IN A MACRO                           GEN
            *                                                                      GEN
            * LOAD A BLOCK                                                        GEN
            *                                                                      GEN
163         )6J004  EQU   110  PHASE ID                                     0110      GEN
164         )6K004  EQU   700  LOAD NEXT PHASE                              0700      GEN
165         )6L004  EQU   704  TAPE READ INSTRUCTION                        0704      GEN
166         )6M004  EQU   728  TAPE ERROR HANDLER                          0728      GEN
            *                                                                      GEN
167             ORG   201                                                       0201
168         PHAS10  EQU   *&1                                                0201      GEN
169             LCA   )9J004,)6J004                                     7    0201  L 252 110   GEN      3   252     110
170             BCE   )6K004,)6K004,1      Q: LOADING FROM CARDS?       8    0208  B 700 700 1 GEN      3   700     700
171             BCE   )6K004,)6L004&4,0    Q: LOADING FROM AUTOCODER TAPE? 8    0216  B 700 708 0 GEN      3   700     708
172             RTW   1,GM             READ THE BLOCK                   8    0224  L %U1 839 R GEN      3   %U1     839
173             BER   )6M004               Q: TAPE ERROR?                5    0232  B 728 L     GEN      3   728
174             CS    BEGN10,)9R004        ENTER THE BLOCK               7    0237  / |34 256   GEN      4  1034     256
175         )9J004  DCW   @EQUIV ONE@          PHASE ID                    9    0252              GEN      4
176             DC    #1                                                  1    0253              GEN      4
177             DC    @10@          PHASE NUMBER                          2    0255              GEN      4
178         )9R004  DCW   @}@                                             1    0256              GEN      4
179             XFR   PHAS10                                                   B 201               4   201
180         *
181             ORG   BEGIN9  ONE MORE THAN PHASE 8 TO PRESERVE DIFF              0839
182 *   839 GM      DC    @}@                                           1    0839              GMARK    5
183 *   849 PREFIX  DC    #10                                           10   0849                       5
184 *   852 NEXT    DCW   #3         ONE BELOW NEXT SLOT IN ARRAY TABLE  3    0852                       5
185 *   857 OFF1    DCW   #5         OFFSET WORK AREA                    5    0857                       5
186 *   860 CLASS1  DC    #3         EQUIVALENCE CLASS LINK              3    0860                       5
187 *   865 OFF2    DCW   #5         OFFSET WORK AREA                    5    0865                       5
188 *   868 CLASS2  DC    #3         EQUIVALENCE CLASS LINK              3    0868                       5
189 *   873 OFF3    DCW   #5         OFFSET WORK AREA                    5    0873                       5
190 *   876 NEXT3   DC    #3         EQUIVALENCE CLASS LINK              3    0876                       5
191     877         DC    #1                                            1    0877                       5
192     882         DCW   #5                                            5    0882                       6
193         *
194         * ANNOUNCE SYNTAX ERROR
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195         *
196 *  883  SYNTAX  CS    332                                          4  0883  / 332               6   332
197    887          CS                                                 1  0887  /                   6
198    888          SW    184        IS THIS A GLOBAL ERROR FLAG?      4  0888  , 184               6   184
199    892          MN    PREFIX,243  SEQUENCE                        7  0892  D 849 243           6   849     243
200    899          MN                  NUMBER TO                     1  0899  D                   6
201    900          MN                    ERROR MESSAGE               1  0900  D                   6
202    901          MCW   ERROR4                                      4  0901  M X89               7  1789
203    905          W                                                  1  0905  2                   7
204    906          BCV   OVFL1                                       5  0906  B 915 @             7   915
205    911          B     NOVFL1                                       4  0911  B 917               7   917
206    915  OVFL1   CC    1                                            2  0915  F 1                 7
207    917  NOVFL1  C     0&X1       GET DOWN BELOW PREFIX OF          4  0917  C 0|0               7   000+1
208    921          SAR   X1           STATEMENT -- NEXT WORD MARK    4  0921  Q 089               7   089
209    925          B     NXSTMT                                       4  0925  B /15               8  1115
210         *
211         * GET TO THE NEXT VARIABLE IN THE STATEMENT AND THEN
212         * CHECK WHETHER IT'S ALREADY IN THE ARRAY TABLE
213         *
214    929  FIND    BCE   ATVAR,0&X1,,  SKIP PUNCTUATION BEFORE VARIABLE  8  0929  B 969 0|0 ,          8   969     000+1
215    937          BCE   ATVAR,0&X1,%                                   8  0937  B 969 0|0 %          8   969     000+1
216    945          BCE   ATVAR,0&X1,)                                   8  0945  B 969 0|0 )          8   969     000+1
217    953          BCE   SYNTAX,0&X1,}                                 8  0953  B 883 0|0 } GMARK    8   883     000+1
218    961          SBR   X1                                           4  0961  H 089               9   089
219    965          B     FIND                                         4  0965  B 929               9   929
220         *
221         * X1 IS NOW BELOW A VARIABLE NAME IN THE STATEMENT, AND
222         * X2 IS NOW AT THE TOP OF A VARIABLE NAME IN THE TABLE
223         *
224    969  ATVAR   SW    1&X1  SET WM AT BOTTOM OF VARIABLE           4  0969  , 0|1               9   001+1
225    973          MCW   NEXT,X2                                      7  0973  M 852 094           9   852     094
226    980  UNEQ    BCE   NOTIN,2&X2,  TOP OF THE TABLE?              8  0980  B S74 0!2           9  1274     002+2
227    988  MORE1   MCM   2&X2  MOVE UP TO TOP OF NEXT TABLE ELEMENT   4  0988  P 0!2               9   002+2
228    992          MN              AND THEN DOWN                     1  0992  D                   9
229    993          MN                TO TABLE ELEMENT NAME           1  0993  D                  10
230    994          SAR   X2                                          4  0994  Q 094              10   094
231    998          BCE   MORE1,1&X2,|  MORE TO DO IF RM              8  0998  B 988 0!1 |         10   988     001+2
232  1 006  TESTV   C     0-0,0&X2   TEST DUPLICATE VARIABLE           7  1006  C 000 0!0           10   000     000+2
233  1 013          SAR   X3         STMT VAR - LEN(TABLE VAR)         4  1013  Q 099              10   099
234  1 017          BU    UNEQ       NOT FOUND IN THE TABLE YET        5  1017  B 980 /            10   980
235  1 022  TSTEQL  BW    FOUND,1&X3  EQUAL LENGTH IN STMT AND TABLE?  8  1022  V W73 0?1 1        10  1673     001+3
236  1 030          B     UNEQ       NO, NOT FOUND IN THE TABLE YET    4  1030  B 980              11   980
237         *
238         * START HERE
239         *
240  1 034  BEGN10  MN    0&X2       GET DOWN TO                       4  1034  D 0!0              11   000+2
241  1 038          SAR   NEXT         NEXT AVAILABLE SLOT             4  1038  Q 852              11   852
242  1 042          SBR   NEXT3          IN ARRAY TABLE                4  1042  H 876              11   876
243  1 046          SW    GM                                           4  1046  , 839              11   839
244  1 050          BW    DIFWID,DIFF  FP WIDTH /= INTEGER WIDTH?      8  1050  V |65 838 1        11  1065     838
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
245  1 058         MCW   BRANCH,SWITCH                                        7  1058  M X90 /77           11  1790    1177
246  1 065  DIFWID MCW   X1,SAVEX1                                           7  1065  M 089 Z36           12   089    1936
247  1 072         MCW   LESS,2&X1  MARK STATEMENT AS PROCESSED              7  1072  M X91 0|2           12  1791     002+1
248  1 079         SBR   TSTFUL&6,2&X1  REMEMBER STATEMENT END MARK ADDR     7  1079  H T99 0|2           12  1399     002+1
249  1 086  MORE2  MCM   2&X2  GET ABOVE GMWM ABOVE BOTTOM TABLE ELEMENT      4  1086  P 0!2               12   002+2
250  1 090         MN              AND THEN BACK                             1  1090  D                   12
251  1 091         MN                BELOW IT.  X2 NOW POINTS AT FIRST       1  1091  D                   12
252  1 092         SAR   X2            (TOPMOST) CHARACTER OF NAME.          4  1092  Q 094               12   094
253  1 096         BCE   MORE2,1&X2,|  MORE TO DO IF RM                      8  1096  B |86 0!1 |          13  1086     001+2
254  1 104         C     0&X2  SKIP NAME                                     4  1104  C 0!0               13   000+2
255  1 108         C           SKIP "NEXT" POINTER                           1  1108  C                   13
256  1 109         C           SKIP "PREV" POINTER                           1  1109  C                   13
257  1 110         C           SKIP ???                                      1  1110  C                   13
258  1 111         SAR   TABADR                                              4  1111  Q X94               13  1794
259 *1 115  NXSTMT LCA   0&X1,PREFIX                                         7  1115  L 0|0 849           13   000+1   849
260  1 122         SAR   X1          X1 IS NOW FIRST CHAR BELOW PREFIX       4  1122  Q 089               14   089
261  1 126  FINTST BCE   DONE,PREFIX,  DONE IF NO SEQUENCE NUMBER           8  1126  B W85 849           14  1685     849
262  1 134         BCE   GOTEQV,PREFIX-3,Q  EQUIVALENCE STATEMENT?          8  1134  B /46 846 Q         14  1146     846
263  1 142  FINBR  B     DONE           DONE IF NOT EQUIVALENCE STATEMENT     4  1142  B W85               14  1685
264  1 146  GOTEQV BCE   GOTLP,0&X1,%                                       8  1146  B /58 0|0 %         14  1158     000+1
265  1 154         B     SYNTAX                                              4  1154  B 883               14   883
266 *1 158  GOTLP  SW    FPFLG1,FPFLG2  GOT LEFT PAREN -- SYNTAX OK          7  1158  , X95 X96           15  1795    1796
267 *1 165  NXTVAR MN    0&X1       SKIP LEFT PAREN TO GET X1 TO             4  1165  D 0|0               15   000+1
268  1 169         SAR   X1            TOP CHAR OF VARIABLE                  4  1169  Q 089               15   089
269  1 173         SBR   TESTV&3  VARIABLE TO FIND IN TABLE                  4  1173  H |09               15  1009
270  1 177  SWITCH NOP   FIND  BRANCH IF FP WIDTH == INTEGER WIDTH           4  1177  N 929               15   929
271         *
272         * CHECK WHETHER VARIABLES HAVE SAME TYPE
273         *
274 *1 181  CHKTYP MN    0&X1,TSTINT&7  GET READY TO TEST FIRST              7  1181  D 0|0 S02           15   000+1  1202
275  1 188         MZ    0&X1,TSTINT&7    CHARACTER OF VARIABLE NAME         7  1188  Y 0|0 S02           15   000+1  1202
276  1 195  TSTINT BCE   INTVAR,INTCHR,X  INTEGER VARIABLE NAME?            8  1195  B S16 Y02 X         16  1216    1802
277  1 203         CHAIN 5                                                                      MACRO
278               BCE                                                       1  1203  B                   GEN     16
279               BCE                                                       1  1204  B                   GEN     16
280               BCE                                                       1  1205  B                   GEN     16
281               BCE                                                       1  1206  B                   GEN     16
282               BCE                                                       1  1207  B                   GEN     16
283  1 208         CW    FPFLG2                                              4  1208  ) X96               16  1796
284  1 212         B     NOTINT                                              4  1212  B S20               17  1220
285  1 216  INTVAR CW    FPFLG1                                              4  1216  ) X95               17  1795
286  1 220  NOTINT BW    FIND,FPFLG2                                         8  1220  V 929 X96 1         17   929    1796
287  1 228         BWZ                                                       1  1228  V                   17
288         *
289         * ERROR -- MIXED FP AND INTEGER IN EQUIVALENCE WHILE INTEGER
290         * AND FP HAVE DIFFERENT WIDTH
291         *
292  1 229         CS    332                                                 4  1229  / 332               17   332
293  1 233         CS                                                        1  1233  /                   17
294  1 234         SW    184        IS THIS A GLOBAL ERROR FLAG?             4  1234  , 184               17   184
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

295  1 238          MN    PREFIX,251  SEQUENCE NUMBER                       7  1238  D 849 251           18   849     251
296  1 245          MN                  TO ERROR                            1  1245  D                   18
297  1 246          MN                     MESSAGE                          1  1246  D                   18
298  1 247          MCW   ERROR5                                            4  1247  M Y50               18  1850
299  1 251          W                                                       1  1251  2                   18
300  1 252          BCV   OVFL2                                            5  1252  B S61 @             18  1261
301  1 257          B     NOVFL2                                            4  1257  B S63               18  1263
302  1 261  OVFL2   CC    1                                                 2  1261  F 1                 19
303  1 263  NOVFL2  SW    FPFLG1,FPFLG2                                     7  1263  , X95 X96           19  1795    1796
304  1 270          B     FIND                                              4  1270  B 929               19   929
305          *
306          * NOT IN THE TABLE YET.  X1 ==(?) X3 = PUNCTUATION BELOW
307          * THE VARIABLE IN THE STATEMENT
308          *
309  1 274  NOTIN   MCW   X1,X3    DOES THIS CHANGE X3?                      7  1274  M 089 099           19   089     099
310  1 281          BCE   SUBSND,0&X1,%  SUBSCRIPT PRESENT?                 8  1281  B V05 0|0 %         19  1505     000+1
311  1 289          MCW   NEXT,X2  ONE BELOW BOTTOM SLOT IN TABLE           7  1289  M 852 094           19   852     094
312  1 296          LCA   GM,1&X2  SET BOUNDARY                            7  1296  L 839 0!1           20   839     001+2
313  1 303          SBR   X2       DOES THIS CHANGE X2?                     4  1303  H 094               20   094
314  1 307          MCW   TESTV&3,X3  VARIABLE SOUGHT IN TABLE             7  1307  M |09 099           20  1009     099
315  1 314          LCA   0&X3,0&X2  MOVE VARIABLE TO TABLE                 7  1314  L 0?0 0!0           20   000+3   000+2
316  1 321          SBR   X2         X2 NOW POINTS AT "PREV" LINK           4  1321  H 094               20   094
317  1 325          MCW   TABADR,X3  CURRENT BOTTOM-OF-TABLE               7  1325  M X94 099           20  1794     099
318  1 332          LCA   TABADR,0&X2  SET "PREV" LINK IN NEW ENTRY         7  1332  L X94 0!0           21  1794     000+2
319  1 339          LCA   W3         SPACE FOR "NEXT" LINK                  4  1339  L Y53               21  1853
320  1 343          LCA   W3         SPACE FOR ???                          4  1343  L Y53               21  1853
321  1 347          SBR   TABADR     SET CURRENT BOTTOM-OF-TABLE            4  1347  H X94               21  1794
322  1 351          SBR   X2         SET X2 NINE BELOW NAME IN TABLE        4  1351  H 094               21   094
323  1 355          LCA   W5,0&X2                                           7  1355  L Y55 0!0           21  1855     000+2
324  1 362          LCA   K1         DIMENSION == 1 FOR SCALAR              4  1362  L Y56               21  1856
325  1 366          SBR   X2         X2 IS NOW ONE BELOW BOTTOM ELEMENT     4  1366  H 094               22   094
326  1 370          MCW   TABADR,6&X3  SET "NEXT" LINK IN PREV ENTRY       7  1370  M X94 0?6           22  1794     006+3
327  1 377          BCE   NOTAB,86,  NO TABLE YET?                         8  1377  B U35 086           22  1435     086
328          *
329          * SAVE BOTTOM OF TABLE AND CHECK SIZE
330          *
331  1 385  SAVBOT  MN    0&X2                                              4  1385  D 0!0               22   000+2
332  1 389          SAR   NEXT                                              4  1389  Q 852               22   852
333  1 393  TSTFUL  BCE   ITFITS,0,<                                       8  1393  B U46 000 <         22  1446     000
334          *
335          * PROGRAM IS TOO BIG -- CLOBBERED THE SENTINEL
336          *
337  1 401          CS    332                                               4  1401  / 332               22   332
338  1 405          CS                                                      1  1405  /                   23
339  1 406          CC    1                                                 2  1406  F 1                 23
340  1 408          MCW   ERROR2,270                                        7  1408  M Y92 270           23  1892     270
341  1 415          W                                                       1  1415  2                   23
342  1 416          CC    1                                                 2  1416  F 1                 23
343  1 418          BCE   CARDS,CDOVLY,1                                   8  1418  B U31 700 1         23  1431     700
344  1 426          RWD   1                                                 5  1426  U %U1 R             23   %U1
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SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

345  1 431  CARDS   H     CARDS                                             4  1431  . U31               24  1431
346         *
347         * NO TABLE YET
348         *
349  1 435  NOTAB   MCW   TABADR,86  STORE TOP OF TABLE                     7  1435  M X94 086           24  1794     086
350  1 442         B     SAVBOT     SAVE BOTTOM OF TABLE AND CHECK SIZE     4  1442  B T85               24  1385
351         *
352         * HAVEN'T CLOBBERED THE SENTINEL -- THE PROGRAM FITS
353         *
354  1 446  ITFITS BCE   DONEQV,0&X1,)  DONE WITH THIS EQUIVALENCE?         8  1446  B U58 0|0 )         24  1458     000+1
355  1 454         B     MOREQV                                            4  1454  B U65               24  1465
356  1 458  DONEQV SW    FPFLG1,FPFLG2  ASSUME EQUIVALENCE IS OK           7  1458  , X95 X96           24  1795    1796
357  1 465  MOREQV MN    0&X1       SKIP PUNCTUATION BELOW VARIABLE        4  1465  D 0|0               24   000+1
358  1 469         SBR   X1                                               4  1469  H 089               25   089
359  1 473         SBR   TESTV&3    VARIABLE TO FIND IN TABLE              4  1473  H |09               25  1009
360  1 477         BCE   NOTHER,0&X1,,  ANOTHER VARIABLE IN EQUIVALENCE?  8  1477  B W61 0|0 ,         25  1661     000+1
361  1 485         BCE   ITFITS,0&X1,}                                     8  1485  B U46 0|0 } GMARK   25  1446     000+1
362  1 493         BCE   NXSTMT,1&X1,}                                     8  1493  B /15 0|1 } GMARK   25  1115     001+1
363  1 501         B     SWITCH     GO TEST TYPES                          4  1501  B /77               25  1177
364         *
365         * SUBSCRIPT APPEARS IN EQUIVALENCE STATEMENT BUT THE VARIABLE
366         * WAS NOT FOUND IN THE ARRAY TABLE
367         *
368  1 505  SUBSND CS    299                                               4  1505  / 299               26   299
369  1 509         MCW   X3,X1  DOES THIS CHANGE X1?                       7  1509  M 099 089           26   099     089
370  1 516         MCW   X2,SAVX2                                          7  1516  M 094 Y95           26   094    1895
371  1 523         MN    248    WHY NOT                                    4  1523  D 248               26   248
372  1 527         MN             JUST DO                                 1  1527  D                   26
373  1 528         SAR   X2         SBR  X1,246?                          4  1528  Q 094               26   094
374  1 532         SBR   X1,0&X1  THIS CAN'T CHANGE X1                     7  1532  H 089 0|0           26   089     000+1
375  1 539  FINDLP MCW   0&X1,SAVECH                                       7  1539  M 0|0 Y96           27   000+1  1896
376  1 546         SAR   X1                                               4  1546  Q 089               27   089
377  1 550         BCE   GOTLP2,SAVECH,%  GOT TO START OF SUBSCRIPT?       8  1550  B V73 Y96 %         27  1573    1896
378  1 558         MCW   SAVECH,2&X2  MOVE SAVED CHARACTER TO MESSAGE      7  1558  M Y96 0!2           27  1896     002+2
379  1 565         SBR   X2         REVERSING VARIABLE BACK INTO ORDER      4  1565  H 094               27   094
380  1 569         B     FINDLP                                            4  1569  B V39               27  1539
381  1 573  GOTLP2 MCW   SAVX2,X2                                          7  1573  M Y95 094           28  1895     094
382  1 580         SW    184        IS THIS A GLOBAL ERROR FLAG?           4  1580  , 184               28   184
383  1 584         MN    PREFIX,240  SEQUENCE NUMBER                       7  1584  D 849 240           28   849     240
384  1 591         MN                  TO ERROR                            1  1591  D                   28
385  1 592         MN                    MESSAGE                           1  1592  D                   28
386  1 593         MCW   ERROR6                                            4  1593  M Z33               28  1933
387  1 597         BCV   OVFL3                                             5  1597  B W06 @             28  1606
388  1 602         B     NOVFL3                                            4  1602  B W08               29  1608
389  1 606  OVFL3  CC    1                                                 2  1606  F 1                 29
390  1 608  NOVFL3 W                                                       1  1608  2                   29
391  1 609  SKIPV  MN    0&X1                                              4  1609  D 0|0               29   000+1
392  1 613         SAR   X1                                               4  1613  Q 089               29   089
393  1 617         BCE   NOTHER,0&X1,)  FOUND END OF SUBSCRIPT            8  1617  B W61 0|0 )         29  1661     000+1
394  1 625         BCE   SYNTAX,0&X1,%  SYNTAX ERROR IF LEFT PAREN         8  1625  B 883 0|0 %         29   883     000+1
```

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

395  1 633         BCE   SYNTAX,0&X1,}  SYNTAX ERROR IF END OF STATEMENT      8  1633  B 883 0|0 } GMARK   30   883     000+1
396  1 641         BCE   SKIPV,0&X1,,   SKIP MORE IF COMMA (IS THIS OK?)      8  1641  B W09 0|0 ,        30  1609     000+1
397  1 649         BWZ   SKIPV,0&X1,2   SKIP MORE IF NUMERIC                  8  1649  V W09 0|0 2        30  1609     000+1
398  1 657         B     SYNTAX         ELSE SYNTAX ERROR                    4  1657  B 883              30   883
399         *
400         * ANOTHER VARIABLE IN EQUIVALENCE
401         *
402  1 661  NOTHER MN    0&X1                                               4  1661  D 0|0              30   000+1
403  1 665         SAR   X1                                                 4  1665  Q 089              30   089
404  1 669         B     ITFITS                                             4  1669  B U46              31  1446
405         *
406         * FOUND VARIABLE IN ARRAY TABLE
407         *
408  1 673  FOUND  BCE   SKIPV,0&X1,%   SUBSCRIPT OK SINCE WE FOUND VAR      8  1673  B W09 0|0 %        31  1609     000+1
409  1 681         B     ITFITS                                             4  1681  B U46              31  1446
410         *
411  1 685  DONE   SBR   FINTST&3,DONE2  THESE                              7  1685  H /29 X35          31  1129    1735
412  1 692         SBR   FINBR&3,DONE2     ADDRESSES ARE                   7  1692  H /45 X35          31  1145    1735
413  1 699         SBR   UNEQ&3,NOTIN2       IN NEXT OVERLAY               7  1699  H 983 X69          31   983    1769
414  1 706         SBR   TSTEQL&3,CHKTYP                                    7  1706  H |25 /81          32  1025    1181
415  1 713         MCW   NEXT,NEXT3                                         7  1713  M 852 876          32   852     876
416  1 720         MCW   SAVEX1,X1                                          7  1720  M Z36 089          32  1936     089
417  1 727         MCW   BRANCH,SWITCH                                      7  1727  M X90 /77          32  1790    1177
418  1 734         MCW   NOP,GOTLP                                          7  1734  M Z37 /58          32  1937    1158
419  1 741         BSS   SNAPSH,C                                           5  1741  B 333 C            33   333
420  1 778         B     LOADNX                                             4  1746  B 700              33   700
421         *
422         * MORE DATA
423         *
424  1 821  ERROR4 DCW   @ERROR 4 - EQUIVALENCE SYNTAX, STATEMENT @        40  1789                     35
425  1 822  BRANCH B                                                       1  1790  B                  35
426  1 823  LESS   DCW   @<@        LESS-THAN SIGN                         1  1791                     35
427  1 826  TABADR DCW   #3         CURRENT ARRAY TABLE ADDRESS            3  1794                     35
428  1 827  FPFLG1 DCW   #1                                                1  1795                     35
429  1 828  FPFLG2 DCW   #1         WM IF FP VARIABLE                      1  1796                     36
430  1 834  INTCHR DCW   @IJKLMN@   FIRST CHARACTER OF INTEGER VARIABLES   6  1802                     36
431  1 882  ERROR5 DCW   @ERROR 5 - ILLEGAL EQUIVALENCE MIXING, STATEMENT @ 48  1850                     38
432  1 885  W3     DCW   #3  USED TO CREATE                                3  1853                     38
433  1 887  W5     DC    #2    EMPTY TABLE ENTRY                           2  1855                     38
434  1 888  K1     DCW   1     DIMENSION FOR SCALARS                       1  1856                     38
435  1 924  ERROR2 DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@           36  1892                     39
436  1 927  SAVX2  DCW   #3                                               3  1895                     39
437  1 928  SAVECH DCW   #1                                               1  1896                     40
438  1 965  ERROR6 DCW   @ERROR 6 - UNDEFINED ARRAY, STATEMENT @          37  1933                     40
439  1 968  SAVEX1 DCW   #3                                               3  1936                     41
440  1 969  NOP    NOP                                                    1  1937  N                  41
441  1 979  GMWM   DCW   @}@                                             1  1938        GMARK        41
442                XFR   BEGN10                                                B |34                41  1034
443         CLRME  CLRA  CHKTYP,GMWM                                                 MACRO
            *      CLRA  CLRBOT,CLRTOP[,ORG,GMWMAD]                                  GEN
```

```
SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR
            *                                                                                 GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                               GEN
            *                                                                                 GEN
444                 ORG   201                                                      0201
            *                                                                                 GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                         GEN
            *                                                                                 GEN
445         CLRME   EQU   *&1                                                 0201            GEN
446         )0J005  CS    GMWM         CLEAR FROM CLRTOP                  4  0201  / Z38       GEN     42  1938
447                 SBR   )0J005&3                                          4  0205  H 204       GEN     42   204
448                 SBR   )0L005&6                                          4  0209  H 250       GEN     42   250
449                 C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?          7  0213  C 204 261   GEN     42   204     261
450                 BU    )0J005                                            5  0220  B 201 /     GEN     42   201
            *                                                                                 GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                          GEN
            *                                                                                 GEN
451         )0K005  C     )0L005&6,)0N005                                   7  0225  C 250 264   GEN     42   250     264
452                 BU    )0L005                                            5  0232  B 244 /     GEN     42   244
453                 CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1           7  0237  / 700 271   GEN     43   700     271
454         )0L005  LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK     7  0244  L 265 000   GEN     43   265     000
455                 SBR   )0L005&6                                          4  0251  H 250       GEN     43   250
456                 B     )0K005                                            4  0255  B 225       GEN     43   225
457         )0M005  DSA   )0R005         CLRBOT & X00 - 1                  3  0261  /99         GEN     43  1199
458         )0N005  DSA   CHKTYP         CLRBOT                            3  0264  /81         GEN     43  1181
459         )0P005  DCW   #1                                               1  0265              GEN     43
460                 DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP     5  0270              GEN     43
461         )0Q005  DCW   @}@                                               1  0271              GEN     44
462                 ORG   CHKTYP&X00                                                1200
463         )0R005  EQU   *           CLRBOT & X00 - 1                        1199              GEN
464                 XFR   CLRME                                                     B 201                 44   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J005	0201: 0	)0K005	0225: 0	)0L005	0244: 0	)0M005	0261: 0	)0N005	0264: 0	)0P005	0265: 0
)0Q005	0271: 0	)0R005	1199: 0	)6J004	0110: 0	)6K004	0700: 0	)6L004	0704: 0	)6M004	0728: 0
)9J004	0252: 0	)9R004	0256: 0	ATVAR	0969: 0	BEGIN9	0839: 0	BEGN10	1034: 0	BRANCH	1790: 0
CARDS	1431: 0	CDOVLY	0700: 0	CHKTYP	1181: 0	CLASS1	0860: 0	CLASS2	0868: 0	CLRME	0201: 0
DIFF	0838: 0	DIFWID	1065: 0	DONE	1685: 0	DONE2	1735: 0	DONEQV	1458: 0	ERROR2	1892: 0
ERROR4	1789: 0	ERROR5	1850: 0	ERROR6	1933: 0	FINBR	1142: 0	FIND	0929: 0	FINDLP	1539: 0
FINTST	1126: 0	FOUND	1673: 0	FPFLG1	1795: 0	FPFLG2	1796: 0	GM	0839: 0	GMWM	1938: 0
GOTEQV	1146: 0	GOTLP	1158: 0	GOTLP2	1573: 0	INTCHR	1802: 0	INTVAR	1216: 0	ITFITS	1446: 0
K1	1856: 0	LESS	1791: 0	LOADNX	0700: 0	MORE1	0988: 0	MORE2	1086: 0	MOREQV	1465: 0
NEXT	0852: 0	NEXT3	0876: 0	NOP	1937: 0	NOTAB	1435: 0	NOTHER	1661: 0	NOTIN	1274: 0
NOTIN2	1769: 0	NOTINT	1220: 0	NOVFL1	0917: 0	NOVFL2	1263: 0	NOVFL3	1608: 0	NXSTMT	1115: 0
NXTVAR	1165: 0	OFF1	0857: 0	OFF2	0865: 0	OFF3	0873: 0	OVFL1	0915: 0	OVFL2	1261: 0
OVFL3	1606: 0	PHAS10	0201: 0	PHASLD	0381: 0	PREFIX	0849: 0	SAVBOT	1385: 0	SAVECH	1896: 0
SAVEX1	1936: 0	SAVX2	1895: 0	SKIPV	1609: 0	SNAPEX	0564: 0	SNAPSH	0333: 0	SUBSND	1505: 0
SWITCH	1177: 0	SYNTAX	0883: 0	TABADR	1794: 0	TESTV	1006: 0	TPERR	0728: 0	TPREAD	0704: 0
TSTEQL	1022: 0	TSTFUL	1393: 0	TSTINT	1195: 0	UNEQ	0980: 0	W3	1853: 0	W5	1855: 0
X1	0089: 0	X2	0094: 0	X3	0099: 0						

UNREFERENCED SYMBOLS

CLASS1 CLASS2 NXTVAR OFF1 OFF2 OFF3 PHASLD SNAPEX TPERR TPREAD