```
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

                    1401 AUTOCODER-PASS 3-TRANSLATOR-INITIAL  -VERSION 3      3731L              PAGE    1

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

 101         003    JOB   1401 AUTOCODER-PASS 3-TRANSLATOR-INITIAL  -VERSION 3
 102                CTL   630 1
 103         *
 104         *EQUATES
 105         *
 106         INTAPE EQU   %U6                                                     %U6
 107         OUTAPE EQU   %U4                                                     %U4
 108         SYSTAP EQU   %U1                                                     %U1
 109         INITAP EQU   %U0                                                     %U0
 110         XXXX   EQU   0000                                                    0000
 111         PRINT  EQU   200                                                     0200
 112         LIBRN  EQU   000                                                     0000
 113         *
 114         *TAPE REDUNDANCY ROUTINE
 115         *
 116                ORG   RTEND&1                                                        2210
 117         TPERR  SBR   XL3                                              4  2210  H 099                4
 118                SBR   REDXT&3                                          4  2214  H K82                4
 119                MZ    &9,XL3                                           7  2218  Y M60 099            4
 120                MCW   4000-10&X3,TPINS&7        BRING IN INSTRUCTION   7  2225  M II0 K73            4
 121                MN    TPINS&3,BSP1&3             THAT CAUSED           7  2232  D K69 K49            4
 122                MCW   TPINS&7,INST2&7            REDUNDANCY            7  2239  M K73 L82            4
 123         BSP1   BSP   INITAP                    BACKSPACE TAPE         5  2246  U %U0 B              5
 124                BCE   WRTRD,TPINS&7,W           Q. WRITE REDUNDANCY    8  2251  B L55 K73 W          5
 125                MCW   &9,RDCT#1                 INITIALIZE COUNTER     7  2259  M M60 M61            5
 126         TPINS  RT    INITAP,XXXX               RE-READ                8  2266  M %U0 000 R          5
 127                BER   RDERR                     Q. REDUNDANCY AGAIN    5  2274  B K83 L              5
 128         REDXT  B     XXXX                      EXIT                   4  2279  B 000                5
 129         RDERR  MN    TPINS&3,BSP2&3                                   7  2283  D K69 K93            6
 130         BSP2   BSP   INITAP                    BACKSPACE AGAIN        5  2290  U %U0 B              6
 131                S     &1,RDCT                   REDUCE COUNTER         7  2295  S M62 M61            6
 132                BWZ   TPINS,RDCT,B              Q. 10 SUCCESSIVE READS 8  2302  V K66 M61 B          6
 133                MN    TPINS&3,TPHLT&6                                  7  2310  D K69 L23            6
 134         TPHLT  H     XXXX,390                  HALT                   7  2317  . 000 390            7
 135                MCW   TPINS&7,*&8                                      7  2324  M K73 L38            7
 136                RT    INITAP,XXXX               RE-READ                8  2331  M %U0 000 R          7
 137                BSS   BSP1,E                    DETERMINE OPTION       5  2339  B K46 E              7
 138                H     XXXX,302                  HALT AGAIN             7  2344  . 000 302            7
 139                B     REDXT                     EXIT                   4  2351  B K79                7
 140         WRTRD  SKP   SYSTAP                    ERASE TAPE             5  2355  U %U1 E              8
 141                BCE   SBCTR,WRTCR-1,5           Q. FIFTY SKIPS         8  2360  B L92 M63 5          8
 142                A     &1,WRTCR#2                INCREASE COUNTER       7  2368  A M62 M64            8
 143         INST2  WT    INITAP,XXXX               RE-WRITE               8  2375  M %U0 000 W          8
 144                BER   BSP1                      Q. REDUNDANCY AGAIN    5  2383  B K46 L              8
 145                B     REDXT                                            4  2388  B K79                8
 146         SBCTR  S     WRTCR                     RESET COUNTER          4  2392  S M64                9
 147                MN    TPINS&3,*&7                                      7  2396  D K69 M09            9
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                    1401 AUTOCODER-PASS 3-TRANSLATOR-INITIAL  -VERSION 3      3731L              PAGE    2

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

 148                H     XXXX,360                  HALT                   7  2403  . 000 360            9
 149                B     INST2                                            4  2410  B L75                9
 150         *
 151         * NOISE RECORD ROUTINE
 152         *
 153         NOISE  SBR   XL3                                              4  2414  H 099                9
 154                SBR   NSXT&3                                           4  2418  H M52                9
 155                MZ    &9,XL3                                           7  2422  Y M60 099            9
 156         N2     BCE   4000-12&X3, XXXX, }       SCAN FOR GROUP MARK    8  2429  B IH8 000 } GMARK   10
 157                CHAIN 12                                                                  MACRO
 158                BCE                                                    1  2437  B            GEN    10
 159                BCE                                                    1  2438  B            GEN    10
 160                BCE                                                    1  2439  B            GEN    10
 161                BCE                                                    1  2440  B            GEN    10
 162                BCE                                                    1  2441  B            GEN    10
 163                BCE                                                    1  2442  B            GEN    10
 164                BCE                                                    1  2443  B            GEN    11
 165                BCE                                                    1  2444  B            GEN    11
 166                BCE                                                    1  2445  B            GEN    11
 167                BCE                                                    1  2446  B            GEN    11
 168                BCE                                                    1  2447  B            GEN    11
 169                BCE                                                    1  2448  B            GEN    11
 170         NSXT   B     0                                                4  2449  B 000               11
 171         OBJCOR DCW   @3@                       OBJECT CORE SIZE CODE  1  2453                      12
 172         HIVAL  DCW   @  999@                   HIGHEST OBJECT ADDRESS 5  2458                      12
 173         MANAM  DCW   @#@                       EQUALS # OR A          1  2459                      12
 174                LTORG *                                                      2460
                    DCW   &9                                               1  2460               LIT    12
             RDCT   DCW   #01                                              1  2461               AREA   12
                    DCW   &1                                               1  2462               LIT    12
             WRTCR  DCW   #02                                              2  2464               AREA   12
 175         *
 176         *BEGIN     OF MAIN LINE
 177         *
 178         BEGIN  RWD   INTAPE                    REWIND INPUT TAPE      5  2465  U %U6 R             13
 179                RWD   5                         REWIND 5               5  2470  U %U5 R             13
 180                CS    3999                      CLEAR INPUT AREA       4  2475  / I99               13
 181                RTW   SYSTAP,001                READ LOWER HALF        8  2479  L %U1 001 R         13
 182                NOP   0                          PASS 3                4  2487  N 000               13
 183                BER   TPERR                                            5  2491  B K10 L             13
 184                SW    GMK1,GMK2                 INITIALIZE GROUP MARKS 7  2496  , I89 187           13
 185                CW    SYSMK2                                           4  2503  ) ?03               14
 186                CS    080                       CLEAR READ AREA        4  2507  / 080               14
 187                SW    EQVADD                    INITIALIZE TO UNDEF    4  2511  , A69               14
 188                RWD   OUTAPE                    RWD OUTPUT TAPE        5  2515  U %U4 R             14
 189                MCW   &FREE&13,N2&6                                    7  2520  M R20 M35           14
 190                MCW   @N@,N3                    CRIPPLE TEST FOR NOISE 7  2527  M R21 573           14
 191                MCW   @N@,N4                                           7  2534  M R21 558           14
 192                RT    5,FREE&1                  READ IN MACRO FACTOR   8  2541  M %U5 101 R         15
 193                B     NOISE                      WHICH IS              4  2549  B M14               15
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

194                BER   TPERR                     PASSED IN FROM PASS 2       5  2553  B K10 L              15
195                RWD   5                         AND SAVE VALUE              5  2558  U %U5 R              15
196                MCW   FREE&3,JOBLBL#3                                       7  2563  M 103 R24            15
197                ZA    @101@,ALTRNO             RESET ALTER NUMBER           7  2570  ? R27 184            15
198         *
199         * PROCESS JOB CARD
200         *
201                B     GET                      GET FIRST RECORD             4  2577  B 524                16
202                BCE   GENJOB,FREE&6,*          Q. COMMENTS CARD             8  2581  B Q53 106 *          16
203                C     FREE&18,@JOB@            Q. JOB CARD                  7  2589  C 118 R30            16
204                BU    GENJOB                                                5  2596  B Q53 /              16
205         CODJOB MCW   JOBLBL,FREE&8            PICKUP FACTOOR               7  2601  M R24 108            16
206                WT    OUTAPE,FREE&1            PUT JOB CARD                 8  2608  M %U4 101 W          16
207                NOP   0                                                     4  2616  N 000                17
208                BER   TPERR                                                 5  2620  B K10 L              17
209                A     &1,ALTRNO                                             7  2625  A R31 184            17
210                B     GET                      GET NEXT RECORD              4  2632  B 524                17
211                MCW   @B@,N3                   RESET NOISE ROUTINE          7  2636  M R32 573            17
212                MCW   @M@,N4                                                7  2643  M R33 558            17
213         *
214         *PROCESS CONTROL CARD
215         *
216                C     FREE&18,@CTL@            Q. CONTROL CARD              7  2650  C 118 R36            18
217                BU    CHNAD                                                 5  2657  B Q85 /              18
218                CS    0                                                     4  2662  / 000                18
219                SBR   CLEAR&3                                               4  2666  H O85                18
220                SBR   SVSZ#3                                                4  2670  H R39                18
221                BWZ   PROSZ,CLEAR&3,2                                       8  2674  V P02 O85 2          18
222         CLEAR  CS    15999                                                 4  2682  / I9I                18
223                SBR   CLEAR&3                  CLEAR ABOVE 4K               4  2686  H O85                19
224                C     CLEAR&3,@I99@            Q. END OF CLEARING           7  2690  C O85 R42            19
225                BU    CLEAR                                                 5  2697  B O82 /              19
226         PROSZ  MCW   @6@,PHOLD#1                                           7  2702  M R43 R44            19
227                BWZ   CSZ,SVSZ,B                                            8  2709  V P54 R39 B          19
228                MCW   @5@,PHOLD                                             7  2717  M R45 R44            19
229                BWZ   CSZ,SVSZ,K                                            8  2724  V P54 R39 K          20
230                MCW   @4@,PHOLD                                             7  2732  M R46 R44            20
231                BWZ   CSZ,SVSZ,S                                            8  2739  V P54 R39 S          20
232                MCW   @3@,PHOLD                                             7  2747  M R47 R44            20
233         CSZ    C     FREE&21,PHOLD                                         7  2754  C 121 R44            20
234                BE    INOBJ                                                 5  2761  B P97 S              21
235         *          MESSG@INCORRECT PROCESSOR MACHINE SIZE SPECIFIED@,42
236                CS    332                                                   4  2766  / 332                21
237                CS                                                          1  2770  /                    21
238                MCW   @INCORRECT PROCESSOR MACHINE SIZE SPECIFIED@,42&200   7  2771  M R89 242            21
239                W                                                           1  2778  2                    21
240                BCV   *&5                                                   5  2779  B P88 @              21
241                B     *&3                                                   4  2784  B P90                21
242                CC    1                                                     2  2788  F 1                  22
243                MCW   PHOLD,FREE&21                                         7  2790  M R44 121            22
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

244         INOBJ  MCW   FREE&22,OBJCOR           SAVE OBJECT MACHINE CODE     7  2797  M 122 M53            22
245                ZA    OBJCOR,XL1                                            7  2804  ? M53 089            22
246                S     &30,XL1&1                                             7  2811  S R91 090            22
247                A     XL1                      CODE -HIVAL-                 4  2818  A 089                22
248                MCW   OBJTBL&X1,HIVAL-3                                     7  2822  M R/1 M55            23
249                C     FREE&22,@3@              Q. OBJECT CORE GT 4K         7  2829  C 122 R47            23
250                BL    GETMN                                                 5  2836  B 419 T              23
251                BCE   SETHI,FREE&24,1          Q. MA HARDWARE               8  2841  B Q99 124 1          23
252                B     IS4K                                                  4  2849  B Q92                23
253         GENJOB BSP   INTAPE                                                5  2853  U %U6 B              23
254                MCW   FREE&74,FREE&73                                       7  2858  M 174 173            24
255                MCW   @JOB  @,FREE&20          GENERATE JOB CARD            7  2865  M R96 120            24
256                MCW                                                         1  2872  M                    24
257                MCW   FREE&74,FREE&15          BLANK AREA                   7  2873  M 174 115            24
258                MCW                                                         1  2880  M                    24
259                B     CODJOB                                                4  2881  B O01                24
260         CHNAD  MCW   &SUBXL,INTXT&3           INITIALIZE EXIT              7  2885  M R99 463            24
261         IS4K   MCW   @A@,MANAM                                             7  2892  M ?00 M59            25
262         SETHI  MCW   @03@,HIVAL-3                                          7  2899  M ?02 M55            25
263                B     GETMN                                                 4  2906  B 419                25
264         OBJTBL DCW   @03@                                                  2  2911                       25
265                DCW   @07@                                                  2  2913                       25
266                DCW   @11@                                                  2  2915                       25
267                DCW   @15@                                                  2  2917                       25
268                LTORG 2918  *                                                      2918
                   DCW   &FREE&13                                              3  2920  113        ADCON   26
                   DCW   @N@                                                   1  2921             LIT     26
            JOBLBL DCW   #03                                                   3  2924             AREA    26
                   DCW   @101@                                                 3  2927             LIT     26
                   DCW   @JOB@                                                 3  2930             LIT     26
                   DCW   &1                                                    1  2931             LIT     26
                   DCW   @B@                                                   1  2932             LIT     26
                   DCW   @M@                                                   1  2933             LIT     27
                   DCW   @CTL@                                                 3  2936             LIT     27
            SVSZ   DCW   #03                                                   3  2939             AREA    27
                   DCW   @I99@                                                 3  2942             LIT     27
                   DCW   @6@                                                   1  2943             LIT     27
            PHOLD  DCW   #01                                                   1  2944             AREA    27
                   DCW   @5@                                                   1  2945             LIT     27
                   DCW   @4@                                                   1  2946             LIT     28
                   DCW   @3@                                                   1  2947             LIT     28
                   DCW   @INCORRECT PROCESSOR MACHINE SIZE SPECIFIED@         42  2989             LIT     30
                   DCW   &30                                                   2  2991             LIT     30
                   DCW   @JOB  @                                               5  2996             LIT     30
                   DCW   &SUBXL                                                3  2999  634        ADCON   30
                   DCW   @A@                                                   1  3000             LIT     30
                   DCW   @03@                                                  2  3002             LIT     31
269         SYSMK2 DCW   @}@                      SYSTEM GROUP MARK            1  3003             GMARK   31
270                XFR   000                                                          B 000                32
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SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

271                JOB   1401 AUTOCODER-PASS 3 LEFT MAIN LINE      -VERSION 3
272         *
273         *INITIALIZATION OF INDEX REGISTERS
274         *
275         *        XINITXL1,XL2,XL3
276         XL1    EQU   089                                                           0089
277         089    DCW   000                                                     3  0089                    35
278         091    DC    00                                                      2  0091                    35
279         XL2    EQU   094                                                           0094
280         094    DCW   000                                                     3  0094                    35
281         096    DC    00                                                      2  0096                    35
282         XL3    EQU   099                                                           0099
283         099    DCW   000                                                     3  0099                    35
284         100    DC    0                                                       1  0100                    35
285         *
286         *FREE FORM INPUT AREA
287         *
288                ORG   101                                                                 0101
289         FREE   EQU   100                                                           0100
290                DA    1X86                                                          0101  0186
291                      1,1                                                           0101             FIELD
292                      19,19                                                         0119             FIELD
293                      16,16                                                         0116             FIELD
294                      6,6                                                           0106             FIELD
295                      21,21                                                         0121             FIELD
296         ALTRNO       81,84                                                         0184             FIELD
297                      85,89                                                         0189             FIELD
298         GMK2   DC    @}@                                                     1  0187             GMARK   36
299         *
300         *FIXED FORM INPUT AREA
301         *
302                ORG   333                                                                 0333
303         INPUT  EQU   *                                                             0332
304                DA    1X86                                                          0333  0418
305                      40,40                                                         0372             FIELD
306                      17,17                                                         0349             FIELD
307                      28,28                                                         0360             FIELD
308                      39,39                                                         0371             FIELD
309                      76,76                                                         0408             FIELD
310         *
311         * GET UPPER HALF OF PASS 3
312         *
313         GETMN  RTW   SYSTAP,BEGIN                                            8  0419  L %U1 M65 R         37
314                NOP   0                                                       4  0427  N 000               37
315                BER   TPERR                                                   5  0431  B K10 L             37
316                MCW   MANAM,MASYM-3                                           7  0436  M M59 B93           37
317                RTW   SYSTAP,OVL2                                             8  0443  L %U1 626 R         37
318                NOP   0                                                       4  0451  N 000               38
319                BER   TPERR                                                   5  0455  B K10 L             38
320         INTXT  B     NUREC                                                   4  0460  B 626               38
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SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

321         *
322         * GET FIXED FORM OVERLAY
323         *
324         GTFIX  RTW   SYSTAP,OVL2                                             8  0464  L %U1 626 R         38
325                NOP   0                                                       4  0472  N 000               38
326                BER   TPERR                                                   5  0476  B K10 L             38
327                BSP   SYSTAP                                                  5  0481  U %U1 B             38
328                BSP   SYSTAP                                                  5  0486  U %U1 B             39
329                BW    PROFIX,FREESW                                           8  0491  V 661 H09 1         39
330                B     RSTMOD                                                  4  0499  B 638               39
331         *
332         * GET FREE FORM OVERLAY
333         *
334         GTFRE  RTW   SYSTAP,OVL2                                             8  0503  L %U1 626 R         39
335                NOP   0                                                       4  0511  N 000               39
336                BER   TPERR                                                   5  0515  B K10 L             39
337                B     PSTNU                                                   4  0520  B 630               39
338         *
339         *GET ROUTINE
340         *
341         GET    SBR   GETXT&3                                                 4  0524  H 553               40
342                B     RDTAP                                                   4  0528  B 554               40
343                MCW   INAREA&79,FREE&80                                       7  0532  M I82 180           40
344                CHAIN 4                                                                          MACRO
345                MCW                                                           1  0539  M             GEN     40
346                MCW                                                           1  0540  M             GEN     40
347                MCW                                                           1  0541  M             GEN     40
348                MCW                                                           1  0542  M             GEN     40
349                MCW   INAREA&85,FREE&86                                       7  0543  M I88 186           41
350         GETXT  B     XXXX                                                    4  0550  B 000               41
351         RDTAP  SBR   RDXT&3                   READ TAPE                      4  0554  H 585               41
352         N4     MCW   &INAREA&12,N2&6                                         7  0558  M R43 M35           41
353                RT    INTAPE,INAREA                                           8  0565  M %U6 I03 R         41
354         N3     B     NOISE                    CHECK FOR NOISE                4  0573  B M14               41
355                BER   TPERR                                                   5  0577  B K10 L             41
356         RDXT   B     XXXX                                                    4  0582  B 000               42
357         *
358         *PUT ROUTINE
359         *
360         PUT    SBR   PUTXT&3                                                 4  0586  H 625               42
361                CW    FREE&21                                                 4  0590  ) 121               42
362                WT    OUTAPE,FREE&1                                           8  0594  M %U4 101 W         42
363                NOP   0                                                       4  0602  N 000               42
364                BER   TPERR                                                   5  0606  B K10 L             42
365                SW    FREE&21                                                 4  0611  , 121               42
366                A     &1,ALTRNO                INCREASE ALTER NUMBER          7  0615  A R44 184           43
367         PUTXT  B     XXXX                                                    4  0622  B 000               43
368         OVL2   DCW   0                                                       1  0626                      43
369                DCW   @}@                      SYSTEM GROUP MARK              1  0627             GMARK   43
370                XFR   0                                                                B 000               44
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                        1401 AUTOCODER-PASS 3 PROCESS FREE FORM   -VERSION 3       3734L              PAGE    7

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

371                JOB   1401 AUTOCODER-PASS 3 PROCESS FREE FORM   -VERSION 3
372         *
373         *BEGINNING OF NEW FREE FORM RECORD ANALYSIS
374         *
375                ORG   OVL2                                                             0626
376         NUREC  B     PUT                                                     4  0626  B 586              47
377         PSTNU  B     GET                                                     4  0630  B 524              47
378         SUBXL  SW    MODESW                                                  4  0634  , ?02              47
379                CW    FREESW                                                  4  0638  ) H09              47
380                BCE   NUREC,FREE&6,*                                          8  0642  B 626 106 *        47
381                BCE   REG,FREE&75,                                            8  0650  B 991 175          47
382                BCE   REG,FREE&75,L                                           8  0658  B 991 175 L        48
383                BCE   NUREC,FREE&75,S                                         8  0666  B 626 175 S        48
384                BCE   NUREC,FREE&75,Z                                         8  0674  B 626 175 Z        48
385                BCE   NUREC,FREE&85,R                                         8  0682  B 626 185 R        48
386                C     FREE&18,@CHA@                                           7  0690  C 118 R47          48
387                BCE   CKCHN,FREE&75,C                                         8  0697  B 722 175 C        49
388                BCE   CKCHN,FREE&75,Y                                         8  0705  B 722 175 Y        49
389                BU    NUREC                                                   5  0713  B 626 /            49
390                B     PRCHN                                                   4  0718  B 727              49
391         CKCHN  BU    REG                                                     5  0722  B 991 /            49
392         PRCHN  ZA    FREE&22,WAREA2                                          7  0727  ? 122 A14          49
393                BCE   *&5,WAREA2,&                                            8  0734  B 746 A14 &        50
394                B     *&8                                                     4  0742  B 753              50
395                ZA    WAREA2-1,WAREA2                                         7  0746  ? A13 A14          50
396                BCE   *&5,FREE&75,C                                           8  0753  B 765 175 C        50
397                B     *&8                                                     4  0761  B 772              50
398                MCW   @S@,FREE&75                                             7  0765  M R48 175          50
399                BCE   *&5,FREE&75,Y                                           8  0772  B 784 175 Y        51
400                B     *&8                                                     4  0780  B 791              51
401                MCW   @Z@,FREE&75                                             7  0784  M R49 175          51
402                B     PUT                                                     4  0791  B 586              51
403                C     WAREA2,&00               ACCOUNT FOR CHAIN 00           7  0795  C A14 R51          51
404                BL    *&5                                                     5  0802  B 811 T            51
405                B     PSTNU                                                   4  0807  B 630              51
406                MCW   FREE&75,HLDCD#1                                         7  0811  M 175 R52          52
407                MCW   @C@,FREE&75                                             7  0818  M R53 175          52
408                BCE   BLNKX,HLDCD,R       REW:  BCE  WMMCHK,HLDCD,R           8  0825  B 848 R52 R        52
409                BCE   BLNKX,HLDCD,S       RES:  BCE  WMMCHK,HLDCD,S           8  0833  B 848 R52 S        52
410                MCW   @Y@,FREE&75                                             7  0841  M R54 175          52
411         BLNKX  MCW   BLNK2,FREE&74                                           7  0848  M A55 174          53
412                MCW   FREE&74                                                 4  0855  M 174              53
413                MCW   SAVOP                                                   4  0859  M R88              53
414                MCW                                                           1  0863  M                  53
415                MCW                                                           1  0864  M                  53
416                MCW   FREE&74,FREE&5           BLANK PAGE/LINE                7  0865  M 174 105          53
417         CHNLP  B     PUT                                                     4  0872  B 586              53
418                MCW   FREE&74,FREE&11          BLANK LABEL FIELD              7  0876  M 174 111          54
419                S     &1,WAREA2                                               7  0883  S R44 A14          54
420                C     WAREA2,&00                                              7  0890  C A14 R51          54
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                        1401 AUTOCODER-PASS 3 PROCESS FREE FORM   -VERSION 3       3734L              PAGE    8

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

421                BL    CHNLP                                                   5  0897  B 872 T            54
422                B     PSTNU                                                   4  0902  B 630              54
423         GENPS  MCW   @&1 @,FREE&15                                           7  0906  M R57 115          54
424                B     PUT                                                     4  0913  B 586              55
425                MCW   FREE&73,FREE&72          TO HIGHEST ADDRESS OF          7  0917  M 173 172          55
426                MCW   @C@,FREE&75              OBJECT CORE                    7  0924  M R53 175          55
427                MCW   HIVAL,FREE&25                                           7  0931  M M58 125          55
428                MCW   @EQU  @                                                 4  0938  M R62              55
429                MCW                                                           1  0942  M                  55
430                MCW   @$HIVAL &P @                                            4  0943  M R72              55
431                MCW   FREE&73                                                 4  0947  M 173              56
432                MCW   &NUREC,GENPS&3                                          7  0951  M R75 909          56
433                MCW   @B@,ISHIV                                               7  0958  M R76 969          56
434                B     NUREC                                                   4  0965  B 626              56
435         ISHIV  NOP   PSTNU                                                   4  0969  N 630              56
436                MCW   HIVAL,FREE&25            SET NEW HIGHEST VALUE          7  0973  M M58 125          56
437                MCW   @B@,PSSW2                                               7  0980  M R76 '37          57
438                B     TSTRE                                                   4  0987  B '53              57
439         REG    S     XL3&1                                                   4  0991  S 100              57
440                S                                                             1  0995  S                  57
441                S                                                             1  0996  S                  57
442                C     FREE&18,@   @                                           7  0997  C 118 R79          57
443                BU    SVUP3                                                   5  1004  B '17 /            57
444                BCE   TSTRE,FREE&19,                                          8  1009  B '53 119          58
445         SVUP3  MCW   FREE&20,SAVOP#9                                         7  1017  M 120 R88          58
446                MCW                                                           1  1024  M                  58
447                C     FREE&11, @$HIVAL@        HIVAL EQUATE PRESENT           7  1025  C 111 R94          58
448                BE    ISHIV                                                   5  1032  B 969 S            58
449         PSSW2  NOP   TSTRE                                                   4  1037  N '53              58
450                C     FREE&10,@$P   @          Q. ARITH MACRO PRESENT         7  1041  C 110 R99          58
451                BE    GENPS                                                   5  1048  B 906 S            59
452         TSTRE  BCE   ISREA,FREE&85,R                                         8  1053  B '96 185 R        59
453                B     TLUOP                    LOOKUP MNEMONIC                4  1061  B M65              59
454         STFUN  MCW   FREE&15,SAVOP-5                                         7  1065  M 115 R83          59
455                BW    NUREC,EQVADD             Q. INSTRUCTION                 8  1072  V 626 A69 1        59
456                C     FREE&15,@3 @                                            7  1080  C 115 ?01          59
457                BE    EOJ                                                     5  1087  B Q75 S            60
458                B     NUREC                                                   4  1092  B 626              60
459         ISREA  SW    FREE&12                                                 4  1096  , 112              60
460                LCA   FREE&15,EQVADD                                          7  1100  L 115 A69          60
461                CW    FREE&12                                                 4  1107  ) 112              60
462                BCE   TYPCL,FREE&15,&                                         8  1111  B /26 115 &        60
463                CHAIN 3                                                                          MACRO
464                BCE                                                           1  1119  B         GEN      60
465                BCE                                                           1  1120  B         GEN      61
466                BCE                                                           1  1121  B         GEN      61
467                B     STFUN                                                   4  1122  B '65              61
468         TYPCL  SW    EQVADD-2                                                4  1126  , A67              61
469                BCE   STFUN,FREE&12,&                                         8  1130  B '65 112 &        61
470                SW    EQVADD-1                                                4  1138  , A68              61
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SEQ PG LIN  LABEL  OP    OPERANDS                                       SFX CT  LOCN  INSTRUCTION TYPE  CARD

471                BCE   STFUN,FREE&13,&                                     8  1142  B '65 113 &          61
472                SW    EQVADD                                              4  1150  , A69                62
473                B     STFUN                                               4  1154  B '65                62
474                DCW   0                                                   1  1158                       62
475                DCW   @}@                   SYSTEM GROUP MARK             1  1159             GMARK     62
476                XFR   0                                                         B 000               63
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                     1401 AUTOCODER-PASS 3 PROCESS FIX FORM    -VERSION 3       3735L              PAGE   10

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

477                JOB   1401 AUTOCODER-PASS 3 PROCESS FIX FORM    -VERSION 3
478                ORG   OVL2                                                       0626
479         *
480         *BEGINNING OF NEW FIXED FORM RECORD ANALYSIS
481         *
482         ENTSPS B     PUT                   PUT LAST RECORD               4  0626  B 586                66
483                BW    GTFRE,FREESW          Q. FREE DONE IN FIXED         8  0630  V 503 H09 1          66
484         RSTMOD CW    MODESW#1,ABSW         RESET SWITCHES                7  0638  ) ?02 A10            66
485                B     RDTAP                 GET A RECORD                  4  0645  B 554                66
486                MCW   INAREA&79,INPUT&80    MOVE TO FIXED FORM            7  0649  M I82 412            66
487                CHAIN 5                                                                   MACRO
488                MCW                                                       1  0656  M          GEN       66
489                MCW                                                       1  0657  M          GEN       66
490                MCW                                                       1  0658  M          GEN       67
491                MCW                                                       1  0659  M          GEN       67
492                MCW                                                       1  0660  M          GEN       67
493         PROFIX MCW   INPUT&80,FREE&80      MOVE IDENTIFICATION           7  0661  M 412 180            67
494                MCW   BLANK,FREE&75         SET OPERAND PORTION           7  0668  M A54 175            67
495                MCW   FREE&75                OF -FREE- TO BLANKS          4  0675  M 175                67
496                MCW   FREE&75,FREE&20       SET BALANCE TO BLANK          7  0679  M 175 120            67
497                MCW                                                       1  0686  M                    68
498                MCW                                                       1  0687  M                    68
499                MCW   INPUT&82,FREE&86      BLANK CODE POSITIONS          7  0688  M 414 186            68
500                MCW   INPUT&13,FREE&11      MOVE LANE AND PG/LINE         7  0695  M 345 111            68
501                MCW   INPUT&5                NO TO -FREE-                 4  0702  M 337                68
502                BCE   COMCRD,INPUT&8,*      Q. COMMENTS CARD              8  0706  B Y71 340 *          68
503                BCE   LBERR,FREE&11,,       CHECK FOR INVALID             8  0714  B 778 111 ,          68
504                CHAIN 4                      CHARACTERS IN LABELS                     MACRO
505                BCE                                                       1  0722  B          GEN       69
506                BCE                                                       1  0723  B          GEN       69
507                BCE                                                       1  0724  B          GEN       69
508                BCE                                                       1  0725  B          GEN       69
509                BCE   LBERR,FREE&10,-                                     8  0726  B 778 110 -          69
510                CHAIN 4                                                                   MACRO
511                BCE                                                       1  0734  B          GEN       69
512                BCE                                                       1  0735  B          GEN       69
513                BCE                                                       1  0736  B          GEN       70
514                BCE                                                       1  0737  B          GEN       70
515                BCE   LBERR,FREE&10,#                                     8  0738  B 778 110 #          70
516                CHAIN 4                                                                   MACRO
517                BCE                                                       1  0746  B          GEN       70
518                BCE                                                       1  0747  B          GEN       70
519                BCE                                                       1  0748  B          GEN       70
520                BCE                                                       1  0749  B          GEN       70
521                BCE   LBERR,FREE&10,&                                     8  0750  B 778 110 &          71
522                CHAIN 4                                                                   MACRO
523                BCE                                                       1  0758  B          GEN       71
524                BCE                                                       1  0759  B          GEN       71
525                BCE                                                       1  0760  B          GEN       71
526                BCE                                                       1  0761  B          GEN       71
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SEQ PG LIN  LABEL  OP    OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

527                BCE   LBERR,FREE&10,'                                          8  0762  B 778 110 '          71
528                CHAIN 4                                                                            MACRO
529                BCE                                                            1  0770  B            GEN     71
530                BCE                                                            1  0771  B            GEN     72
531                BCE                                                            1  0772  B            GEN     72
532                BCE                                                            1  0773  B            GEN     72
533                B     BCK1                                                     4  0774  B 798                72
534         LBERR  CS    332                                                      4  0778  / 332                72
535                CS                                                             1  0782  /                    72
536                MCW   @ILLEGAL LABEL - SEQUENCE NUMBER@,231                    7  0783  M ?33 231            72
537                MCS   ALTRNO,236                                               7  0790  Z 184 236            73
538                W                                                              1  0797  2                    73
539         BCK1   C     INPUT&15,BLNK2            Q. ACTUAL OP CODE              7  0798  C 347 A55            73
540                BE    ABSFIX                     PRESENT IN FIXED FORM         5  0805  B S70 S              73
541                MCW   BLNK2,SAVOP                                              7  0810  M A55 R88            73
542                MCW   INPUT&16                                                 4  0817  M 348                73
543                MCW   INPUT&16,FREE&18          MOVE MNEMONIC TO FREE          7  0821  M 348 118            73
544         TLUFIX S     XL3&1                     RESET INDEX LOCATIONS          4  0828  S 100                74
545                S                                TO ZERO                       1  0832  S                    74
546                S                                                              1  0833  S                    74
547                B     TLUOP                     LOOKUP MNEMONIC                4  0834  B M65                74
548                BW    FIXINS,EQVADD             Q. INSTRUCTION                 8  0838  V 854 A69 1          74
549                BCE   FOUND,EQVADD,             Q. CONTROL OP                  8  0846  B T40 A69            74
550         *
551         * PROCESS INSTRUCTION
552         *
553         FIXINS BCE   LKNOP,INPUT&17,           Q. A OPERAND                   8  0854  B 974 349            74
554                BCE   FIXALF,INPUT&17,@         Q. ALPHA LITERAL               8  0862  B /84 349 @          75
555                B     SCAN                      SCAN A OPERAND                 4  0870  B Z09                75
556         CKB    BCE   CKMOD,INPUT&28,           Q. B OPERAND                   8  0874  B 950 360            75
557                A     &1,XL2                    MOVE COMMA TO FREE             7  0882  A R44 094            75
558                MCW   @,@,FREE&21&X2             TO SEPARATE OPERANDS          7  0889  M ?34 1K1            75
559                A     &1,XL2                                                   7  0896  A R44 094            76
560                MCW   @011@,XL1                                                7  0903  M ?37 089            76
561                BCE   FIXALF,INPUT&28,@         Q. ALPHA LITERAL               8  0910  B /84 360 @          76
562                B     SCAN                      SCAN B OPERAND                 4  0918  B Z09                76
563         CKOP   C     INPUT&16,@B  @            Q. BRANCH INSTRUCTION          7  0922  C 348 ?40            76
564                BE    MAKBCE                                                   5  0929  B '40 S              76
565                C     INPUT&16,@  B@            Q. ACTUAL BRANCH INST          7  0934  C 348 ?43            77
566                BE    MOVMOD                                                   5  0941  B '18 S              77
567                B     LKNOP                                                    4  0946  B 974                77
568         CKMOD  C     INPUT&16,@B  @            Q. BRANCH INSTRUCTION          7  0950  C 348 ?40            77
569                BE    ALTROP                                                   5  0957  B '51 S              77
570                C     INPUT&16,@  B@            Q. ACTUAL BRANCH INST          7  0962  C 348 ?43            77
571                BE    ALTROP                                                   5  0969  B '51 S              78
572         LKNOP  C     INPUT&16,@NOP@            Q. NOP INSTRUCTION             7  0974  C 348 ?46            78
573                BE    CKNOP                                                    5  0981  B /46 S              78
574                BW    PICKUP,ABSW               Q. ACTUAL OP CODE              8  0986  V '29 A10 1          78
575                BCE   PICKUP,INPUT&39,          Q. D CHARACTER                 8  0994  B '29 371            78
576         ISMOD  BCE   MOVMOD,FREE&15,           Q. ILLEGAL OP                  8  1002  B '18 115            79
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SEQ PG LIN  LABEL  OP    OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

577                BWZ   IOTYP,FREE&15,2           Q. I/O INSTRUCTION             8  1010  V /54 115 2          79
578         MOVMOD MCW   INPUT&39,FREE&23&X2       MOVE D CHARACTER TO            7  1018  M 371 1K3            79
579                MCW   @,@                        FREE AREA                     4  1025  M ?34                79
580         PICKUP MCW   INPUT&55,FREE&72          PICKUP COMMENTS                7  1029  M 387 172            79
581                B     ENDFIX                                                   4  1036  B 626                79
582         MAKBCE MCW   @BCE@,FREE&18             MOVE -BCE- MNEMONIC            7  1040  M ?49 118            80
583                B     ISMOD                      TO OPERATION FIELD            4  1047  B '02                80
584         ALTROP BCE   PICKUP,INPUT&39,          Q. D CHARACTER, I.E.,          8  1051  B '29 371            80
585                MCW   @BIN@,FREE&18              UNCONDITIONAL BRANCH          7  1059  M ?52 118            80
586                MCW   @& B@,FREE&15             SET FIVE CHAR BRANCH           7  1066  M ?55 115            80
587                S     XL1&1                                                    4  1073  S 090                80
588                MCW   BLNK2,FREE&20                                            7  1077  M A55 120            81
589         TLUBIN C     BINTBL&X1,INPUT&39        SEARCH 5-CHARACTER             7  1084  C H/4 371            81
590                BE    BINFND                     BRANCH TABLE FOR              5  1091  B /15 S              81
591                BCE   MOVMOD,BINTBL&5&X1,        APPROPRIATE UNIQUE            8  1096  B '18 H/9            81
592                A     &5,XL1                     MNEMONIC, IF NOT              7  1104  A ?56 089            81
593                B     TLUBIN                     PRESENT LEAVE                 4  1111  B '84                81
594         BINFND MCW   BINTBL-1&X1,FREE&19        MNEMONIC -BIN-                7  1115  M H/3 119            82
595                MCW                                                            1  1122  M                    82
596                C     FREE&18,@BSS@             Q. BRANCH SENSE SWITCH         7  1123  C 118 ?59            82
597                BE    MOVMOD                                                   5  1130  B '18 S              82
598                MCW   INPUT&39,FREE&14          PICKUP DE CHARACTER            7  1135  M 371 114            82
599                B     PICKUP                                                   4  1142  B '29                82
600         CKNOP  BCE   PICKUP,INPUT&39,                                         8  1146  B '29 371            82
601         IOTYP  MCW   INPUT&39,FREE&14          CODE I/O INSTRUCTION           7  1154  M 371 114            83
602                MCW   @&@                        IN ACTUAL IN                  4  1161  M ?60                83
603                MCW   INPUT&39,FREE&20           OPERATION FIELD               7  1165  M 371 120            83
604                MCW   FREE&15                                                  4  1172  M 115                83
605                MCW   BLANK3                                                   4  1176  M A56                83
606                B     PICKUP                                                   4  1180  B '29                83
607         FIXALF BCE   ENDALF,INPUT&27&X1,@      SCAN FOR AT SIGN               8  1184  B S18 3V9 @          83
608                CHAIN 8                                                                            MACRO
609                BCE                                                            1  1192  B            GEN     84
610                BCE                                                            1  1193  B            GEN     84
611                BCE                                                            1  1194  B            GEN     84
612                BCE                                                            1  1195  B            GEN     84
613                BCE                                                            1  1196  B            GEN     84
614                BCE                                                            1  1197  B            GEN     84
615                BCE                                                            1  1198  B            GEN     84
616                BCE                                                            1  1199  B            GEN     85
617         VALUE  A     &1,XL2                    PROCESS STATEMENT AS           7  1200  A R44 094            85
618                MCW   @$$@,FREE&21&X2            UNPROCESSABLE ALPHA           7  1207  M ?62 1K1            85
619                B     WHCHOP                     LITERAL ILLEGAL OPND          4  1214  B S54                85
620         ENDALF SBR   WAREA3                    PICKUP LITERAL AND             4  1218  H A15                85
621                S     &VALUE&2,WAREA3            MOVE TO FREE FORM             7  1222  S ?65 A15            85
622                ZS    WAREA3                     AREA                          4  1229  ! A15                85
623                A     WAREA3,XL1                                               7  1233  A A15 089            86
624                A     WAREA3,XL2                                               7  1240  A A15 094            86
625                MCW   INPUT&17&X1,FREE&21&X2                                   7  1247  M 3U9 1K1            86
626         WHCHOP C     XL1,@011@                 EXIT ON BASIS OF WHICH         7  1254  C 089 ?37            86
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SEQ PG LIN  LABEL  OP    OPERANDS                                       SFX CT  LOCN  INSTRUCTION TYPE  CARD

627                BH    CKB                         OPERAND ACTING UPON         5  1261  B 874 U              86
628                B     CKOP                                                    4  1266  B 922                86
629         ABSFIX BCE   SAMFIX,INPUT&16,           PRINT OUT MESSAGE ONLY       8  1270  B T28 348            87
630                MCW   INPUT&16,FREE&19            ONCE THAT ACTUAL OPS        7  1278  M 348 119            87
631                MCW   INPUT&39,FREE&20            ARE PRESENT IN FIXED        7  1285  M 371 120            87
632         SW1    NOP   SETABS                      FORM IMAGES                 4  1292  N T20                87
633                CS    332                         THIS ACCOUNTS FOR           4  1296  / 332                87
634                CS                                THE POSSIBILITY THAT        1  1300  /                    87
635                MCW   @ACTUAL OP CODES PRESENT IN FIXED FORM IMAGES@,270      7  1301  M A09 270            87
636                CC    1                           THE USER FORGOT TO          2  1308  F 1                  88
637                W                                 USE AN ENTER                1  1310  2                    88
638                CC    1                           AUTOCODER STATEMENT         2  1311  F 1                  88
639                MCW   @B@,SW1                     WHEN RETURNING TO           7  1313  M R76 S92            88
640         SETABS SW    ABSW#1                      FREE FORM                   4  1320  , A10                88
641                B     TLUFIX                                                  4  1324  B 828                88
642         SAMFIX MCW   SAVOP,FREE&20              PROCESS SAME OP CODE         7  1328  M R88 120            88
643                MCW                                                           1  1335  M                    89
644                B     TLUFIX                                                  4  1336  B 828                89
645         *
646         * BEGINNING OF PROCESS CONTROL AND DECLARATIVE OPERATION CODES
647         *
648         FOUND  BW    FIXINS,EQVADD              DETERMINE TYPE OF            8  1340  V 854 A69 1          89
649                S     XL3&1                       CONTROL OP AND GO TO        4  1348  S 100                89
650                MN    EQVADD-1,XL3                APPROPRIATE ROUTINE         7  1352  D A68 099            89
651                A     XL3                                                     4  1359  A 099                89
652                A     XL3                                                     4  1363  A 099                89
653                B     *&1&X3                                                  4  1367  B TG1                90
654                B     BADOP                      DA ILLEGAL IN FIXED FORM     4  1371  B P28                90
655                B     DCWSTM                     GO TO CONSTANT ROUTINE       4  1375  B U84                90
656                B     ERHLT                      SHOULD NEVER OCCUR           4  1379  B U73                90
657                B     ONEOP                      END, EX, XFR                 4  1383  B X60                90
658                B     ONEOP                      GO TO SUFFIX RTN             4  1387  B X60                90
659                B     ERHLT                      SHOULD NEVER OCCUR           4  1391  B U73                90
660                B     CKLOR                      GO TO ORIGIN ROUTINE         4  1395  B Y89                91
661                B     DSTYP                      GO TO DS, EQU ROUTINE        4  1399  B X88                91
662                B     INSPC                      GO TO SPECIAL ROUTINE        4  1403  B U21                91
663                MCW   INPUT&55,FREE&59                                        7  1407  M 387 159            91
664                MCW                               TO FREE FORM AREA           1  1414  M                    91
665                MCW                                                           1  1415  M                    91
666                MCW                                                           1  1416  M                    91
667                B     ENDFIX                                                  4  1417  B 626                92
668         INSPC  BCE   NOPND,INPUT&17,            PROCESS                      8  1421  B U62 349            92
669                MCW   @B@,FREE&18                 CC AND CCB AND SS           7  1429  M R76 118            92
670                MCW   EQVADD-2,EQVADD             AND SSB                     7  1436  M A67 A69            92
671                LCA   BLANK                                                   4  1443  L A54                92
672                MCW   EQVADD,FREE&15                                          7  1447  M A69 115            92
673                MCW   @ &@                                                    4  1454  M A12                93
674                B     FIXINS                                                  4  1458  B 854                93
675         NOPND  MCW   INPUT&39,FREE&21           PROCESS TWO CHARACTER        7  1462  M 371 121            93
676                B     ENDFIX                      INSTRUCTIONS                4  1469  B 626                93
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SEQ PG LIN  LABEL  OP    OPERANDS                                       SFX CT  LOCN  INSTRUCTION TYPE  CARD

677         ERHLT  H     0,301                      SYSTEM ERROR HALT            7  1473  . 000 301            93
678                B     ERHLT                                                   4  1480  B U73                93
679         *
680         *PROCESS DCW, DC STATEMENTS
681         *
682         DCWSTM BCE   DCWTYP,INPUT&17,*          Q. DCW*                      8  1484  B V51 349 *          93
683                A     BLANK,INPUT&17             ASSURE NOT BLANK             7  1492  A A54 349            94
684                MCW   FREE&18,WAREA6#6           GENERATE EQUATE              7  1499  M 118 A18            94
685                MCW                                                           1  1506  M                    94
686                MCW   @EQU@,FREE&18                                           7  1507  M A21 118            94
687                MCW   @&P @                                                   4  1514  M A24                94
688                MCW   INPUT&21,FREE&25                                        7  1518  M 353 125            94
689                B     PUT                                                     4  1525  B 586                94
690                MCW   FREE&74,FREE&73                                         7  1529  M 174 173            95
691                MCW   INPUT&22,FREE&11           GENERATE FREE FORM           7  1536  M 354 111            95
692                MCW   WAREA6,FREE&18              DCW ACTUAL                  7  1543  M A18 118            95
693                MCW                                                           1  1550  M                    95
694         DCWTYP CW    INPUT&40,INPUT&39          REMOVE WORD MARKS            7  1551  ) 372 371            95
695                CW    INPUT&28                                                4  1558  ) 360                95
696                BCE   DSARTN,FREE&14,J           Q. DSA STATEMENT             8  1562  B X15 114 J          96
697                BCE   KNOWN,INPUT&23,&           Q. IS THE LENGTH OF          8  1570  B W69 355 &          96
698                BCE   KNOWN,INPUT&23,-            THE CONSTANT TO BE          8  1578  B W69 355 -          96
699                BCE   KNOWN,INPUT&23,@            COMPUTED BY THE             8  1586  B W69 355 @          96
700                MN    INPUT&7,XL1                 PROCESSOR                   7  1594  D 339 089            96
701                MN                                                            1  1601  D                    97
702                A     BLANK,XL1                                               7  1602  A A54 089            97
703                C     XL1,@032@                  Q. COUNT GT 32 OR            7  1609  C 089 A27            97
704                BL    CORERR                      LT ZERO. IF                 5  1616  B W80 T              97
705                C     XL1,@000@                   ERROR ATTEMPT TO            7  1621  C 089 A30            97
706                BE    CORERR                      PROCESS RECORD ANYWAY       5  1628  B W80 S              97
707         RTNDCW MCW   INPUT&23&X1,FREE&21&X1     CONSTANT TO FREE FORM        7  1633  M 3V5 1S1            97
708                MCW   @@@,FREE&21                ENCLOSE DCW WITHIN           7  1640  M A31 121            98
709                MCW   @@@,FREE&22&X1             AT SIGNS                     7  1647  M A31 1S2            98
710         RSTWM  SW    INPUT&40,INPUT&39          RESET WORD MARKS             7  1654  , 372 371            98
711                SW    INPUT&28                                                4  1661  , 360                98
712                B     ENDFIX                                                  4  1665  B 626                98
713         KNOWN  MCW   INPUT&55,FREE&53           PICKUP ENTIRE DCW AREA       7  1669  M 387 153            98
714                B     RSTWM                                                   4  1676  B W54                99
715         CORERR S     XL1&1                                                   4  1680  S 090                99
716         LPERR  BCE   RTNDCW,INPUT&24&X1,        SCAN FOR FIRST BLANK         8  1684  B W33 3V6            99
717                A     &1,XL1                      IN ATTEMPT TO CORRECT       7  1692  A R44 089            99
718                C     XL1,@52@                   Q) END OF RECORD             7  1699  C 089 A33            99
719                BE    RTNDCW                                                  5  1706  B W33 S              99
720                B     LPERR                                                   4  1711  B W84                99
721         *
722         * PROCESS DSA STATEMENTS
723         *
724         DSARTN S     XL2&2                      PICKUP FIXED FORM DSA        4  1715  S 096               100
725                MCW   @011@,XL1                   AND PLACE IN FREE FOR       7  1719  M ?37 089           100
726                B     SCAN                        FORM AREA                   4  1726  B Z09               100
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SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

727                MCW   FREE&72,FREE&73           IF UNSIGNED MAKE SIGN          7  1730  M 172 173          100
728                MCW   @&@                        PLUS                          4  1737  M ?60              100
729                BCE   RSTWM,INPUT&27,           Q. NO SIGN                     8  1741  B W54 359          100
730                MCW   INPUT&27,FREE&21          SIGN ADDRESS CONSTANT          7  1749  M 359 121          101
731                B     RSTWM                                                    4  1756  B W54              101
732         ONEOP  B     *&5,INPUT&17,             PROCESS THOSE                  8  1760  B X72 349          101
733                B     SCAN                       INSTRUCTIONS                  4  1768  B Z09              101
734                C     @3 @,EQVADD                THAT ONLY HAVE ONE OP         7  1772  C ?01 A69          101
735                BE    PREOJ                     IF END CARD GO TO EOJ          5  1779  B Q67 S            101
736                B     ENDFIX                                                   4  1784  B 626              101
737         *
738         * PROCESS DS, EQU STATEMENTS
739         *
740         DSTYP  BCE   DSACT,INPUT&17,*          IF DS IS REALLY AN             8  1788  B Y33 349 *        102
741                BCE   *&5,INPUT&17,              EQU CHANGE OP                 8  1796  B Y08 349          102
742                B     *&8                        CODE, ASSURE                  4  1804  B Y15              102
743                NOP   BLANK,INPUT&17             OPERAND NOT BLANK             7  1808  N A54 349          102
744         DOEQU  MCW   @EQU@,FREE&18                                            7  1815  M A21 118          102
745                MCW   @P@,FREE&14                                              7  1822  M A34 114          103
746                B     ONEOP                                                    4  1829  B X60              103
747         DSACT  SW    INPUT&6                   PROCESS DS ACTUAL              4  1833  , 338              103
748                A     BLANK,INPUT&7                                            7  1837  A A54 339          103
749                CW    INPUT&6                                                  4  1844  ) 338              103
750                C     INPUT&7,@00@              Q. NO COUNT                    7  1848  C 339 A36          103
751                BE    DOEQU                                                    5  1855  B Y15 S            103
752                MCW   INPUT&7,FREE&22                                          7  1860  M 339 122          104
753                B     ENDFIX                                                   4  1867  B 626              104
754         *
755         *PROCESS COMMENTS CARDS
756         *
757         COMCRD MCW   INPUT&55,FREE&53          PROCESS COMMENTS CARDS         7  1871  M 387 153          104
758                CHAIN 7                                                                           MACRO
759                MCW                                                            1  1878  M             GEN   104
760                MCW                                                            1  1879  M             GEN   104
761                MCW                                                            1  1880  M             GEN   104
762                MCW                                                            1  1881  M             GEN   104
763                MCW                                                            1  1882  M             GEN   105
764                MCW                                                            1  1883  M             GEN   105
765                MCW                                                            1  1884  M             GEN   105
766                B     ENTSPS                                                   4  1885  B 626              105
767         *
768         * PROCESSS ORIGIN, LTORG STATEMENTS
769         *
770         CKLOR  BCE   ONEOP,FREE&16,O           CHANGE MNEMONIC TO             8  1889  B X60 116 O        105
771                MCW   @LTORG@,FREE&20            -LTORG- IF LITERAL            7  1897  M A41 120          105
772                MCW                              ORG STATEMENT                 1  1904  M                  105
773                B     ONEOP                                                    4  1905  B X60              106
774         *
775         *SCAN ROUTINE WHICH CONVERTS FIXED FORM INTO FREE FORM
776         *
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                    1401 AUTOCODER-PASS 3 PROCESS FIX FORM    -VERSION 3      3735L             PAGE   16

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

777         SCAN   SBR   SCNXT&3                                                  4  1909  H J20              106
778                S     XL3&1                     RESET INDEX 3                  4  1913  S 100              106
779         LOOP1  BCE   CK1BK,INPUT&18&X1,        Q. BLANK CHARACTER             8  1917  B Z62 3V0          106
780         CXL1   C     XL3,@05@                  Q. END OF ADDRESS              7  1925  C 099 A43          106
781                BE    NDOPD                                                    5  1932  B Z86 S            106
782                A     &1,XL1                    INCREASE ALL INDEX             7  1937  A R44 089          106
783                A     &1,XL2                     REGISTERS                     7  1944  A R44 094          107
784                A     &1,XL3                                                   7  1951  A R44 099          107
785                B     LOOP1                                                    4  1958  B Z17              107
786         CK1BK  C     XL3,@04@                  TOLERATE ONE BLANK             7  1962  C 099 A45          107
787                BE    NDOPD                                                    5  1969  B Z86 S            107
788                BCE   *&5,INPUT&19&X1,                                         8  1974  B Z86 3V1          107
789                B     CXL1                                                     4  1982  B Z25              108
790         NDOPD  MCW   INPUT&17&X1,FREE&21&X2    MOVE ADDRESS PORTION           7  1986  M 3U9 1K1          108
791                C     XL1,@011@                  TO FREE FORM AREA             7  1993  C 089 ?37          108
792                S     XL1&2                                                    4  2000  S 091              108
793                BH    *&8                                                      5  2004  B !16 U            108
794                MCW   @011@,XL1                                                7  2009  M ?37 089          108
795                BCE   CKLIT2,INPUT&23&X1,       Q. NO CHARACTER ADJUST         8  2016  B J88 3V5          109
796                BWZ   MKMIN,INPUT&23&X1,K       ASSURE CHARACTER ADJ           8  2024  V J21 3V5 K        109
797                MCW   @&@,INPUT&23&X1            & OR -                        7  2032  M ?60 3V5          109
798         RTN2   SW    INPUT&24&X1,INPUT&23&X1   PROCESS CHARACTER              7  2039  , 3V6 3V5          109
799                A     BLANK,INPUT&26&X1          ADJUSTMENT                    7  2046  A A54 3V8          109
800                A     &4,XL2                                                   7  2053  A A46 094          110
801                MCW   INPUT&26&X1,FREE&21&X2                                   7  2060  M 3V8 1K1          110
802                MCW                                                            1  2067  M                  110
803                CW    INPUT&24&X1,INPUT&23&X1                                  7  2068  ) 3V6 3V5          110
804         NOADJ  BCE   FIXLIT,INPUT&17&X1,&      Q. LITERAL                     8  2075  B J32 3U9 &        110
805                BCE   FIXLIT,INPUT&17&X1,-                                     8  2083  B J32 3U9 -        110
806                BCE   SCNXT,INPUT&27&X1,        Q. INDEXING                    8  2091  B J17 3V9          111
807                A     &3,XL2                    PROCESS INDEXING               7  2099  A A47 094          111
808                MN    INPUT&27&X1,FREE&21&X2                                   7  2106  D 3V9 1K1          111
809                MCW   @&X@                                                     4  2113  M A49              111
810         SCNXT  B     XXXX                      EXIT                           4  2117  B 000              111
811         MKMIN  MCW   @-@,INPUT&23&X1           SET CHAR ADJ SIGN              7  2121  M A50 3V5          111
812                B     RTN2                       TO MINUS                      4  2128  B !39              112
813         FIXLIT BCE   NOT11,INPUT&27&X1,        PROCESS REMAINDER OF           8  2132  B J58 3V9          112
814                A     &1,XL2                     FIXED FORM NUMERIC            7  2140  A R44 094          112
815                MN    INPUT&27&X1,FREE&21&X2     LITERAL                       7  2147  D 3V9 1K1          112
816                B     SCNXT                                                    4  2154  B J17              112
817         NOT11  BCE   SUBT,INPUT&26&X1,                                        8  2158  B J70 3V8          112
818                B     SCNXT                                                    4  2166  B J17              113
819         SUBT   A     @I99@,XL1                                                7  2170  A A53 089          113
820                A     @I99@,XL2                                                7  2177  A A53 094          113
821                B     NOT11                                                    4  2184  B J58              113
822         CKLIT2 BCE   SCNXT,INPUT&17&X1,&       Q. LITERAL                     8  2188  B J17 3U9 &        113
823                BCE   SCNXT,INPUT&17&X1,-                                      8  2196  B J17 3U9 -        113
824                B     NOADJ                                                    4  2204  B !75              114
825                DCW   0                                                        1  2208                     114
826         SYSMK1 DCW   @}@                       SYSTEM GROUP MARK              1  2209                GMARK 114
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SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

827                XFR   0                                                                   B 000              115
828         RTEND  EQU   *                                                             2209
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SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

829                JOB   1401 AUTOCODER-PASS 3 RIGHT MAIN LINE     -VERSION 3
830         *
831         *TABLE LOOKUP OF MNEMONIC OP CODE
832         *
833                ORG   BEGIN                                                                2465
834         TLUOP  SBR   TLUXT&3                                                4  2465  H 046              118
835                C     FREE&18,BLANK3#3          Q. ACTUAL                    7  2469  C 118 A56          118
836                BE    ABSCOD                     OP CODE                     5  2476  B P55 S            118
837                MLC   FREE&18,XL2                                            7  2481  M 118 094          118
838                A     FREE&18,XL2-1                                          7  2488  A 118 093          118
839                A     FREE&18,XL2-2                                          7  2495  A 118 092          118
840                A     FREE&16,XL2               TABLE LOOKUP                 7  2502  A 116 094          119
841         SUB1   S     &5500,XL2&1                USES ADDRESS                7  2509  S A60 095          119
842                BWZ   SUB1,XL2&1,B               CONVERSION TECHNIQUE        8  2516  V N09 095 B        119
843                MLCWA OPND-549&X2,EQVADD#9                                   7  2524  L BN9 A69          119
844                SAR   GETOP&3                                                4  2531  Q N42              119
845                S     XL2&2                                                  4  2535  S 096              119
846         GETOP  MLCWA XXXX,EQVADD               SEARCH TABLE FOR             7  2539  L 000 A69          120
847                SAR   GETOP&3                    MNEMONIC                    4  2546  Q N42              120
848                BCE   BADOP,EQVADD,@            Q. OP NOT IN TABLE           8  2550  B P28 A69 @        120
849                C     EQVADD,FREE&18            Q. OP CODE FOUND             7  2558  C A69 118          120
850                BU    GETOP                                                  5  2565  B N39 /            120
851                LCA   EQVADD-3,EQVADD           SHIFT TABLE FUNCTION         7  2570  L A66 A69          120
852                C     @N @,EQVADD               Q. ENTER CARD                7  2577  C A71 A69          121
853                BE    ENTER                                                  5  2584  B 047 S            121
854                C     EQVADD,@B @               Q. MLC, MLCWA TYPE           7  2589  C A69 A73          121
855                BE    SPECIN                                                 5  2596  B 083 S            121
856                C     EQVADD,@2 @               Q. RAMAC INSTN               7  2601  C A69 A75          121
857                BE    SPECIN                                                 5  2608  B 083 S            121
858         SAVCOD MCW   EQVADD,FREE&15            PLACE TABLE FUNCTION         7  2613  M A69 115          122
859                SBR   XL3                        ON RECORD PRECEDED BY       4  2620  H 099              122
860                C     XL3,&FREE&11               A PLUS SIGN                 7  2624  C 099 A78          122
861                BE    *&8                                                    5  2631  B 043 S            122
862                MCW   @&@,000&X3                                             7  2636  M ?60 0?0          122
863         TLUXT  B     XXXX                      EXIT                         4  2643  B 000              122
864         ENTER  C     FREE&23,@SPS@             DETERMINE TYPE OF            7  2647  C 123 A81          123
865                BE    GTFIX                      ENTER CARD AND              5  2654  B 464 S            123
866                C     INPUT&20,@AUTO@            GO TO APPROPRIATE           7  2659  C 352 A85          123
867                BE    GTFRE                      ROUTINE                     5  2666  B 503 S            123
868                BW    PSTNU,MODESW                                           8  2671  V 630 ?02 1        123
869                B     RSTMOD                                                 4  2679  B 638              123
870         SPECIN BWZ   MLCTYP,EQVADD-1,B         Q. MLC TYPE                  8  2683  V P17 A68 B        124
871                LCA   EQVADD-2,EQVADD                                        7  2691  L A67 A69          124
872         CKEL   BCE   SAVCOD,FREE&19,           Q. SHOULD OP BE -L-          8  2698  B O13 119          124
873                MCW   @L@,EQVADD                MAKE OP CODE -L-             7  2706  M A86 A69          124
874                B     SAVCOD                                                 4  2713  B O13              124
875         MLCTYP LCA   @M@,EQVADD                MAKE OP CODE -M-             7  2717  L A87 A69          125
876                B     CKEL                                                   4  2724  B O98              125
877         *
878         * PROCESS ILLEGAL OPERATION CODE
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

879                *
880         BADOP  LCA   BLANK,EQVADD              MAKE OP BLANK                 7  2728  L A54 A69         125
881                BW    SAVCOD,FREESW             Q. IN FREE FORM MODE          8  2735  V O13 H09 1       125
882                BW    CKFF,MODESW               Q. IN FREE FORM MODE          8  2743  V Q01 ?02 1       125
883                B     SAVCOD                                                  4  2751  B O13             125
884         ABSCOD BCE   SAVCOD,FREE&19,      REW: BCE  OPBLK,FREE&19,           8  2755  B O13 119         126
885                LCA   BLANK,EQVADD              PROCESS ACTUAL OP             7  2763  L A54 A69         126
886                MCW   FREE&19,EQVADD             CODES                        7  2770  M 119 A69         126
887                BCE   SAVCOD,FREE&20,                                         8  2777  B O13 120         126
888                CW    EQVADD                                                  4  2785  ) A69             126
889                SW                                                            1  2789  ,                 126
890                MCW   FREE&20,EQVADD-1                                        7  2790  M 120 A68         127
891                B     SAVCOD                                                  4  2797  B O13             127
892         CKFF   BCE   SAVCOD,FREE&14,           IF RECORD APPEARS TO B        8  2801  B O13 114         127
893                MCW   FREE&80,INPUT&80           BE FIXED FORM RECORD         7  2809  M 180 412         127
894                CHAIN 9                                                                         MACRO
895                MCW                                                           1  2816  M            GEN   127
896                MCW                                                           1  2817  M            GEN   127
897                MCW                                                           1  2818  M            GEN   127
898                MCW                                                           1  2819  M            GEN   128
899                MCW                                                           1  2820  M            GEN   128
900                MCW                                                           1  2821  M            GEN   128
901                MCW                                                           1  2822  M            GEN   128
902                MCW                                                           1  2823  M            GEN   128
903                MCW                                                           1  2824  M            GEN   128
904                CS    332                                                     4  2825  / 332             128
905                CS                                                            1  2829  /                 129
906                MCW   FREE&80,PRINT&80                                        7  2830  M 180 280         129
907                CHAIN 4                                                                         MACRO
908                MCW                                                           1  2837  M            GEN   129
909                MCW                                                           1  2838  M            GEN   129
910                MCW                                                           1  2839  M            GEN   129
911                MCW                                                           1  2840  M            GEN   129
912                MCW   @PROCESSING AS FIXED FORM RECORD@,332                   7  2841  M B18 332         129
913                W                                                             1  2848  2                 130
914                SW    FREESW                                                  4  2849  , H09             130
915                BCV   RESTR                                                   5  2853  B Q62 @           130
916                B     GTFIX                                                   4  2858  B 464             130
917         RESTR  CCB   GTFIX,1                                                 5  2862  F 464 1           130
918         *
919         * END OF JOB PROCEDURE
920         *
921         PREOJ  RTW   SYSTAP,OVL2               SKIP PAST OVERLAY             8  2867  L %U1 626 R       130
922         EOJ    B     PUT                       PUT END CARD                  4  2875  B 586             130
923                WTM   OUTAPE                    WRITE TAPE MARK               5  2879  U %U4 M           131
924         *          MESSG@PASS 3 COMPLETED@,60,K,1
925                CC    K                                                       2  2884  F K               131
926                CS    332                                                     4  2886  / 332             131
927                CS                                                            1  2890  /                 131
928                MCW   @PASS 3 COMPLETED@,60&200                               7  2891  M B34 260         131
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

929                W                                                             1  2898  2                 131
930                CC    1                                                       2  2899  F 1               131
931                CW    SYSMK1                    CLEAR GROUP MK W/ WM          4  2901  ) K09             132
932                CW    GMK1,GMK2                                               7  2905  ) I89 187         132
933                RTW   SYSTAP,OVL2                                             8  2912  L %U1 626 R       132
934                RTW   SYSTAP,085                READ IN PASS 4                8  2920  L %U1 085 R       132
935                NOP   0                                                       4  2928  N 000             132
936                BER   TPERR                                                   5  2932  B K10 L           132
937                B     PASSB2                    GO TO NEXT PASS               4  2937  B 200             133
938                LTORG *                                                             2941
                   DCW   &INAREA&12                                              3  2943  I15         ADCON 133
                   DCW   &1                                                      1  2944              LIT   133
                   DCW   @CHA@                                                   3  2947              LIT   133
                   DCW   @S@                                                     1  2948              LIT   133
                   DCW   @Z@                                                     1  2949              LIT   133
                   DCW   &00                                                     2  2951              LIT   133
            HLDCD  DCW   #01                                                     1  2952              AREA  134
                   DCW   @C@                                                     1  2953              LIT   134
                   DCW   @Y@                                                     1  2954              LIT   134
                   DCW   @&1 @                                                   3  2957              LIT   134
                   DCW   @EQU  @                                                 5  2962              LIT   134
                   DCW   @$HIVAL &P @                                           10  2972              LIT   134
                   DCW   &NUREC                                                  3  2975  626         ADCON 134
                   DCW   @B@                                                     1  2976              LIT   135
                   DCW   @   @                                                   3  2979              LIT   135
            SAVOP  DCW   #09                                                     9  2988              AREA  135
                   DCW   @$HIVAL@                                                6  2994              LIT   135
                   DCW   @$P   @                                                 5  2999              LIT   135
                   DCW   @3 @                                                    2  3001              LIT   135
            MODESW DCW   #01                                                     1  3002              AREA  135
                   DCW   @ILLEGAL LABEL - SEQUENCE NUMBER@                      31  3033              LIT   136
                   DCW   @,@                                                     1  3034              LIT   136
                   DCW   @011@                                                   3  3037              LIT   136
                   DCW   @B  @                                                   3  3040              LIT   136
                   DCW   @  B@                                                   3  3043              LIT   137
                   DCW   @NOP@                                                   3  3046              LIT   137
                   DCW   @BCE@                                                   3  3049              LIT   137
                   DCW   @BIN@                                                   3  3052              LIT   137
                   DCW   @& B@                                                   3  3055              LIT   137
                   DCW   &5                                                      1  3056              LIT   137
                   DCW   @BSS@                                                   3  3059              LIT   137
                   DCW   @&@                                                     1  3060              LIT   138
                   DCW   @$$@                                                    2  3062              LIT   138
                   DCW   &VALUE&2                                                3  3065  S02         ADCON 138
                   DCW   @ACTUAL OP CODES PRESENT IN FIXED FORM IMAGES@         44  3109              LIT   140
            ABSW   DCW   #01                                                     1  3110              AREA  140
                   DCW   @ &@                                                    2  3112              LIT   140
            WAREA6 DCW   #06                                                     6  3118              AREA  140
                   DCW   @EQU@                                                   3  3121              LIT   140
                   DCW   @&P @                                                   3  3124              LIT   141
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SEQ PG LIN  LABEL   OP    OPERANDS                                      SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    DCW   @032@                                              3  3127              LIT    141
                    DCW   @000@                                              3  3130              LIT    141
                    DCW   @@@                                                1  3131              LIT    141
                    DCW   @52@                                               2  3133              LIT    141
                    DCW   @P@                                                1  3134              LIT    141
                    DCW   @00@                                               2  3136              LIT    141
                    DCW   @LTORG@                                            5  3141              LIT    142
                    DCW   @05@                                               2  3143              LIT    142
                    DCW   @04@                                               2  3145              LIT    142
                    DCW   &4                                                 1  3146              LIT    142
                    DCW   &3                                                 1  3147              LIT    142
                    DCW   @&X@                                               2  3149              LIT    142
                    DCW   @-@                                                1  3150              LIT    142
                    DCW   @I99@                                              3  3153              LIT    143
            BLANK3 DCW    #03                                                3  3156              AREA   143
                    DCW   &5500                                              4  3160              LIT    143
            EQVADD DCW    #09                                                9  3169              AREA   143
                    DCW   @N @                                               2  3171              LIT    143
                    DCW   @B @                                               2  3173              LIT    143
                    DCW   @2 @                                               2  3175              LIT    143
                    DCW   &FREE&11                                           3  3178  111         ADCON  144
                    DCW   @SPS@                                              3  3181              LIT    144
                    DCW   @AUTO@                                             4  3185              LIT    144
                    DCW   @L@                                                1  3186              LIT    144
                    DCW   @M@                                                1  3187              LIT    144
                    DCW   @PROCESSING AS FIXED FORM RECORD@                 31  3218              LIT    145
                    DCW   @PASS 3 COMPLETED@                                16  3234              LIT    146
 939        *
 940        *TABLE OF MNEMONIC OPERATION CODES
 941        *
 942                ORG   3253                                                           3253
 943                DCW   @@@                                                1  3253                     147
 944                DCW   #4                                                 4  3257                     147
 945                DCW   #2                                                 2  3259                     147
 946                DCW   @NNOP@                                             4  3263                     147
 947                DCW   @C XFR@                                            5  3268                     147
 948                DCW   @O LOR@                                            5  3273                     147
 949                DCW   @I JOB@                                            5  3278                     147
 950                DCW   @/CS @                                             4  3282                     148
 951                DCW   @0 DA @                                            5  3287                     148
 952                DCW   @S2WSS@                                            5  3292                     148
 953        MASYM   DCW   @#MA @                                             4  3296                     148
 954                DCW   @3 END@                                            5  3301                     148
 955                DCW   @PMCM@                                             4  3305                     148
 956                DCW   @N ENT@                                            5  3310                     148
 957                DCW   @BRMRTB@                                           6  3316                     149
 958                DCW   @ABBLC@                                            5  3321                     149
 959                DCW   @ @                                                1  3322                     149
 960                DCW   @BMMBC@                                            5  3327                     149
 961                DCW   @%D  @                                             4  3331                     149
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SEQ PG LIN  LABEL   OP    OPERANDS                                      SFX CT  LOCN  INSTRUCTION TYPE  CARD

 962                DCW   @F3WM2 WDC@                                        9  3340                     149
 963                DCW   @ FCCB@                                            5  3345                     149
 964                DCW   @S1DUDCR@                                          7  3352                     150
 965                DCW   @YMLZ@                                             4  3356                     150
 966                DCW   @@M  @                                             4  3360                     150
 967                DCW   @UEUSKP@                                           6  3366                     150
 968                DCW   @O ORG@                                            5  3371                     150
 969                DCW   @HSBR@                                             4  3375                     150
 970                DCW   @K8 SS @                                           6  3381                     150
 971                DCW   @YMZ @                                             4  3385                     151
 972                DCW   @ @                                                1  3386                     151
 973                DCW   @)CW @                                             4  3390                     151
 974                DCW   @UWLWTW@                                           6  3396                     151
 975                DCW   @B MLC@                                            5  3401                     151
 976                DCW   @ZMCS@                                             4  3405                     151
 977                DCW   @UWMWT @                                           6  3411                     151
 978                DCW   @MMCW@                                             4  3415                     152
 979                DCW   @F2WM2 WDT@                                        9  3424                     152
 980                DCW   @QSAR@                                             4  3428                     152
 981                DCW   @R6WRF@                                            5  3433                     152
 982                DCW   @S1EUECR@                                          7  3440                     152
 983                DCW   @8SRF@                                             4  3444                     152
 984                DCW   @)2WM @                                            5  3449                     152
 985                DCW   @1VBW @                                            5  3454                     153
 986                DCW   @9BBC9@                                            5  3459                     153
 987                DCW   @1R  @                                             4  3463                     153
 988                DCW   @URLRTW@                                           6  3469                     153
 989                DCW   @F1RMRD @                                          7  3476                     153
 990                DCW   @F1RLRDW@                                          7  3483                     153
 991                DCW   @MMU @                                             4  3487                     153
 992                DCW   @VBWZ@                                             4  3491                     154
 993                DCW   @,SW @                                             4  3495                     154
 994                DCW   @RBBPC@                                            5  3500                     154
 995                DCW   @CC  @                                             4  3504                     154
 996                DCW   @C4PCB@                                            5  3509                     154
 997                DCW   @DMLN@                                             4  3513                     154
 998                DCW   @UMUWTM@                                           6  3519                     154
 999                DCW   @EMCE@                                             4  3523                     155
1000                DCW   @C EX @                                            5  3528                     155
1001                DCW   @ UCU @                                            5  3533                     155
1002                DCW   @ZBBAV@                                            5  3538                     155
1003                DCW   @5RP @                                             4  3542                     155
1004                DCW   @.H  @                                             4  3546                     155
1005                DCW   @LLU @                                             4  3550                     155
1006                DCW   @BWMWTB@                                           6  3556                     156
1007                DCW   @ KSSB@                                            5  3561                     156
1008                DCW   @KBBEF@                                            5  3566                     156
1009                DCW   @PMRC@                                             4  3570                     156
1010                DCW   @UBUBSP@                                           6  3576                     156
1011                DCW   @URMRT @                                           6  3582                     156
```

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

1012                DCW   @SBBE @                                                   5  3587                     156
1013                DCW   @3WR @                                                    4  3591                     157
1014                DCW   @SS  @                                                    4  3595                     157
1015                DCW   @BB  @                                                    4  3599                     157
1016                DCW   @1 DCW@                                                   5  3604                     157
1017                DCW   @WBBE@                                                    4  3608                     157
1018                DCW   @J DSA@                                                   5  3613                     157
1019                DCW   @LLCA@                                                    4  3617                     157
1020                DCW   @A DC @                                                   5  3622                     158
1021                DCW   @F1WLWDW@                                                 7  3629                     158
1022                DCW   @7WRP@                                                    4  3633                     158
1023                DCW   @ BBIN@                                                   5  3638                     158
1024                DCW   @KVBM @                                                   5  3643                     158
1025                DCW   @PBBPB@                                                   5  3648                     158
1026                DCW   @9SPF@                                                    4  3652                     158
1027                DCW   @M SFX@                                                   5  3657                     159
1028                DCW   @4P  @                                                    4  3661                     159
1029                DCW   @FORMSD @                                                 7  3668                     159
1030                DCW   @@BBCV@                                                   5  3673                     159
1031                DCW   @!ZS @                                                    4  3677                     159
1032                DCW   @O LTO@                                                   5  3682                     159
1033                DCW   @P EQU@                                                   5  3687                     159
1034                DCW   @ BBSS@                                                   5  3692                     160
1035                DCW   @F8 CC @                                                  6  3698                     160
1036                DCW   @AA  @                                                    4  3702                     160
1037                DCW   @LBBER@                                                   5  3707                     160
1038                DCW   @/BBU @                                                   5  3712                     160
1039                DCW   @BBCE@                                                    4  3716                     160
1040                DCW   @UBBH @                                                   5  3721                     160
1041                DCW   @TBBL @                                                   5  3726                     161
1042                DCW   @X DS @                                                   5  3731                     161
1043                DCW   @F2RM2 RDT@                                               9  3740                     161
1044                DCW   @AMMBD@                                                   5  3745                     161
1045                DCW   @2W  @                                                    4  3749                     161
1046                DCW   @F1WMWD @                                                 7  3756                     161
1047                DCW   @DMN @                                                    4  3760                     161
1048                DCW   @C1RCB@                                                   5  3765                     162
1049                DCW   @6WP @                                                    4  3769                     162
1050                DCW   @XMIZ@                                                    4  3773                     162
1051                DCW   #9                                                        9  3782                     162
1052                DCW   #3                                                        3  3785                     162
1053                DCW   @?ZA @                                                    4  3789                     162
1054                DCW   #1                                                        1  3790                     162
1055                DCW   @UUURWU@                                                  6  3796                     163
1056                DCW   @URURWD@                                                  6  3802                     163
1057                DCW   @R4RF @                                                   5  3807                     163
1058         OPND   DCW   #1                                                        1  3808                     163
1059         *
1060         * CONSTANTS AND TABLES
1061         *
```



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

1062         FREESW DC    0                                                         1  3809                     163
1063         BINTBL DCW   @BAV Z@                                                   5  3814                     163
1064                DCW   @BC9 9@                                                   5  3819                     163
1065                DCW   @BU  /@                                                   5  3824                     163
1066                DCW   @BCV @@                                                   5  3829                     164
1067                DCW   @BE  S@                                                   5  3834                     164
1068                DCW   @BEF K@                                                   5  3839                     164
1069                DCW   @BER L@                                                   5  3844                     164
1070                DCW   @BH  U@                                                   5  3849                     164
1071                DCW   @BL  T@                                                   5  3854                     164
1072                DCW   @BLC A@                                                   5  3859                     164
1073                DCW   @BPB P@                                                   5  3864                     165
1074                DCW   @BPCBR@                                                   5  3869                     165
1075                DCW   @BSS B@                                                   5  3874                     165
1076                DCW   @BSS C@                                                   5  3879                     165
1077                DCW   @BSS D@                                                   5  3884                     165
1078                DCW   @BSS E@                                                   5  3889                     165
1079                DCW   @BSS F@                                                   5  3894                     165
1080                DCW   @BSS G@                                                   5  3899                     166
1081         *
1082         *TAPE INPUT AREA
1083         *
1084                DS    3                                                            3902
1085         INAREA DA    1X86,G                                                       3903   3988
1085                DCW   @"@                                                       1  3989             GMARK  167
1086         GMK1   EQU   *                                                            3989
1087         *
1088         *  EQUATES
1089         *
1090         BLANK  EQU   BLANK3-2                                                     3154
1091         BLNK2  EQU   BLANK3-1                                                     3155
1092         ENDFIX EQU   ENTSPS                                                       0626
1093         WAREA3 EQU   WAREA6-3                                                     3115
1094         WAREA2 EQU   WAREA6-4                                                     3114
1095                EX    LIBRN                                                              B 000              168
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 SEQ PG LIN  LABEL  OP     OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

1096                JOB    1401 AUTOCODER-PASS 4-LEFT MAIN LINE      -VERSION 3
1097                SFX    Z                                                  Z
1098         *
1099         * INITIALIZATION OF INDEX LOCATIONS
1100         *
1101                ORG    85                                                 Z              0085
1102         GRPMK1 DC     @}@                                                Z    1  0085              GMARK  171
1103                DC     0                                                  Z    1  0086                     171
1104         XL1    DCW    000                                                Z    3  0089                     171
1105                DC     00                                                 Z    2  0091                     171
1106         XL2    DCW    000                                                Z    3  0094                     171
1107                DC     00                                                 Z    2  0096                     171
1108         XL3    DCW    000                                                Z    3  0099                     171
1109                DS     1                                                  Z       0100
1110         *
1111         *FIXED FORM IMAGE AREA
1112         *
1113         IMAGE  EQU    *                                                  Z       0100
1114                DS     84                                                 Z       0184
1115         GRPMK4 DC     @}@                                                Z    1  0185              GMARK  172
1116         ZONE   DCW    @2SKB@                                             Z    4  0189                     172
1117         EXOVFL DCW    99                      CONSTANTS USED IN          Z    2  0191                     172
1118         EXNUMB DCW    00                       MAKING IN LITERAL LABELS  Z    2  0193                     172
1119         PROCOR DCW    #1                                                 Z    1  0194                     172
1120         TOTLBL DCW    &0000                                              Z    4  0198                     173
1121         JOBSW  DCW    0                                                  Z    1  0199                     173
1122         *
1123         * READ IN CONTROL CARD OVERLAY
1124         *
1125         PASSB2 RTW    SYSTAP,DOPROG                                      Z    8  0200  L %U1 N75 R        173
1126                NOP    0                                                  Z    4  0208  N 000              173
1127                BER    TPERR                                              Z    5  0212  B 221 L            173
1128                B      START                                              Z    4  0217  B N75              173
1129         *
1130         *TAPE REDUNDANCY ROUTINE
1131         *
1132         TPERR  SBR    XL3                                                Z    4  0221  H 099              173
1133                SBR    REDXT&3                                            Z    4  0225  H 293              174
1134                MZ     &9,XL3                                             Z    7  0229  Y 464 099          174
1135                MCW    4000-10&X3,TPINS&7      BRING IN INSTRUCTION       Z    7  0236  M II0 284          174
1136                MN     TPINS&3,BSP1&3           THAT CAUSED               Z    7  0243  D 280 260          174
1137                MCW    TPINS&7,INST2&7          REDUNDANCY                Z    7  0250  M 284 393          174
1138         BSP1   BSP    INITAP                  BACKSPACE TAPE             Z    5  0257  U %U0 B            174
1139                BCE    WRTRD,TPINS&7,W         Q. WRITE REDUNDANCY        Z    8  0262  B 366 284 W        175
1140                MCW    &9,RDCT#1               INITIALIZE COUNTER         Z    7  0270  M 464 465          175
1141         TPINS  RT     INITAP,XXXX             RE-READ                    Z    8  0277  M %U0 000 R        175
1142                BER    RDERR                   Q. REDUNDANCY              Z    5  0285  B 294 L            175
1143         REDXT  B      XXXX                    EXIT                       Z    4  0290  B 000              175
1144         RDERR  MN     TPINS&3,BSP2&3                                     Z    7  0294  D 280 304          175
1145         BSP2   BSP    INITAP                  BACKSPACE AGAIN            Z    5  0301  U %U0 B            176
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 SEQ PG LIN  LABEL  OP     OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

1146                S      &1,RDCT                 REDUCE COUNTER             Z    7  0306  S 466 465          176
1147                BWZ    TPINS,RDCT,B            Q. 10 SUCCESSIVE RETRIES   Z    8  0313  V 277 465 B        176
1148                MN     TPINS&3,TPHLT&6                                    Z    7  0321  D 280 334          176
1149         TPHLT  H      XXXX,490                HALT                       Z    7  0328  . 000 490          176
1150                MCW    TPINS&7,*&8                                        Z    7  0335  M 284 349          177
1151                RT     INITAP,XXXX             RE-READ                    Z    8  0342  M %U0 000 R        177
1152                BSS    BSP1,E                  DETERMINE OPTION           Z    5  0350  B 257 E            177
1153                H      XXXX,402                HALT AGAIN                 Z    7  0355  . 000 402          177
1154                B      REDXT                   EXIT                       Z    4  0362  B 290              177
1155         WRTRD  SKP    SYSTAP                  ERASE TAPE                 Z    5  0366  U %U1 E            177
1156                BCE    SBCTR,WRTCR-1,5         Q. FIFTY SKIPS             Z    8  0371  B 403 467 5        178
1157                A      &1,WRTCR#2              INCREASE COUNT             Z    7  0379  A 466 468          178
1158         INST2  WT     INITAP,XXXX             RE-WRITE                   Z    8  0386  M %U0 000 W        178
1159                BER    BSP1                    Q. REDUNDANCY AGAIN        Z    5  0394  B 257 L            178
1160                B      REDXT                                              Z    4  0399  B 290              178
1161         SBCTR  S      WRTCR                   RESET COUNTER              Z    4  0403  S 468              178
1162                MN     TPINS&3,*&7                                        Z    7  0407  D 280 420          179
1163                H      XXXX,460                HALT                       Z    7  0414  . 000 460          179
1164                B      INST2                                              Z    4  0421  B 386              179
1165         *
1166         * NOISE RECORD ROUTINE
1167         *
1168         NOISE  SBR    XL3                                                Z    4  0425  H 099              179
1169                SBR    NSXT&3                                             Z    4  0429  H 463              179
1170                MZ     &9,XL3                                             Z    7  0433  Y 464 099          179
1171         N2     BCE    4000-12&X3,XXXX,}       SCAN FOR GROUP MARK        Z    8  0440  B IH8 000 } GMARK  180
1172                CHAIN 12                                                  Z                         MACRO
1173                BCE                                                       Z    1  0448  B           GEN    180
1174                BCE                                                       Z    1  0449  B           GEN    180
1175                BCE                                                       Z    1  0450  B           GEN    180
1176                BCE                                                       Z    1  0451  B           GEN    180
1177                BCE                                                       Z    1  0452  B           GEN    180
1178                BCE                                                       Z    1  0453  B           GEN    180
1179                BCE                                                       Z    1  0454  B           GEN    181
1180                BCE                                                       Z    1  0455  B           GEN    181
1181                BCE                                                       Z    1  0456  B           GEN    181
1182                BCE                                                       Z    1  0457  B           GEN    181
1183                BCE                                                       Z    1  0458  B           GEN    181
1184                BCE                                                       Z    1  0459  B           GEN    181
1185         NSXT   B      XXXX                                               Z    4  0460  B 000              181
1186                LTORG *                                                   Z              0464
                    DCW    &9                                                 Z    1  0464              LIT    182
             RDCTZ  DCW    #01                                                Z    1  0465              AREA   182
                    DCW    &1                                                 Z    1  0466              LIT    182
             WRTCRZ DCW    #02                                                Z    2  0468              AREA   182
1187         *
1188         *END OF CONTROL CARD ANALYSIS, READ IN MAIN LINE
1189         *
1190         CWI98  CW     3998                                               Z    4  0469  ) I98              182
1191                SW     JOBSW                                              Z    4  0473  , 199              182
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 SEQ PG LIN  LABEL  OP     OPERANDS                                                   SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    B      PUT                                                          Z   4  0477  B 610                182
             RTNJB  CW     JOBSW                                                        Z   4  0481  ) 199                183
                    B      WRTP                                                         Z   4  0485  B 578                183
             LDOPTB RTW    SYSTAP,DOPROG                  READ IN MAIN LINE             Z   8  0489  L %U1 N75 R          183
                    NOP    0                                                            Z   4  0497  N 000                183
                    BER    TPERR                                                        Z   5  0501  B 221 L              183
                    CW     GRPMK5,GRPMK8                                                Z   7  0506  ) N74 H99            183
                    MLC    @0@,FACTOR-3                                                 Z   7  0513  M M83 H45            183
             *
             *BEGINNING OF MAIN LINE
             *
             BYPASS B      GET                            PROCESS BYPASSED CARDS        Z   4  0520  B 538                184
                    S      XL3&1                                                        Z   4  0524  S 100                184
                    S                                                                   Z   1  0528  S                    184
                    S                                                                   Z   1  0529  S                    184
                    B      CKCOM                                                        Z   4  0530  B 706                184
             *
             *BEGINNING OF NEW CARD ANALYSIS
             *
             NUREC  B      PUT                            PUT LAST RECORD ???           Z   4  0534  B 610                184
             GET    SBR    GETXT&3                        GET ROUTINE                   Z   4  0538  H 577                184
                    CS     INPUT&80                                                     Z   4  0542  / 080                185
                    SW     INPUT&21                                                     Z   4  0546  , 021                185
                    SBR    N2&6,INPUT&13                                                Z   7  0550  H 446 013            185
                    RT     INTAP,INPUT&1                  READ TAPE                     Z   8  0557  M %U4 001 R          185
                    B      NOISE                          CHECK FOR NOISE               Z   4  0565  B 425                185
                    BER    TPERR                                                        Z   5  0569  B 221 L              185
             GETXT  B      XXXX                           EXIT                          Z   4  0574  B 000                185
             *
             *IMAGE TO OUTPUT AREA
             *
             WRTP   SBR    WRTXT&3                                                      Z   4  0578  H 609                186
                    WT     OUTAP,OUTPUT&1                 WRITE TAPE                    Z   8  0582  M %U5 I18 W          186
                    NOP    0                                                            Z   4  0590  N 000                186
                    BER    TPERR                                                        Z   5  0594  B 221 L              186
                    MLC    @000@,HOLDC                                                  Z   7  0599  M M86 M91            186
             WRTXT  B      XXXX                                                         Z   4  0606  B 000                186
             PUT    SBR    PUTXT&3                                                      Z   4  0610  H 705                186
                    MLC    HOLDC,XL3                                                    Z   7  0614  M M91 099            187
                    MLC    IMAGE&80,OUTPUT&80&X3      WORK AREA TO OUTPUT               Z   7  0621  M 180 I17            187
                    CHAIN 10                                                            Z                        MACRO
                    MLC                                                                 Z   1  0628  M           GEN      187
                    MLC                                                                 Z   1  0629  M           GEN      187
                    MLC                                                                 Z   1  0630  M           GEN      187
                    MLC                                                                 Z   1  0631  M           GEN      187
                    MLC                                                                 Z   1  0632  M           GEN      187
                    MLC                                                                 Z   1  0633  M           GEN      188
                    MLC                                                                 Z   1  0634  M           GEN      188
                    MLC                                                                 Z   1  0635  M           GEN      188
                    MLC                                                                 Z   1  0636  M           GEN      188
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 SEQ PG LIN  LABEL  OP     OPERANDS                                                   SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    MLC                                                                 Z   1  0637  M           GEN      188
             TPYET  A      &80,HOLDC#3                                                  Z   7  0638  A M88 M91            188
             CKTAP  BCE    WRTP,XL3-2,0                   Q. WRITE YET                  Z   8  0645  B 578 097 0          188
                    BW     DCWXT,DCWSW2                   Q. DCW GT 30 CARDS            Z   8  0653  V J85 H92 1          189
                    BW     SPGLIN,INITSW                  Q. DA RECORD                  Z   8  0661  V 692 H87 1          189
                    CS     INPUT&80                       CLEAR INPUT AND               Z   4  0669  / 080                189
                    SW     INPUT&21                        IMAGE AREAS                  Z   4  0673  , 021                189
                    MRCM   INPUT&1,IMAGE&1                                              Z   7  0677  P 001 101            189
                    BW     RTNJB,JOBSW                    Q. JOB CARD                   Z   8  0684  V 481 199 1          189
             SPGLIN S      IMAGE&5                        WIPE OUT PG/LIN NUMBER        Z   4  0692  S 105                190
                    S      XL3&1                                                        Z   4  0696  S 100                190
                    S                                                                   Z   1  0700  S                    190
                    S                                                                   Z   1  0701  S                    190
             PUTXT  B      XXXX                                                         Z   4  0702  B 000                190
             SAVE2  ORG    *                                                            Z      0706   0706
             CKCOM  BCE    BYPASS,INPUT&6,*               Q. COMMENTS CARD              Z   8  0706  B 520 006 *          190
                    MN     INPUT&75,CK2&7                                               Z   7  0714  D 075 735            190
                    MZ     INPUT&75,CK2&7                                               Z   7  0721  Y 075 735            191
             CK2    BCE    BYPASS,@RSWZ@,0                                              Z   8  0728  B 520 M95 0          191
                    CHAIN 3                                                             Z                        MACRO
                    BCE                                                                 Z   1  0736  B           GEN      191
                    BCE                                                                 Z   1  0737  B           GEN      191
                    BCE                                                                 Z   1  0738  B           GEN      191
                    MLC    INPUT&84,IMAGE&80              ALTER NO TO FIXED FORM        Z   7  0739  M 084 180            191
                    BWZ    *&5,INPUT&6,2                  Q. IS THERE LABEL             Z   8  0746  V 758 006 2          191
                    B      PROLBL                         PROCESS LABEL                 Z   4  0754  B V38                192
                    MCW    INPUT&18,IMAGE&16              MNEMONIC TO FIXED FORM        Z   7  0758  M 018 116            192
                    SW     SCANSW                         RESET SCAN SWITCH             Z   4  0765  , N15                192
                    MLC    @000@,FREEA#3                                                Z   7  0769  M M86 M98            192
                    LCA    BLANK4,EQUADD                  RETRIEVE TABLE FUNCTION       Z   7  0776  L H62 N11            192
                    MCW    @I9I@,XL1                       THAT WAS                     Z   7  0783  M N01 089            192
             PLSCAN BCE    PLUSFD,INPUT&15&X1,&            GENERATED BY PASS 3          Z   8  0790  B 817 0/5 &          193
             GOBK   C      XL1,@I9G@                                                    Z   7  0798  C 089 N04            193
                    A      @I99@,XL1                                                    Z   7  0805  A N07 089            193
                    BL     PLSCAN                                                       Z   5  0812  B 790 T              193
             PLUSFD BCE    GOBK,INPUT&14&X1,&                                           Z   8  0817  B 798 0/4 &          193
                    SW     EQUADD&1&X1                                                  Z   4  0825  , N/2                193
                    MCW    INPUT&15,EQUADD#4                                            Z   7  0829  M 015 N11            194
                    S      XL1&2                                                        Z   4  0836  S 091                194
                    BW     INSTR,EQUADD                   Q. REGULAR INSTRUCTION        Z   8  0840  V N75 N11 1          194
                    BCE    CTRLOP,EQUADD,                 Q. CONTROL OP                 Z   8  0848  B C61 N11            194
                    B      INSTR                                                        Z   4  0856  B N75                194
             *
             *SCAN FOR COMMA OR BLANK
             *
             COMSCN SBR    CSCNXT&3                       INDEX LOCATION 3              Z   4  0860  H 932                194
                    S      XL3&1                           CONTAINS TOTAL               Z   4  0864  S 100                194
                    SW     INPUT&21&X2,SCANSW              POSITIONS SCANNED            Z   7  0868  , 0K1 N15            195
             TSTCOM A      &1,XL2                          INCLUDING COMMA OR           Z   7  0875  A N12 094            195
                    A      &1,XL3                          BLANK FOR OPERAND            Z   7  0882  A N12 099            195
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 SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

1292                BCE   PRSCXT,INPUT&20&X2,,       INDEX LOCATION 2             Z   8  0889  B 925 0K0 ,         195
1293                C     INPUT&21&X2,BLANK2          CONTAINS TOTAL              Z   7  0897  C 0K1 H60           195
1294                BE    CSCNXT                      POSITIONS SCANNED FOR       Z   5  0904  B 929 S             196
1295                C     XL2,@54@                    ALL OPERANDS                Z   7  0909  C 094 N14           196
1296                BE    SCNERR                     SCANSW SHOWS WHETHER         Z   5  0916  B 933 S             196
1297                B     TSTCOM                      SCAN TERMINATED BY          Z   4  0921  B 875               196
1298         PRSCXT CW    SCANSW#1                    COMMA OR TWO BLANKS         Z   4  0925  ) N15               196
1299         CSCNXT B     XXXX                                                    Z   4  0929  B 000               196
1300         SCNERR MZ    BBIT,IMAGE&5                                            Z   7  0933  Y 188 105           196
1301                BCE   CSCNXT,IMAGE&75,3                                       Z   8  0940  B 929 175 3         197
1302                B     NUREC                      ??? NUREC IS BROKEN          Z   4  0948  B 534               197
1303         *
1304         *CONVERT FREE TO FIXED
1305         *
1306         FR2FIX SBR   FR2FXT&3                                                Z   4  0952  H S32               197
1307                MCW   BLANK,W6AREA                                            Z   7  0956  M H59 H77           197
1308                MCW   XL2&1,XL3&1                                             Z   7  0963  M 095 100           197
1309         SCNDEX C     XL3,@04@                   ANY CHARACTER ADJ            Z   7  0970  C 099 N17           197
1310                BH    DOADRS                      OR INDEXING                 Z   5  0977  B /50 U             198
1311                BE    CKADJ                                                   Z   5  0982  B '17 S             198
1312                C     INPUT&18&X3,@&X@           Q. INDEXING                  Z   7  0987  C 0A8 N19           198
1313                BU    CKADJ                      PROCESS INDEXING             Z   5  0994  B '17 /             198
1314                MN    INPUT&19&X3,IMAGE&27&X1                                 Z   7  0999  D 0A9 1S7           198
1315                A     &K4K-3,XL3                                              Z   7  1006  A N22 099           198
1316                B     SCNDEX                                                  Z   4  1013  B 970               199
1317         CKADJ  BCE   CKMIN,INPUT&18&X3,&                                     Z   8  1017  B /34 0A8 &         199
1318         SCANB  EQU   *-1                        CHARACTER ADJUSTMENT         Z      1023
1319                BCE                              OR AREA DEFINITION           Z   1  1025  B                   199
1320                BCE                              LITERAL CODE                 Z   1  1026  B                   199
1321         DOMIN  BCE   ISADJ,INPUT&18&X3,-                                     Z   8  1027  B '51 0A8 -         199
1322                BCE                                                           Z   1  1035  B                   199
1323                BCE                                                           Z   1  1036  B                   199
1324                BCE   ISADJ,INPUT&18&X3,#                                     Z   8  1037  B '51 0A8 #         200
1325                BCE                                                           Z   1  1045  B                   200
1326                BCE                                                           Z   1  1046  B                   200
1327                B     DOADRS                                                  Z   4  1047  B /50               200
1328         ISADJ  SBR   W3AREA                     PROCESS CHARACTER            Z   4  1051  H H74               200
1329         PROADJ S     &SCANB,W3AREA               ADJUSTMENT                  Z   7  1055  S N25 H74           200
1330                MLC   XL2,HOLD3                                               Z   7  1062  M 094 H65           200
1331                MLNS  W3AREA,XL2                                              Z   7  1069  D H74 094           201
1332                MLC   @00@                                                    Z   4  1076  M N27               201
1333                MLC   INPUT&19&X3,W3AREA-4&X2                                 Z   7  1080  M 0A9 HP0           201
1334                S     XL2&1,XL3&1                                             Z   7  1087  S 095 100           201
1335                MZ    INPUT&20&X3,W3AREA-4&X2                                 Z   7  1094  Y 0B0 HP0           201
1336                MN    INPUT&20&X3,W6AREA                                      Z   7  1101  D 0B0 H77           201
1337                SW    IMAGE&24&X1                                             Z   4  1108  , 1S4               202
1338                A     W3AREA-4&X2,IMAGE&26&X1    ADD CHAR ADJUSTMENT TO       Z   7  1112  A HP0 1S6           202
1339                CW    IMAGE&24&X1                 FIXED FORM                  Z   4  1119  ) 1S4               202
1340                MLC   HOLD3,XL2                                               Z   7  1123  M H65 094           202
1341                B     SCNDEX                                                  Z   4  1130  B 970               202
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 SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

1342         CKMIN  SBR   W3AREA                     ACCOUNT FOR POSSIBLE         Z   4  1134  H H74               202
1343                BCE   DOMIN,INPUT&18&X3,-         MULTI-CHAR ADJ OF           Z   8  1138  B '27 0A8 -         202
1344                B     PROADJ                      &1-2 TYPE                   Z   4  1146  B '55               203
1345         DOADRS S     FREEA,XL3                  PROCESS ADDRESS              Z   7  1150  S M98 099           203
1346                C     XL3,&007                   Q. OLLEGAL ADDRESS           Z   7  1157  C 099 N30           203
1347                BL    FIXER                       LENGTH                      Z   5  1164  B S33 T             203
1348                A     FREEA,XL3                                               Z   7  1169  A M98 099           203
1349                MZ    BLANK,XL3                                               Z   7  1176  Y H59 099           203
1350                MCW   @'@,INPUT&20&X3                                         Z   7  1183  M N31 0B0           204
1351                MLC   FREEA,XL3                                               Z   7  1190  M M98 099           204
1352                MRCM  INPUT&21&X3,IMAGE&17&X1    MOVE ADDRESS TO IMAGE        Z   7  1197  P 0B1 1/7           204
1353                SBR   XL3                                                     Z   4  1204  H 099               204
1354                MZ    ABBIT,XL3                                               Z   7  1208  Y 189 099           204
1355                MCW   BLANK,4000-1&X3                                         Z   7  1215  M H59 II9           204
1356                MN    W6AREA,IMAGE&23&X1                                      Z   7  1222  D H77 1S3           205
1357         FR2FXT B     XXXX                       EXIT                         Z   4  1229  B 000               205
1358         FIXER  SW    FIXSW#1                                                 Z   4  1233  , N32               205
1359         OPDER  MCW   @000@,XL3                  CODE STATEMENT               Z   7  1237  M M86 099           205
1360                MZ    ABIT,IMAGE&5                BAD BUT PROCESSABLE         Z   7  1244  Y 187 105           205
1361                BCE   *&8,XL1,0                                               Z   8  1251  B S66 089 0         205
1362                MCW   @003@,XL3                                               Z   7  1259  M N35 099           206
1363                MCW   @###@,IMAGE&70&X3                                       Z   7  1266  M N38 1G0           206
1364                MZ    ABBIT,IMAGE&1&X3                                        Z   7  1273  Y 189 1?1           206
1365                BW    FR2FXT,FIXSW                                            Z   8  1280  V S29 N32 1         206
1366                B     LTER2                                                   Z   4  1288  B U09               206
1367         *
1368         *SCAN FOR SIGN
1369         *
1370         SCANAT SBR   SCNATX&3                                                Z   4  1292  H T85               206
1371                SW    INPUT&21&X2,SCANSW         SCAN IS EXECUTED FROM        Z   7  1296  , 0K1 N15           207
1372                ZA    @510@,XL3&1                 RIGHT TO LEFT               Z   7  1303  ? N41 100           207
1373         A1ALF  BCE   NDASCN,INPUT&21&X3,@                                    Z   8  1310  B T29 0B1 @         207
1374                S     &10,XL3&1                                               Z   7  1318  S N43 100           207
1375                B     A1ALF                                                   Z   4  1325  B T10               207
1376         NDASCN C     XL2,XL3                    Q. NO ENDING AT SIGN         Z   7  1329  C 094 099           208
1377                BE    LTERR                                                   Z   5  1336  B T94 S             208
1378                BCE   SETSW,INPUT&22&X3,,        Q. IS ENDING AT SIGN         Z   8  1341  B T86 0B2 ,         208
1379                C     INPUT&23&X3,BLANK2          FOLLOWED BY COMMA OR        Z   7  1349  C 0B3 H60           208
1380                BU    LTERR                       TWO BLANKS                  Z   5  1356  B T94 /             208
1381         SXL    S     XL2&1,XL3&1                                             Z   7  1361  S 095 100           208
1382                A     &2,XL3                                                  Z   7  1368  A N44 099           209
1383                A     XL3,XL2                                                 Z   7  1375  A 099 094           209
1384         SCNATX B     XXXX                       XXXX                         Z   4  1382  B 000               209
1385         SETSW  CW    SCANSW                                                  Z   4  1386  ) N15               209
1386                B     SXL                                                     Z   4  1390  B T61               209
1387         *
1388         *IMPROPERLY CODED STATEMENT ROUTINE
1389         *
1390         LTERR  MLZS  ABIT,IMAGE&5               MARK STATEMENT               Z   7  1394  Y 187 105           209
1391                CW    FIXSW                       BAD BUT PROCESSABLE         Z   4  1401  ) N32               209
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SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

1392               B     OPDER                                               Z   4  1405  B S37               210
1393        LTER2  B     COMSCN                                              Z   4  1409  B 860               210
1394               MCW   @@@,INPUT&20&X3                                     Z   7  1413  M N45 0B0           210
1395               A     &1,XL3                                              Z   7  1420  A N12 099           210
1396               B     SCNATX                                              Z   4  1427  B T82               210
1397        *
1398        *PLACE LITERALS ON  MASTER TAPE
1399        *
1400        CALL   BW    CKLOR,LITSW#1            Q. ANY LITERALS            Z   8  1431  V U85 N46 1         210
1401               RT    SYSTAP,INPUT&1           READ IN PROCESS            Z   8  1439  M %U1 001 R         211
1402               RTW   SYSTAP,DOPROG             LITERALS OVERLAP          Z   8  1447  L %U1 N75 R         211
1403               NOP   0                                                   Z   4  1455  N 000               211
1404               BER   TPERR                                               Z   5  1459  B 221 L             211
1405               B     OVLLIT                   GO TO ROUTINE              Z   4  1464  B N75               211
1406        RECALL RTW   SYSTAP,DOPROG            RECALL MAIN LINE           Z   8  1468  L %U1 N75 R         211
1407               NOP   0                         OVERLAP                   Z   4  1476  N 000               212
1408               BER   TPERR                                               Z   5  1480  B 221 L             212
1409        CKLOR  BCE   BYPASS,IMAGE&75,         Q. LITERAL ORIGIN          Z   8  1485  B 520 175           212
1410               BCE   NUREC,IMAGE&75,C         Q. EXECUTE                 Z   8  1493  B 534 175 C         212
1411               RT    SYSTAP,INPUT&1           SKIP PAST OVERLAPS         Z   8  1501  M %U1 001 R         212
1412               RT    SYSTAP,INPUT&1            AND READ IN END OF        Z   8  1509  M %U1 001 R         213
1413               RTW   SYSTAP,EOJRT              JOB OVERLAP               Z   8  1517  L %U1 706 R         213
1414               NOP   0                                                   Z   4  1525  N 000               213
1415               BER   TPERR                                               Z   5  1529  B 221 L             213
1416               B     EOJRT                                               Z   4  1534  B 706               213
1417        *
1418        *GENERATE ENTRY ADDRESS FOR LABELS
1419        *
1420        PROLBL SBR   XTLABL&3                                            Z   4  1538  H V77               213
1421               MLC   INPUT&11,IMAGE&13                                   Z   7  1542  M 011 113           214
1422               MLC   IMAGE&13,W6AREA                                     Z   7  1549  M 113 H77           214
1423               B     PROLAB                                              Z   4  1556  B W47               214
1424               MLC   W3AREA,IMAGE&56                                     Z   7  1560  M H74 156           214
1425               A     &1,TOTLBL                                           Z   7  1567  A N12 198           214
1426        XTLABL B     XXXX                                                Z   4  1574  B 000               214
1427        *
1428        *CONVERT FREE FORM NUMBER TO FIVE CHARACTERS
1429        *
1430        CVRT5  SBR   CVT5XT&3                                            Z   4  1578  H V93               215
1431               BCE   *&5,W5AREA,&                                        Z   8  1582  B V94 H76 &         215
1432        CVT5XT B     XXXX                                                Z   4  1590  B 000               215
1433               ZA    W5AREA-1,W5AREA                                     Z   7  1594  ? H75 H76           215
1434               B     CVRT5&4                                             Z   4  1601  B V82               215
1435        *
1436        * CHECK FOR FINAL OPERAND
1437        *
1438        FNLOP  SBR   FNLXT&3                  Q. FINAL OPERAND           Z   4  1605  H W27               215
1439               BW    FNLXT,SCANSW              FOLLOWED BY TWO           Z   8  1609  V W24 N15 1         215
1440               MZ    ABIT,IMAGE&5              BLANKS                    Z   7  1617  Y 187 105           216
1441        FNLXT  B     XXXX                                                Z   4  1624  B 000               216
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SEQ PG LIN  LABEL  OP    OPERANDS                                           SFX CT  LOCN  INSTRUCTION TYPE  CARD

1442        *
1443        *CONVERT FLOATING A OPERAND ACTUAL ADDRESS TO FIVE CHARACTERS
1444        *
1445        CVTFLA SBR   FLAXT&3                                             Z   4  1628  H W46               216
1446               ZA    IMAGE&21,W5AREA                                     Z   7  1632  ? 121 H76           216
1447               B     CVRT5                    LINK TO SUBROUTINE         Z   4  1639  B V78               216
1448        FLAXT  B     XXXX                                                Z   4  1643  B 000               216
1449        *
1450        *CONVERT SYMBOLS TO THREE CHARACTER ENTRY ADDRESS
1451        *
1452        PROLAB SBR   LBLXT&3                                             Z   4  1647  H Y10               216
1453               ZA    &2,HOLD2                                            Z   7  1651  ? N44 H64           217
1454               BCE   *&5,W6AREA,              ADD SUFFIX CHAR TO         Z   8  1658  B W70 H77           217
1455               B     *&8                       LABELS FIVE CHARS         Z   4  1666  B W77               217
1456               MCW   SFXHLD,W6AREA             OR LESS                   Z   7  1670  M H86 H77           217
1457               ZA    W6AREA-2,HOLD4                                      Z   7  1677  ? H75 H71           217
1458               A     W6AREA,HOLD4             FOLD SYMBOL TO             Z   7  1684  A H77 H71           218
1459               A     W6AREA,HOLD4-2            FOUR CHARACTERS           Z   7  1691  A H77 H69           218
1460               MLZS  BLANK,HOLD4                                         Z   7  1698  Y H59 H71           218
1461               ZA    FACTOR,HOLD7             MULTIPLY BY FACTOR         Z   7  1705  ? H48 H84           218
1462        MPYLP  MLNS  HOLD7,HOLD1                                         Z   7  1712  D H84 H85           218
1463               ZA                                                        Z   1  1719  ?                   218
1464        MULT   BCE   NXTDGT,HOLD1,?           ??? & OR &0 ???            Z   8  1720  B X46 H85 ?         219
1465               A     HOLD4,HOLD7-2                                       Z   7  1728  A H71 H82           219
1466               S     &1,HOLD1                                            Z   7  1735  S N12 H85           219
1467               B     MULT                                                Z   4  1742  B X20               219
1468        NXTDGT S     &1,HOLD2                                            Z   7  1746  S N12 H64           219
1469               BWZ   MPYLP,HOLD2,B                                       Z   8  1753  V X12 H64 B         220
1470               S     W5AREA                                              Z   4  1761  S H76               220
1471               BAV   *&1                                                 Z   5  1765  B X70 Z             220
1472        LOOP1  A     &96,HOLD7-5              FOLD FIVE CHARACTER        Z   7  1770  A N48 H79           220
1473               BAV   LOOP1                     RESULT TO THREE           Z   5  1777  B X70 Z             220
1474               MLZS  HOLD7-6,W3AREA            CHARACTER TABLE ENTRY     Z   7  1782  Y H78 H74           220
1475               MLC   HOLD7-3                   ADDRESS                   Z   4  1789  M H81               221
1476               MLNS  HOLD7-5,*&4                                         Z   7  1793  D H79 Y03           221
1477               MLZS  ZONE,W3AREA-2                                       Z   7  1800  Y 189 H72           221
1478        LBLXT  B     XXXX                                                Z   4  1807  B 000               221
1479        *
1480        *PROCESS DCW, DC, DSA CARDS
1481        *
1482        DCWCD  BCE   DCWALF,INPUT&21,@        Q. ALPHA CONSTANT          Z   8  1811  B K44 021 @         221
1483               BCE   ARDEF,INPUT&21,#         Q. AREA DEFINITION         Z   8  1819  B L01 021 #         221
1484               BCE   CKDCW,INPUT&21,&         Q. NUMERIC LITERAL         Z   8  1827  B Y58 021 &         222
1485               BCE   CKDCW,INPUT&21,-                                    Z   8  1835  B Y58 021 -         222
1486               MLC   INPUT&72,INPUT&73        SHIFT RIGHT                Z   7  1843  M 072 073           222
1487               MLC   @&@                                                 Z   4  1850  M N49               222
1488               SW    DCWSW                    SET NO ZONING SWITCH       Z   4  1854  , H89               222
1489        CKDCW  B     COMSCN                   SCAN FOR BLANK             Z   4  1858  B 860               222
1490               BCE   ISDSA,INPUT&22,@         Q. ADCON OF LITERAL        Z   8  1862  B Y90 022 @         223
1491               B     FNLOP                    CHECK LAST OPERAND         Z   4  1870  B W05               223
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1492                BCE   ISDSA,IMAGE&75,J          Q. DSA STATEMENT         Z   8  1874  B Y90 175 J        223
1493                BWZ   ISDCW,INPUT&22,2          Q. DC, DCW STATEMENT     Z   8  1882  V K71 022 2        223
1494         *
1495         *PROCESS DSA CARDS, SUBSET OF DCW
1496         *
1497         ISDSA  MLC   @011@,XL1                                          Z   7  1890  M N52 089          223
1498                MLNS  &2,IMAGE&75               CODE RECORD              Z   7  1897  D N44 175          224
1499                MZ    INPUT&21,IMAGE&27                                  Z   7  1904  Y 021 127          224
1500                MCW   BLANK,INPUT&21                                     Z   7  1911  M H59 021          224
1501                BWZ   *&5,IMAGE&75,K                                     Z   8  1918  V Z30 175 K        224
1502                B     *&8                                                Z   4  1926  B Z37              224
1503                MZ    BLANK,IMAGE&75                                     Z   7  1930  Y H59 175          225
1504                SW    DSASW2                        SET DSA SWITCH       Z   4  1937  , H91              225
1505                MLC   @001@,FREEA                                        Z   7  1941  M N55 M98          225
1506                MCW   INPUT&34,IMAGE&53                                  Z   7  1948  M 034 153          225
1507                BCE   DSADC,INPUT&22,@                                   Z   8  1955  B L54 022 @        225
1508                BCE   DSADC,INPUT&22,&                                   Z   8  1963  B L54 022 &        226
1509                BCE   DSADC,INPUT&22,-                                   Z   8  1971  B L54 022 -        226
1510                B     FR2FIX                    CONVERT FREE TO FIXED    Z   4  1979  B 952              226
1511                MZ    IMAGE&27,INPUT&21                                  Z   7  1983  Y 127 021          226
1512         DSAX1  MZ    IMAGE&27,IMAGE&40                                  Z   7  1990  Y 127 140          226
1513                MLC   @03@,IMAGE&7              INSERT COUNT             Z   7  1997  M N57 107          227
1514                MLC   @03@,XL2                                           Z   7  2004  M N57 094          227
1515         CKAOP  BCE   DCWAST,INPUT&6,           Q. ANY LABEL             Z   8  2011  B !68 006          227
1516                BWZ   DCWAST,IMAGE&75,S         Q. LITERAL               Z   8  2019  V !68 175 S        227
1517                BWZ   *&5,INPUT&6,2             Q. ACTUAL ADDRESS        Z   8  2027  V !39 006 2        227
1518                B     DCWAST                                             Z   4  2035  B !68              228
1519                MLC   INPUT&10,IMAGE&21         PROCESS ACTUAL           Z   7  2039  M 010 121          228
1520                B     CVTFLA                     ADDRESS                 Z   4  2046  B W28              228
1521         DCWACT MLC   W5AREA,IMAGE&21           ADDRESS TO FIXED         Z   7  2050  M H76 121          228
1522                MLC   W5AREA,IMAGE&61            FORM                    Z   7  2057  M H76 161          228
1523                B     CKMACR                                             Z   4  2064  B !89              228
1524         DCWAST A     XL2,ORGCTR                BUMP ORIGIN COUNTER      Z   7  2068  A 094 H58          229
1525         BMPCTR MCW   @*@,IMAGE&17              SET TO DCW *             Z   7  2075  M N58 117          229
1526         DSETAD A     ORGCTR,IMAGE&61           ASSIGN ADDRESS           Z   7  2082  A H58 161          229
1527         CKMACR BCE   NUREC,IMAGE&75,P          Q. EQU STATEMENT         Z   8  2089  B 534 175 P        229
1528                BCE   NUREC,IMAGE&75,X          Q. DS STATEMENT          Z   8  2097  B 534 175 X        229
1529                BW    DCWXT,DSASW2              Q. DSA STATEMENT         Z   8  2105  V J85 H91 1        230
1530                MLC   INPUT&51,IMAGE&53         MOVE CONSTANT TO         Z   7  2113  M 051 153          230
1531                MLC                              FIXED FORM              Z   1  2120  M                  230
1532                MLC                                                      Z   1  2121  M                  230
1533                MLC   XL2,IMAGE&7               COUNT TO FIXED FORM      Z   7  2122  M 094 107          230
1534                C     XL2,@030@                 Q. COUNT GREATER THAN    Z   7  2129  C 094 N61          230
1535                BH    DCWXT                     30                       Z   5  2136  B J85 U            230
1536                MN    @8@,INPUT&75              WRITE FREE FORM RECORD   Z   7  2141  D N62 075          231
1537                BWZ   *&8,IMAGE&75,B             ON TAPE                 Z   8  2148  V J63 175 B        231
1538                MZ    IMAGE&75,INPUT&75                                  Z   7  2156  Y 175 075          231
1539                MCW   HOLDC,XL3                                          Z   7  2163  M M91 099          231
1540                MCW   INPUT&80,OUTPUT&80&X3                              Z   7  2170  M 080 II7          231
1541                SW    DCWSW2                                             Z   4  2177  , H92              232
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1542                B     TPYET                                              Z   4  2181  B 638              232
1543         DCWXT  CW    DSASW2,DCWSW2             RESET SWITCHES           Z   7  2185  ) H91 H92          232
1544                BW    *&5,LITSW2                                         Z   8  2192  V K04 H90 1        232
1545                B     NUREC                                              Z   4  2200  B 534              232
1546                BCE   LITRTN,INPUT&21,@                                  Z   8  2204  B P31 021 @        232
1547                BCE   LTGEN,INPUT&22,&          Q. ADCON OF LITERAL      Z   8  2212  B M00 022 &        233
1548                BCE   LTGEN,INPUT&22,-                                   Z   8  2220  B M00 022 -        233
1549                BCE   LTGEN,INPUT&22,@                                   Z   8  2228  B M00 022 @        233
1550                B     LITRTN                                             Z   4  2236  B P31              233
1551         PDCWLF S     XL2&2                                              Z   4  2240  S 096              233
1552         DCWALF B     SCANAT                    SCAN FOR ENDING AT SIGN  Z   4  2244  B S92              233
1553                B     FNLOP                     CHECK LAST OPERAND       Z   4  2248  B W05              234
1554                BW    ACNRT,DSASW2              Q. ADCON OF LITERAL      Z   8  2252  V L62 H91 1        234
1555                S     &30,XL2&1                                          Z   7  2260  S N64 095          234
1556                B     CKAOP                                              Z   4  2267  B !11              234
1557         ISDCW  S     &20,XL2&1                                          Z   7  2271  S N66 095          234
1558                BW    NOZONE,DCWSW              Q. CONSTANT ZONED        Z   8  2278  V K93 H89 1        234
1559                MLZS  INPUT&21,INPUT&21&X2      ZONE CONSTANT            Z   7  2286  Y 021 0K1          235
1560         NOZONE CW    DCWSW                                              Z   4  2293  ) H89              235
1561                B     CKAOP                                              Z   4  2297  B !11              235
1562         ARDEF  SW    INPUT&22                  PROCESS AREA             Z   4  2301  , 022              235
1563                ZA    INPUT&24,W5AREA                                    Z   7  2305  ? 024 H76          235
1564                B     CVRT5                                              Z   4  2312  B V78              235
1565                MLZS  ABBIT,IMAGE&4             CODE RECORD              Z   7  2316  Y 189 104          235
1566                MLNS  W5AREA,XL2                                         Z   7  2323  D H76 094          236
1567                MLC                                                      Z   1  2330  M                  236
1568                C     XL2,@053@                 Q. ILLEGAL LENGTH        Z   7  2331  C 094 N69          236
1569                BH    CKAOP                                              Z   5  2338  B !11 U            236
1570                MZ    BBIT,IMAGE&5              MARK BAD STATEMENT       Z   7  2343  Y 188 105          236
1571                B     CKAOP                                              Z   4  2350  B !11              236
1572         DSADC  BCE   PDCWLF,INPUT&22,@         Q. ADCON OF ALPHA LIT    Z   8  2354  B K40 022 @        236
1573         ACNRT  S     &10,XL3&1                                          Z   7  2362  S N43 100          237
1574                MCW   XL3,W3AREA                                         Z   7  2369  M 099 H74          237
1575                C     XL3,@006@                 Q. LARGE LITERAL         Z   7  2376  C 099 N72          237
1576                BL    DOBIG                                              Z   5  2383  B A57 T            237
1577                BCE   XALF1,INPUT&22,@          Q. ALPHA LITERAL         Z   8  2388  B ?93 022 @        237
1578                B     XLIT1                                              Z   4  2396  B B82              237
1579         LTGEN  B     PUT                       PUT ADCON                Z   4  2400  B 610              238
1580                MCW   @/@,IMAGE&75              SET UP LITERAL           Z   7  2404  M N73 175          238
1581                MCW   LAREA&72,INPUT&72          TO BE PROCESSED         Z   7  2411  M H31 072          238
1582                MCW                             NOTE, ADDRESS CONSTANT   Z   1  2418  M                  238
1583                MCW                              LOGIC MAKES IT          Z   1  2419  M                  238
1584                MCW                              RECURSIVE               Z   1  2420  M                  238
1585                MCW   LAREA&74,LAREA&73                                  Z   7  2421  M H33 H32          238
1586                B     PROLBL                                             Z   4  2428  B V38              239
1587                S     XL2&2                                              Z   4  2432  S 096              239
1588                S                                                        Z   1  2436  S                  239
1589                B     DCWCD                                              Z   4  2437  B Y11              239
1590         *
1591         *CALL IN DA ROUTINE
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

1592         *
1593         DARTN  RTW   SYSTAP,DOPROG             CALL DA ROUTINE            Z   8  2441  L %U1 N75 R        239
1594                NOP   0                                                    Z   4  2449  N 000              239
1595                BER   TPERR                                                Z   5  2453  B 221 L            239
1596                B     DASTMT                    GO TO DA ROUTINE           Z   4  2458  B N75              240
1597         FINDA  RTW   SYSTAP,DOPROG                                        Z   8  2462  L %U1 N75 R        240
1598                NOP   0                                                    Z   4  2470  N 000              240
1599                BER   TPERR                                                Z   5  2474  B 221 L            240
1600                B     CKCOM                                                Z   4  2479  B 706              240
1601                LTORG *                                                    Z             2483
                    DCW   @0@                                                  Z   1  2483              LIT    240
                    DCW   @000@                                                Z   3  2486              LIT    240
                    DCW   &80                                                  Z   2  2488              LIT    241
             HOLDCZ DCW   #03                                                  Z   3  2491              AREA   241
                    DCW   @RSWZ@                                               Z   4  2495              LIT    241
             FREEAZ DCW   #03                                                  Z   3  2498              AREA   241
                    DCW   @I9I@                                                Z   3  2501              LIT    241
                    DCW   @I9G@                                                Z   3  2504              LIT    241
                    DCW   @I99@                                                Z   3  2507              LIT    241
             EQUADD DCW   #04                                                  Z   4  2511              AREA   242
                    DCW   &1                                                   Z   1  2512              LIT    242
                    DCW   @54@                                                 Z   2  2514              LIT    242
             SCANSW DCW   #01                                                  Z   1  2515              AREA   242
                    DCW   @04@                                                 Z   2  2517              LIT    242
                    DCW   @&X@                                                 Z   2  2519              LIT    242
                    DCW   &K4KZ-3                                              Z   3  2522  I97         ADCON  242
                    DCW   &SCANBZ                                              Z   3  2525  '23         ADCON  243
                    DCW   @00@                                                 Z   2  2527              LIT    243
                    DCW   &007                                                 Z   3  2530              LIT    243
                    DCW   @'@                                                  Z   1  2531              LIT    243
             FIXSWZ DCW   #01                                                  Z   1  2532              AREA   243
                    DCW   @003@                                                Z   3  2535              LIT    243
                    DCW   @###@                                                Z   3  2538              LIT    243
                    DCW   @510@                                                Z   3  2541              LIT    244
                    DCW   &10                                                  Z   2  2543              LIT    244
                    DCW   &2                                                   Z   1  2544              LIT    244
                    DCW   @@@                                                  Z   1  2545              LIT    244
             LITSWZ DCW   #01                                                  Z   1  2546              AREA   244
                    DCW   &96                                                  Z   2  2548              LIT    244
                    DCW   @&@                                                  Z   1  2549              LIT    244
                    DCW   @011@                                                Z   3  2552              LIT    245
                    DCW   @001@                                                Z   3  2555              LIT    245
                    DCW   @03@                                                 Z   2  2557              LIT    245
                    DCW   @*@                                                  Z   1  2558              LIT    245
                    DCW   @030@                                                Z   3  2561              LIT    245
                    DCW   @8@                                                  Z   1  2562              LIT    245
                    DCW   &30                                                  Z   2  2564              LIT    245
                    DCW   &20                                                  Z   2  2566              LIT    246
                    DCW   @053@                                                Z   3  2569              LIT    246
                    DCW   @006@                                                Z   3  2572              LIT    246
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    DCW   @/@                                                  Z   1  2573              LIT    246
1602         GRPMK5 DCW   @}@                                                  Z   1  2574              GMARK  246
1603                EX    DOZERO                                               Z            B 000              247
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                     1401 AUTOCODER-PASS 4 PROCESS JOB/CTL     -VERSION 3       3742L             PAGE   37

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

1604                JOB   1401 AUTOCODER-PASS 4 PROCESS JOB/CTL     -VERSION 3 Z
1605         *
1606         *PROCESS CONTROL CARD
1607         *
1608         DOPROG ORG   *                                               Z       2575   2575
1609         START  CS    INPUT&84                                        Z    4  2575  / 084               250
1610                CS    3999                                            Z    4  2579  / I99               250
1611                SW    INPUT&21,INPUT&81         SET WORD MARKS IN     Z    7  2583  , 021 081           250
1612                SW    IMAGE&1,IMAGE&6            FIXED FORM IMAGE AREA   Z    7  2590  , 101 106           250
1613                SW    IMAGE&8,IMAGE&14                                Z    7  2597  , 108 114           250
1614                SW    IMAGE&17,IMAGE&28                               Z    7  2604  , 117 128           250
1615                SW    IMAGE&39,IMAGE&57                               Z    7  2611  , 139 157           251
1616                SW    IMAGE&62,IMAGE&67                               Z    7  2618  , 162 167           251
1617                SW    IMAGE&23                                        Z    4  2625  , 123               251
1618                SW    GRPMK1,GRPMK8             INITIALIZE GROUP MARKS   Z    7  2629  , 085 H99           251
1619                SW    GRPMK3,GRPMK4                                   Z    7  2636  , H44 185           251
1620                CW    INITSW                                          Z    4  2643  ) H87               251
1621                RWD   INTAP                                           Z    5  2647  U %U4 R             252
1622                RWD   OUTAP                                           Z    5  2652  U %U5 R             252
1623                RWD   LITAPE                                          Z    5  2657  U %U6 R             252
1624                MLC   @000@,HOLDC                                     Z    7  2662  M R16 M91           252
1625                B     GET                       GET JOB CARD          Z    4  2669  B 538               252
1626                MCW   INPUT&80,IMAGE&21         PROCESS JOB CARD      Z    7  2673  M 080 121           252
1627                MCW   @I@,IMAGE&75               IDENTIFICATION       Z    7  2680  M R17 175           253
1628                SW    3998                                            Z    4  2687  , I98               253
1629                B     GET                       GET SECOND RECORD     Z    4  2691  B 538               253
1630                BCE   NOCTL,INPUT&6,*           Q. COMMENTS CARD      Z    8  2695  B Q71 006 *         253
1631                C     INPUT&18,@CTL@            Q. CONTROL CARD       Z    7  2703  C 018 R20           253
1632                BU    NOCTL                                           Z    5  2710  B Q71 /             253
1633                MLNS  INPUT&21,CTL3&7           CHECK PROCESSOR SIZE  Z    7  2715  D 021 P29           254
1634         CTL3   BCE   CTL2,CKPRO,                FOR VALID CODE       Z    8  2722  B P37 R13           254
1635                BCE                                                   Z    1  2730  B                   254
1636                BCE                                                   Z    1  2731  B                   254
1637                BCE                                                   Z    1  2732  B                   254
1638                B     NOCTL                                           Z    4  2733  B Q71               254
1639         CTL2   MLC   INPUT&21,PROCOR           INITIALIZE AREAS      Z    7  2737  M 021 194           254
1640                ZA    INPUT&21,XL1                                    Z    7  2744  ? 021 089           255
1641                S     &30,XL1&1                  PROCESSOR MACHINE    Z    7  2751  S R22 090           255
1642                A     XL1                        SIZE                 Z    4  2758  A 089               255
1643                A     XL1                                             Z    4  2762  A 089               255
1644                MLC   FCTBL&X1,FACTOR                                 Z    7  2766  M QZ7 H48           255
1645                MLC   @0@,FACTOR-3                                    Z    7  2773  M R23 H45           255
1646                MLC   FCTBL-3&X1,CKTAP&7                              Z    7  2780  M QZ4 652           256
1647                BCE   IS16K,INPUT&21,6          Q. 16K PROCESSOR      Z    8  2787  B Q52 021 6         256
1648                BCE   IS16K,INPUT&21,5          Q. 16K PROCESSOR      Z    8  2795  B Q52 021 5         256
1649                BCE   IS8K,INPUT&21,4           Q. 8K PROCESSOR       Z    8  2803  B Q33 021 4         256
1650                MLC   @3@,PROCOR                                      Z    7  2811  M R24 194           256
1651         *
1652         * INITIALIZE OUTPUT AREA AND SET UP BLOCKING SIZE
1653         *
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                     1401 AUTOCODER-PASS 4 PROCESS JOB/CTL     -VERSION 3       3742L             PAGE   38

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

1654         IS4K   LCA   GRPMK8,3998               SET GROUP MARK AT END   Z    7  2818  L H99 I98           257
1655                B     PUT                                             Z    4  2825  B 610               257
1656                B     LDOPTB                     OF OUTPUT AREA       Z    4  2829  B 489               257
1657         IS8K   LCA   GRPMK8,4318                                     Z    7  2833  L H99 31Y           257
1658                MCW   @%@                                             Z    4  2840  M R25               257
1659                MCW   4317                                            Z    4  2844  M 31X               257
1660                B     CWI98                                           Z    4  2848  B 469               257
1661         IS16K  LCA   GRPMK8,4718                                     Z    7  2852  L H99 71Y           258
1662                MCW   @%@                                             Z    4  2859  M R25               258
1663                MCW   4717                                            Z    4  2863  M 71X               258
1664                B     CWI98                                           Z    4  2867  B 469               258
1665         NOCTL  MLC   FCTBL,FACTOR              PROCESS WHEN NO       Z    7  2871  M Q97 H48           258
1666                MLC   @3@,PROCOR                 CONTROL CARD         Z    7  2878  M R24 194           258
1667                BSP   INTAP                                           Z    5  2885  U %U4 B             258
1668                B     IS4K                                            Z    4  2890  B Q18               259
1669         FCTBL  DCW   0015                                            Z    4  2897                      259
1670                DCW   3051                                            Z    4  2901                      259
1671                DCW   7087                                            Z    4  2905                      259
1672                DCW   7127                                            Z    4  2909                      259
1673         CKPRO  DCW   3456                                            Z    4  2913                      259
1674                LTORG *                                               Z              2914
                    DCW   @000@                                           Z    3  2916             LIT    259
                    DCW   @I@                                             Z    1  2917             LIT    260
                    DCW   @CTL@                                           Z    3  2920             LIT    260
                    DCW   &30                                             Z    2  2922             LIT    260
                    DCW   @0@                                             Z    1  2923             LIT    260
                    DCW   @3@                                             Z    1  2924             LIT    260
                    DCW   @%@                                             Z    1  2925             LIT    260
1675         *
1676         *M A I N   L I N E   C O N S T A N T S   A N D   W O R K   A R E A S
1677         *
1678         *LITERAL HOLD AREA
1679         *
1680                ORG   SAVE                                            Z              3760
1681         LAREA  EQU   *                                               Z       3759
1682                DCW   &00000                                          Z    5  3764                      261
1683                DCW   #10                                             Z   10  3774                      261
1684                DCW   @DCW  @                                         Z    5  3779                      261
1685                DCW   #1                                              Z    1  3780                      261
1686                DS    53                                              Z       3833
1687                DCW   @/@                                             Z    1  3834                      262
1688                DS    9                                               Z       3843
1689         GRPMK3 DC    @}@                                             Z    1  3844             GMARK  263
1690         HLDLIT EQU   LAREA&1                                         Z       3760
1691         *
1692         *CONSTANTS AND WORK AREAS
1693         *
1694         FACTOR DCW   @0000@                    LABEL CONVERSION FACTOR   Z    4  3848                      263
1695         BIGCTR DCW   @00000@                   BIG LITERAL LABEL CNTR   Z    5  3853                      263
1696         ORGCTR DCW   @00332@                   ORIGIN COUNTER        Z    5  3858                      263
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

1697         BLANK4 DCW   #4                           BLANKS                    Z   4  3862                     263
1698         B2CNTR DCW   #5                           WORK AREA                 Z   5  3867                     264
1699         HOLD4  DCW   #4                           WORK AREA                 Z   4  3871                     264
1700         W6AREA DCW   #6                           WORK AREA                 Z   6  3877                     264
1701         HOLD7  DCW   #7                           USED FOR LABEL            Z   7  3884                     264
1702         HOLD1  DCW   &0                            CONVERSION ONLY          Z   1  3885                     264
1703         SFXHLD DCW   0                            SUFFIX CHARACTER          Z   1  3886                     264
1704         INITSW DCW   0                            DA SWITCH                 Z   1  3887                     264
1705         MARKSW DC    0                            DA SWITCH                 Z   1  3888                     264
1706         DCWSW  DC    0                            DCW SWITCH                Z   1  3889                     264
1707         LITSW2 DC    0                            LITERAL SWITCH            Z   1  3890                     264
1708         DSASW2 DC    0                            DSA SWITCH                Z   1  3891                     264
1709         DCWSW2 DC    0                            DCW SWITCH                Z   1  3892                     264
1710         GRPMK8 EQU   3899                                                   Z      3899
1711         3899   DCW   @}@                          SYSTEM GROUP MARK         Z   1  3899              GMARK  265
1712                EX    DOZERO                                                 Z            B 000                266
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

1713                JOB   1401 AUTOCODER-PASS 4 MAIN LINE OVERLAY   -VERSION 3 Z
1714         *
1715         *PROCESS INSTRUCTION STATEMENTS
1716         *
1717                ORG   DOPROG                                                 Z              2575
1718         INSTR  MCW   EQUADD,IMAGE&67          GET ACTUAL OP                 Z   7  2575  M N11 167            269
1719                CW    LENSW#1                  RESET SWITCH                  Z   4  2582  ) G34                269
1720                MLC   @01@,IMAGE&7             SET COUNT TO 1                Z   7  2586  M G36 107            269
1721                BW    *&5,EQUADD               Q. REGULAR OP CODE            Z   8  2593  V O05 N11 1          269
1722                B     AUGMNT                                                 Z   4  2601  B R06                269
1723         DOCNT  BCE   DONE,INPUT&21&X2,        Q. IS THERE OPERAND           Z   8  2605  B P31 0K1            269
1724                BCE   XISALF,INPUT&21&X2,@     Q. ALPHAMERIC LITERAL         Z   8  2613  B ?77 0K1 @          270
1725                LCA   BLANK2&1,INPUT&20&X2     WIPE OUT PREV OPERAND         Z   7  2621  L H61 0K0            270
1726                B     COMSCN                   SCAN FOR COMMA, BLANK         Z   4  2628  B 860                270
1727                MLC   XL3,W3AREA                                             Z   7  2632  M 099 H74            270
1728                MLC   FREEA,XL3                                              Z   7  2639  M M98 099            270
1729                BCE   XISLIT,INPUT&21&X3,&     Q. NUMERIC LITERAL OR         Z   8  2646  B B51 0B1 &          271
1730                BCE   XISLIT,INPUT&21&X3,-      ADDRESS CONSTANT             Z   8  2654  B B51 0B1 -          271
1731                B     FR2FIX                   CONVERT FREE TO FIXED         Z   4  2662  B 952                271
1732                BCE   SMLTYP,IMAGE&23&X1,#     Q. AREA DEF LITERAL           Z   8  2666  B ?40 1S3 #          271
1733         CKDONE A     &3,IMAGE&7               ADD THREE TO COUNT            Z   7  2674  A G37 107            271
1734                BW    FREMOD,LENSW             Q. FIVE CHAR INST             Z   8  2681  V P39 G34 1          272
1735                C     XL1,@010@                Q. B OPERAND JUST             Z   7  2689  C 089 G40            272
1736                BL    DONE                      PROCESSED                    Z   5  2696  B P31 T              272
1737                MLC   @011@,XL1                                              Z   7  2701  M G43 089            272
1738                BW    *&5,SCANSW               Q. TWO BLANKS AFTER OP        Z   8  2708  V P20 N15 1          272
1739                B     ELMBLK                   ELIMINATE BLANKS              Z   4  2716  B Q83                272
1740         INTXL1 MCW   XL2,FREEA                                              Z   7  2720  M 094 M98            273
1741                B     DOCNT                                                  Z   4  2727  B O05                273
1742         DONE   BW    CKMOD1,SCANSW            Q. D MODIFIER IN              Z   8  2731  V Q03 N15 1          273
1743         FREMOD MLC   INPUT&21&X2,IMAGE&39      OPERAND FIELD                Z   7  2739  M 0K1 139            273
1744                BCE   *&5,IMAGE&39,            Q. D MODIFIER OFFSET          Z   8  2746  B P58 139            273
1745                B     C1                        ONE POSITION                 Z   4  2754  B P80                273
1746                BCE   C1,INPUT&22&X2,          IF BOTH POSITIONS             Z   8  2758  B P80 0K2            274
1747                MCW   INPUT&22&X2,IMAGE&39      BLANK ASSUME FIRST           Z   7  2766  M 0K2 139            274
1748                A     &1,XL2                    BLANK SIGNIFICANT            Z   7  2773  A G44 094            274
1749         C1     C     INPUT&23&X2,BLANK2       Q. D MODIFIER                 Z   7  2780  C 0K3 H60            274
1750                BE    ISMOD                     FOLLOWED BY TWO              Z   5  2787  B Q11 S              274
1751                MZ    ABIT,IMAGE&5              BLANKS                       Z   7  2792  Y 187 105            275
1752                B     ISMOD                                                  Z   4  2799  B Q11                275
1753         CKMOD1 BCE   DOIADD,IMAGE&39,         Q. D CHARACTER                Z   8  2803  B Q32 139            275
1754         ISMOD  A     &1,IMAGE&7               PROCESS D CHARACTER           Z   7  2811  A G44 107            275
1755                MLC   IMAGE&7,XL2                                            Z   7  2818  M 107 094            275
1756                MLC   IMAGE&39,IMAGE&66&X2                                   Z   7  2825  M 139 1O6            276
1757         DOIADD MLC   ORGCTR,IMAGE&61          ASSIGN ADDRESS AND            Z   7  2832  M H58 161            276
1758                A     &1,IMAGE&61               BUMP UP COUNTER              Z   7  2839  A G44 161            276
1759                A     IMAGE&7,ORGCTR                                         Z   7  2846  A 107 H58            276
1760                MLC   BLANK,IMAGE&75           CODE RECORD                   Z   7  2853  M H59 175            276
1761                B     NUREC                                                  Z   4  2860  B 534                276
1762         LOOPBL A     &1,XL2                   WEED OUT BLANKS               Z   7  2864  A G44 094            277
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 SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

1763                C     XL2,@51@                  BETWEEN OPERANDS        Z   7  2871  C 094 G46          277
1764                BL    ERRBLK                                            Z   5  2878  B Q95 T            277
1765         ELMBLK BCE   LOOPBL,INPUT&21&X2,                               Z   8  2883  B Q64 0K1          277
1766                B     INTXL1                                            Z   4  2891  B P20              277
1767         ERRBLK MZ    ABIT,IMAGE&5                                      Z   7  2895  Y 187 105          277
1768                B     CKDONE                                            Z   4  2902  B O74              278
1769         *
1770         *PROCESS UNIQUE MNEMONICS
1771         *
1772         AUGMNT MCW   EQUADD-1,IMAGE&39         D MOD TO IMAGE AREA     Z   7  2906  M N10 139          278
1773                BCE   ISFIVE,EQUADD-1,          Q. BIN TYPE             Z   8  2913  B ?32 N10          278
1774         CKREG  BW    DOCNT,EQUADD-1            Q. TYPICAL UNIQUE MNEM  Z   8  2921  V O05 N10 1        278
1775                BW    TAPAUG,EQUADD-2           Q. TAPE TYPE            Z   8  2929  V R52 N09 1        278
1776                MCW   EQUADD-2,IMAGE&70         ERGO RAMAC TYPE         Z   7  2937  M N09 170          279
1777                MLC   @%@                                               Z   4  2944  M G47              279
1778                B     OPDONE                                            Z   4  2948  B ?21              279
1779         TAPAUG C     INPUT&21,@0@              PROCESS TAPE TYPE OF    Z   7  2952  C 021 G48          279
1780                BH    DOCNT                      UNIQUE MNEMONICS       Z   5  2959  B O05 U            279
1781                BCE   MSCSW,INPUT&22,,          CHECK FOR PROPERLY      Z   8  2964  B R95 022 ,        279
1782                C     INPUT&23,BLANK2           CODED A OPERAND         Z   7  2972  C 023 H60          280
1783                BE    GETPOP                                            Z   5  2979  B R99 S            280
1784                MCW   @###@,IMAGE&70                                    Z   7  2984  M G51 170          280
1785                B     OPDONE                                            Z   4  2991  B ?21              280
1786         MSCSW  CW    SCANSW                                            Z   4  2995  ) N15              280
1787         GETPOP MN    INPUT&21,IMAGE&70                                 Z   7  2999  D 021 170          280
1788                MCW   EQUADD-2                                          Z   4  3006  M N09              280
1789                MCW   @%@                                               Z   4  3010  M G47              281
1790                MLC   @002@,XL2                                         Z   7  3014  M G54 094          281
1791         OPDONE MLZS  ABBIT,IMAGE&1             MARK A OPERAND DONE     Z   7  3021  Y 189 101          281
1792                B     CKDONE                                            Z   4  3028  B O74              281
1793         ISFIVE SW    LENSW                     SET SWITCH FOR FIVE     Z   4  3032  , G34              281
1794                B     CKREG                      CHAR INSTRUCTION       Z   4  3036  B R21              281
1795         *
1796         *PROCESS AREA DEFINITION LITERAL
1797         *
1798         SMLTYP SW    IMAGE&24&X1               MOVE LENGTH TO          Z   4  3040  , 1S4              281
1799                MLC   IMAGE&26&X1,LAREA&24       LITERAL HOLD AREA      Z   7  3044  M 1S6 G83          282
1800                MLC   @#@                                               Z   4  3051  M G55              282
1801                CW    IMAGE&24&X1               REMOVE LENGTH FROM      Z   4  3055  ) 1S4              282
1802                MCW   BLANK4,IMAGE&26&X1         CHAR ADJ PORTION       Z   7  3059  M H62 1S6          282
1803                MCW   INPUT&84,LAREA&4           OF OPERAND AND SAVE    Z   7  3066  M 084 G63          282
1804                B     WRTLIT                     ALTER NUMBER           Z   4  3073  B A89              282
1805         *
1806         *PROCESS ALPHAMERIC LITERALS
1807         *
1808         XISALF B     SCANAT                    SCAN FOR AT SIGN        Z   4  3077  B S92              282
1809                C     XL3,@07@                  Q. BIG LITERAL          Z   7  3081  C 099 G57          283
1810                BL    DOBIG                                             Z   5  3088  B A57 T            283
1811         XALF1  A     XL3,XL1                                           Z   7  3093  A 099 089          283
1812                MCW   INPUT&19&X2,IMAGE&15&X1   GENERATE UNIQUE LABEL   Z   7  3100  M 0J9 1/5          283
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 SEQ PG LIN  LABEL  OP    OPERANDS                                               SFX CT  LOCN  INSTRUCTION TYPE  CARD

1813                BCE   GM1,FREE&18&X2,}           AND STRIP ZONING       Z   8  3107  B A43 0J8 } GMARK  283
1814                BCE                              OFF GROUP MARKS IN     Z   1  3115  B                  283
1815                BCE                              LITERAL TO ELIMINATE   Z   1  3116  B                  283
1816                BCE                              CONFLICT               Z   1  3117  B                  284
1817         ADD    S     XL3&1,XL1&1                WITH NOISE RECORD      Z   7  3118  S 100 090          284
1818                MZ    EXOVFL-1,IMAGE&17&X1       ROUTINE                Z   7  3125  Y 190 1/7          284
1819         SETEX  MCW   EXNUMB-1,IMAGE&22&X1      GIVE LITERAL SECTION    Z   7  3132  M 192 1S2          284
1820                B     PROLIT                     CODE                   Z   4  3139  B A82              284
1821         GM1    MZ    BLANK4,IMAGE&14&X1                                Z   7  3143  Y H62 1/4          284
1822                MZ                                                      Z   1  3150  Y                  284
1823                MZ                                                      Z   1  3151  Y                  285
1824                MZ                                                      Z   1  3152  Y                  285
1825                B     ADD                                               Z   4  3153  B A18              285
1826         *
1827         *PROCESS BIG LITERALS
1828         *
1829         DOBIG  MLC   BIGCTR,IMAGE&22&X1        GENERATE BIG LITERAL    Z   7  3157  M H53 1S2          285
1830                MLC   @$@                        LABEL                  Z   4  3164  M G58              285
1831                A     &1,BIGCTR                                         Z   7  3168  A G44 H53          285
1832                MCW   INPUT&84,LAREA&4          SAVE ALTER NUMBER       Z   7  3175  M 084 G63          285
1833         *
1834         *PLACE LITERALS IN HOLD AREA AND WRITE OUT ON LITERAL TAPE
1835         *
1836         PROLIT MLC   INPUT&19&X2,LAREA&19&X3   LITERAL TO HOLD AREA    Z   7  3182  M 0J9 GG8          286
1837         WRTLIT MLC   IMAGE&22&X1,LAREA&11      LITERAL LABEL TO AREA   Z   7  3189  M 1S2 G70          286
1838                BW    DSAX1,LITSW2                                      Z   8  3196  V Z90 H90 1        286
1839                WT    LITAPE,HLDLIT             WRITE OUT LITERAL       Z   8  3204  M %U6 G60 W        286
1840                NOP   0                                                 Z   4  3212  N 000              286
1841                BER   TPERR                                             Z   5  3216  B 221 L            286
1842                MCW   BLANK4,LAREA&4            CLEAR HOLD AREA         Z   7  3221  M H62 G63          287
1843                MLC   LAREA&74,LAREA&73                                 Z   7  3228  M H33 H32          287
1844                CW    LITSW                     SET SW TO INDICATE AT   Z   4  3235  ) N46              287
1845                BW    DSAX1,DSASW2              Q. RECURSIVE DCW        Z   8  3239  V Z90 H91 1        287
1846                B     CKDONE                    LEAST ONE LIT EXISTS    Z   4  3247  B O74              287
1847         *
1848         *PROCESS NUMERIC LITERALS
1849         *
1850         XISLIT C     INPUT&22&X3,@0@           Q. ADDRESS CONSTANT     Z   7  3251  C 0B2 G48          287
1851                MLC   W3AREA,XL3                                        Z   7  3258  M H74 099          288
1852                BH    DOBIG                                             Z   5  3265  B A57 U            288
1853                C     XL3,@07@                  Q. BIG LITERAL          Z   7  3270  C 099 G57          288
1854                BL    DOBIG                                             Z   5  3277  B A57 T            288
1855         XLIT1  A     XL1,XL3                   PROCESS SMALL NUMERIC   Z   7  3282  A 089 099          288
1856                MLC   INPUT&19&X2,IMAGE&14&X3    LITERALS               Z   7  3289  M 0J9 1A4          288
1857                MZ    EXOVFL-1,IMAGE&21&X1      GENERATE UNIQUE LABEL   Z   7  3296  Y 190 1S1          289
1858                MLC   FREEA,XL3                  FOR LITERAL            Z   7  3303  M M98 099          289
1859                MLZS  INPUT&21&X3,IMAGE&18&X1                           Z   7  3310  Y 0B1 1/8          289
1860                MLC   W3AREA,XL3                                        Z   7  3317  M H74 099          289
1861                B     SETEX                                             Z   4  3324  B A32              289
1862         *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

1863         *GENERATE LABEL ENTRY ADDRESS FOR SYMBOLIC OPERANDS
1864         *
1865         PROPND SBR   BOPXT&3                                                Z   4  3328  H C60                289
1866                B  BOPXT,IMAGE&17          ??? ORIGINALLY 7-CHAR BCE        Z   7  3332  B C57 117            290
1867                MCW   IMAGE&22,W6AREA                                        Z   7  3339  M 122 H77            290
1868                B     PROLAB                    LINK TO SUBROUTINE           Z   4  3346  B W47                290
1869                MLC   W3AREA,IMAGE&70                                        Z   7  3350  M H74 170            290
1870         BOPXT  B     XXXX                                                   Z   4  3357  B 000                290
1871         *
1872         *DETERMINE TYPE OF CONTROL OP
1873         *
1874         CTRLOP MCW   EQUADD-1,IMAGE&75         CODE RECORD                  Z   7  3361  M N10 175            290
1875                S     XL3&1                                                  Z   4  3368  S 100                291
1876                MN    EQUADD-1,XL3              BRANCH TO APPROPRIATE        Z   7  3372  D N10 099            291
1877                A     XL3                        ROUTINE                     Z   4  3379  A 099                291
1878                A     XL3                                                    Z   4  3383  A 099                291
1879                B     *&1&X3                                                 Z   4  3387  B CI1                291
1880                B     DARTN                                                  Z   4  3391  B M41                291
1881                B     DCWCD                                                  Z   4  3395  B Y11                291
1882                B     ERRHLT                                                 Z   4  3399  B D63                292
1883                B     EXEND                                                  Z   4  3403  B G10                292
1884                B     DOSFX                                                  Z   4  3407  B F92                292
1885                B     ERRHLT                                                 Z   4  3411  B D63                292
1886                B     ORGSTM                                                 Z   4  3415  B D74                292
1887                B     DSSTMT                                                 Z   4  3419  B F00                292
1888                B     INSPC                                                  Z   4  3423  B D38                292
1889                MCW   INPUT&80,IMAGE&21                                      Z   7  3427  M 080 121            293
1890                B     NUREC                                                  Z   4  3434  B 534                293
1891         INSPC  MCW   EQUADD-2,IMAGE&67         PROCESS CC, SS               Z   7  3438  M N09 167            293
1892                MCW   BLANK2,IMAGE&75            TYPE OF                     Z   7  3445  M H60 175            293
1893                MLC   @01@,IMAGE&7               INSTRUCTIONS                Z   7  3452  M G36 107            293
1894                B     FREMOD                                                 Z   4  3459  B P39                293
1895         ERRHLT H     0,0402                    SYSTEM ERROR HALT            Z   7  3463  . 000 402            294
1896                B     ERRHLT                     SHOULD NEVER OCCUR          Z   4  3470  B D63                294
1897         *
1898         *PROCESS LITERAL ORIGIN AND ORIGIN CARDS
1899         *
1900         ORGSTM B     COMSCN                    SCAN FOR BLANK               Z   4  3474  B 860                294
1901                B     FNLOP                     CHECK LAST OPERAND           Z   4  3478  B W05                294
1902                B     FR2FIX                    FREE TO FIXED FORM           Z   4  3482  B 952                294
1903                BCE   SUBORG,IMAGE&24,X         Q. ADJUSTMENT &XOD           Z   8  3486  B E63 124 X          294
1904                BCE   ORGPRO,IMAGE&17,*         Q. ASTERISK OPERAND          Z   8  3494  B E89 117 *          294
1905                ZS    &1,ORGCTR                 SET COUNTER TO -1            Z   7  3502  ! G44 H58            295
1906                BCE   ORGADJ,IMAGE&17,          Q. BLANK OPERAND             Z   8  3509  B E33 117            295
1907                BWZ   ORGCVT,IMAGE&17,2         Q. ACTUAL ORIGIN             Z   8  3517  V E78 117 2          295
1908                S     XL2&1                     PROCESS A OPERAND OF         Z   4  3525  S 095                295
1909                B     PROPND                     SYMBOLIC ORIGIN             Z   4  3529  B C28                295
1910         ORGADJ A     IMAGE&26,ORGCTR           ADD CHAR ADJUSTMENT          Z   7  3533  A 126 H58            295
1911         TYPORG MLC   ORGCTR,IMAGE&61           SAVE ORIGIN VALUE            Z   7  3540  M H58 161            296
1912                BCE   NUREC,INPUT&16,O          Q. ORIGIN CARD               Z   8  3547  B 534 016 O          296
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 SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

1913                B     PUT                       PUT LTORG RECORD             Z   4  3555  B 610                296
1914                B     CALL                      GO TO LITERAL ROUTINE        Z   4  3559  B U31                296
1915         SUBORG ZS    &1,ORGCTR                 SET COUNTER TO -1            Z   7  3563  ! G44 H58            296
1916                B     PROPND                    PROCESS A OPERAND            Z   4  3570  B C28                296
1917                B     TYPORG                                                 Z   4  3574  B E40                296
1918         ORGCVT B     CVTFLA                    RESET COUNTER TO ACTL        Z   4  3578  B W28                297
1919                A     W5AREA,ORGCTR              ADDRESS LESS ONE            Z   7  3582  A H76 H58            297
1920         ORGPRO MZ    ABBIT,IMAGE&1             MARK A OPERAND               Z   7  3589  Y 189 101            297
1921                B     ORGADJ                     PROCESSED                   Z   4  3596  B E33                297
1922         *
1923         *PROCESS DS STATEMENTS
1924         *
1925         DSSTMT B     COMSCN                    SCAN FOR COMMA/BLANK         Z   4  3600  B 860                297
1926                B     FNLOP                     CHECK LAST OPERAND           Z   4  3604  B W05                297
1927                B     FR2FIX                    CONVERT TO FIXED FORM        Z   4  3608  B 952                297
1928                BWZ   CKEQU,INPUT&21,2          Q. ACTUAL OPERAND            Z   8  3612  V F55 021 2          298
1929                BCE   CK4ADJ,IMAGE&17,*         Q. ASTERISK OPERAND          Z   8  3620  B F44 117 *          298
1930                BCE   NUREC,IMAGE&17,%          Q. I/O OPERAND               Z   8  3628  B 534 117 %          298
1931                B     PROPND                    GENERATE LABEL ADDRESS       Z   4  3636  B C28                298
1932                B     NUREC                                                  Z   4  3640  B 534                298
1933         CK4ADJ ZA    IMAGE&26,IMAGE&61         PICKUP CHARACTER             Z   7  3644  ? 126 161            298
1934                B     DSETAD                     ADJUSTMENT                  Z   4  3651  B !82                299
1935         CKEQU  ZA    IMAGE&21,W5AREA           CONVERT ACTUAL OPND OF       Z   7  3655  ? 121 H76            299
1936                B     CVRT5                      EQU AND DS                  Z   4  3662  B V78                299
1937                A     IMAGE&26,W5AREA           ADD CHARACTER ADJ            Z   7  3666  A 126 H76            299
1938                BCE   DCWACT,IMAGE&75,P         Q. EQU CODE                  Z   8  3673  B !50 175 P          299
1939                A     W5AREA,ORGCTR             PROCESS DS                   Z   7  3681  A H76 H58            299
1940                B     BMPCTR                                                 Z   4  3688  B !75                300
1941         *
1942         *PROCESS SUFFIX STATEMENTS
1943         *
1944         DOSFX  MLC   INPUT&21,IMAGE&17         SABE SUFFIX                  Z   7  3692  M 021 117            300
1945                MCW   INPUT&21,SFXHLD            CHARACTER                   Z   7  3699  M 021 H86            300
1946                B     NUREC                                                  Z   4  3706  B 534                300
1947         *
1948         *PROCESS EXECUTE, END STATEMENTS
1949         *
1950         EXEND  B     COMSCN                    SCAN FOR COMMA/BLANK         Z   4  3710  B 860                300
1951                B     FNLOP                     CHECK LAST OPERAND           Z   4  3714  B W05                300
1952                B     FR2FIX                    CONVERT TO FIXED FORM        Z   4  3718  B 952                300
1953                BCE   NUREC,INPUT&16,X                                       Z   8  3722  B 534 016 X          301
1954                B     CALL                      MERGE LITERALS               Z   4  3730  B U31                301
1955                LTORG *                                                      Z              3734
             LENSWZ DCW   #01                                                    Z   1  3734                 AREA  301
                    DCW   @01@                                                   Z   2  3736                 LIT   301
                    DCW   &3                                                     Z   1  3737                 LIT   301
                    DCW   @010@                                                  Z   3  3740                 LIT   301
                    DCW   @011@                                                  Z   3  3743                 LIT   301
                    DCW   &1                                                     Z   1  3744                 LIT   302
                    DCW   @51@                                                   Z   2  3746                 LIT   302
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    DCW   @%@                                                Z   1  3747              LIT    302
                    DCW   @0@                                                Z   1  3748              LIT    302
                    DCW   @###@                                              Z   3  3751              LIT    302
                    DCW   @002@                                              Z   3  3754              LIT    302
                    DCW   @#@                                                Z   1  3755              LIT    302
                    DCW   @07@                                               Z   2  3757              LIT    303
                    DCW   @$@                                                Z   1  3758              LIT    303
1956         GRPMK2 DCW   @}@                         SYSTEM GROUP MARK      Z   1  3759              GMARK  303
1957         SAVE   EQU   *&1                                                Z      3760
1958                EX    DOZERO                                             Z            B 000               304
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1959                JOB   1401 AUTOCODER-PASS 4 PROCESS DA         -VERSION 3 Z
1960         *
1961         *PROCESS DA STATEMENTS
1962         *
1963                ORG   DOPROG                                             Z              2575
1964         DASTMT BSP   SYSTAP                      REPOSITION SYSTEM      Z   5  2575  U %U1 B             307
1965                BSP   SYSTAP                       TAPE                  Z   5  2580  U %U1 B             307
1966                SW    NUMSW,DACSW                 Q. FIRST CHAR -X-      Z   7  2585  , F31 F55           307
1967                SW    FRMKSW,DGMKSW               SET SWITCHES           Z   7  2592  , F58 F57           307
1968                BCE   DAERR,INPUT&21,X                                   Z   8  2599  B C14 021 X         307
1969         EXSCAN BCE   NDXSCN,INPUT&22&X2,X                               Z   8  2607  B O34 0K2 X         308
1970                BCE   DAERR,XL2,4                                        Z   8  2615  B C14 094 4         308
1971                A     &1,XL2                                             Z   7  2623  A F18 094           308
1972                B     EXSCAN                                             Z   4  2630  B O07               308
1973         NDXSCN A     INPUT&21&X2,BLKCTR          GET BLOCKING FACTOR    Z   7  2634  A 0K1 F17           308
1974                A     &2,XL2                                             Z   7  2641  A F19 094           309
1975                B     COMSCN                                             Z   4  2648  B 860               309
1976                ZA    INPUT&19&X2,RECNTR#5        GET RECORD LENGTH      Z   7  2652  ? 0J9 F24           309
1977         FINHED BCE   DAINDX,INPUT&21&X2,X        Q. INDEXING            Z   8  2659  B C73 0K1 X         309
1978                BCE   DAGMRK,INPUT&21&X2,G        Q. GROUP MARK          Z   8  2667  B C91 0K1 G         309
1979                BCE   DAFMRK,INPUT&21&X2,'        Q. RECORD MARK         Z   8  2675  B D06 0K1 '         310
1980                BCE   DACLR,INPUT&21&X2,C         Q. CLEAR OPTION        Z   8  2683  B C65 0K1 C         310
1981                BCE   CMPSZ,INPUT&20&X2,          Q. NO OTHER OPTIONS    Z   8  2691  B P06 0K0           310
1982                MZ    ABIT,IMAGE&5                                       Z   7  2699  Y 187 105           310
1983         CMPSZ  S     W5AREA                                             Z   4  2706  S H76               310
1984                MCW   BLKCTR,B2CNTR               COMPUTE SIZE OF AREA   Z   7  2710  M F17 H67           311
1985         DAREP  S     &1,B2CNTR                   AND STORE IN B2CNTR    Z   7  2717  S F18 H67           311
1986                BM    SFANS,B2CNTR                                       Z   8  2724  V P43 H67 K         311
1987                A     RECNTR,W5AREA                                      Z   7  2732  A F24 H76           311
1988                B     DAREP                                              Z   4  2739  B P17               311
1989         SFANS  MCW   W5AREA,B2CNTR                                      Z   7  2743  M H76 H67           312
1990                MLC   @*@,IMAGE&17                                       Z   7  2750  M F25 117           312
1991                BCE   DASTR,INPUT&6,              DETERMINE WHETHER      Z   8  2757  B P73 006           312
1992                BWZ   DANUM,INPUT&6,2              LOCATION OF DA IS     Z   8  2765  V P98 006 2         312
1993         DASTR  MLC   ORGCTR,DALOC#5               ACTUAL OR ASTERISK    Z   7  2773  M H58 F30           312
1994                A     &1,DALOC                    PROCESS DA*            Z   7  2780  A F18 F30           313
1995                A     W5AREA,ORGCTR               BUMP ORIGIN COUNTER    Z   7  2787  A H76 H58           313
1996                B     ENDDA                                              Z   4  2794  B Q20               313
1997         DANUM  MLC   INPUT&10,IMAGE&21           PROCESS ACTUAL DA      Z   7  2798  M 010 121           313
1998                CW    NUMSW#1                     SET ACTUAL DA SWITCH   Z   4  2805  ) F31               313
1999                B     CVTFLA                                             Z   4  2809  B W28               313
2000                MLC   W5AREA,DALOC                                       Z   7  2813  M H76 F30           314
2001         ENDDA  MLC   DALOC,IMAGE&66              GENERATE HIGH ORDER    Z   7  2820  M F30 166           314
2002                MLC   DALOC                        LOCATION OF DA        Z   4  2827  M F30               314
2003                A     RECNTR,IMAGE&66                                    Z   7  2831  A F24 166           314
2004                S     &1,IMAGE&66                                        Z   7  2838  S F18 166           314
2005                S     &1,DALOC                                           Z   7  2845  S F18 F30           314
2006                CW    HEDSW#1                                            Z   4  2852  ) F32               315
2007                BW    DALOOP,DACSW                Q. CLEAR OPTION        Z   8  2856  V ?37 F55 1         315
2008                MCW   IMAGE&80,DAHLD              SAVE IMAGE             Z   7  2864  M 180 G54           315
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SEQ PG LIN  LABEL  OP     OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

2009               CHAIN 10                                                Z                             MACRO
2010               MCW                                                     Z   1  2871  M                GEN    315
2011               MCW                                                     Z   1  2872  M                GEN    315
2012               MCW                                                     Z   1  2873  M                GEN    315
2013               MCW                                                     Z   1  2874  M                GEN    315
2014               MCW                                                     Z   1  2875  M                GEN    316
2015               MCW                                                     Z   1  2876  M                GEN    316
2016               MCW                                                     Z   1  2877  M                GEN    316
2017               MCW                                                     Z   1  2878  M                GEN    316
2018               MCW                                                     Z   1  2879  M                GEN    316
2019               MCW                                                     Z   1  2880  M                GEN    316
2020               MCW    @A@,IMAGE&75            CODE DC STATEMENT AND    Z   7  2881  M F33 175               316
2021               MCW    BLANK4,IMAGE&80          TO CLEAR ENTIRE DA      Z   7  2888  M H62 180               317
2022               MCW    BLANK4,IMAGE&55          AREA                    Z   7  2895  M H62 155               317
2023               MCW    BLANK4,IMAGE&27         NOTE - EACH DC IS 19     Z   7  2902  M H62 127               317
2024               SW     INITSW                   CHARACTERS              Z   4  2909  , H87                   317
2025               MCW    BLANK4,IMAGE&11          OPTIMIZING THE          Z   7  2913  M H62 111               317
2026               MCW    @DC @,IMAGE&16           CONDENSED CARD          Z   7  2920  M F36 116               317
2027               MCW    @19@,IMAGE&7                                     Z   7  2927  M F38 107               318
2028               MCW    DALOC,IMAGE&61                                   Z   7  2934  M F30 161               318
2029        CKNDQ  C      B2CNTR,&0020                                     Z   7  2941  C H67 F42               318
2030               BH     DOLST                                            Z   5  2948  B R82 U                 318
2031               A      &19,IMAGE&16                                     Z   7  2953  A F44 116               318
2032               MZ     ABBIT,IMAGE&1                                    Z   7  2960  Y 189 101               319
2033               B      PUT                                              Z   4  2967  B 610                   319
2034               S      &19,B2CNTR                                       Z   7  2971  S F44 H67               319
2035               B      CKNDQ                                            Z   4  2978  B R41                   319
2036        DOLST  C      B2CNTR,&0000                                     Z   7  2982  C H67 F48               319
2037               BE     RTMGE                                            Z   5  2989  B ?20 S                 319
2038               MN     B2CNTR,IMAGE&7                                   Z   7  2994  D H67 107               320
2039               MN                                                      Z   1  3001  D                       320
2040               A      B2CNTR,IMAGE&61                                  Z   7  3002  A H67 161               320
2041               MZ     ABBIT,IMAGE&1                                    Z   7  3009  Y 189 101               320
2042               B      PUT                                              Z   4  3016  B 610                   320
2043        RTMGE  MCW    DAHLD,IMAGE&80          RESTORE IMAGE AREA       Z   7  3020  M G54 180               320
2044               CHAIN 10                                                Z                             MACRO
2045               MCW                                                     Z   1  3027  M                GEN    320
2046               MCW                                                     Z   1  3028  M                GEN    321
2047               MCW                                                     Z   1  3029  M                GEN    321
2048               MCW                                                     Z   1  3030  M                GEN    321
2049               MCW                                                     Z   1  3031  M                GEN    321
2050               MCW                                                     Z   1  3032  M                GEN    321
2051               MCW                                                     Z   1  3033  M                GEN    321
2052               MCW                                                     Z   1  3034  M                GEN    321
2053               MCW                                                     Z   1  3035  M                GEN    322
2054               MCW                                                     Z   1  3036  M                GEN    322
2055        DALOOP SW     INITSW                                           Z   4  3037  , H87                   322
2056               ZA     &1,B2CNTR                                        Z   7  3041  ? F18 H67               322
2057        DAPUT  C      B2CNTR,BLKCTR           GENERATE -B- NUMBER      Z   7  3048  C H67 F17               322
2058               BH     PUTIT                                            Z   5  3055  B B70 U                 322
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SEQ PG LIN  LABEL  OP     OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

2059        DAGET  CW     INITSW                                           Z   4  3060  ) H87                   322
2060               BW     DAPUT2,HEDSW            Q. DA HEADER             Z   8  3064  V ?90 F32 1             323
2061               MCW    IMAGE&66,GMKADD#5       SAVE LAST ADDRESS        Z   7  3072  M 166 F53               323
2062               A      &1,GMKADD                AS POTENTIAL GROUP      Z   7  3079  A F18 F53               323
2063               SW     HEDSW                    MARK ADDRESS            Z   4  3086  , F32                   323
2064        DAPUT2 B      PUT                                              Z   4  3090  B 610                   323
2065               BW     CKFNLG,MARKSW           Q. REC MARK LOOP         Z   8  3094  V E02 H88 1             323
2066        GET1   B      GET                                              Z   4  3102  B 538                   324
2067               BCE    GET1,INPUT&6,*                                   Z   8  3106  B A02 006 *             324
2068               C      INPUT&19,BLANK4         Q. FIELD CARD            Z   7  3114  C 019 H62               324
2069               BU     CKFMRK                                           Z   5  3121  B D21 /                 324
2070               MCW    INPUT&84,IMAGE&80       PICKUP ALTER NUMBER      Z   7  3126  M 084 180               324
2071               BCE    *&5,INPUT&6,            Q. LABEL                 Z   8  3133  B A45 006               324
2072               B      PROLBL                                           Z   4  3141  B V38                   325
2073               MLC    &0,IMAGE&75             CODE RECORD              Z   7  3145  M F54 175               325
2074               S      XL2&1                                            Z   4  3152  S 095                   325
2075               B      COMSCN                                           Z   4  3156  B 860                   325
2076               ZA     INPUT&19&X2,IMAGE&66                             Z   7  3160  ? 0J9 166               325
2077               C      RECNTR,IMAGE&66         Q. DOES FIELD EXCEED     Z   7  3167  C F24 166               325
2078               BH     TFERR                    LIMIT OF DA             Z   5  3174  B C39 U                 325
2079               BCE    SUBFLD,INPUT&20&X2,     Q. SUBFIELD              Z   8  3179  B B52 0K0               326
2080               B      COMSCN                                           Z   4  3187  B 860                   326
2081               B      FNLOP                                            Z   4  3191  B W05                   326
2082               ZA     INPUT&19&X2,IMAGE&61                             Z   7  3195  ? 0J9 161               326
2083               C      RECNTR,IMAGE&61         Q. DOES FIELD EXCEED     Z   7  3202  C F24 161               326
2084               BH     TFERR                    LIMIT OF DA             Z   5  3209  B C39 U                 326
2085               C      IMAGE&61,IMAGE&66       Q. FIELDS SPECIFIED IN   Z   7  3214  C 161 166               327
2086               BH     FLDERR                   IN CORRECT ORDER        Z   5  3221  B C54 U                 327
2087        ADDREC A      DALOC,IMAGE&61          CREATE ADDRESS FOR       Z   7  3226  A F30 161               327
2088               A      DALOC,IMAGE&66           FIELDS                  Z   7  3233  A F30 166               327
2089               BM     DAGET,IMAGE&75          Q. SUB FIELD             Z   8  3240  V ?60 175 K             327
2090               B      DALOOP                                           Z   4  3248  B ?37                   327
2091        SUBFLD MLZS   BBIT,IMAGE&75           PROCESS SUBFIELDS        Z   7  3252  Y 188 175               328
2092               MLC    IMAGE&66,IMAGE&61                                Z   7  3259  M 166 161               328
2093               B      ADDREC                                           Z   4  3266  B B26                   328
2094        PUTIT  B      PUT                                              Z   4  3270  B 610                   328
2095               BW     *&8,MARKSW              Q. RECORD MARK LOOP      Z   8  3274  V B89 H88 1             328
2096               MZ     ABIT,IMAGE&75           CODE REPEATS             Z   7  3282  Y 187 175               328
2097               A      &1,B2CNTR                                        Z   7  3289  A F18 H67               329
2098               A      RECNTR,IMAGE&61         COMPUTE FIELD LIMITS     Z   7  3296  A F24 161               329
2099               A      RECNTR,IMAGE&66                                  Z   7  3303  A F24 166               329
2100               B      DAPUT                                            Z   4  3310  B ?48                   329
2101        DAERR  MLZS   ABBIT,IMAGE&4           IMPROPERLY CODED DA      Z   7  3314  Y 189 104               329
2102               ZA     &1,BLKCTR                HEADER ROUTINE          Z   7  3321  ? F18 F17               329
2103               ZA     &1,RECNTR                                        Z   7  3328  ? F18 F24               330
2104               B      CMPSZ                                            Z   4  3335  B P06                   330
2105        TFERR  SBR    *&11                                             Z   4  3339  H C53                   330
2106               MZ     ABIT,IMAGE&5                                     Z   7  3343  Y 187 105               330
2107               B      XXXX                                             Z   4  3350  B 000                   330
2108        FLDERR MZ     BBIT,IMAGE&5            IMPROPERLY CODED DA      Z   7  3354  Y 188 105               330
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SEQ PG LIN  LABEL  OP     OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

2109               B      DAPUT2                     FIELD ROUTINE             Z   4  3361  B ?90             330
2110        DACLR  CW     DACSW#1                   PROCESS CLEAR OPTION      Z   4  3365  ) F55             331
2111               B      DATWO                      ON HEADER RECORD          Z   4  3369  B C95             331
2112        DAINDX MLNS   INPUT&22&X2,IMAGE&27      PROCESS INDEXING ON       Z   7  3373  D 0K2 127         331
2113               A      &3,XL2                     HEADER RECORD             Z   7  3380  A F56 094         331
2114               B      FINHED                                               Z   4  3387  B O59             331
2115        DAGMRK CW     DGMKSW#1                  INITIALIZE TO SHOW        Z   4  3391  ) F57             331
2116        DATWO  A      &2,XL2                     THERE IS GROUP            Z   7  3395  A F19 094         331
2117               B      FINHED                     MARK AFTER AREA           Z   4  3402  B O59             332
2118        DAFMRK A      &1,RECNTR                 INITIALIZE TO SHOW        Z   7  3406  A F18 F24         332
2119               CW     FRMKSW#1                   PRESENCE OF RECORD        Z   4  3413  ) F58             332
2120               B      DATWO                      MARKS BETWEEN RECORDS     Z   4  3417  B C95             332
2121        CKFMRK SW     MARKSW                                               Z   4  3421  , H88             332
2122               BW     CKFNLG,FRMKSW             Q. RECORD MARKS           Z   8  3425  V E02 F58 1       332
2123               MLC    @@'@@,IMAGE&25            GENERATE -B- NUMBER       Z   7  3433  M F61 125         332
2124               MLC    @DC *@,IMAGE&17            OF RECORD MARKS           Z   7  3440  M F65 117         333
2125               MLC                                                         Z   1  3447  M                 333
2126               MLC    &1,IMAGE&75                                          Z   7  3448  M F18 175         333
2127               MLC    @01@,IMAGE&7                                         Z   7  3455  M F67 107         333
2128               MLC    DALOC,IMAGE&61                                       Z   7  3462  M F30 161         333
2129               A      RECNTR,IMAGE&61                                      Z   7  3469  A F24 161         333
2130               BW     DALOOP,NUMSW                                         Z   8  3476  V ?37 F31 1       334
2131               MCW    BLANK,IMAGE&17                                       Z   7  3484  M H59 117         334
2132               MZ     ABBIT,IMAGE&3                                        Z   7  3491  Y 189 103         334
2133               B      DALOOP                                               Z   4  3498  B ?37             334
2134        CKFNLG BW     CALLOP,DGMKSW             Q. SET GROUP MARK         Z   8  3502  V E93 F57 1       334
2135               MLC    @DCW@,IMAGE&16            GENERAGE RECORD TO SET    Z   7  3510  M F70 116         335
2136               MLC    @1@,IMAGE&75               GROUP MARK AT END OF      Z   7  3517  M F71 175         335
2137               MLC    @01@,IMAGE&7               DA STATEMENT              Z   7  3524  M F67 107         335
2138               MCW    GMKADD,IMAGE&61                                      Z   7  3531  M F53 161         335
2139               MLC    @@}@@,IMAGE&25                                       Z   7  3538  M F74 125         335
2140               BW     GMKAST,NUMSW                                         Z   8  3545  V E75 F31 1       336
2141               MCW    BLANK,IMAGE&17                                       Z   7  3553  M H59 117         336
2142               MZ     ABBIT,IMAGE&3                                        Z   7  3560  Y 189 103         336
2143        PUTGMK B      PUT                       PUT GROUP MARK RECORD     Z   4  3567  B 610             336
2144               B      CALLOP                    GO BACK TO MAIN LINE      Z   4  3571  B E93             336
2145        GMKAST A      &1,ORGCTR                                            Z   7  3575  A F18 H58         336
2146               MCW    @*@,IMAGE&17                                         Z   7  3582  M F25 117         337
2147               B      PUTGMK                                               Z   4  3589  B E67             337
2148        CALLOP BSP    INTAP                                                Z   5  3593  U %U4 B           337
2149               B      GET                                                  Z   4  3598  B 538             337
2150               CW     MARKSW,GRPMK6                                        Z   7  3602  ) H88 G55         337
2151               B      FINDA                                                Z   4  3609  B M62             337
2152        BLKCTR DCW    &00000                                               Z   5  3617                    337
2153               LTORG  *                                                    Z            3618
                   DCW    &1                                                   Z   1  3618             LIT    338
                   DCW    &2                                                   Z   1  3619             LIT    338
            RECNTR DCW    #05                                                  Z   5  3624             AREA   338
                   DCW    @*@                                                  Z   1  3625             LIT    338
            DALOCZ DCW    #05                                                  Z   5  3630             AREA   338
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SEQ PG LIN  LABEL  OP     OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

            NUMSWZ DCW    #01                                                  Z   1  3631             AREA   338
            HEDSWZ DCW    #01                                                  Z   1  3632             AREA   338
                   DCW    @A@                                                  Z   1  3633             LIT    339
                   DCW    @DC @                                                Z   3  3636             LIT    339
                   DCW    @19@                                                 Z   2  3638             LIT    339
                   DCW    &0020                                                Z   4  3642             LIT    339
                   DCW    &19                                                  Z   2  3644             LIT    339
                   DCW    &0000                                                Z   4  3648             LIT    339
            GMKADD DCW    #05                                                  Z   5  3653             AREA   339
                   DCW    &0                                                   Z   1  3654             LIT    340
            DACSWZ DCW    #01                                                  Z   1  3655             AREA   340
                   DCW    &3                                                   Z   1  3656             LIT    340
            DGMKSW DCW    #01                                                  Z   1  3657             AREA   340
            FRMKSW DCW    #01                                                  Z   1  3658             AREA   340
                   DCW    @@'@@                                                Z   3  3661             LIT    340
                   DCW    @DC *@                                               Z   4  3665             LIT    340
                   DCW    @01@                                                 Z   2  3667             LIT    341
                   DCW    @DCW@                                                Z   3  3670             LIT    341
                   DCW    @1@                                                  Z   1  3671             LIT    341
                   DCW    @@}@@                                                Z   3  3674             LIT    341
2154               DA     1X80                                                 Z      3675  3754
2155        DAHLD         80                                                   Z      3754             SBFLD
2156        GRPMK6 DCW    @}@                       SYSTEM GROUP MARK         Z   1  3755             GMARK  342
2157               EX     DOZERO                                               Z            B 000             343
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 SEQ PG LIN  LABEL  OP    OPERANDS                                      SFX CT  LOCN  INSTRUCTION TYPE  CARD

2158                JOB   1401 AUTOCODER-PASS 4 PROCESS LITERALS    -VERSION 3 Z
2159                ORG   DOPROG                                        Z               2575
2160         OVLLIT WTM   LITAPE                                        Z   5  2575  U %U6 M            346
2161                WTW   LITAPE,IMAGE&1           SAVE IMAGE AREA      Z   8  2580  L %U6 101 W        346
2162                NOP   0                                             Z   4  2588  N 000              346
2163                BER   TPERR                                         Z   5  2592  B 221 L            346
2164                BEF   *&1                      RESET EOF TRIGGER    Z   5  2597  B 002 K            346
2165                WTW   LITAPE,IMAGE&1           NOTE - MUST WRITE OUT Z  8  2602  L %U6 101 W        346
2166                NOP   0                         IMAGE AREA TWICE    Z   4  2610  N 000              346
2167                BER   TPERR                     BECAUSE EOF TREATED Z   5  2614  B 221 L            347
2168         *                                      AS NOISE RECORD
2169                RWD   LITAPE                                        Z   5  2619  U %U6 R            347
2170                BSP   SYSTAP                   POSITION SYSTEM TAPE Z   5  2624  U %U1 B            347
2171                BSP   SYSTAP                    TO BRING BACK       Z   5  2629  U %U1 B            347
2172                BSP   SYSTAP                    MAIN LINE           Z   5  2634  U %U1 B            347
2173                CW    GRPMK7                                        Z   4  2639  ) Q27              347
2174                CS    INPUT&80                 BLANK INPUT AND FIXED Z  4  2643  / 080              347
2175                SW    INPUT&16,LITSW2           FORM AREA           Z   7  2647  , 016 H90          348
2176                MRCM  INPUT&1,IMAGE&1                               Z   7  2654  P 001 101          348
2177                MLC   BLANK4,IMAGE&80                               Z   7  2661  M H62 180          348
2178                S     XL2&2                                         Z   4  2668  S 096              348
2179                S                                                   Z   1  2672  S                  348
2180                MLC   @DCW@,IMAGE&16                                Z   7  2673  M Q15 116          348
2181         LITGB  MCW   &INPUT&13,N2&6                                Z   7  2680  M Q18 446          349
2182                RT    LITAPE,INPUT&1           READ IN LITERAL      Z   8  2687  M %U6 001 R        349
2183                B     NOISE                                         Z   4  2695  B 425              349
2184                BER   TPERR                                         Z   5  2699  B 221 L            349
2185                BEF   RTNLIT                   Q. ANY MORE LITERALS Z   5  2704  B P39 K            349
2186                MCW   INPUT&4,IMAGE&70         CODE MOTHER RECD NUMBER Z 7 2709  M 004 170          349
2187                MLC   @/@,IMAGE&75             CODE RECORD          Z   7  2716  M Q19 175          350
2188                B     PROLBL                   PROCESS LABEL        Z   4  2723  B V38              350
2189                B     DCWCD                    PROCESS STATEMENT    Z   4  2727  B Y11              350
2190         LITRTN B     PUT                      PUT RECORD           Z   4  2731  B 610              350
2191                B     LITGB                                         Z   4  2735  B O80              350
2192         RTNLIT MCW   &IMAGE&13,N2&6                                Z   7  2739  M Q22 446          350
2193                RTW   LITAPE,IMAGE&1           REGENERATE IMAGE AREA Z  8  2746  L %U6 101 R        350
2194                B     NOISE                                         Z   4  2754  B 425              351
2195                BER   TPERR                                         Z   5  2758  B 221 L            351
2196                RWD   LITAPE                                        Z   5  2763  U %U6 R            351
2197                SW    LITSW                    RESET LITERAL SWITCH Z   4  2768  , N46              351
2198                CW    LITSW2                                        Z   4  2772  ) H90              351
2199                A     &10,EXNUMB               SECTION TO GUARANTEE Z   7  2776  A Q24 193          351
2200                BCE   *&5,EXNUMB-1,0            UNIQUENESS OF       Z   8  2783  B P95 192 0        351
2201                B     RECALL                    LITERAL LABELS UP TO Z  4  2791  B U68              352
2202                A     &96,EXOVFL                80 LTORG OR EX CARDS Z  7  2795  A Q26 191          352
2203                A     &96,EXOVFL                                    Z   7  2802  A Q26 191          352
2204                B     RECALL                                        Z   4  2809  B U68              352
2205                LTORG *                                             Z               2813
                    DCW   @DCW@                                         Z   3  2815              LIT    352
                    DCW   &INPUTZ&13                                    Z   3  2818  013         ADCON  352
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 SEQ PG LIN  LABEL  OP    OPERANDS                                      SFX CT  LOCN  INSTRUCTION TYPE  CARD

                    DCW   @/@                                           Z   1  2819              LIT    352
                    DCW   &IMAGEZ&13                                    Z   3  2822  113         ADCON  353
                    DCW   &10                                           Z   2  2824              LIT    353
                    DCW   &96                                           Z   2  2826              LIT    353
2206         GRPMK7 DCW   @}@                      SYSTEM GROUP MARK    Z   1  2827              GMARK  353
2207                EX    DOZERO                                        Z                B 000          354
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SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

2208                JOB   1401 AUTOCODER-PASS 4 END OF PASS OVERLAY -VERSION 3 Z
2209                ORG   SAVE2                                            Z          0706
2210         EOJRT  RWD   LITAPE                                           Z   5  0706  U %U6 R            357
2211                B     PUT                         PUT END CARD         Z   4  0711  B 610              357
2212                WT    OUTAP,OUTPUT&1              ASSURE LAST RECORD   Z   8  0715  M %U5 I18 W        357
2213                NOP   0                            IS WRITTEN          Z   4  0723  N 000              357
2214                BER   TPERR                        WHEN BLOCKING       Z   5  0727  B 221 L            357
2215                WTM   OUTAP                                            Z   5  0732  U %U5 M            357
2216                RWD   OUTAP                                            Z   5  0737  U %U5 R            357
2217                CS    INPUT&85                    CLEAR ALL GROUP      Z   4  0742  / 085              358
2218                CW    GRPMK2,GRPMK3                MARKS               Z   7  0746  ) G59 H44          358
2219                CW    GRPMK4                                           Z   4  0753  ) 185              358
2220                RTW   SYSTAP,PASSC1               READ PASS 5          Z   8  0757  L %U1 Z25 R        358
2221                NOP   0                                                Z   4  0765  N 000              358
2222                BER   TPERR                                            Z   5  0769  B 221 L            358
2223                LCA   TOTLBL,2393                 PASS INFORMATION TO  Z   7  0774  L 198 L93          358
2224                LCA   PROCOR,2389                  PASS 5              Z   7  0781  L 194 L89          359
2225                B     PASSC2                      GO TO PASS 5         Z   4  0788  B M00              359
2226                DCW   0                                                Z   1  0792                     359
2227                DCW   @}@                         SYSTEM GROUP MARK    Z   1  0793             GMARK  359
2228                EX    0                                                Z              B 000            360
2229         *
2230         * EQUATES
2231         *
2232         INTAP  EQU   %U4                                              Z      %U4
2233         OUTAP  EQU   %U5                                              Z      %U5
2234         LITAPE EQU   %U6                                              Z      %U6
2235         K4K    EQU   4000                                             Z      4000
2236         W3AREA EQU   W6AREA-3                    EQUATES              Z      3874
2237         W5AREA EQU   W6AREA-1                                         Z      3876
2238         BLANK  EQU   BLANK4-3                                         Z      3859
2239         BLANK2 EQU   BLANK4-2                                         Z      3860
2240         HOLD2  EQU   B2CNTR-3                                         Z      3864
2241         HOLD3  EQU   B2CNTR-2                                         Z      3865
2242         ABIT   EQU   ZONE-2                                           Z      0187
2243         BBIT   EQU   ZONE-1                                           Z      0188
2244         ABBIT  EQU   ZONE                                             Z      0189
2245         XXXX   EQU   000                                              Z      0000
2246         INPUT  EQU   000                                              Z      0000
2247         OUTPUT EQU   3917                                             Z      3917
2248         PASSC1 EQU   1925                                             Z      1925
2249         PASSC2 EQU   2400                                             Z      2400
2250         DOZERO EQU   000                                              Z      0000
2251         FREE   EQU   INPUT                                            Z      0000
2252                END   START                                            Z              / N75 080
```



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SYMBOL  ADDRESS  SYMBOL  ADDRESS  SYMBOL  ADDRESS  SYMBOL  ADDRESS  SYMBOL  ADDRESS  SYMBOL  ADDRESS  SYMBOL  ADDRESS
A1ALFZ   1310    ABBITZ   189     ABITZ    187     ABSCOD   2755    ABSFIX   1270    ABSW     3110    ACNRTZ   2362
ADDREC   3226    ADDZ     3118    ALTRNO   184     ALTROP   1051    ARDEFZ   2301    AUGMNT   2906    B2CNTR   3867
BADOP    2728    BBITZ    188     BCK1     798     BEGIN    2465    BIGCTR   3853    BINFND   1115    BINTBL   3814
BLANK    3154    BLANK2   3860    BLANK3   3156    BLANK4   3862    BLANKZ   3859    BLKCTR   3617    BLNK2    3155
BLNKX     848    BMPCTR   2075    BOPXTZ   3357    BSP1     2246    BSP1Z     257    BSP2     2290    BSP2Z     301
BYPASS    520    C1Z      2780    CALLOP   3593    CALLZ    1431    CHNAD    2885    CHNLP     872    CK1BK    1962
CK2Z      728    CK4ADJ   3644    CKADJZ   1017    CKAOPZ   2011    CKB       874    CKCHN     722    CKCOMZ    706
CKDCWZ   1858    CKDONE   2674    CKEL     2698    CKEQUZ   3655    CKFF     2801    CKFMRK   3421    CKFNLG   3502
CKLIT2   2188    CKLOR    1889    CKLORZ   1485    CKMACR   2089    CKMINZ   1134    CKMOD     950    CKMOD1   2803
CKNDQZ   2941    CKNOP    1146    CKOP      922    CKPROZ   2913    CKREGZ   2921    CKTAPZ    645    CLEAR    2682
CMPSZZ   2706    CODJOB   2601    COMCRD   1871    COMSCN    860    CORERR   1680    CSCNXT    929    CSZ      2754
CTL2Z    2737    CTL3Z    2722    CTRLOP   3361    CVRT5Z   1578    CVT5XT   1590    CVTFLA   1628    CWI98Z    469
CXL1     1925    DACLRZ   3365    DACSWZ   3655    DAERRZ   3314    DAFMRK   3406    DAGETZ   3060    DAGMRK   3391
DAHLDZ   3754    DAINDX   3373    DALOCZ   3630    DALOOP   3037    DANUMZ   2798    DAPUT2   3090    DAPUTZ   3048
DAREPZ   2717    DARTNZ   2441    DASTMT   2575    DASTRZ   2773    DATWOZ   3395    DCWACT   2050    DCWALF   2244
DCWAST   2068    DCWCDZ   1811    DCWSTM   1484    DCWSW2   3892    DCWSWZ   3889    DCWTYP   1551    DCWXTZ   2185
DGMKSW   3657    DOADRS   1150    DOBIGZ   3157    DOCNTZ   2605    DOEQU    1815    DOIADD   2832    DOLSTZ   2982
DOMINZ   1027    DONEZ    2731    DOPROG   2575    DOSFXZ   3692    DOZERO      0    DSACT    1833    DSADCZ   2354
DSARTN   1715    DSASW2   3891    DSAX1Z   1990    DSETAD   2082    DSSTMT   3600    DSTYP    1788    ELMBLK   2883
ENDALF   1218    ENDDAZ   2820    ENDFIX    626    ENTER    2647    ENTSPS    626    EOJ      2875    EOJRTZ    706
EQUADD   2511    EQVADD   3169    ERHLT    1473    ERRBLK   2895    ERRHLT   3463    EXENDZ   3710    EXNUMB    193
EXOVFL    191    EXSCAN   2607    FACTOR   3848    FCTBLZ   2897    FINDAZ   2462    FINHED   2659    FIXALF   1184
FIXERZ   1233    FIXINS    854    FIXLIT   2132    FIXSWZ   2532    FLAXTZ   1643    FLDERR   3354    FNLOPZ   1605
FNLXTZ   1624    FOUND    1340    FR2FIX    952    FR2FXT   1229    FREE      100    FREEAZ   2498    FREESW   3809
FREEZ       0    FREMOD   2739    FRMKSW   3658    GENJOB   2853    GENPS     906    GET       524    GET1Z    3102
GETMN     419    GETOP    2539    GETPOP   2999    GETXT     550    GETXTZ    574    GETZ      538    GM1Z     3143
GMK1     3989    GMK2      187    GMKADD   3653    GMKAST   3575    GOBKZ     798    GRPMK1     85    GRPMK2   3759
GRPMK3   3844    GRPMK4    185    GRPMK5   2574    GRPMK6   3755    GRPMK7   2827    GRPMK8   3899    GTFIX     464
GTFRE     503    HEDSWZ   3632    HIVAL    2458    HLDCD    2952    HLDLIT   3760    HOLD1Z   3885    HOLD2Z   3864
HOLD3Z   3865    HOLD4Z   3871    HOLD7Z   3884    HOLDCZ   2491    IMAGEZ    100    INAREA   3903    INITAP   %U0
INITSW   3887    INOBJ    2797    INPUT     332    INPUTZ      0    INSPC    1421    INSPCZ   3438    INST2    2375
INST2Z    386    INSTRZ   2575    INTAPE   %U6     INTAPZ   %U4     INTXL1   2720    INTXT     460    IOTYP    1154
IS16KZ   2852    IS4K     2892    IS4KZ    2818    IS8KZ    2833    ISADJZ   1051    ISDCWZ   2271    ISDSAZ   1890
ISFIVE   3032    ISHIV     969    ISMOD    1002    ISMODZ   2811    ISREA    1096    JOBLBL   2924    JOBSWZ    199
K4KZ     4000    KNOWN    1669    LAREAZ   3759    LBERR     778    LBLXTZ   1807    LDOPTB    489    LENSWZ   3734
LIBRN       0    LITAPE   %U6     LITGBZ   2680    LITRTN   2731    LITSW2   3890    LITSWZ   2546    LKNOP     974
LOOP1    1917    LOOP1Z   1770    LOOPBL   2864    LPERR    1684    LTER2Z   1409    LTERRZ   1394    LTGENZ   2400
MAKBCE   1040    MANAM    2459    MARKSW   3888    MASYM    3296    MKMIN    2121    MLCTYP   2717    MODESW   3002
MOVMOD   1018    MPYLPZ   1712    MSCSWZ   2995    MULTZ    1720    N2       2429    N2Z       440    N3        573
N4        558    NDASCN   1329    NDOPD    1986    NDXSCN   2634    NOADJ    2075    NOCTLZ   2871    NOISE    2414
NOISEZ    425    NOPND    1462    NOT11    2158    NOZONE   2293    NSXT     2449    NSXTZ     460    NUMSWZ   3631
NUREC     626    NURECZ    534    NXTDGT   1746    OBJCOR   2453    OBJTBL   2911    ONEOP    1760    OPDERZ   1237
OPDONE   3021    OPND     3808    ORGADJ   3533    ORGCTR   3858    ORGCVT   3578    ORGPRO   3589    ORGSTM   3474
OUTAPE   %U4     OUTAPZ   %U5     OUTPUT   3917    OVL2      626    OVLLIT   2575    PASSB2    200    PASSC1   1925
PASSC2   2400    PDCWLF   2240    PHOLD    2944    PICKUP   1029    PLSCAN    790    PLUSFD    817    PRCHN     727
PREOJ    2867    PRINT     200    PROADJ   1055    PROCOR    194    PROFIX    661    PROLAB   1647    PROLBL   1538
PROLIT   3182    PROPND   3328    PROSZ    2702    PRSCXT    925    PSSW2    1037    PSTNU     630    PUT       586
PUTGMK   3567    PUTITZ   3270    PUTXT     622    PUTXTZ    702    PUTZ      610    RDCT     2461    RDCTZ     465
RDERR    2283    RDERRZ    294    RDTAP     554    RDXT      582    RECALL   1468    RECNTR   3624    REDXT    2279
REDXTZ    290    REG       991    RESTR    2862    RSTMOD    638    RSTWM    1654    RTEND    2209    RTMGEZ   3020
RTN2     2039    RTNDCW   1633    RTNJBZ    481    RTNLIT   2739    SAMFIX   1328    SAVCOD   2613    SAVE2Z    706
SAVEZ    3760    SAVOP    2988    SBCTR    2392    SBCTRZ    403    SCAN     1909    SCANAT   1292    SCANBZ   1023
SCANSW   2515    SCNATX   1382    SCNDEX    970    SCNERR    933    SCNXT    2117    SETABS   1320    SETEXZ   3132
SETHI    2899    SETSWZ   1386    SFANSZ   2743    SFXHLD   3886    SMLTYP   3040    SPECIN   2683    SPGLIN    692
STARTZ   2575    STFUN    1065    SUB1     2509    SUBFLD   3252    SUBORG   3563    SUBT     2170    SUBXL     634
SVSZ     2939    SVUP3    1017    SW1      1292    SXLZ     1361    SYSMK1   2209    SYSMK2   3003    SYSTAP   %U1
TAPAUG   2952    TFERRZ   3339    TLUBIN   1084    TLUFIX    828    TLUOP    2465    TLUXT    2643    TOTLBL    198
TPERR    2210    TPERRZ    221    TPHLT    2317    TPHLTZ    328    TPINS    2266    TPINSZ    277    TPYETZ    638
TSTCOM    875    TSTRE    1053    TYPCL    1126    TYPORG   3540    VALUE    1200    W3AREA   3874    W5AREA   3876
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W6AREA	3877	WAREA2	3114	WAREA3	3115	WAREA6	3118	WHCHOP	1254	WRTCR	2464	WRTCRZ	468
WRTLIT	3189	WRTPZ	578	WRTRD	2355	WRTRDZ	366	WRTXTZ	606	XALF1Z	3093	XISALF	3077
XISLIT	3251	XL1	89	XL1Z	89	XL2	94	XL2Z	94	XL3	99	XL3Z	99
XLIT1Z	3282	XTLABL	1574	XXXX	0	XXXXZ	0	ZONEZ	189				