```
CLEAR STORAGE 1     ,008015,022026,030037,044,049,053053N000000N00001026                                    1
CLEAR STORAGE 2     L068116,105106,110117B101/I9I#071029C029056B026/B001/0991,001/001117I0?                  2
BOOTSTRAP           ,008015,022029,036040,047054,061068,072/061039          ,0010011040                     3
```

```
                    FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34                              PAGE   1

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

101                JOB   FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34
102                CTL   6611
103         *
104         * ALL ARITHMETIC AND IF STATEMENTS ARE UNNESTED USING A
105         * FORCING TABLE TECHNIQUE.  ERROR CHECKING CONTINUES.
106         *
107         * ON ENTRY X1 IS THE TOP OF THE TOPMOST NON-ASSIGNMENT NON-IF
108         * STATEMENT, X2 IS THE TOP OF THE TOPMOST ASSIGNMENT OR IF
109         * STATEMENT IN HIGH CORE, AND X3 IS ONE BELOW THE BOTTOMMOST
110         * ASSIGNMENT OR IF STATEMENT IN HIGH CORE.
111         *
112         X1     EQU   89                                                    0089
113         X2     EQU   94                                                    0094
114         X3     EQU   99                                                    0099
115         *
116         * STUFF IN THE RESIDENT AREA
117         *
118         PHASID EQU   110  PHASE ID, FOR SNAPSHOT DUMPS                      0110
119         GLOBER EQU   184  GLOBAL ERROR FLAG -- WM MEANS ERROR              0184
120         SNAPSH EQU   333  CORE DUMP SNAPSHOT                               0333
121         LOADNX EQU   700  LOAD NEXT OVERLAY                                0700
122         CLEARL EQU   707  CS AT START OF OVERLAY LOADER                    0707
123         CDOVLY EQU   769  1 IF RUNNING FROM CARDS, N IF FROM TAPE          0769
124         *
125                ORG   838                                                          0838
126         LOADDD EQU   *&1           LOAD ADDRESS                            0838
127     838 BEGINN BCE   DONE,X2,.                                     8 0838  B N47 094 .          4
128     846        SW    GM                                            4 0846  , N73               4
129     850        MCW   X2,SX2                                        7 0850  M 094 P45           4
130     857        SBR   X3,2&X3                                       7 0857  H 099 0?2           4
131     864        SBR   X1,2&X1                                       7 0864  H 089 0|2           4
132     871        MCW   X1,X2                                         7 0871  M 089 094           5
133     878 GET00  MN    X2,CHKX2  GET X2                              7 0878  D 094 P47           5
134     885        MN              UP TO                               1 0885  D                   5
135     886        C     CHKX2,K00     X2 & X00                        7 0886  C P47 P49           5
136     893        BE    GOT00                                         5 0893  B 913 S             5
137     898        CW    0&X2                                          4 0898  ) 0!0               5
138     902        SBR   X2,1&X2                                       7 0902  H 094 0!1           5
139     909        B     GET00                                         4 0909  B 878               6
140     913 GOT00  MN    0&X2                                          4 0913  D 0!0               6
141     917        SAR   X2P99  X2 & X00 - 1                           4 0917  Q P52               6
142     921        MN    0&X3                                          4 0921  D 0?0               6
143     925        SAR   X2                                            4 0925  Q 094               6
144     929 CLRL   C     X2,X2P99  CLEAR DOWN                          7 0929  C 094 P52           6
145     936        BE    CLRX      TO TOP                              5 0936  B 953 S             6
146     941        CS    0&X2          OF CODE                         4 0941  / 0!0               7
147     945        SBR   X2            IN LOW                          4 0945  H 094               7
```

```
                    FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34                          PAGE   2

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

148    949          B     CLRL              CORE & X00                 4  0949  B 929                 7
149    953  CLRX    MN    0&X1                                         4  0953  D 0|0                 7
150    957          SAR   X1                                           4  0957  Q 089                 7
151    961  MORE    MCM   0&X3     MOVE CODE                           4  0961  P 0?0                 7
152    965          SAR   SX3&6     DOWN FROM                          4  0965  Q 987                 7
153    969          MCM   0&X3,1&X1   TOP CORE                         7  0969  P 0?0 0|1             8
154    976          MN                TO BOTTOM                        1  0976  D                     8
155    977          SBR   X1              OF BOTTOMMOST                4  0977  H 089                 8
156    981  SX3     SBR   X3,0              ASSIGNMENT                 7  0981  H 099 000             8
157    988          BCE   MORE,0&X1,|        OR IF                     8  0988  B 961 0|0 |           8
158    996          MN    0&X3                   STATEMENT             4  0996  D 0?0                 8
159  1 000          CW                                                 1  1000  )                     8
160  1 001          SW    0&X1                                         4  1001  , 0|0                 9
161  1 005          C     X3,SX2                                       7  1005  C 099 P45             9
162  1 012          BU    MORE                                         5  1012  B 961 /               9
163  1 017          MN    0&X1                                         4  1017  D 0|0                 9
164  1 021          SAR   X1                                           4  1021  Q 089                 9
165              *
166              * X1 IS NOW THE TOP OF THE TOPMOST ASSIGNMENT OR IF STATEMENT
167              * IN LOW CORE AND X3 IS ONE ABOVE THE TOP OF THE TOPMOST
168              * ASSIGNMENT OR IF STATEMENT IN HIGH CORE.
169              *
170  1 025          MN    0&X3                                         4  1025  D 0?0                 9
171  1 029          SBR   IXTOP  INDEX OF STATEMENT IN TOP CORE        4  1029  H P55                 9
172  1 033          BCE   LOOP,0&X3,}                                  8  1033  B |60 0?0 } GMARK    10
173  1 041          SBR   X3                                           4  1041  H 099                10
174  1 045          LCA   GM                                           4  1045  L N73                10
175  1 049          SBR   IXTOP                                        4  1049  H P55                10
176  1 053          MCW   X3,SX2                                       7  1053  M 099 P45            10
177  1 060  LOOP    MCW   IXTOP,IXTSAV                                 7  1060  M P55 P58            10
178  1 067          MCW   0&X1,X3                                      7  1067  M 0|0 099            11
179  1 074          BWZ   *&5,X3,2  ZONE IN ONES OR                    8  1074  V |86 099 2          11
180  1 082          B     *&9        THOUSANDS MEANS ADDRESS OF        4  1082  B |94                11
181  1 086          BWZ   *&8,X3-2,2   SEQUENCE NUMBER IN SYMBOL TABLE 8  1086  V /01 097 2          11
182  1 094          MCW   0&X3,X3  GET SEQUENCE NUMBER FROM TABLE      7  1094  M 0?0 099            11
183  1 101          MCW   X3,SEQNO                                     7  1101  M 099 P61            12
184  1 108          MCW   KB12,W3B                                     7  1108  M Q14 Q28            12
185  1 115          MCW   KBRACK,40&X1  RIGHT BRACKET                  7  1115  M P62 0U0            12
186  1 122          SBR   LOCBRK&6,40&X1  REMEMBER WHERE WE PUT IT     7  1122  H /85 0U0            12
187  1 129          B     MOVEUP        MOVE PREFIX UP TO HIGH CORE    4  1129  B S57               12
188  1 133          BCE   IFSTMT,2&X1,E  IF STATEMENT?                 8  1133  B S21 0|2 E          13
189  1 141          C     2&X1,KR       ASSIGNMENT STATEMENT?          7  1141  C 0|2 P63            13
190  1 148          BU    ALMOST        NO, ALMOST DONE                5  1148  B N19 /              13
191  1 153  READY   MCW   X1,X3                                        7  1153  M 089 099            13
192  1 160          SBR   LINK&3,0&X1                                  7  1160  H M96 0|0            13
193  1 167          C     0&X3                                         4  1167  C 0?0               13
194  1 171          SAR   SX3B                                         4  1171  Q P66               14
195  1 175          B     HUNT                                         4  1175  B S91               14
196  1 179  LOCBRK  BCE   WHEW,0,]  RIGHT BRACKET                      8  1179  B T81 000 ]          14
197              *
```

```
                          FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34                              PAGE    3


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


  198           * BRACKET HAVING BEEN CLOBBERED MEANS PROGRAM IS TOO BIG
  199           *
  200  1 187           CS    332                                                 4  1187  / 332               14
  201  1 191           CS                                                        1  1191  /                   14
  202  1 192           CC    1                                                   2  1192  F 1                 14
  203  1 194           MCW   ERR2,270                                            7  1194  M Q02 270           14
  204  1 201           W                                                         1  1201  2                   15
  205  1 202           CC    1                                                   2  1202  F 1                 15
  206  1 204           BCE   HALT,CDOVLY,1                                       8  1204  B S17 769 1         15
  207  1 212           RWD   1                                                   5  1212  U %U1 R             15
  208  1 217  HALT  H    HALT                                                    4  1217  . S17               15
  209           *
  210           * IF STATEMENT, GET X3 DOWN TO A BLANK BELOW X1, THEN SET
  211           * A WORD MARK ONE BELOW THERE
  212           *
  213  1 221  IFSTMT MCW   X1,X3                                                 7  1221  M 089 099           15
  214  1 228  GETB   BCE   GOTB,0&X3,,                                           8  1228  B S44 0?0 ,         15
  215  1 236           SBR   X3                                                  4  1236  H 099               16
  216  1 240           B     GETB                                                4  1240  B S28               16
  217  1 244  GOTB   MN    0&X3                                                  4  1244  D 0?0               16
  218  1 248           SW                                                        1  1248  ,                   16
  219  1 249           B     MOVEUP                                              4  1249  B S57               16
  220  1 253           B     READY                                               4  1253  B /53               16
  221           *
  222           * MOVE UP PREFIX OR BODY
  223           *
  224  1 257  MOVEUP SBR   MOVEUX&3                                              4  1257  H S90               16
  225  1 261           MCW   IXTOP,X2                                            7  1261  M P55 094           17
  226  1 268           LCA   0&X1,0&X2                                           7  1268  L 0|0 0!0           17
  227  1 275           SBR   IXTOP                                               4  1275  H P55               17
  228  1 279           C     0&X1                                                4  1279  C 0|0               17
  229  1 283           SAR   X1                                                  4  1283  Q 089               17
  230  1 287  MOVEUX B     0                                                     4  1287  B 000               17
  231           *
  232           * HUNT FOR INTERESTING CHARACTERS
  233           *
  234  1 291  HUNT   SBR   HUNTX&3                                               4  1291  H T46               17
  235  1 295           BCE   SKPSUB,0&X3,$                                       8  1295  B T47 0?0 $         18
  236  1 303  HUNTL  MCW   0&X3,CURR                                             7  1303  M 0?0 Q15           18
  237  1 310           SAR   X3                                                  4  1310  Q 099               18
  238  1 314           MCW   CURR,*&8                                            7  1314  M Q15 T28           18
  239  1 321           BCE   HUNTX,CHARS,0                                       8  1321  B T43 O42 0         18
  240  1 329           CHAIN 10                                                                    MACRO
  241           BCE                                                             1  1329  B          GEN       18
  242           BCE                                                             1  1330  B          GEN       18
  243           BCE                                                             1  1331  B          GEN       19
  244           BCE                                                             1  1332  B          GEN       19
  245           BCE                                                             1  1333  B          GEN       19
  246           BCE                                                             1  1334  B          GEN       19
  247           BCE                                                             1  1335  B          GEN       19
```

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

248              BCE                                                  1 1336  B           GEN    19
249              BCE                                                  1 1337  B           GEN    19
250              BCE                                                  1 1338  B           GEN    20
251  1 339       B     HUNTL                                         4 1339  B T03              20
252  1 343 HUNTX B     0                                             4 1343  B 000              20
253        *
254        * SKIP SUBSCRIPT -- DECREASE X3 BY EITHER 12 OR 18
255        *
256  1 347 SKPSUB C     0&X3,KB12                                    7 1347  C 0?0 Q14          20
257  1 354       SAR   X3                                            4 1354  Q 099              20
258  1 358       BCE   HUNTX,2&X3,$                                  8 1358  B T43 0?2 $        20
259  1 366       C     0&X3,KB12-6                                   7 1366  C 0?0 Q08          20
260  1 373       SAR   X3                                            4 1373  Q 099              21
261  1 377       B     HUNTX                                         4 1377  B T43              21
262        *
263        * PROGRAM ISN'T TOO BIG
264        *
265  1 381 WHEW   MCW   1&X3,CURR    CURRENT OPERATOR OR ASSIGNMENT  7 1381  M 0?1 Q15          21
266  1 388       MCW   1&X1,PREV    PREVIOUS OPERATOR OR GM         7 1388  M 0|1 Q16          21
267  1 395       MCW   PREV,LOOKCH&7                                7 1395  M Q16 V46          21
268  1 402       MCW   KB12,W3                                      7 1402  M Q14 Q19          21
269  1 409       B     LOOK                                         4 1409  B V16              22
270  1 413       MN    CHNUM,W3-1   PREVIOUS CHARS INDEX IS TENS    7 1413  D Q20 Q18          22
271  1 420       MCW   CURR,LOOKCH&7                                7 1420  M Q15 V46          22
272  1 427       B     LOOK                                         4 1427  B V16              22
273  1 431       MN    CHNUM,W3     CURRENT CHARS INDEX IS ONES     7 1431  D Q20 Q19          22
274  1 438       MCW   W3,X2                                        7 1438  M Q19 094          22
275  1 445       MN    TABLE&X2,X2  GET ONE                         7 1445  D OM3 094          23
276  1 452       MCW   KB12          DIGIT FROM TABLE               4 1452  M Q14              23
277  1 456       BWZ   MSG24,X2,S                                   8 1456  V K61 094 S        23
278  1 464       A     X2                                           4 1464  A 094              23
279  1 468       A     X2           QUADRUPLE IT                    4 1468  A 094              23
280  1 472       B     *&1&X2                                       4 1472  B UP6              23
281  1 476       B     ZERO   INDEX FROM TABLE IS ZERO              4 1476  B W03              23
282  1 480       B     ONE    INDEX FROM TABLE IS ONE               4 1480  B W18              24
283  1 484       B     TWO    INDEX FROM TABLE IS TWO               4 1484  B W59              24
284  1 488       B     THREE  INDEX FROM TABLE IS THREE             4 1488  B M58              24
285  1 492       B     FOUR   INDEX FROM TABLE IS FOUR              4 1492  B Z48              24
286  1 496       B     FIVE   INDEX FROM TABLE IS FIVE              4 1496  B Z81              24
287  1 500       B     MSG25  INDEX FROM TABLE IS SIX               4 1500  B M13              24
288  1 504       B     MSG16  INDEX FROM TABLE IS SEVEN             4 1504  B L75              24
289  1 508       B     MSG32  INDEX FROM TABLE IS EIGHT             4 1508  B L37              25
290  1 512       B     MSG26  INDEX FROM TABLE IS NINE              4 1512  B K99              25
291        *
292        * LOOK FOR A CHARACTER IN CHARS, TREATING MINUS AND PLUS
293        * EQUALLY, COUNTING AS WE LOOK
294        *
295  1 516 LOOK   SBR   LOOKCH&3                                    4 1516  H V42              25
296  1 520       BCE   LOOK3,LOOKCH&7,-                             8 1520  B V62 V46 -        25
297  1 528 LOOK2  S     CHNUM  INDEX IN CHARS                       4 1528  S Q20              25
```

```
                    FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34                          PAGE    5

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

298  1 532          MCW   ACHARS,LOOKCH&6                       7  1532  M Q23 V45             25
299  1 539 LOOKCH  BCE   0,0,0                                 8  1539  B 000 000 0           25
300  1 547          SBR   LOOKCH&6                             4  1547  H V45                 26
301  1 551          A     K1,CHNUM                             7  1551  A Q24 Q20             26
302  1 558          B     LOOKCH                               4  1558  B V39                 26
303  1 562 LOOK3   MCW   KPLUS,LOOKCH&7                        7  1562  M Q25 V46             26
304  1 569          B     LOOK2                                4  1569  B V28                 26
305         *
306  1 573 COUNT   SBR   COUNTX&3                              4  1573  H W02                 26
307  1 577          A     K1,W3B                               7  1577  A Q24 Q28             26
308  1 584          MZ    W3B-1,CH                             7  1584  Y Q27 N72             27
309  1 591          MN    W3B,CH                               7  1591  D Q28 N72             27
310  1 598          MN                                         1  1598  D                     27
311  1 599 COUNTX  B     0                                     4  1599  B 000                 27
312         *
313         * INDEX FROM TABLE IS ZERO.
314         * PREV *     CURR %. BLANK
315         * PREV %     CURR *%&@. BLANK ,
316         * PREV #     CURR *%&@. BLANK ,
317         * PREV GM    CURR #
318         * PREV &     CURR *%@. BLANK ,
319         * PREV @     CURR %. BLANK
320         * PREV .     CURR % BLANK
321         * PREV BLANK CURR *%&@. BLANK ,
322         * PREV ,     CURR %. BLANK
323         *
324  1 603 ZERO    MCW   X3,X1  CURRENT TO PREVIOUS            7  1603  M 099 089             27
325  1 610          B     HUNT   GET NEXT OPERATOR             4  1610  B S91                 27
326  1 614          B     WHEW                                 4  1614  B T81                 27
327         *
328         * INDEX FROM TABLE IS ONE.
329         * PREV %  CURR )
330         *
331  1 618 ONE     SW    2&X3                                 4  1618  , 0?2                 28
332  1 622          LCA   0&X1,1&X1                            7  1622  L 0|0 0|1             28
333  1 629          CW    3&X3                                 4  1629  ) 0?3                 28
334  1 633          CW                                         1  1633  )                     28
335  1 634          LCA   0&X3,2&X3                            7  1634  L 0?0 0?2             28
336  1 641          SBR   X1,1&X1                              7  1641  H 089 0|1             28
337  1 648          SBR   X3,1&X3                              7  1648  H 099 0?1             28
338  1 655          B     WHEW                                 4  1655  B T81                 29
339         *
340         * INDEX FROM TABLE IS TWO
341         * PREV *  CURR *)G&@
342         * PREV &  CURR )G&
343         * PREV @  CURR *)G&@
344         * PREV .  CURR *)G&@
345         *
346  1 659 TWO     MCW   IXTOP,X2                             7  1659  M P55 094             29
347  1 666          MZ    4&X3,SAVTAG                          7  1666  Y 0?4 Q29             29
```

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

348  1 673           BCE   *&8,2&X3,$                                   8  1673  B W88 0?2 $          29
349  1 681           MZ    3&X3,SAVTAG                                  7  1681  Y 0?3 Q29           29
350  1 688           SW    2&X3                                         4  1688  , 0?2               29
351  1 692           LCA   0&X1,0&X2                                    7  1692  L 0|0 0!0           30
352  1 699           SBR   X2                                          4  1699  H 094               30
353  1 703           CW    1&X2                                        4  1703  ) 0!1               30
354  1 707           SW    2&X1                                        4  1707  , 0|2               30
355  1 711           SW                                                1  1711  ,                   30
356  1 712           LCA   1&X1,0&X2                                    7  1712  L 0|1 0!0           30
357  1 719           SBR   X2                                          4  1719  H 094               30
358  1 723           SBR   IXTOP                                       4  1723  H P55               31
359  1 727           CW    1&X2                                        4  1727  ) 0!1               31
360  1 731           BCE   SUBTWO,2&X1,$                                8  1731  B Y90 0|2 $          31
361  1 739           LCA   4&X1,0&X2                                    7  1739  L 0|4 0!0           31
362  1 746           SBR   IXTOP                                       4  1746  H P55               31
363  1 750           MZ    3&X1,TAG1                                    7  1750  Y 0|3 N71           31
364  1 757           SAR   X1                                          4  1757  Q 089               31
365  1 761  SUBBAK   B     COUNT                                       4  1761  B V73               32
366  1 765           LCA   CH,2&X1                                      7  1765  L N72 0|2           32
367  1 772           LCA   1&X3                                        4  1772  L 0?1               32
368  1 776           CW    0&X1                                        4  1776  ) 0|0               32
369  1 780           MN                                                1  1780  D                   32
370  1 781           SAR   X3                                          4  1781  Q 099               32
371  1 785           SBR   X1,2&X1                                      7  1785  H 089 0|2           32
372  1 792           BWZ   TWOA,TAG1,S                                  8  1792  V Y36 N71 S          33
373  1 800           BM    TWOA,TAG1                                    8  1800  V Y36 N71 K          33
374  1 808           BWZ   LOCBRK,SAVTAG,2                              8  1808  V /79 Q29 2          33
375  1 816           BWZ   LOCBRK,SAVTAG,B                              8  1816  V /79 Q29 B          33
376  1 824           BCE   LOCBRK,PREV,.                                8  1824  B /79 Q16 .          34
377  1 832           B     MIXED                                       4  1832  B Y52               34
378  1 836  TWOA     BWZ   LOCBRK,SAVTAG,S                              8  1836  V /79 Q29 S          34
379  1 844           BM    LOCBRK,SAVTAG                                8  1844  V /79 Q29 K          34
380          *
381          * MIXED MODE ARITHMETIC
382          *
383  1 852  MIXED    CS    332                                         4  1852  / 332               34
384  1 856           CS                                                1  1856  /                   34
385  1 857           SW    GLOBER                                      4  1857  , 184               34
386  1 861           MN    SEQNO,241                                    7  1861  D P61 241           35
387  1 868           MN                                                1  1868  D                   35
388  1 869           MN                                                1  1869  D                   35
389  1 870           MCW   ERR46                                       4  1870  M Q67               35
390  1 874           W                                                 1  1874  2                   35
391  1 875           BCV   *&5                                         5  1875  B Y84 @             35
392  1 880           B     *&3                                         4  1880  B Y86               35
393  1 884           CC    1                                           2  1884  F 1                 36
394  1 886           B     ERRFIN                                      4  1886  B M47               36
395          *
396  1 890  SUBTWO   SBR   X2,10&X1                                     7  1890  H 094 0/0           36
397  1 897           BCE   *&8,2&X2,$                                   8  1897  B Z12 0!2 $          36
```

FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34   PAGE   7

SEQ	PG	LIN	LABEL	OP	OPERANDS	SFX	CT	LOCN	INSTRUCTION	TYPE	CARD
398	1	905		SBR	X2,6&X2		7	1905	H 094 0!6		36
399	1	912		MCW	IXTOP,*&7		7	1912	M P55 Z25		36
400	1	919		LCA	2&X2,0		7	1919	L 0!2 000		37
401	1	926		SBR	IXTOP		4	1926	H P55		37
402	1	930		MZ	4&X1,TAG1		7	1930	Y 0|4 N71		37
403	1	937		MCW	X2,X1		7	1937	M 094 089		37
404	1	944		B	SUBBAK		4	1944	B X61		37
405			*								
406			* INDEX FROM TABLE IS FOUR								
407			* PREV , CURR *)G&@								
408			*								
409	1	948	FOUR	MCW	KN,1&X1		7	1948	M Q68 0|1		37
410	1	955		MZ	4&X3,TAG1		7	1955	Y 0?4 N71		38
411	1	962		BCE	FIVEB,2&X3,$		8	1962	B J17 0?2 $		38
412	1	970		MZ	3&X3,TAG1		7	1970	Y 0?3 N71		38
413	1	977		B	FIVEB		4	1977	B J17		38
414			*								
415			* INDEX FROM TABLE IS FIVE								
416			* PREV BLANK CURR)								
417			*								
418	1	981	FIVE	MCW	3&X1,W2		7	1981	M 0|3 Q70		38
419	1	988		BCE	FIVEC,3&X1,X		8	1988	B J75 0|3 X		39
420	1	996		MZ	*-4,TAG1		7	1996	Y Z98 N71		39
421	2	003	FIVEF	SW	2&X1		4	2003	, 0|2		39
422	2	007		MCW	2&X1,*&8		7	2007	M 0|2 !21		39
423	2	014		BCE	USRFNC,USRCOD,0		8	2014	B !99 Q82 0		39
424	2	022		CHAIN 11							MACRO	
425				BCE			1	2022	B		GEN	39
426				BCE			1	2023	B		GEN	39
427				BCE			1	2024	B		GEN	40
428				BCE			1	2025	B		GEN	40
429				BCE			1	2026	B		GEN	40
430				BCE			1	2027	B		GEN	40
431				BCE			1	2028	B		GEN	40
432				BCE			1	2029	B		GEN	40
433				BCE			1	2030	B		GEN	40
434				BCE			1	2031	B		GEN	41
435				BCE			1	2032	B		GEN	41
436	2	033		MZ	4&X3,SAVTAG		7	2033	Y 0?4 Q29		41
437	2	040		BCE	FIVEA,2&X3,$		8	2040	B !55 0?2 $		41
438	2	048		MZ	3&X3,SAVTAG		7	2048	Y 0?3 Q29		41
439	2	055	FIVEA	BCE	FIVED,2&X1,F		8	2055	B K07 0|2 F		41
440	2	063		BCE	FIVED,2&X1,I		8	2063	B K07 0|2 I		42
441	2	071		C	W2,KAX		7	2071	C Q70 Q84		42
442	2	078		BE	FIVED		5	2078	B K07 S		42
443	2	083		BWZ	MSG28,SAVTAG,S		8	2083	V K23 Q29 S		42
444	2	091		BM	MSG28,SAVTAG		8	2091	V K23 Q29 K		42
445	2	099	USRFNC	MCW	2&X1,1&X1		7	2099	M 0|2 0|1		43
446	2	106		MCW	KLPAR,2&X1		7	2106	M Q85 0|2		43
447	2	113		CW	2&X1		4	2113	) 0|2		43

FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34   PAGE   8

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

448  2 117  FIVEB  MCW   IXTOP,X2                          7  2117  M P55 094           43
449  2 124         SW    2&X3                              4  2124  , 0?2               43
450  2 128         LCA   1&X1,0&X2                         7  2128  L 0|1 0!0           43
451  2 135         SBR   IXTOP                             4  2135  H P55               44
452  2 139         B     COUNT                             4  2139  B V73               44
453  2 143         LCA   CH,1&X1                           7  2143  L N72 0|1           44
454  2 150         LCA   1&X3                              4  2150  L 0?1               44
455  2 154         MN    0&X1                              4  2154  D 0|0               44
456  2 158         CW                                      1  2158  )                   44
457  2 159         MN                                      1  2159  D                   44
458  2 160         SAR   X3                                4  2160  Q 099               45
459  2 164         SBR   X1,1&X1                           7  2164  H 089 0|1           45
460  2 171         B     LOCBRK                            4  2171  B /79               45
461  2 175  FIVEC  MZ    FIVEC,TAG1                        7  2175  Y J75 N71           45
462  2 182         LCA   2&X1,3&X1                         7  2182  L 0|2 0|3           45
463  2 189         SBR   X1,1&X1                           7  2189  H 089 0|1           45
464  2 196         SBR   X3,1&X3                           7  2196  H 099 0?1           46
465  2 203         B     FIVEF                             4  2203  B !03               46
466  2 207  FIVED  BWZ   USRFNC,SAVTAG,S                   8  2207  V !99 Q29 S         46
467  2 215         BM    USRFNC,SAVTAG                     8  2215  V !99 Q29 K         46
468         *
469         * WRONG ARGUMENT TYPE FOR FUNCTION
470         *
471  2 223  MSG28  CS    332                               4  2223  / 332               46
472  2 227         CS                                      1  2227  /                   46
473  2 228         SW    GLOBER                            4  2228  , 184               46
474  2 232         MN    SEQNO,261                         7  2232  D P61 261           47
475  2 239         MN                                      1  2239  D                   47
476  2 240         MN                                      1  2240  D                   47
477  2 241         MCW   ERR28                             4  2241  M O31               47
478  2 245         W                                       1  2245  2                   47
479  2 246         BCV   *&5                               5  2246  B K55 @             47
480  2 251         B     *&3                               4  2251  B K57               47
481  2 255         CC    1                                 2  2255  F 1                 48
482  2 257         B     ERRFIN                            4  2257  B M47               48
483         *
484         * SYSTEM ERROR
485         *
486  2 261  MSG24  CS    332                               4  2261  / 332               48
487  2 265         CS                                      1  2265  /                   48
488  2 266         SW    GLOBER                            4  2266  , 184               48
489  2 270         MN    SEQNO,238                         7  2270  D P61 238           48
490  2 277         MN                                      1  2277  D                   48
491  2 278         MN                                      1  2278  D                   49
492  2 279         MCW   ERR24                             4  2279  M R20               49
493  2 283         W                                       1  2283  2                   49
494  2 284         BCV   *&5                               5  2284  B K93 @             49
495  2 289         B     *&3                               4  2289  B K95               49
496  2 293         CC    1                                 2  2293  F 1                 49
497  2 295         B     ERRFIN                            4  2295  B M47               49
```

```
                      FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34                              PAGE    9


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

498          *
499          * EXCESS OF # SIGNS
500          * INDEX FROM TABLE IS NINE
501          * PREV *      CURR #
502          * PREV #      CURR #
503          * PREV &      CURR #
504          * PREV @      CURR #
505          * PREV .      CURR #
506          * PREV BLANK  CURR #
507          * PREV ,      CURR #
508          *
509  2 299 MSG26  CS     332                                    4  2299  / 332            50
510  2 303         CS                                           1  2303  /                50
511  2 304         SW     GLOBER                                4  2304  , 184            50
512  2 308         MN     SEQNO,243                             7  2308  D P61 243        50
513  2 315         MN                                           1  2315  D                50
514  2 316         MN                                           1  2316  D                50
515  2 317         MCW    ERR26                                 4  2317  M R60            50
516  2 321         W                                            1  2321  2                51
517  2 322         BCV    *&5                                   5  2322  B L31 @          51
518  2 327         B      *&3                                   4  2327  B L33            51
519  2 331         CC     1                                     2  2331  F 1              51
520  2 333         B      ERRFIN                                4  2333  B M47            51
521          *
522          * MULTIPLE EXPONENT
523          * INDEX FROM TABLE IS EIGHT
524          * PREV .  CURR .
525          *
526  2 337 MSG32  CS     332                                    4  2337  / 332            51
527  2 341         CS                                           1  2341  /                51
528  2 342         SW     GLOBER                                4  2342  , 184            52
529  2 346         MN     SEQNO,243                             7  2346  D P61 243        52
530  2 353         MN                                           1  2353  D                52
531  2 354         MN                                           1  2354  D                52
532  2 355         MCW    ERR32                                 4  2355  M ?00            52
533  2 359         W                                            1  2359  2                52
534  2 360         BCV    *&5                                   5  2360  B L69 @          52
535  2 365         B      *&3                                   4  2365  B L71            53
536  2 369         CC     1                                     2  2369  F 1              53
537  2 371         B      ERRFIN                                4  2371  B M47            53
538          *
539          * PARENTHESIS ERROR
540          * INDEX FROM TABLE IS SEVEN
541          * PREV %      CURR GM
542          * PREV #      CURR )
543          * PREV BLANK  CURR GM
544          *
545  2 375 MSG16  CS     332                                    4  2375  / 332            53
546  2 379         CS                                           1  2379  /                53
547  2 380         SW     GLOBER                                4  2380  , 184            53
```

                    FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34   PAGE   10

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

548 2 384   MN   SEQNO,243   7 2384 D P61 243   53
549 2 391   MN   1 2391 D   54
550 2 392   MN   1 2392 D   54
551 2 393   MCW   ERR16   4 2393 M ?40   54
552 2 397   W   1 2397 2   54
553 2 398   BCV   *&5   5 2398 B M07 @   54
554 2 403   B   *&3   4 2403 B M09   54
555 2 407   CC   1   2 2407 F 1   54
556 2 409   B   ERRFIN   4 2409 B M47   55
557   *
558   * LEFT SIDE IS WRONG
559   * INDEX FROM TABLE IS SIX
560   * PREV GM CURR *)%&@. BLANK ,
561   *
562 2 413 MSG25   CS   332   4 2413 / 332   55
563 2 417   CS   1 2417 /   55
564 2 418   SW   GLOBER   4 2418 , 184   55
565 2 422   MN   SEQNO,243   7 2422 D P61 243   55
566 2 429   MN   1 2429 D   55
567 2 430   MN   1 2430 D   55
568 2 431   MCW   ERR25   4 2431 M ?80   56
569 2 435   W   1 2435 2   56
570 2 436   BCV   *&5   5 2436 B M45 @   56
571 2 441   B   *&3   4 2441 B M47   56
572 2 445   CC   1   2 2445 F 1   56
573 2 447 ERRFIN MCW   IXTSAV,IXTOP   7 2447 M P58 P55   56
574 2 454   B   RESTRT   4 2454 B N08   56
575   *
576   * INDEX FROM TABLE IS THREE
577   * PREV # CURR G
578   *
579 2 458 THREE   MCW   IXTOP,X2   7 2458 M P55 094   57
580 2 465   SW   2&X3   4 2465 , 0?2   57
581 2 469   LCA   0&X1,0&X2   7 2469 L 0|0 0!0   57
582 2 476   LCA   KEQ   4 2476 L ?81   57
583 2 480   SBR   X2   4 2480 H 094   57
584 2 484   CW   2&X2   4 2484) 0!2   57
585 2 488   CW   1 2488)   57
586 2 489   SW   2&X1   4 2489 , 0|2   58
587 2 493 LINK   LCA   0,0&X2   7 2493 L 000 0!0   58
588 2 500   LCA   GM   4 2500 L N73   58
589 2 504   SBR   IXTOP   4 2504 H P55   58
590 2 508 RESTRT MCW   SX3B,X1   7 2508 M P66 089   58
591 2 515   B   LOOP   4 2515 B |60   58
592   *
593 2 519 ALMOST SBR   X1,5&X1 GET BACK ABOVE PREFIX IN LOW CORE   7 2519 H 089 0|5   58
594 2 526   MCW   IXTOP,X3   7 2526 M P55 099   59
595 2 533   SBR   X2,5&X3   7 2533 H 094 0?5   59
596 2 540   MCW   SX2,X3   7 2540 M P45 099   59
597   *

FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34   PAGE   11

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

598  2 547  DONE   BSS   SNAPSH,C                                           5  2547  B 333 C              59
599  2 552         SBR   CLEARL&3,GMWM                                      7  2552  H 710 ?91            59
600  2 559         LCA   ARITH3,PHASID                                      7  2559  L ?90 110            60
601  2 566         B     LOADNX                                             4  2566  B 700                60
602         *
603         * DATA
604         *
605  2 570         DCW   @<@                                                1  2570                       60
606  2 571  TAG1   DC    @ @                                                1  2571                       60
607  2 572  CH     DC    @ @                                                1  2572                       60
608  2 573  GM     DC    @}@                                                1  2573           GMARK       60
609  2 623         DCW   @ERROR 28 - INCORRECT MODE OF FUNCTION ARGUMENT, ST@  50  2623                   62
610  2 631  ERR28  DC    @ATEMENT @                                         8  2631                       62
611  2 632         DCW   @-@                                                1  2632                       62
612         *
613         * ROWS AND COLUMNS OF TABLE ARE INDEXED BY POSITIONS IN
614         * CHARS, TAKEN IN REVERSE ORDER.
615         *
616  2 642  CHARS  DCW   @, .@&}#%)*@  INTERESTING CHARACTERS?             10  2642                       62
617  2 643  TABLE  EQU   *&1                                                   2643
618         *            CURR  *)%#G&@. ,
619  2 652         DC    @220922200S@  *   PREV                            10  2652                       63
620  2 662         DC    @SSSSSSSSS@   )                                   10  2662                       63
621  2 672         DC    @01109700000@  %                                 10  2672                       63
622  2 682         DC    @07093000000@  #                                 10  2682                       64
623  2 692         DC    @6660S66666@  GM                                 10  2692                       64
624  2 702         DC    @020922000S@  &                                  10  2702                       64
625  2 712         DC    @220922200S@  AT  WAS /                          10  2712                       65
626  2 722         DC    @220922280S@  .   WAS **                         10  2722                       65
627  2 732         DC    @0509700000@  BLANK                              10  2732                       65
628  2 742         DC    @440944400S@  ,   WAS NEGATE                     10  2742                       66
629  2 745  SX2    DCW   #3                                                 3  2745                       66
630  2 747  CHKX2  DCW   #2                                                 2  2747                       66
631  2 749  K00    DCW   00                                                 2  2749                       66
632  2 752  X2P99  DCW   #3  X2 & X00 - 1                                   3  2752                       66
633  2 755  IXTOP  DCW   #3  INDEX OF STATEMENT IN TOP CORE                 3  2755                       67
634  2 758  IXTSAV DCW   #3                                                 3  2758                       67
635  2 761  SEQNO  DCW   #3                                                 3  2761                       67
636  2 762  KBRACK DCW   @]@                                                1  2762                       67
637  2 763  KR     DCW   @R@                                                1  2763                       67
638  2 766  SX3B   DCW   #3                                                 3  2766                       67
639  2 802  ERR2   DCW   @MESSAGE 2 - OBJECT PROGRAM TOO LARGE@            36  2802                       68
640  2 814  KB12   DCW   #12                                               12  2814                       69
641  2 815  CURR   DCW   #1                                                 1  2815                       69
642  2 816  PREV   DCW   #1                                                 1  2816                       69
643  2 819  W3     DCW   #3                                                 3  2819                       69
644  2 820  CHNUM  DCW   #1                                                 1  2820                       69
645  2 823  ACHARS DSA   CHARS                                              3  2823  O42                  69
646  2 824  K1     DCW   1                                                  1  2824                       69
647  2 825  KPLUS  DCW   @&@                                                1  2825                       70
```

FORTRAN COMPILER -- ARITH PHASE TWO -- PHASE 34   PAGE   12

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

648  2 828  W3B     DCW   #3                                                       3  2828                    70
649  2 829  SAVTAG  DCW   #1  TYPE TAG ZONE                                        1  2829                    70
650  2 867  ERR46   DCW   @ERROR 46 – MIXING IN ARITH, STATEMENT @                38  2867                    71
651  2 868  KN      DCW   @N@                                                      1  2868                    71
652  2 870  W2      DCW   #2                                                       2  2870                    72
653  2 882  USRCOD  DCW   @RUPWYZKJLMDH@   CODES FOR USER FUNCTIONS               12  2882                    72
654  2 884  KAX     DCW   @AX@                                                     2  2884                    72
655  2 885  KLPAR   DCW   @%@                                                      1  2885                    72
656  2 920  ERR24   DCW   @ERROR 24 – SYSTEM ERROR, STATEMENT @                   35  2920                    73
657  2 960  ERR26   DCW   @ERROR 26 – EXCESS OF # SIGNS, STATEMENT @              40  2960                    75
658  3 000  ERR32   DCW   @ERROR 32 – MULTIPLE EXPONENT, STATEMENT @              40  3000                    77
659  3 040  ERR16   DCW   @ERROR 16 – PARENTHESIS ERROR, STATEMENT @              40  3040                    79
660  3 080  ERR25   DCW   @ERROR 25 – LEFT SIDE INVALID, STATEMENT @              40  3080                    81
661  3 081  KEQ     DCW   @#@                                                      1  3081                    81
662  3 090  ARITH3  DCW   @ARITH TRI@                                              9  3090                    81
663  3 091  GMWM    DCW   @}@                                                      1  3091          GMARK     81
664             ORG   201                                                               0201
665  203         DSA   LOADDD    LOAD ADDRESS FOR CARD-TO-TAPE PROGRAM            3  0203  838                82
666             EX    BEGINN                                                            B 838                 83
667             END                                                                     / 000 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
ACHARS	2823	ALMOST	2519	ARITH3	3090	BEGINN	838	CDOVLY	769	CH	2572	CHARS	2642
CHKX2	2747	CHNUM	2820	CLEARL	707	CLRL	929	CLRX	953	COUNT	1573	COUNTX	1599
CURR	2815	DONE	2547	ERR16	3040	ERR2	2802	ERR24	2920	ERR25	3080	ERR26	2960
ERR28	2631	ERR32	3000	ERR46	2867	ERRFIN	2447	FIVE	1981	FIVEA	2055	FIVEB	2117
FIVEC	2175	FIVED	2207	FIVEF	2003	FOUR	1948	GET00	878	GETB	1228	GLOBER	184
GM	2573	GMWM	3091	GOT00	913	GOTB	1244	HALT	1217	HUNT	1291	HUNTL	1303
HUNTX	1343	IFSTMT	1221	IXTOP	2755	IXTSAV	2758	K00	2749	K1	2824	KAX	2884
KB12	2814	KBRACK	2762	KEQ	3081	KLPAR	2885	KN	2868	KPLUS	2825	KR	2763
LINK	2493	LOADDD	838	LOADNX	700	LOCBRK	1179	LOOK	1516	LOOK2	1528	LOOK3	1562
LOOKCH	1539	LOOP	1060	MIXED	1852	MORE	961	MOVEUP	1257	MOVEUX	1287	MSG16	2375
MSG24	2261	MSG25	2413	MSG26	2299	MSG28	2223	MSG32	2337	ONE	1618	PHASID	110
PREV	2816	READY	1153	RESTRT	2508	SAVTAG	2829	SEQNO	2761	SKPSUB	1347	SNAPSH	333
SUBBAK	1761	SUBTWO	1890	SX2	2745	SX3	981	SX3B	2766	TABLE	2643	TAG1	2571
THREE	2458	TWO	1659	TWOA	1836	USRCOD	2882	USRFNC	2099	W2	2870	W3	2819
W3B	2828	WHEW	1381	X1	89	X2	94	X2P99	2752	X3	99	ZERO	1603