```
                        CARD 1 OF CORE DUMP ROUTINE                                                    PAGE    1

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

101                JOB   CARD 1 OF CORE DUMP ROUTINE
102         * SET WORD MARKS FOR THE SECOND CARD
103                ORG   1                                                        0001
104                SW    A1,A2                                          7  0001  , 008 015            1
105         A1     SW    A3,A4                                          7  0008  , 023 030            1
106         A2     NOP   0,0,0                                          8  0015  N 000 000 0          1
107         A3     SW    A5,A6                                          7  0023  , 038 042            1
108         A4     NOP   0,0,0                                          8  0030  N 000 000 0          1
109         A5     SW    A7                                             4  0038  , 049                1
110         A6     SW    A8,A9                                          7  0042  , 053 057            1
111         A7     SW    A10                                            4  0049  , 059                1
112         A8     SW    A11                                            4  0053  , 063                1
113         A9        N0                                                2  0057  N 0                  1
114         A10    SW    A12                                            4  0059  , 067                1
115         A11    SW    A13                                            4  0063  , 071                1
116         A12    R     BLOOP            READ THE NEXT CARD            4  0067  1 001                1
117         A13    DCW   #1                                             1  0071                       1
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                        CARD 2 OF CORE DUMP ROUTINE                                                    PAGE    1

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

118                JOB   CARD 2 OF CORE DUMP ROUTINE
119         * REPLACE GROUP MARKS IN 81-399 BY ).
120                ORG   1                                                          0001
121         BLOOP  MCW   BADDR,BTESTG+6   SET TEST ADDRESS                   7  0001  M 055 021            1
122                MCW   BADDR,BREPLG+6   SET REPLACEMENT ADDR               7  0008  M 055 048            1
123         BTESTG BCE   BREPLG,*,"       GROUP MARK?                       8  0015  B 042 022 "          1
124         BBUMP  A     BINCR,BADDR      UPDATE TEST ADDRESS               7  0023  A 067 055            1
125                BCE   BDONE,BADDR-2,4  DONE WITH SCAN?                   8  0030  B 057 053 4          1
126                B     BLOOP            AROUND AGAIN                      4  0038  B 001                1
127         BREPLG MCW   BLOZ,*           REPLACE GROUP MARK                7  0042  M 071 048            1
128                B     BBUMP            UPDATE TEST ADDRESS               4  0049  B 023                1
129         BADDR  DCW   @081@                                               3  0055                       1
130                DC    @ @                                               1  0056                       1
131         BDONE  CC    K                SKIP TWO LINES                    2  0057  F K                  1
132                CS    *-3              NEED NEW WORD MARKS               4  0059  / 059                1
133                SW    CSTART           READY FOR A NEW CARD              4  0063  , 001                1
134         BINCR  R     CSTART           READ A NEW CARD                   4  0067  1 001                1
135         BLOZ   DCW   @)@              LOZENGE ON THE  A  CHAIN          1  0071                       1
```

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                        CARD 3 OF CORE DUMP ROUTINE                                                    PAGE    1

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

136                JOB   CARD 3 OF CORE DUMP ROUTINE
137         * SET WORD MARKS FOR THE NEXT CARD, PRINT THE PRINT
138         * AREA, THEN PRINT THE WORD MARKS.
139                ORG   1                                                                 0001
140         CSTART SW    C1,C2                                               7  0001  , 008 012            1
141         C1     SW    C3                                                  4  0008  , 016                  1
142         C2     SW    C4                                                  4  0012  , 023                  1
143         C3     SW    C5,C6                                               7  0016  , 030 034            1
144         C4     SW    C7,C8                                               7  0023  , 041 048            1
145         C5     SW    C9                                                  4  0030  , 049                  1
146         C6     SW    C10,C11                                             7  0034  , 056 063            1
147         C7     SW    DLOAD,C14                                           7  0041  , 022 072            1
148         C8     SW                                                        1  0048  ,                     1
149         C9     SW    C15,C16                                             7  0049  , 074 076            1
150         C10    SW    C17,C12                                             7  0056  , 080 067            1
151         C11    CW    C4                                                  4  0063  ) 023                  1
152         C12    SW    DLOAD2                                              4  0067  , 029                  1
153         C13    W                                                         1  0071  2                      1
154         C14       2)                                                     2  0072  2 )                    1
155         C15       N0                                                     2  0074  N 0                    1
156         C16    R     DSTART                                              4  0076  1 012                  1
157         C17    NOP                                                       1  0080  N                      1
```

```
                        CARD 4 OF CORE DUMP ROUTINE                                                    PAGE    1

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

158               JOB   CARD 4 OF CORE DUMP ROUTINE
159         * CLEAR 300-332 TO MAKE SURE 330 ISN'T A ZERO.  FILL
160         * IN THE DOTS AND NUMBERS 210-330, PRINT THEM.
161               ORG   1                                                          0001
162               DCW   @........@                                  7  0007                    1
163         DNUM  DCW   @210@                                       3  0010                    1
164               DC    #1                                        1  0011                    1
165         DSTART CS     332             ENSURE 330 IS NOT @0@   4  0012  / 332             1
166                  N0 0                                         5  0016  N 000 0            1
167               NOP                                             1  0021  N                 1
168         DLOAD LCA   DNUM,210          LOAD NUM TO PRINT       7  0022  L 010 210         1
169         DLOAD2 LCA                    LOAD DOTS               1  0029  L                 1
170               CW    C8                                        4  0030  ) 048             1
171               A     DREAD+1,DNUM      ADD 10 T0 NUM           7  0034  A 077 010         1
172               BCE   DDONE,330,0       DONE?                   8  0041  B 067 330 0       1
173               A     DREAD+1,DLOAD+6   ADD 10 TO LOAD PLACE   7  0049  A 077 028         1
174               LCA   2,332             LAST TWO DOTS TO PRINT  7  0056  L 002 332         1
175               B     DLOAD             AROUND AGAIN            4  0063  B 022             1
176         DDONE CW    DLOAD2                                    4  0067  ) 029             1
177               W                                               1  0071  2                 1
178                  N0                                           2  0072  N 0               1
179               CC    J                 SKIP ONE LINE           2  0074  F J               1
180         DREAD R     ESTART            READ THE NEXT CARD      4  0076  1 012             1
181               DCW   #1                                        1  0080                    1
```

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                        CARD 5 OF CORE DUMP ROUTINE                                                    PAGE    1

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

182               JOB   CARD 5 OF CORE DUMP ROUTINE
183         * CLEAR 300-332. REMEMBER WHETHER 101 HAD A WORD MARK.
184         * SET ONE SO WE CAN LOAD FROM 101 UPWARD.  LOAD 101-200
185         * AND ITS WORD MARKS TO 201-300.  CLEAR (OR DON'T
186         * CLEAR) THE WORD MARK IN 201.  PRINT.  PRINT WORD MARKS.
187               ORG   1                                                          0001
188         EHAVWM MCW    ENOP,ECW         CHANGE CW TO NOP                  7  0001  M 080 067            1
189               B     ELOOP                                                  4  0008  B 034                1
190         ESTART SW     E1                                                  4  0012  , 017                1
191               NOP                                                         1  0016  N                    1
192         E1    CS      332                                                 4  0017  / 332                1
193               NOP                                                         1  0021  N                    1
194               BW      EHAVWM,101       WM IN 101?                        8  0022  V 001 101 1          1
195               SW      101              NO, SET ONE                       4  0030  , 101                1
196         ELOOP LCA     101,201          LOAD TO PRINT AREA                7  0034  L 101 201            1
197               BCE     ECW,ELOOP+4,3    STORING AT 300 YET?               8  0041  B 067 038 3          1
198               A       EREAD,ELOOP+3    UPDATE FROM ADDRESS               7  0049  A 076 037            1
199               A       EREAD,ELOOP+6    UPDATE TO ADDRESS                 7  0056  A 076 040            1
200               B       ELOOP            NO                                4  0063  B 034                1
201         ECW   CW      201              OR MAYBE NOT                      4  0067  ) 201                1
202               W                                                           1  0071  2                    1
203                  2)                    PRINT THE WORD MARKS              2  0072  2 )                  1
204                  N0                                                      2  0074  N 0                  1
205         EREAD R       FSTART           READ THE NEXT CARD                4  0076  1 012                1
206         ENOP  NOP                                                       1  0080  N                    1
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                        CARD 6 OF CORE DUMP ROUTINE                                                    PAGE    1

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

207               JOB   CARD 6 OF CORE DUMP ROUTINE
208         * CLEAR 300 TO MAKE SURE IT ISN'T ZERO.  FILL IN THE
209         * DOTS AND NUMBERS 110-200.  PRINT THEM.
210               ORG   1                                                          0001
211               DCW   @........@                                    7  0007                    1
212         FNUM  DCW   @110@                                         3  0010                    1
213               DC    #1                                          1  0011                    1
214         FSTART CS   300              ENSURE 300 ISN'T 0         4  0012  / 300              1
215               NOP                                               1  0016  N                  1
216               SW    FLOAD2                                      4  0017  , 029              1
217               NOP                                               1  0021  N                  1
218         FLOAD LCA   FNUM,210         LOAD NUM TO PRINT          7  0022  L 010 210          1
219         FLOAD2 LCA                   LOAD THE DOTS              1  0029  L                  1
220               NOP   0                                           4  0030  N 000              1
221               A     FREAD+1,FNUM     ADD 10 T0 NUM              7  0034  A 077 010          1
222               BCE   FDONE,300,0      DONE?                      8  0041  B 067 300 0        1
223               A     FREAD+1,FLOAD+6  ADD 10 TO LOAD PLACE       7  0049  A 077 028          1
224               NOP   0,0                                         7  0056  N 000 000          1
225               B     FLOAD            AROUND AGAIN               4  0063  B 022              1
226         FDONE CW    FLOAD2                                      4  0067  ) 029              1
227               W                                                 1  0071  2                  1
228                  N0                                             2  0072  N 0                1
229               CC    J                SKIP ONE LINE              2  0074  F J                1
230         FREAD R     GSTART           READ THE NEXT CARD         4  0076  1 017              1
231               NOP                                               1  0080  N                  1
```

CARD 7 OF CORE DUMP ROUTINE PAGE 1

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

232                JOB   CARD 7 OF CORE DUMP ROUTINE
233         * CLEAR 300.  REMEMBER WHETHER 81 HAD A WORD MARK.  SET
234         * ONE.  LOAD 81-99 AND ITS WORD MARKS TO 281-299.
235         * CLEAR (OR DON'T CLEAR) THE WORD MARK IN 281.  PRINT.
236         * PRINT WORD MARKS.
237                ORG   1                                                    0001
238         GHAVWM MCW   GNOP,GCW         CHANGE CW TO NOP                7  0001  M 080 067            1
239                B     GLOOP                                             4  0008  B 034                1
240                DCW   #4                                                4  0015                       1
241                DCW   #1                                                1  0016                       1
242         GSTART CS    300                                              4  0017  / 300                1
243                CS                                                      1  0021  /                    1
244                BW    GHAVWM,81        WM IN 81?                       8  0022  V 001 081 1          1
245                SW    81               NO, SET ONE                     4  0030  , 081                1
246         GLOOP  LCA   81,201           LOAD TO PRINT AREA              7  0034  L 081 201            1
247                BCE   GCW,GLOOP+4,3    STORING AT 300 YET?             8  0041  B 067 038 3          1
248                A     GREAD,GLOOP+3    UPDATE FROM ADDRESS             7  0049  A 076 037            1
249                A     GREAD,GLOOP+6    UPDATE TO ADDRESS               7  0056  A 076 040            1
250                B     GLOOP            NO                              4  0063  B 034                1
251         GCW    CW    281              OR MAYBE NOT                    4  0067  ) 281                1
252                W                                                       1  0071  2                    1
253                   2)                 PRINT THE WORD MARKS            2  0072  2 )                  1
254                   N0                                                 2  0074  N 0                  1
255         GREAD  R     HSTART           READ THE NEXT CARD              4  0076  1 030                1
256         GNOP   NOP                                                   1  0080  N                    1
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                        CARD 8 OF CORE DUMP ROUTINE                                                  PAGE    1

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

257                 JOB   CARD 8 OF CORE DUMP ROUTINE
258         * LOAD  INDEX REGISTER IDENTIFICATION TO 281-300.
259                 ORG   1                                                       0001
260         HDOTS   DCW   @......*@                                          7  0007                       1
261         HINDX1  DCW   @1*..@                                             4  0011                       1
262                 DCW   @*2*.@                                             4  0015                       1
263         H1      DCW   @.@                                                1  0016                       1
264         HINDX   DCW   @*3*.@                                             4  0020                       1
265                 DC    #1                                                 1  0021                       1
266         H2      DCW   #1                                                 1  0022                       1
267         H3      DC    #7                                                 7  0029                       1
268         HSTART  SW    H4                                                 4  0030  , 048                1
269                 CW    HDOTS+1,HINDX+1                                    7  0034  ) 008 021             1
270                 CW    H2,H1+1                                            7  0041  ) 022 017             1
271         H4      CW                                                       1  0048  )                     1
272                 LCA   HINDX,300        MOVE XR ID TO 300                 7  0049  L 020 300             1
273                 SW    H1,H2+1                                            7  0056  , 016 023             1
274                 R     ISTART           READ THE NEXT CARD                4  0063  1 049                 1
275                 DCW   #4                                                 4  0070                       1
276                 DCW   #1                                                 1  0071                       1
277                 DCW   #2                                                 2  0073                       1
278                 DCW   #2                                                 2  0075                       1
279                 DCW   #4                                                 4  0079                       1
280                 DCW   #1                                                 1  0080                       1
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                        CARD 9 OF CORE DUMP ROUTINE                                                    PAGE    1

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

281               JOB   CARD 9 OF CORE DUMP ROUTINE
282         * LOAD SENSE SWITCH IDENTIFIERS TO 201-234.
283               ORG   1                                                          0001
284         ISSTXT DCW    @SENSE SWS   ON@                                  14  0014                      1
285               DC    #1                                                 1  0015                      1
286               DCW   #7                                                 7  0022                      1
287               DCW   #7                                                 7  0029                      1
288         IOFF  DCW   @OFF@                                              3  0032                      1
289               DC    #1                                                 1  0033                      1
290               DCW   #7                                                 7  0040                      1
291               DCW   #7                                                 7  0047                      1
292               DCW   #1                                                 1  0048                      1
293         ISTART LCA    ISSTXT,214       LOAD SS ON TEXT TO 214          7  0049  L 014 214            1
294               LCA   IOFF,234         LOAD SS OFF                       7  0056  L 032 234            1
295               CW    C15                                                4  0063  ) 074                 1
296               CW    C12                                                4  0067  ) 067                 1
297               NOP                                                      1  0071  N                     1
298               SW    JSTART                                             4  0072  , 011                 1
299               R     JSTART           READ THE NEXT CARD                4  0076  1 011                 1
300               DCW   #1                                                 1  0080                      1
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                        CARD 10 OF CORE DUMP ROUTINE                                                    PAGE    1

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

301                JOB   CARD 10 OF CORE DUMP ROUTINE
302         * PUT LIST OF ON AND OFF SENSE SWITCHES IN 236... (ON)
303         * OR 216... (OFF).
304                ORG   1                                                                 0001
305         JTWO   DCW   2                                                    1  0001                      1
306                DC    #9                                                   9  0010                      1
307         JSTART BSS   JON,B            SWITCH ON?                         5  0011  B 034 B              1
308         JOFF   M     JB,236           NO, MOVE SS ID TO OFF              7  0016  @ 080 236            1
309                A     JTWO,JOFF+6      INCR OFF ID SPOT                   7  0023  A 001 022            1
310                B     JBOTH                                               4  0030  B 049                1
311         JON    M     JB,216           YES, MOVE SS ID TO ON              7  0034  @ 080 216            1
312                A     JTWO,JON+6                                          7  0041  A 001 040            1
313                NOP                                                       1  0048  N                    1
314         JBOTH  A     JREAD,JSTART+4   INCR SWITCH TEST                  7  0049  A 076 015            1
315                A     JREAD,JB         INCR SS ID                         7  0056  A 076 080            1
316                BCE   JREAD,JB,H       DONE?                              8  0063  B 076 080 H          1
317                NOP                                                       1  0071  N                    1
318                B     JSTART           AROUND AGAIN                       4  0072  B 011                1
319         JREAD  R     KSTART           READ THE NEXT CARD                 4  0076  1 034                1
320         JB     DCW   @B@              SS ID TO PRINT                     1  0080                      1
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                        CARD 11 OF CORE DUMP ROUTINE                                                    PAGE    1

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

321               JOB   CARD 11 OF CORE DUMP ROUTINE
322         * SAVE COMPARISON INDICATORS IN 100..125.
323               ORG   1                                                             0001
324         KUNEQ DCW   @   UNEQUAL@                                      10  0010                        1
325         KEQUAL DCW  @EQUAL@                                            5  0015                        1
326         KHIGH DCW   @ HIGH@                                            5  0020                        1
327               DC    #2                                                2  0022                        1
328         KLOW  DCW   @LOW@                                              3  0025                        1
329               DC    #4                                                4  0029                        1
330               DCW   #4                                                4  0033                        1
331         KSTART LCA  KUNEQ,110        SAVE  UNEQUAL                     7  0034  L 010 110             1
332               LCA   KEQUAL,115       SAVE  EQUAL                       7  0041  L 015 115             1
333               NOP                                                     1  0048  N                     1
334               LCA   KHIGH,120        SAVE  HIGH                        7  0049  L 020 120             1
335               LCA   KLOW,125         SAVE  LOW                         7  0056  L 025 125             1
336               NOP   0,0,0                                             8  0063  N 000 000 0           1
337               NOP                                                     1  0071  N                     1
338               NOP   0                                                 4  0072  N 000                 1
339               R     LSTART                                            4  0076  1 011                 1
340               DCW   #1                                                1  0080                        1
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                        CARD 12 OF CORE DUMP ROUTINE                                                    PAGE    1

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

341               JOB   CARD 12 OF CORE DUMP ROUTINE
342         * MOVE APPROPRIATE COMPARISON INDICATORS TO 247..265.
343               ORG   1                                                          0001
344         LINC  DCW   5003            INC FOR TWO ADDRS                   4  0004                       1
345               DC    #6                                                  6  0010                       1
346         LSTART BU   LINDON          INDICATOR ON?                       5  0011  B 041 /              1
347               NOP   0,0                                                 7  0016  N 000 000            1
348               NOP   0,0                                                 7  0023  N 000 000            1
349               B     LINDOF          NO                                  4  0030  B 049                1
350               DCW   #7                                                  7  0040                       1
351         LINDON MCW  110,256         MOVE INDICATOR TO PR                7  0041  M 110 256            1
352               NOP                                                       1  0048  N                    1
353         LINDOF A    LREAD,LSTART+4  INCR INDICATOR TEST                 7  0049  A 076 015            1
354               A     LINC,LINDON+6   INCR BOTH ADDRS                     7  0056  A 004 047            1
355               BCE   LREAD,LSTART+4,V  DONE?                             8  0063  B 076 015 V          1
356               NOP                                                       1  0071  N                    1
357               B     LSTART          AROUND AGAIN                        4  0072  B 011                1
358         LREAD R     MSTART          READ THE NEXT CARD                  4  0076  1 011                1
359               DCW   #1                                                  1  0080                       1
```

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                        CARD 13 OF CORE DUMP ROUTINE                                                    PAGE    1

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

360                JOB   CARD 13 OF CORE DUMP ROUTINE
361         * CONSTRUCT OVERFLOW OFF (OR ON) INDICATOR.
362         * MOVE IT TO 268..277.
363                ORG   1                                                          0001
364         MOVFF  DCW   @OVFLO OFF@                                      9  0009                      1
365                DC    #1                                               1  0010                      1
366         MSTART BAV   MOVFL            OVERFLOW?                      5  0011  B 041 Z              1
367         MOVON  DCW   @N @             NOP, AND  N  FOR MSG           2  0017                      1
368                DC    @000000@        REST OF THE NOP INSTR          5  0022                      1
369                NOP   0,0                                            7  0023  N 000 000             1
370                B     MOVFON                                         4  0030  B 049                 1
371                DCW   #7                                             7  0040                      1
372         MOVFL  MCW   MOVON,MOVFF      CHANGE  OFF  TO  ON            7  0041  M 017 009             1
373                NOP                                                  1  0048  N                     1
374         MOVFON MCW   MOVFF,277        MOVE MSG TO PRINT AREA         7  0049  M 009 277             1
375                NOP   0,0                                            7  0056  N 000 000             1
376                NOP   0,0,0                                          8  0063  N 000 000 0           1
377                NOP                                                  1  0071  N                     1
378                NOP   0                                              4  0072  N 000                 1
379                R     NSTART                                         4  0076  1 033                 1
380                DCW   #1                                             1  0080                      1
```

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                        CARD 14 OF CORE DUMP ROUTINE                                                PAGE    1

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

381               JOB   CARD 14 OF CORE DUMP ROUTINE
382         * MOVE CLEAR ROUTINES FOR 200-299 AND 0-80 TO
383         * 101-116.  PRINT INDICATORS. CLEAR 200-299 AND 0-80.
384         * SET WORD MARK IN 1, READ A CARD AND BRANCH TO 1.
385               ORG   1                                                        0001
386               DCW   @/299080,0@      CLEAR STORAGE ROUTINE          9  0009                    1
387               DCW   @011100@         SEE SOURCE CODE BELOW          5  0014                    1
388         NCLEAR DCW  @1@                                             1  0015                    1
389               DC    #6                                            6  0021                    1
390               DCW   #7                                            7  0028                    1
391               DCW   #4                                            4  0032                    1
392         NSTART SW   N1,N2                                         7  0033  , 066 073           1
393               CW    JSTART,NCLEAR                                 7  0040  ) 011 015           1
394               CW                                                  1  0047  )                   1
395               LCA   NCLEAR,NCLEND-1                               7  0048  L 015 116           1
396               SW    NCLEND,NCL3                                   7  0055  , 117 113           1
397               SW    NCL2                                          4  0062  , 109               1
398         N1    SW    NCL1                                          4  0066  , 105               1
399               W                                                   1  0070  2                   1
400               CC    L                SKIP THREE LINES             2  0071  F L                 1
401         N2    CC    K                SKIP TWO LINES               2  0073  F K                 1
402               B     NCLBEG                                        4  0075  B 101               1
403               DCW   #1                                            1  0079                    1
404         * ROUTINE TO CLEAR 200-299 AND 0-80, THEN SET A WORD
405         * MARK AT 1, READ A CARD AND BRANCH TO 1.  THE TEXT OF
406         * THIS ROUTINE IS PUNCHED IN CC 1-16 OF CARD N.
407               ORG   101                                                      0101
408         NCLBEG CS   299                                             4  0101  / 299               1
409         NCL1   CS   80                                              4  0105  / 080               1
410         NCL2   SW   1                                               4  0109  , 001               1
411         NCL3   R    OSTART                                          4  0113  1 001               1
412         NCLEND DCW  #1                                              1  0117                    1
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                        MOVE DATA AND WORD MARKS TO PRINT AREA                                          PAGE    1

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

413                 JOB   MOVE DATA AND WORD MARKS TO PRINT AREA
414         * ROUTINE TO MOVE DATA AND WORD MARKS TO PRINT AREA.
415         * CONVERT GROUP MARKS TO ).
416         * READ A CARD WHEN DONE.
417                 ORG   78                                                                    0078
418         DWSTRT  BU    WSTART                                                 5  0078  B 001 /             1
419         DW1     B     SWITCH                                                 4  0083  B 168               1
420         X1      DCW   @X00@                                                  3  0089                      1
421         DFF     DCW   @FF@                                                   2  0091                      1
422         X2      DCW   333                                                    3  0094                      1
423         DW3     DCW   01                                                     2  0096                      1
424         X3      DC    033                                                    3  0099                      1
425         DWPRNT  W                                                            1  0100  2                   1
426         DW5     CS    332                                                    4  0101  / 332               1
427                 CS                                                           1  0105  /                   1
428         DWLOOP  SW    212+X3            ASSUME DATA HAS WM                   4  0106  , 2A2               1
429         DW7     MCW   0+X2,212+X3       MOVE THE DATA                        7  0110  M 0!0 2A2           1
430         DW8     BW    GOTWM,0+X2        DID IT HAVE WM?                      8  0117  V 129 0!0 1         1
431         LOZ     CW    212+X3            NO, CLEAR ASSUMED WM                 4  0125  ) 2A2               1
432         GOTWM   BCE   GOTGM,0+X3,"      GROUP MARK?                          8  0129  B 141 0?0 "         1
433         DW9     B     NOGM              NO                                   4  0137  B 148               1
434         GOTGM   MCW   LOZ,212+X3        REPL GROUP MARK WITH )               7  0141  M 125 2A2           1
435         NOGM    A     DWREAD,X3         BUMP X3                              7  0148  A 176 099           1
436                 A                       BUMP X2 -- MA FOR BIG CORE           1  0155  A                   1
437         DW12    BCE   DWLOOP,X3-2,0     AROUND AGAIN                         8  0156  B 106 097 0         1
438                 CW    DWSTRT            CHANGED LATER TO W 060               4  0164  ) 078               1
439         SWITCH  NOP   080               CHANGED TO N OR /                    4  0168  N 080               1
440         DW14    SW    PSTART                                                 4  0172  , 001               1
441         DWREAD  R     PSTART            READ THE NEXT CARD                   4  0176  1 001               1
442         DWDOTS  DCW   @.........@                                            8  0187                      1
443         DWLOW   DCW   49                LOW ORDER TWO DIGITS                 2  0189                      1
444         DWBEGN  DCW   00333             BEGIN OF LINE                        5  0194                      1
445         DWAREA  DC    @-AREA @                                               6  0200                      1
```

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                        CARD 15 OF CORE DUMP ROUTINE                                                    PAGE    1

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

446                JOB   CARD 15 OF CORE DUMP ROUTINE
447         * SET WORD MARKS, MOVE SOME CODE TO 164-200.
448                ORG   1                                                          0001
449         OSTART SW    O1,O2                                               7  0001  , 008 015            1
450         O1     SW    O3,O4                                               7  0008  , 022 023            1
451         O2     SW    O5,O6                                               7  0015  , 027 031            1
452         O3     NOP                                                       1  0022  N                    1
453         O4     SW    O7                                                  4  0023  , 038                1
454         O5     SW    O8                                                  4  0027  , 042                1
455         O6     LCA   O9,DWAREA                                           7  0031  L 078 200            1
456         O7     R     PSTART                                              4  0038  1 001                1
457         O8     DCW   @)@              CW JUST BEFORE SWITCH              1  0042                       1
458         O9     DC    @078N080,0011001.........4900333-AREA @            36  0078                       1
```

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                        CARD 16 OF CORE DUMP ROUTINE                                                    PAGE    1

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

459                JOB   CARD 16 OF CORE DUMP ROUTINE
460         * MOVE SOME CODE TO 125-163, SET SOME WORD MARKS.
461                ORG   1                                                          0001
462         PSTART LCA   P1,DW12+7                                            7  0001  L 080 163           1
463                SW    DWBEGN-4,DWLOW-1                                    7  0008  , 190 188           1
464                SW    DW12,DW12                                           7  0015  , 156 156           1
465                SW                                                        1  0022  ,                    1
466                SW    DWDOTS-7                                            4  0023  , 180               1
467                SW    DWREAD                                              4  0027  , 176               1
468                SW    DW14,SWITCH                                         7  0031  , 172 168           1
469                R     QSTART                                              4  0038  1 001               1
470                DCW   @)2A2B1410-0"B148M1252A2A176099A@                  31  0072                      1
471         P1     DC    @B1060970@                                          8  0080                      1
```

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                        CARD 17 OF CORE DUMP ROUTINE                                                    PAGE    1

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

472                JOB   CARD 17 OF CORE DUMP ROUTINE
473         * MOVE SOME CODE TO 87-124, SET SOME WORD MARKS.
474                ORG   1                                                        0001
475         QSTART LCA   Q1,DW8+7                                           7  0001  L 079 124            1
476                SW    NOGM,GOTGM                                          7  0008  , 148 141            1
477                SW    DW5,DWLOOP                                          7  0015  , 101 106            1
478                SW                                                        1  0022  ,                    1
479                SW    DW9                                                 4  0023  , 137                1
480                SW    GOTWM                                               4  0027  , 129                1
481                SW    DW8,DW7                                             7  0031  , 117 110            1
482                R     SSTART                                              4  0038  1 001                1
483                DCW   @X00FF333010332/332/,2A2M0-02A2@                   30  0071                       1
484         Q1     DC    @V1290-01@                                          8  0079                       1
```

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                        CARD 18 OF CORE DUMP ROUTINE                                                PAGE    1

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

485                JOB   CARD 18 OF CORE DUMP ROUTINE
486         * SET SOME WORD MARKS, MOVE SOME CODE TO 78-86
487         * (ACTUALLY PART OF AN INSTRUCTION)
488                ORG   1                                                      0001
489         RSTART SW    R1,SDONE                                   7  0001  , 045 049           1
490                SW    S1,SLOW-6                                  7  0008  , 056 060           1
491                LCA   R5,DW1+3                                   7  0015  L 068 086           1
492                NOP                                              1  0022  N                   1
493                CW    O8                                         4  0023  ) 042               1
494                CW    O5                                         4  0027  ) 027               1
495                SW    X2+1,X2-2                                  7  0031  , 095 092           1
496                SW    X1+1,DW1                                   7  0038  , 090 083           1
497         R1     R     SSTART                                     4  0045  1 001               1
498                DCW   #11                                       11  0059                      1
499         R5     DCW   @   1/B168@                                9  0068                      1
```

```
                        CARD 19 OF CORE DUMP ROUTINE                                                    PAGE    1

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

500               JOB   CARD 19 OF CORE DUMP ROUTINE
501         * MOVE "00333-AREA " WITH ZERO SUPPRESSION TO
502         * 201-211.  UPDATE "XXXXX-AREA " TO 00400.  PUT
503         * .....39 - .........99 IN PRINT AREA.  GO TO PRINT IT
504         * AND TO SET UP TO PRINT 333-399 AREA.
505               ORG   1                                                          0001
506         SSTART MCS    DWAREA,211                                  7  0001  Z 200 211            1
507               MCW   SADDR,DWBEGN     REPLACE 333 WITH 400        7  0008  M 071 194            1
508         SLOOP LCA   DWLOW,261        FIRST DOTS OFFSET 49        7  0015  L 189 261            1
509               LCA                    MOVE THE DOTS               1  0022  L                    1
510               BCE   SDONE,DWLOW-1,9  DONE FILLING DOTS?          8  0023  B 049 188 9          1
511               A     DWREAD,DWLOW-1   BUMP DOTS ADDR BY 10        7  0031  A 176 188            1
512               A     DWREAD,SLOOP+5   BUMP DOTS POINT BY 10       7  0038  A 176 020            1
513               B     SLOOP            AROUND AGAIN                4  0045  B 015                1
514         SDONE LCA   SLOW,251         PUT ......39 IN PRINT       7  0049  L 066 251            1
515         S1    B     DWPRNT           GO PRINT IT                 4  0056  B 100                1
516         SLOW  DCW   @.....39@                                     7  0066                       1
517         SADDR DC    00400                                       5  0071                       1
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                        TEST FOR A BLANK X00-X99 AREA                                                    PAGE    1

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

518                JOB   TEST FOR A BLANK X00-X99 AREA
519         * RESET ........XX TO ........09.  SET STARTING
520         * POSITION FOR DOTS TO 221.  CHECK FOR A BLANK LINE
521         * WITHOUT WORD MARKS.
522                ORG   333                                                                  0333
523         TBSTRT MN    DW14+1,DWLOW-1   ZERO TO ........X9                    7  0333  D 173 188           1
524         TB1    MN    WLOOP-1,WLOOP+4  322 BACK TO 222                      7  0340  D 014 019           1
525         TB2    MCW   X2,X1                                                  7  0347  M 094 089           1
526         TB3    SW    323                                                    4  0354  , 323               1
527         TBLOOP C     9+X1,332         BLANK AREA?                          7  0358  C 0'9 332           1
528                BU    DWPRNT           NO, PRINT                            5  0365  B 100 /             1
529         TB4    BW    DWPRNT,0+X1      WORDMARK? NO, PRINT                  8  0370  V 100 0'0 1         1
530         TB5    BCE   WRET,X1-1,9      DONE?                                8  0378  B 049 088 9         1
531         TB6    A     X3-2,X1          BUMP X1 BY 10 -- MA FOR BIG CORE     7  0386  A 097 089           1
532         TB7    B     TBLOOP           AROUND AGAIN                         4  0393  B 358               1
533         MSIZ   DCW   @014@            MEMORY SIZE / 100                    3  0399                      1
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                        CARD 20 OF CORE DUMP ROUTINE                                                    PAGE    1

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

534                JOB   CARD 20 OF CORE DUMP ROUTINE
535         * MOVE SOME CODE TO 333-364.  SET SOME WORD MARKS.
536                ORG   1                                                          0001
537         TSTART CW    S1,SLOW-6                                          7  0001  ) 056 060            1
538                LCA   T2,TBLOOP+6                                        7  0008  L 080 364            1
539                SW    TB1,TB2                                            7  0015  , 340 347            1
540                NOP                                                      1  0022  N                    1
541                NOP   0,0,0                                              8  0023  N 000 000 0          1
542         T1     SW    TB3,TBLOOP                                         7  0031  , 354 358            1
543                CW    T1,T1                                              7  0038  ) 031 031            1
544                R     USTART                                             4  0045  1 001                1
545         T2     DCW   @D173188D014019M094089,323C0'9332@                32  0080                       1
```

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                        CARD 21 OF CORE DUMP ROUTINE                                                    PAGE    1

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

546                JOB   CARD 21 OF CORE DUMP ROUTINE
547         * MOVE SOME CODE TO 365-396.  SET SOME WORD MARKS.
548                ORG   1                                                          0001
549         USTART LCA   U2,TB7+3                                             7  0001  L 080 396           1
550                SW    U1,V1                                                 7  0008  , 030 023           1
551                SW    TB4,TB5                                               7  0015  , 370 378           1
552                NOP                                                         1  0022  N                   1
553                SW    TB6,TB7                                               7  0023  , 386 393           1
554         U1     NOP   0,0,0                                                 8  0030  N 000 000 0         1
555                SW    DWSTRT,DWSTRT                                         7  0038  , 078 078           1
556                R     VSTART                                                4  0045  1 001               1
557                DCW   @B@              B OF  BU DWPRNT                      1  0049                      1
558         U2     DC    @100/V1000'01B0490889A097089B358@                    31  0080                      1
```

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                        CARD 22 OF CORE DUMP ROUTINE                                                    PAGE    1

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

559                JOB   CARD 22 OF CORE DUMP ROUTINE
560         * SET SOME WORD MARKS.  CHANGE SWITCH TO 2060N
561         * CHANGE FIRST .........X9 TO .........09.
562         * MOVE THE CORE SIZE TO 396-399.
563                ORG   1                                                                  0001
564         VSTART SW    XRET,W4                                            7  0001  , 060 062           1
565                SW    W5,WTEST                                           7  0008  , 064 071           1
566                M     VSWICH,SWITCH+3  CHANGE SWITCH TO 2060             7  0015  @ 053 171           1
567                M                                                        1  0022  @                    1
568         V1     MN    DWREAD+1,DWLOW-1  X9 TO .........09                7  0023  D 177 188           1
569                NOP   0,0,0                                              8  0030  N 000 000 0         1
570                LCA   VCORE,MSIZ       SAVE CORE SIZE                    7  0038  L 058 399           1
571                R     WSTART           READ THE NEXT CARD                4  0045  1 001               1
572                W     XRET             NEW FOR SWITCH                    4  0049  2 060               1
573         VSWICH NOP                                                      1  0053  N                   1
574                DC    @  @                                              2  0055                      1
575         VCORE  DCW   014              CORE SIZE / 100                   3  0058                      1
576                DC    00               TENS DIGIT OF CORE                2  0060                      1
577                DCW   @  CORE SIZE@    JUST A COMMENT                   11  0071                      1
```

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                        CARD 23 OF CORE DUMP ROUTINE                                                    PAGE    1

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

578               JOB   CARD 23 OF CORE DUMP ROUTINE
579         * MOVE "XXXXX-AREA " WITH ZERO SUPRESSION TO 201-211.
580         * UPDATE XXXXX BY 100.
581         * PUT .........09 - .........99 TO 212-311.
582         * GO PUT DATA AND WORD MARKS IN THE PRINT AREA AND
583         * PRINT THE DATA.  PRINT THE WORD MARKS ON RETURN.
584               ORG   1                                                                    0001
585         WSTART MCS    DWAREA,211                                            7  0001  Z 200 211            1
586               A     DWREAD,DWBEGN-2  BUMP ADDR BY 100                      7  0008  A 176 192            1
587         WLOOP  LCA    DWLOW,221        .........X9 TO PRINT                  7  0015  L 189 221            1
588               LCA                                                          1  0022  L                    1
589               A     DWREAD,WLOOP+5   BUMP .........X9 POSN                 7  0023  A 176 020            1
590               BCE   TBSTRT,DWLOW-1,9  DONE WITH .........X9?               8  0030  B 333 188 9          1
591               A     DWREAD,DWLOW-1   BUMP X IN .........X9                 7  0038  A 176 188            1
592               B     WLOOP            AROUND AGAIN                        4  0045  B 015                1
593         WRET   A     DWREAD+2,X2      BUMP CORE START BY 100 - MA IF BIG    7  0049  A 178 094            1
594               B     WTEST                                                4  0056  B 071                1
595         XRET      2)                 PRINT THE WORD MARKS                  2  0060  2 )                  1
596         W4     CC    J                SKIP ONE LINE                         2  0062  F J                  1
597         W5     MN    DW14+1,X3-2      ZERO TO HIGH DIGIT                    7  0064  D 173 097            1
598         WTEST  C     MSIZ,DWBEGN-2    DONE?                               7  0071  C 399 192            1
599               BU    WSTART           DOESN'T FIT, BUT OK                   5  0078  B 001 /              1
600         *                                (REST IS ON CARD R)
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                        CARD 24 OF CORE DUMP ROUTINE                                                    PAGE    1

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

601                JOB   CARD 24 OF CORE DUMP ROUTINE
602         * PRINT WHETHER SENSE SWITCH A IS ON.
603                ORG   1                                                      0001
604         YSTART SW    Y1,Y3                                         7  0001  , 031 054            1
605                CW    XRET,WTEST                                    7  0008  ) 060 071            1
606                SW    Y2,YHALT                                      7  0015  , 036 064            1
607                SW                                                  1  0022  ,                      1
608                CW    W4,DWSTRT                                     7  0023  ) 062 078            1
609                NOP                                                 1  0030  N                      1
610         Y1     CS    332                                           4  0031  / 332                 1
611                CS                                                  1  0035  /                      1
612         Y2        N0                                               2  0036  N 0                    1
613                LCA   YSWA,213                                      7  0038  L 080 213            1
614                SW    YHALT+4                                       4  0045  , 068                 1
615                BSS   YPRINT,A         SS A ON?                     5  0049  B 063 A               1
616         Y3        N0                                               2  0054  N 0                    1
617                MCW   DFF,214          CHANGE MSG TO  OFF           7  0056  M 091 214            1
618         YPRINT W                                                    1  0063  2                      1
619         YHALT  H     YHALT            ALL DONE                     4  0064  . 064                 1
620         YSWA   DCW   @SENSE SW A ON@                              13  0080                        1
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                        ALTERNATIVE CARD 12 OF CORE DUMP ROUTINE                                        PAGE    1

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

621               JOB   ALTERNATIVE CARD 12 OF CORE DUMP ROUTINE
622         * CLEAR ROUTINE THAT GETS MOVED TO 81-92
623               ORG   81                                                          0081
624               CS    80                                                    4   0081  / 080               1
625         SETWM2 SW     1                                                    4   0085  , 001               1
626         READX2 R      1                                                    4   0089  1 001               1
627         *
628         * FIRST CARD OF TWO-CARD ALTERNATIVE SEQUENCE FOR CARDS 12-14
629         * MOVE APPROPRIATE COMPARISON INDICATORS TO 247..265.  MOVE
630         * R 001  TO 92.
631               ORG   1                                                           0001
632               SFX   L                                                 L
633         INC   DCW   5003             INC FOR TWO ADDRS                L   4   0004                      1
634               DC    #6                                                L   6   0010                      1
635         START BU    INDON            INDICATOR ON?                    L   5   0011  B 041 /             1
636               LCA   MREAD+3,READX2+3  SOME INDICATOR WILL BE OFF       L   7   0016  L 033 092           1
637               B     INDOF                                             L   4   0023  B 049               1
638               DC    #3               B WITH BLANK D NEEDS NO WM       L   3   0029                      1
639         MREAD R     001              GETS MOVED TO 89-92              L   4   0030  1 001               1
640               DCW   #7                                                L   7   0040                      1
641         INDON MCW   110,256          MOVE INDICATOR TO PR             L   7   0041  M 110 256           1
642               NOP                                                     L   1   0048  N                   1
643         INDOF A     READ,START+4     INCR INDICATOR TEST              L   7   0049  A 076 015           1
644               A     INC,INDON+6      INCR BOTH ADDRS                  L   7   0056  A 004 047           1
645               BCE   READ,START+4,V   DONE?                            L   8   0063  B 076 015 V         1
646               NOP                                                     L   1   0071  N                   1
647               B     START            AROUND AGAIN                     L   4   0072  B 011               1
648         READ  R     STARTM           READ THE NEXT CARD               L   4   0076  1 011               1
649               DCW   #1                                                L   1   0080                      1
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                        ALTERNATIVE CARD 13 OF CORE DUMP ROUTINE                                        PAGE    1

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

650               JOB   ALTERNATIVE CARD 13 OF CORE DUMP ROUTINE                  L
651         * SECOND CARD OF TWO-CARD ALTERNATIVE SEQUENCE FOR CARDS 12-14
652         * CONSTRUCT OVERFLOW OFF (OR ON) INDICATOR.  MOVE IT TO 268..277.
653         * MOVE CS 80, SW 1 TO 81-88.  SET WORD MARKS FOR IT.
654         * PRINT INDICATORS. CLEAR 200-299 AND 0-80.  SET WORD MARK IN 1,
655         * READ A CARD AND BRANCH TO 1.
656               SFX   M                                                       M
657               ORG   1                                                       M             0001
658         OVMSG DCW   @OVFLO ON @                                           M   9  0009                       1
659               DC    #1                                                    M   1  0010                       1
660         START BAV   OVON              OVERFLOW ON?                        M   5  0011  B 023 Z              1
661               MCW   OVFF,OVMSG        NO, CHANGE ON TO OFF                M   7  0016  M 057 009            1
662         OVON  MCW   OVMSG,277         MOVE MESSAGE TO PRINT AREA          M   7  0023  M 009 277            1
663               SW    OVCC              NEED A WM                           M   4  0030  , 074               1
664               LCA   OVCLR,SETWM2+3    MOVE PART OF CLEAR ROUTINE          M   7  0034  L 070 088            1
665               SW    SETWM2,READX2+4   IT NEEDS A WM                       M   7  0041  , 085 093            1
666               NOP                                                         M   1  0048  N                    1
667               B     OVFIN                                                 M   4  0049  B 071               1
668               DCW   #3                BRANCH WITH BLANK D NEEDS NO WM     M   3  0055                       1
669         OVFF  DCW   @FF@                                                  M   2  0057                       1
670               DC    #5                                                    M   5  0062                       1
671               CS    80                GETS MOVED TO 81-84                 M   4  0063  / 080               1
672         OVCLR DC    @,001@            GETS MOVED TO 85-88                 M   4  0070                       1
673         OVFIN W                                                           M   1  0071  2                    1
674               CC    L                 SKIP 3 LINES                        M   2  0072  F L                 1
675         OVCC  CC    K                 SKIP 2 LINES                        M   2  0074  F K                 1
676               CS    299                                                   M   4  0076  / 299               1
677               NOP                                                         M   1  0080  N                    1
678               END                                                         M          /  333 080
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ALTERNATIVE CARD 13 OF CORE DUMP ROUTINE PAGE 1

| SYMBOL | ADDRESS | SYMBOL | ADDRESS | SYMBOL | ADDRESS | SYMBOL | ADDRESS | SYMBOL | ADDRESS | SYMBOL | ADDRESS | SYMBOL | ADDRESS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A1 | 8 | A10 | 59 | A11 | 63 | A12 | 67 | A13 | 71 | A2 | 15 | A3 | 23 |
| A4 | 30 | A5 | 38 | A6 | 42 | A7 | 49 | A8 | 53 | A9 | 57 | BADDR | 55 |
| BBUMP | 23 | BDONE | 57 | BINCR | 67 | BLOOP | 1 | BLOZ | 71 | BREPLG | 42 | BTESTG | 15 |
| C1 | 8 | C10 | 56 | C11 | 63 | C12 | 67 | C13 | 71 | C14 | 72 | C15 | 74 |
| C16 | 76 | C17 | 80 | C2 | 12 | C3 | 16 | C4 | 23 | C5 | 30 | C6 | 34 |
| C7 | 41 | C8 | 48 | C9 | 49 | CSTART | 1 | DDONE | 67 | DFF | 91 | DLOAD | 22 |
| DLOAD2 | 29 | DNUM | 10 | DREAD | 76 | DSTART | 12 | DW1 | 83 | DW12 | 156 | DW14 | 172 |
| DW3 | 96 | DW5 | 101 | DW7 | 110 | DW8 | 117 | DW9 | 137 | DWAREA | 200 | DWBEGN | 194 |
| DWDOTS | 187 | DWLOOP | 106 | DWLOW | 189 | DWPRNT | 100 | DWREAD | 176 | DWSTRT | 78 | E1 | 17 |
| ECW | 67 | EHAVWM | 1 | ELOOP | 34 | ENOP | 80 | EREAD | 76 | ESTART | 12 | FDONE | 67 |
| FLOAD | 22 | FLOAD2 | 29 | FNUM | 10 | FREAD | 76 | FSTART | 12 | GCW | 67 | GHAVWM | 1 |
| GLOOP | 34 | GNOP | 80 | GOTGM | 141 | GOTWM | 129 | GREAD | 76 | GSTART | 17 | H1 | 16 |
| H2 | 22 | H3 | 29 | H4 | 48 | HDOTS | 7 | HINDX | 20 | HINDX1 | 11 | HSTART | 30 |
| INCL | 4 | INDOFL | 49 | INDONL | 41 | IOFF | 32 | ISSTXT | 14 | ISTART | 49 | JB | 80 |
| JBOTH | 49 | JOFF | 16 | JON | 34 | JREAD | 76 | JSTART | 11 | JTWO | 1 | KEQUAL | 15 |
| KHIGH | 20 | KLOW | 25 | KSTART | 34 | KUNEQ | 10 | LINC | 4 | LINDOF | 49 | LINDON | 41 |
| LOZ | 125 | LREAD | 76 | LSTART | 11 | MOVFF | 9 | MOVFL | 41 | MOVFON | 49 | MOVON | 17 |
| MREADL | 30 | MSIZ | 399 | MSTART | 11 | N1 | 66 | N2 | 73 | NCL1 | 105 | NCL2 | 109 |
| NCL3 | 113 | NCLBEG | 101 | NCLEAR | 15 | NCLEND | 117 | NOGM | 148 | NSTART | 33 | O1 | 8 |
| O2 | 15 | O3 | 22 | O4 | 23 | O5 | 27 | O6 | 31 | O7 | 38 | O8 | 42 |
| O9 | 78 | OSTART | 1 | OVCCM | 74 | OVCLRM | 70 | OVFFM | 57 | OVFINM | 71 | OVMSGM | 9 |
| OVONM | 23 | P1 | 80 | PSTART | 1 | Q1 | 79 | QSTART | 1 | R1 | 45 | R5 | 68 |
| READL | 76 | READX2 | 89 | RSTART | 1 | S1 | 56 | SADDR | 71 | SDONE | 49 | SETWM2 | 85 |
| SLOOP | 15 | SLOW | 66 | SSTART | 1 | STARTL | 11 | STARTM | 11 | SWITCH | 168 | T1 | 31 |
| T2 | 80 | TB1 | 340 | TB2 | 347 | TB3 | 354 | TB4 | 370 | TB5 | 378 | TB6 | 386 |
| TB7 | 393 | TBLOOP | 358 | TBSTRT | 333 | TSTART | 1 | U1 | 30 | U2 | 80 | USTART | 1 |
| V1 | 23 | VCORE | 58 | VSTART | 1 | VSWICH | 53 | W4 | 62 | W5 | 64 | WLOOP | 15 |
| WRET | 49 | WSTART | 1 | WTEST | 71 | X1 | 89 | X2 | 94 | X3 | 99 | XRET | 60 |
| Y1 | 31 | Y2 | 36 | Y3 | 54 | YHALT | 64 | YPRINT | 63 | YSTART | 1 | YSWA | 80 |