ans/g0013[illegible].png

# 8TC10B

(FOR AIR-COOLED MEMORY ONLY)

June 30, 1961

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This program can be run on either a 80K or 160K machine.

I. Purpose:

To provide an error detection diagnostic containing simple straight forward programming. The test checks all command and control operations as well as all machine specifications.

II. Scope:

Test all Tape Control Units, Multiplexor, and Tape operations and circuits, excluding manual operations that have to do with tape movements. Each tape in "ready" status is tested with the exception of 0200, an address reserved for master program tape input. If tape is "Ready", this tape is tested by all the routines of 8TC10. Each "Ready" tape is tested in numerical order.

III. Description:

A. The Diagnostic is made up of a series of small, self-contained, simple tests called Routines. Each Routine contains an error detection section and an analytical or diagnostic section. A machine malfunction indicated by the error detection section is evidenced by a "short" type-out, i.e. TC-012TP 2001. A machine malfunction indicated by the error detection section and further indicated by the analytical section is typified by the "long" type-out, i.e. TC-012-TP 2001-D. The analytical section of any routine is reached by placing the 916 alteration switch in the "ON" position. The total test is contained within 80K positions of Memory.

B. An example of a typical Routine follows: Routine 005 tests that control 0003 turns on TI. If control 0003 fails to turn on TI, we would fail to TRS "00" in a subsequent instruction and would enter the Alt. Switch and T/O area where a short Type-Out would occur (TC-005-TP----) if 916 is off (TRA "06"). If 916 is ON and we failed to recognize the TI on (TRS "00" did not transfer), entry is made to an additional section of the same routine to further pin down the error conditions. This section is called the Analytical or Diagnostic Section of the example, Routine 005, we try an alternate means of turning on TI (by reading a TM).

SELECTOR SWITCH ON TCU MUST BE SET TO DIAGNOSTIC POSITION.

THE TENS SELECTOR SWITCH ON CHANNEL 20 MUST BE SET TO 0.

see pg IV for TCU sw. settings

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VI. Error Stops:

Alteration Switch 913 ON allows stop on error. The HALT # (IAR) setting will designate the routine number that failed. Push start to continue.

VII. Optional Control:

A. 914 Switch must be ON if input of program is from card reader. If tape input, 914 may be positioned as desired according to directions in IV. D.

B. Pass Counter:

A "Z" is typed at the end of a complete pass thru the program for each "ready" tape on all channels, if switch 914 is ON to repeat the program. If the program is to be repeated, those routines which rewind will be bypassed.

VIII. Operator Hints:

A. Reliability testing should be done with alteration switch 914 ON and the rest of the alteration switches off.

B. If a 900, 901, 902, 903, 904 or 905 check indication is typed out (the presence of any of these checks is checked for at the end of each pass of the program on each ready tape), the spot where the indicated error occurred may be located by stopping the machine, putting all check switches in automatic, putting 915 Alteration Switch ON and starting.

C. If it is desired to stop on error, put 913 ON. The program will halt after a typeout showing the first indicated error.

D. 912 can then be turned on to loop in this particular routine showing an error condition. Turn 913 Off now if it is no longer desirable to "Stop" while repeating the same routine.

E. 911 can now be turned ON so that the error condition can be "scoped". The error condition is still present, but the typing process has been bypassed.

SELECTOR SWITCH ON TCU MUST BE SET ON DIAGNOSTIC POSITION.

THE TENS SELECTOR SWITCH ON CHANNEL 20 MUST BE SET TO 0.

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B. If too many type-outs are occuring, and if these type-outs consist of both Channel Checks (Data Checks) and routine type-outs, it is advisable to stop in a safe area as explained in section IX. Put switch 916 ON, reset and start. Investigate the troubles specified by routine typeouts with the "--D".

1. Put 913 ON, reset and start. When the next "--D" type-out occurs, you will halt. Put 912 ON and half-step to the beginning of the routine until the error condition occurs again. A check with the routine description will verify the existing trouble indications with the error conditions appearing on either the MPX or TCU test panels.

NOTE: THE 916 (ANALYSIS OR DIAGNOSTIC) AREA DOES NOT INDICATE EXCLUSIVE DIAGNOSIS.

2. If you are getting mostly "Data Chk on WR or RD" type-outs, bad tapes are indicated which are causing random error conditions through the various test routines.

3. It is very important to realize that the Analysis Section of the routine attempts to more closely indicate the error condition. The presence of a "--D" in the routine error typeout does not guarantee that the error has occurred for which the routine was designed.

4. The 916 switch being ON also types out the Error Sense Characters as well as the error conditions represented by the bits present in these characters.

C. Instances have been found where the program has evidenced trouble by a typeout. Investigation showed that the trouble specified by the routine description was not the error condition encountered. With 912 ON, 913 OFF, and 916 being either ON or OFF as is found best for any particular set of circumstances, Half-Step to the IC just past the error condition. Then manually Store a transfer to the beginning of the error producing operation and analyze the trouble "Scope-wise" or logically.

CAUTION: Be careful, half-stepping through interrupt routines!

1. Visually checking the MPX and TCU test panels will aid in trouble analysis during half-stepping and/or if a halt occurs after a typeout.

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# INDEX OF ROUTINES

| 7080 MODE | DESCRIPTION OF ROUTINE |
|---|---|
| 053 | ERROR TRIGGERS STAY ON WHEN RESET BY A RD OR WR INSTR. ANALYSIS SHOWS CHANNEL RESET DOES RESET THE ERROR TRIGGERS PROPERLY. |
| 054 | CHECK THAT RD 01 STATUS OCCURS IF ADDR. CK. WHILE READING. IF ANALYSIS, TCU AREA FAILURE FIRST 5 CHARS. OTHER THAN BLANKS, AND RD 01 FAILURE IN REMAINING 195 CHARS. |
| 056 | REG. A VRC CHECK SHOWS FAILURE INDICATION, OR 2 BIT NOT BEING SET IN SCANNER REGISTER. |
| 058 | ECHO CHECK SHOWS FAILURE INDICATION, TROUBLE MAY BE THAT 4 BIT IS NOT PUT IN SCANNER REG. ON FORCED ECHO CHECK. WRITE NO BITS IN THIRD CHAR. OF 5 CHAR. FIELD. |
| 060 | CHANNEL ID CHECK FAILURE AS A RESULT OF ECHO CHK. OR A BIT NOT BEING SET IN CHAR. 2 OF SCANNER REG. |
| 062 | "NO ERROR" TRIGGER, IN THE CHANNEL CHECK SCANNER, MALFUNCTIONING OR EXTRA BIT PICK-UP IN THE SCANNER REG. WHICH BLOCKS 8 BIT. |
| 064 | "READ LRCR" TRIGGER ON, YET RECORD OK. |
| 066 | "TAU ERROR" CHECK TRIGGER NOT TURNED ON BY LRCR BEING FORCED THROUGH DIAGNOSTIC REGISTER (WR "03"). |
| 068 | FALSE "DWT CHECK". THIS CHECK CANNOT BE FORCED. IT MUST OCCUR AND BE SENSED BY SCANNER REG. |
| 070 | FALSE "DWT CHECK" INDICATION ON READ. (SHOULD GET DWT CHECKS ONLY ON WR). |
| 072 | FORCED LRCR CHK ON WR DOES NOT TURN CHECK TGR ON, OR "A" BIT IS NOT BEING SET IN SCANNER REG. - CHAR. 1. |
| 074 | READ REG. A SHOWS ERROR INDICATION. |
| 076 | READ REG. B SHOWS ERROR INDICATION. |
| 078 | ERROR OCCURRING IN TCU, NO RW CHECKS AND NO MPX CHECKS. OCCURS AFTER READING REGULARLY THRU REG A AND REG B. |
| 080 | TAPE ERROR INDICATED. REG A AND REG B INDIVIDUALLY CHECKED AND RW REG SHOWS FIRM CHECK INDICATION. |
| 083 | UNANSWERED DEMAND ERROR IN TCU IS INDICATED ON BOTH WR AND RD. |
| 085 | "CHANNEL ID" CHECK TRIGGER MALFUNCTIONING AS A RESULT OF A REDUNDANT CHAR. BEING FORCED, OR "A" BIT NOT BEING SET IN SCANNER REGISTER, CHARACTER 2. |
| 087 | ERROR INDICATED FROM TCU TO MEMORY. |

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# INDEX OF ROUTINES

| ROUTINE NO. | DESCRIPTION OF ROUTINE |
|---|---|
| 140 | CHECK EMIT GM-DIAG CHECKS FOR 5 GM's BEING THERE ON RD RESET AND THAT THE 3 CHARACTERS WRITTEN ARE READ BACK. |
| 142 | CHECK OVERLAP CPU WITH TAPE READ, USING TMT 3 DIAG TYPE OUTS. WR "01" FIELD AT 19000 TO 19999. RD FIELD AT 38000 TO 38999. SMT FIELD FROM 19000 TO 19999 TRANSMITTED FROM 39000 TO 39999. |
| 146 | CHECK USE OF TAPE MARK UNDER CONTROL OF RECORD COUNTER. |
| 148 | CHECK TAPE MARK RECOGNITION USING BKSP 01, AND RD TAPE MARK, AFTER BKSP 01 TO TAPE MARK. |
| 150 | CHECK TIMING OF SKIP BETWEEN 2 WR FIELDS TO CHECK THAT SKIP IS OPERATING CORRECTLY. |
| 152 | CHECK SET DENSITY LOW. |
| 153 | CHECK SET DENSITY HIGH. |
| 154 | CHECK INTERRUPT MODE OPERATION WITH TAPE MOVEMENT. |
| 157 | CHECK TIMING OF WRITE AT LOW DENSITY. MODEL NUMBER OF TAPE IS INCLUDED IN DIAG. T/O. |
| 160 | CHECK TIMING OF SET DENSITY HIGH. MODEL NUMBER OF TAPE IS INCLUDED IN DIAG. T/O. |
| 163 | CHECK READY FOR "TOO-QUICK" DISCONNECT. |
| 165 | TEST TRS "03" WITH TI ON. DIAG. TRIES TRS "00" AFTER READY LOOP TO SENSE TM INDICATOR. |
| 166 | "FORCE DWT ERROR CHECK" ON MOD IV TYPE TAPES BY USING SEL 6001 NOT INDICATING. DIAG CHECKS FOR CHANNEL CHECK CAUSED BY FORCING WTC RESET ERROR CHECK USING SAME SEL 6001. |
| 167 | CHECK THAT T/I DOES NOT TURN ON WHEN BKSP UNDER RECORD COUNTER CONTROL OVER 1 CHARACTER RECORD FOLLOWED BY 4. DIAG. SHOWS RECORD CORRECT & TI WILL TURN ON BY A READ OF A TM. |
| 169 | LRCR IS FORCED BUT DO NOT GET SCANNER INDICATION. DIAG CHECKS THAT RECORD IS OK. |
| 171 | "FORCE WTC RESET CHECK" ON MOD IV TAPES IS NOT INDICATING. DIAG CHECKS FOR SCANNER CHECK CAUSED BY FORCING DWT CHECK USING SEL 6001. |
| 172 | FORCE ERROR ON WR. NEXT WTM DOES NOT TURN CHANNEL CHECK INDICATOR OFF. DIAG. WRITES BAD RECORD AND THEN GOOD RECORD TO SEE IF CHANNEL CHECK IS RESET. |
| 173 | CHECK BIAS TGR FOR MARGINAL ERROR CONDITION ON WRITE. THIS MEANS NOISE BECOMING MARGINAL. |

# INDEX OF ROUTINES

| ROUTINE NO. | DESCRIPTION OF ROUTINES |
|---|---|
| 195 | CHECK THAT SEL 6002 HOLDS THE SAR 8 TRIGGER IN A RESET CONDITION CAUSING CHANNEL CHECK BY THE SAR 8 ERROR TRIGGER ON - MOD II TAPES. |
| 196 | FORCE WORD REG. VRC. INSERT REDUNDANT CHAR. IN CHAN. WORD B DURING READ. DIAG. CHECKS THAT CHAN. ID CHK. COMES ON DURING FORCE BAD CHAR. |
| 197 | CHECK THAT EIM, IF INTERRUPT TRIGGERS ARE NOT RESET, GOES INTO INTERRUPT MODE. |
| 198 | CHECK THAT LIM TURNS OFF INTERRUPT CALL TRIGGERS. |
| 240 | BACKSPACE OPERATION IS MALFUNCTIONING - MOD II TAPES. |
| 242 | CHECK FOR ERRONEOUS BITS LEFT IN TAPE GAP AS A POSSIBLE RESULT OF FAILURE TO WRITE FORWARD ON A BACKSPACE OPERATION ON MOD II TAPES. |
| 244 | FAILURE INDICATED IN BSP OPERATION YET ERRONEOUS INFORMATION IS NOT LEFT IN TAPE GAP, USING MOD II TAPES. |
| 246 | BACKSPACE OPERATION IS MALFUNCTIONING-MOD IV TAPES. |
| 248 | CHECK FOR ERRONEOUS BITS LEFT IN TAPE GAP AS A POSSIBLE RESULT OF FAILURE TO WRITE FORWARD ON A BACKSPACE OPERATION ON MOD IV TAPES. |
| 250 | FAILURE INDICATED IN BSP OPERATION YET ERRONEOUS INFORMATION IS NOT LEFT IN TAPE GAP, USING MOD IV TAPES. |
| 252 | CHECK THAT BSP AT LOAD POINT DOES NOT BSP. |
| 254 | CHECK THAT BSP AT LOAD POINT TURNS ON INTERRUPT CALL TRIGGER. |
| 256 | TEST EARLY SAMPLE CONTROL BY WRITING VARIABLE LENGTH RECORDS. THIS IS WR 03 - 1 BIT. |
| 258 | CHECK THAT CHANNEL CHECK ON RECORD COUNTER OPERATION IS NOT RESET BETWEEN RECORDS. |
| 260 | TEST COMPARE CHECK WHILE READING VARIABLE LENGTH RECORDS. THIS IS WR 03 - 4 BIT. ALSO WR 03 - 2 BIT TO CAUSE WRITE CLIPPING ON READING. |
| 262 | CHECK FOR INCORRECT 40K WRAP-AROUND WITH 80K OR 160K MEMORY. |
| 264 | CHECK THAT WRITE UNDER RECORD COUNTER CONTROL AT LD POINT OPERATES PROPERLY. |
| 266 | CHECK ADDRESS WORD. BY-PASS CHANNEL CHECK IF DATA TRANSMISSION TROUBLE. |

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# Routine 299

205

55905
205
56110

| | | | | |
|---|---|---|---|---|
| 55904 | Set | B | 0004 | Set accumulator 4 places. |
| 55909 | Lod | 8 | 0564 | Lod TD address and place |
| 55914 | Unl | 7 | 55924 | Select & type out area. |
| 55919 | Unl | 7 | 56117 | |
| 55924 | Sel | 2 | 2303 | write. typeout message on type |
| 55929 | Wr | R | 56105 | 13 characters |
| 55934 | Set | B | 9000 | 10 ms delay |
| 55939 | TRR | O | (01)55964 | |
| 55944 | Set | B | 0004 | |
| 55949 | Lod | 8 | 56122 | |
| 55954 | Unl | 7 | 56044 | |
| 55959 | Tr | 1 | 55979 | |
| 55964 | Set | B | 0004 | |
| 55969 | Lod | 8 | 56126 | |
| 55974 | Unl | 7 | 56044 | |
| 55979 | Rewd | 3 | 0002 | |
| 55984 | TRR | O | (01)55994 | |
| 55989 | TR | 1 | 55984 | |
| 55994 | REV | U | 60004 | Blank 5025 Position of Memory |
| 55999 | BLM | # | 1005 | |
| 56004 | Set | B | 0001 | |
| 56009 | Lod | 8 | 56118 | move S.M. |
| 56014 | Unl | 7 | 65000 | |
| 56019 | Wr | R | 60000 | write 5000 Characters of Blanks |
| 56024 | RWd | 3 | 0002 | rewind |
| 56029 | Wr | R | 64900 | write 100 Character of Blanks |
| 56034 | Rd | Y | 65000 | Read remainder of 5000 [illegible] |

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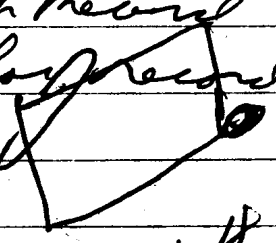
1/4 inch to left of Centerpole of Writehead (Scribe mark)????

```
56039  SPC  , 3000
56044  Set  B 5300          6 ms. Delay.
56049  CHR  3 (13) 0000     ~~Compare to G14~~
56054  SPC  , 0000          ???  compare 15000 to ≠  no error.
56059  CMP  4 65000
56064  TRE  L 56099                                  Stop Typeout
56069  TAA  I(61) 56099 (911)
56074  Set  2  0500
56079  WR   R  56105                                 Stop on Error
56084  TAC  I(03) 56099 (913)
56089  TR   1  56099                                 Stop in Routine
56094  HLT  J  0299
56099  TAB  I(02) 55904 (912)
56104  TR   1  40004                                 56119
56105- TC-299-TP2303≠
```

Write 5000 Character Blank Record
Rewind & write 100 Char Record Stopping
in middle of long record.
Read into 5000 &
give a channel reset after
a given delay if any bits read in that
time it will wipe out group mark on
65000 thus giving not equal Compare &
type out Error.




(4)

```
      5305
       663
      ----
      5968   6000 μ sec.

8 | 5305
    663
```

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8TC10B--JUNE 10, 1961
TCU AND TAPE ERROR DETECTION
TEST WITH ANALYSIS

```
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
          ◆ 00004 SEL 2      0500          ◆
          ◆ 00009 WR  R      0981          ◆
          ◆ 00014 HLT J      0000          ◆—90kc 1 T96R 53%
          ◆ 00019 EEM 3 14   0000 0&-0     ◆
          ◆ 00024 SPC ,      0000          ◆
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
                       I
          ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
A03......◆.00029 LEM 3 15   0000 0&&0     ◆        HOUSEKEEPING
          ◆ 00034 SET B      0004          ◆
          ◆ 00039 LOD 8      0423          ◆
          ◆ 00044 UNL 7      0074          ◆
          ◆ 00049 LOD 8      1174          ◆
          ◆ 00054 UNL 7      0189          ◆
          ◆ 00059 SET B      0001          ◆
          ◆ 00064 LOD 8      0432          ◆
          ◆ 00069 UNL 7      0140          ◆
       ..◆.00074 SEL 2      0201          ◆
       I  ◆ 00079 TRS 0 01   0144 01U4-◆----.
       I  ◆ 00084 TR  1      0094------◆-. I
      .I.◆.00089 RWD 3      0002        ◆ I I    REWIND ALL TAPES
      II  ◆ 00094 SET B      0004......◆.I I
      II  ◆ 00099 LOD 8      0074        ◆   I
      II  ◆ 00104 ADD G      0432        ◆   I
      II  ◆ 00109 CMP 4      0428        ◆   I
      II  ◆ 00114 TRE L      0129------◆-. I
      II  ◆ 00119 UNL 7      0074        ◆ I I
      I‡-◆-00124 TR  1      0074        ◆ I I
      I   ◆ 00129 LOD 8      0423......◆.I I
      I   ◆ 00134 UNL 7      0074        ◆   I
      I   ◆ 00139 TR  1      0174------◆-. I
      I   ◆ 00144 NOP A      0089......◆.I.I
      I   ◆ 00149 SET B      0004        ◆ I
      I   ◆ 00154 LOD 8      0074        ◆ I
      I   ◆ 00159 UNL 7      0189        ◆ I
      I   ◆ 00164 SGN T 15   0140 0ADD   ◆ I
      ‡--◆-00169 TR  1      0089        ◆ I
          ◆ 00174 LOD 8      1174......◆.I
       ..◆.00179 CMP 4      0189        ◆
       I  ◆ 00184 TRE L      0204------◆-.
       I  ◆ 00189 SEL 2      0000        ◆ I      STAY ON 1ST TAPE UNTIL
       I  ◆ 00194 TRS 0 01   0204 02■4-◆-Y        FINISHED REWINDING
       ‡-◆-00199 TR  1      0179        ◆ I
          ◆ 00204 EEM 3 14   0000 0&-0.◆.I
          ◆ 00209 CHR 3 13   0000 0&■0     ◆
          ◆ 00214 LEM 3 15   0000 0&&0     ◆
          ◆ 00219 SET B      0004          ◆        RESET MODE THREE TAPE ADDRESS
          ◆ 00224 LOD 8      0423          ◆
          ◆ 00229 UNL 7      0329          ◆
          ◆ 00234 LOD 8      0794          ◆        RESET 7080 TYPE TAPE ADDRESSE
          ◆ 00239 UNL 7      0594          ◆
B02......◆.00244 SET B      0001          ◆        RESET NO-READY SWITCHING
          ◆ 00249 LOD 8      0432          ◆
          ◆ 00254 UNL 7      0380          ◆
          ◆ 00259 UNL 7      0690          ◆
          ◆ 00264 UNL 7      1300          ◆
          ◆ 00269 UNL 7      1505          ◆
          ◆ 00274 UNL 7      1810          ◆
          ◆ 00279 UNL 7      2130          ◆
          ◆ 00284 UNL 7      2770          ◆
          ◆ 00289 UNL 7      0735          ◆
          ◆ 00294 UNL 7      220-          ◆
          ◆ 00299 UNL 7      250-          ◆
          ◆ 00304 UNL 7      500-          ◆
          ◆ 00309 SET B 10   0001 0--1     ◆        LOAD - IN ASU. 10.
          ◆ 00314 LOD 8 10   0430 0MLO     ◆
          ◆ 00319 SET B 12   0001 0&01     ◆        LOAD GM IN ASU 12
          ◆ 00324 LOD 8 12   0433 0D33     ◆
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
                       ▼
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NEXT PAGE

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                 ◆◆◆
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```
2 029 01098                    T/I OR ANY IND MALFUNCTIONING
2 001 01099                    ◇
                                                    ROUTINE #005

        ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
P02.....◇.01104 TRA I      1109------◇-.           TURN ON TI IN MOD 3 MODE
      I  ◇ 01109 SET B     0004......◇.I
      I  ◇ 01114 LOD 8     0564      ◇
      I  ◇ 01119 UNL 7     1292      ◇
      I  ◇ 01124 UNL 7     1129      ◇
      I  ◇ 01129 SEL 2               ◇
      I  ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
      I              I
      I  ◇◇◇◇◇◇◇◇◇◇◇◇▼◇◇◇◇◇◇◇◇◇◇◇◇◇◇
      I  ◇ 01134 IOF 3     0000      ◇              BASIC ERROR TEST
      I..◇.01139 TRS 0 01  1149 11U9-◇-.
      I‡-◇-01144 TR  1     1139      ◇ I
      I  ◇ 01149 LDA #     1149......◇.I
      I  ◇ 01154 TRS 0     0999------◇-------M04
      I  ◇ 01159 ION 3     0003      ◇
      I  ◇ 01164 TRS 0 03  1169 11F9-◇-.
      I  ◇ 01169 TRS 0     1274......◇-‡---.        NO ERROR
      I  ◇ 01174 IOF 3     0000      ◇      I        ERROR
      I  ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇      I
      I              I                      I
      I  ◇◇◇◇◇◇◇◇◇◇◇◇▼◇◇◇◇◇◇◇◇◇◇◇◇◇◇      I
      I  ◇ 01179 TRA I 06  1229 1SK9-◇----. I        ALT SWITCH & T/O LOOP
      I..◇.01184 TRA I 01  1219 12/9-◇--.I I
     .II.◇.01189 SEL 2     0500      ◇  II I
    III ◇ 01194 WR  R      1280      ◇  II I
    III ◇ 01199 UNL 7 12   1293 1B93 ◇  II I
    III ◇ 01204 TRA I 03   1214 12A4-◇-.II I
    III ◇ 01209 TR  1      1219------◇-‡YI I
    III ◇ 01214 HLT J      0005......◇.III I
    I‡‡-◇-01219 TRA I 02   1104 11-4.◇..II I
    I II◇ 01224 TR  1     46004 600M◇---‡-‡--      RETURN FROM 51324
    I II◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   I I
    I II                                   I I
    I II◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   I I
    I II◇ 01229 WTM 3      0001......◇...I I        ANALYSIS SECTION
    I II◇ 01234 BSP 3      0004      ◇      I
    I II◇ 01239 RD  Y     39995 I995 ◇      I
    I II◇ 01244 TRS 0 03   1249 12D9-◇-.    I        DOES TI COME ON AFTER RD TM
    I II◇ 01249 TRS 0      1259------◇-‡-.  I
    I ‡‡◇-01254 TR  1      1184      ◇  I   I
    I  I◇ 01259 IOF 3      0000......◇..I   I
    I  I◇ 01264 UNL 7 10   1293 1KR3 ◇      I
    ‡--‡◇-01269 TR  1      1189      ◇      I
       I◇ 01274 IOF 3      0000......◇.....I
       ‡◇-01279 TR  1      1219      ◇
        ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇

2 013 01292                    TC-005-TP
2 001 01293                    ◇
2 002 01295                    -D
2 001 01296                    ◇
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gr ns/g0013895.png

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                 I
        ◇◇◇
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gemins/g0013896.png

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          ◆◆◆
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g/ans/g0013897.png

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          ◆◆◆
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gmans/g0013898.png

```
                                                    ALT SWITCH AND T/O LOOP
AE12......◇.03014 TRA I 06  3064 3■04-◇---.
        ..◇.03019 TRA I 01  3054 30V4-◇--.I
       .I.◇.03024 SEL 2     0500      ◇  II
       II ◇ 03029 WR  R     3155      ◇  II
       II ◇ 03034 UNL 7 12  3168 3A68 ◇  II
AF14...II.◇.03039 TRA I 03  3049 30D9-◇--.II
       II ◇ 03044 TR  1     3054------◇-‡YI
       II ◇ 03049 HLT J     0013......◇.III
AG12...II.◇.03054 TRA I 02  2974 29P4-◇--‡‡--AD12
       II ◇ 03059 TR  1     3179------◇---‡.
       II ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   II
       II                                  II
       II ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   II
       II ◇ 03064 BSP 3     0004......◇...II   ANALYSIS SECTION
       II ◇ 03069 RD  Y    38000 H000 ◇     I
       I‡-◇-03074 TRS 0 03  3019 30A9 ◇     I
       II ◇ 03079 RD  Y 02 39000 I0-0 ◇—    I
       I‡-◇-03084 TRS 0 03  3019 30A9 ◇     I
       II ◇ 03089 SET B     0014      ◇     I
       II ◇ 03094 LOD 8     3168      ◇     I
       II ◇ 03099 CMP 4    38013 H013 ◇     I
       II ◇ 03104 TRE L     3114------◇-.   I
       I‡-◇-03109 TR  1     3019      ◇ I   I
       I‡-◇-03114 TRS 0 11  3019 3-A9.◇.I   I
       II ◇ 03119 SET B     0005      ◇     I
       II ◇ 03124 LOD 8     2949      ◇     I
       II ◇ 03129 CMP 4    39004 I004 ◇     I
       II ◇ 03134 TRE L     3144------◇-.   I
       I‡-◇-03139 TR  1     3019      ◇ I   I
       I  ◇ 03144 UNL 7 10  3168 3J08.◇.I   I
       ‡--◇-03149 TR  1     3024      ◇     I
          ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇     I
                                            I
                                            I
       2 005 03154                H020
       2 013 03167               TC-013-TP
       2 001 03168               ◇
       2 001 03169               -
       2 001 03170               D
       2 001 03171               ◇
                                                    ROUTINE #014

          ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇     I
AH14......◇.03179 SET B     0004......◇....I   FALSE CHANNEL CHK
          ◇ 03184 LOD 8     0564      ◇        INDICATION ON RD.
          ◇ 03189 UNL 7     3367      ◇
          ◇ 03194 UNL 7     3199      ◇
          ◇ 03199 SEL 2               ◇
          ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
                      I
          ◇◇◇◇◇◇◇◇◇◇◇◇▼◇◇◇◇◇◇◇◇◇◇◇◇◇◇
          ◇ 03204 WR  R     3350      ◇        BASIC ERROR TEST
          ◇ 03209 TRS 0 03  3279 32G9-◇------AJ14
          ◇ 03214 BSP 3     0004      ◇
          ◇ 03219 RD  Y    38000 H000 ◇
          ◇ 03224 TRS 0 03  3234 32C4-◇-.
          ◇ 03229 TR  1     3279------◇-‡----AJ14
          ◇ 03234 RD  Y 02 39000 I0-0.◇.I        STORE ADDRESS WORD
          ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
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                 I
            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇Ψ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
            ◇ 03484 TRA I 06   3559 3VN9-◆-----¬        ALT SWITCH AND T/O LOOP
         ...◇.03489 TRA I 01   3524 35S4-◆--¬ I
       .I..◇.03494 SEL 2      0500       ◇  I I
      II   ◇ 03499 WR  R      3570       ◇  I I
      II   ◇ 03504 UNL 7 12   3583 3E83  ◇  I I
      II   ◇ 03509 TRA I 03   3519 35A9-◆-¬I I
      II   ◇ 03514 TR  1      3524------◆-‡Y I
      II   ◇ 03519 HLT J      0015......◇.II I
AL14..II..◇.03524 TRA I 02   3379 33P9-◆--‡-‡-AK14
      II   ◇ 03529 TR  1      3594------◆---¬I
      II   ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   II
      II                                     II
      II   ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   II
      II   ◇ 03534 RD  Y     38250 H250 ◇    II        ANALYSIS SECTION
      II..◇.03539 TRS 0 01   3549 35U9-◆-¬  II
      II‡-◆-03544 TR  1      3539       ◇ I II
      II   ◇ 03549 TRS 0      3559------◆-‡-‡Y
      I‡--◆-03554 TR  1      3489       ◇   II
      I    ◇ 03559 IOF 3      0000......◇...II
      I    ◇ 03564 UNL 7 10   3583 3NQ3 ◇    I
      ‡---◆-03569 TR  1      3494       ◇    I
           ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇    I
                                              I
                                              I
      2 013 03582                 TC-015-TP
      2 001 03583                 ◇
      2 001 03584                 -
      2 001 03585                 D
      2 001 03586                 ◇
                                                        ROUTINE #016

           ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇    I
AM16......◇.03594 SET B      0004......◇...I           CHECK FALSE TURN - ON TI
           ◇ 03599 LOD 8      0564       ◇             ON WTM, CONTROL 0001
           ◇ 03604 UNL 7      3792       ◇
           ◇ 03609 UNL 7      3614       ◇
           ◇ 03614 SEL 2                 ◇
           ◇◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
                         I
           ◇◇◇◇◇◇◇◇◇◇◇◇◇Ψ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
           ◇ 03619 TRA I      3624------◆-¬             BASIC ERROR TEST
           ◇ 03624 IOF 3      0000......◇.I
           ◇ 03629 LDA #      3629       ◇
           ◇ 03634 TRS 0      0999------◆-------M04
           ◇ 03639 WTM 3      0001       ◇
           ◇ 03644 TRS 0 03   3659 36E9-◆-¬
           ◇ 03649 TR  1      3729------◆-‡----AN16
           ◇ 03654 RCV U     39994 I994 ◇ I
           ◇ 03659 BLM $      0002......◇.I
           ◇ 03664 BSP 3      0004       ◇
           ◇ 03669 RD  Y     39990 I990 ◇
        ..◇.03674 TRS 0 01   3684 36Y4-◆-¬
      ‡-◆-03679 TR  1      3674       ◇ I
           ◇ 03684 IOF 3      0000......◇.I
           ◇◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
                         Ψ
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                                                                  ALT. SWITCH AND T/O LOOP
AQ16......03919 TRA I 06   3979 3ZP9
          ..03924 TRA I 01   3959 39V9
         .I.03929 SEL 2      0500
         II 03934 WR  R      4035
         II 03939 UNL 7 12   4048 4&48
         II 03944 TRA I 03   3954 39E4
         II 03949 TR  1      3959
         II 03954 HLT J      0018.....
AR16...II.03959 SB  % 09    4032 4-T2.
         II 03964 TRS 0 11   3969 3RF9
         II 03969 TRA I 02   3804 38-4
         II 03974 TR  1      4059
         II
         II
         II 03979 BSP 3      0004.....                            ANALYSIS SECTION
         II 03984 RD  Y     39010 I010
         II 03989 TRS 0 03   3999 39I9
         I  03994 TR  1      3924
         I  03999 SET B      0004.....
         I  04004 LOD 8      4033
         I  04009 CMP 4     39013 I013
         I  04014 TRE L      4019
         I  04019 UNL 7 10   4048 4-M8.
            04024 TR  1      3929

      2 005 04029                88
      2 003 04032                777
      2 002 04034                
      2 013 04047                TC-018-TP
      2 001 04048                
      2 002 04050                -D
      2 001 04051                

                                                                  ROUTINE #019

AS16
AS18......04059 SET B      0005.....                            PICK 1 BIT SOME OR ALL
          04064 LOD 8      4434                                  CHARACTERS
          04069 UNL 7     39999 I999
          04074 SET B      0004
          04079 LOD 8      0564
          04084 UNL 7      4094
          04089 UNL 7      4392
          04094 SEL 2

          04099 WR  R 01  39995 I9Z5                             BASIC ERROR TEST
          04104 LDA #      4104
          04109 TRS 0 03  18804 Y8&4------FE72
          04114 RCV U     39004 I004
          04119 BLM $      0002
          04124 BSP 3      0004
          04129 RD  Y     39000 I000
          04134 TRS 0 03   4139 41C9
          04139 SET B      0005.....
          04144 LOD 8      4434
          04149 CMP 4     39004 I004
          04154 TRE L      4224------AU18
          04159 TRS 0 11   4169 4JF9------AT18
          04164 TR  1      4224------AU18
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AZ20.......◆.04994 RCV U     39000 I000 ◆
           ◆ 04999 TZB . 03   5054 50E4-◆-┐
           ◆ 05004 RCV U     39001 I001 ◆ I
           ◆ 05009 TZB . 03   5109 51&9-◆-┼--┐
           ◆ 05014 RCV U     39002 I002 ◆ I  I
           ◆ 05019 TZB . 03   5109 51&9-◆-┼--Y
           ◆ 05024 RCV U     39003 I003 ◆ I  I
           ◆ 05029 TZB . 03   5109 51&9-◆-┼--Y
           ◆ 05034 RCV U     39004 I004 ◆ I  I
           ◆ 05039 TZB . 03   5109 51&9-◆-┼--Y
           ◆ 05044 UNL 7 10   5153 5JN3 ◆ I  I
           ◆ 05049 TR  1      4939------◆-┼--┼-AX20
           ◆ 05054 RCV U     39001 I001.◆.I  I
           ◆ 05059 TZB . 03   5069 50F9-◆-┐  I
           ◆ 05064 TR  1      5109------◆-┼--Y
           ◆ 05069 RCV U     39002 I002.◆.I  I
           ◆ 05074 TZB . 03   5084 50H4-◆-┐  I
           ◆ 05079 TR  1      5109------◆-┼--Y
           ◆ 05084 RCV U     39003 I003.◆.I  I
           ◆ 05089 TZB . 03   5099 50I9-◆-┐  I
           ◆ 05094 TR  1      5109------◆-┼--Y
           ◆ 05099 RCV U     39004 I004.◆.I  I
           ◆ 05104 TZB . 03   4984 49H4-◆----┼-AY20
           ◆ 05109 LDA #      5109......◆....I
           ◆ 05114 TR  1      9924------◆------CL39
           ◆ 05119 SET B      0004      ◆
           ◆ 05124 LOD 8      5184      ◆
           ◆ 05129 UNL 7      5171      ◆
           ◆ 05134 UNL 7 10   5153 5JN3 ◆
           ◆ 05139 TR  1      4939------◆------AX20
           ◆◆◆
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                                                    ANALYSIS SECTION
BH24.......06134 RCV U     39000 I000
           06139 TZB . 06   6194 6/R4-
           06144 RCV U     39001 I001
           06149 TZB . 06   6249 6SM9-
           06154 RCV U     39002 I002
           06159 TZB . 06   6249 6SM9-
           06164 RCV U     39003 I003
           06169 TZB . 06   6249 6SM9-
           06174 RCV U     39004 I004
           06179 TZB . 06   6249 6SM9-
           06184 UNL 7 10   6293 6KR3
           06189 TR  1      6079------BF24
           06194 RCV U     39001 I001.
           06199 TZB . 06   6209 6S-9-
           06204 TR  1      6249------
           06209 RCV U     39002 I002.
           06214 TZB . 06   6224 6SK4-
           06219 TR  1      6249------
           06224 RCV U     39003 I003.
           06229 TZB . 06   6239 6SL9-
           06234 TR  1      6249------
           06239 RCV U     39004 I004.
           06244 TZB . 06   6124 6/K4-----BG24
           06249 LDA #      6249.......
           06254 TR  1      9924------CL39   TR TO CHECK FOR GROUP MARK
           06259 SET B      0004
           06264 LOD 8      6324
           06269 UNL 7      6311
           06274 UNL 7 10   6293 6KR3
           06279 TR  1      6079------BF24

2 013 06292                TC-028-TP
2 001 06293
2 001 06294
2 024 06318                D-PICK B BIT ALL  CHARS.
2 001 06319
2 005 06324                 SOME
2 005 06329                 ALL
2 005 06334                22222
                                                    ROUTINE #030

BJ24
BJ26.......06339 SET B      0005                    PICK C BIT SOME OR ALL
           06344 LOD 8      6714                     CHARACTERS
           06349 UNL 7     39999 I999
           06354 SET B      0004
           06359 LOD 8      0564
           06364 UNL 7      6374
           06369 UNL 7      6672
           06374 SEL 2
                                                    BASIC ERROR TEST
           06379 WR  R 01  39995 I9Z5
           06384 LDA #      6384
           06389 TRS 0 03  18804 Y8&4------FE72
           06394 RCV U     39004 I004
           06399 BLM $      0002
           06404 BSP 3      0004
           06409 RD  Y     39000 I000
           06414 LDA #      6414
           06419 TRS 0 03  18919 Y9A9------FF73
           06424 SET B      0005
           06429 LOD 8     39004 I004
           06434 NOP A      6169
           06439 TRS 0 11   6449 6MD9------BK26
           06444 TR  1      6504------BL26
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                                                                  ANALYSIS SECTION
BS28.......07284 RCV U     39000 I000
           07289 TZB . 02   7299 72R9-
           07294 TR  1      7354------
           07299 RCV U     39001 I001.
           07304 TZB . 02   7314 73J4-
           07309 TR  1      7399------
           07314 RCV U     39002 I002.
           07319 TZB . 02   7329 73K9-
           07324 TR  1      7399------
           07329 RCV U     39003 I003.
           07334 TZB . 02   7344 73M4-
           07339 TR  1      7399------
           07344 RCV U     39004 I004.
           07349 TZB . 02   7434 74L4-
           07354 RCV U     39001 I001.
           07359 TZB . 02   7399 73R9-
           07364 RCV U     39002 I002
           07369 TZB . 02   7399 73R9-
           07374 RCV U     39003 I003
           07379 TZB . 02   7399 73R9-
           07384 RCV U     39004 I004
           07389 TZB . 02   7399 73R9-
           07394 TR  1      7274------BR28
           07399 LDA *      7399......
           07404 TR  1      9454------CH37   TR TO CHECK FOR STROAGE MARK
           07409 SET 8      0004
           07414 LOD 8      7484
           07419 UNL 7      7471
           07424 UNL 7 10   7453 7MN3
           07429 TR  1      7229------BQ28
           07434 UNL 7 10   7453 7MN3.
           07439 TR  1     10029 *029-------CN39

      2 013 07452                TC-034-TP
      2 001 07453                
      2 001 07454                
      2 024 07478                D-DROP 2 BIT ALL   CHARS.
      2 001 07479                
      2 005 07484                 SOME
      2 005 07489                 ALL
      2 005 07494                77777

                                                                  ROUTINE #036

BT28
BT30.......07499 SET 8      0005
           07504 LOD 8      7884
           07509 UNL 7     39999 I999
           07514 SET 8      0004
           07519 LOD 8      0564
           07524 UNL 7      7534
           07529 UNL 7      7842
           07534 SEL 2
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NEXT PAGE

DROP4 BIT SOME OR ALL CHARACTERS

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```
        2 013 07842                TC-036-TP
        2 001 07843                ◊
        2 001 07844                -
        2 024 07868                D-DROP 4 BIT ALL  CHARS.
        2 001 07869                ◊
        2 005 07874                 SOME
        2 005 07879                 ALL
        2 005 07884                77777
                                                     ROUTINE #038

            ◊◊◊
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CE34......◊.08844 RCV U     39000 I000 ◊          ANALYSIS SECTION
          ◊ 08849 TZB . 06   8859 8YN9-◊-¬
          ◊ 08854 TR  1      8914------◊-+--¬
          ◊ 08859 RCV U     39001 I001.◊.I  I
          ◊ 08864 TZB . 06   8874 8YP4-◊-¬  I
          ◊ 08869 TR  1      8959------◊-+-¬I
          ◊ 08874 RCV U     39002 I002.◊.I II
          ◊ 08879 TZB . 06   8889 8YQ9-◊-¬ II
          ◊ 08884 TR  1      8959------◊-+-YI
          ◊ 08889 RCV U     39003 I003.◊.I II
          ◊ 08894 TZB . 06   8904 8Z-4-◊-¬ II
          ◊ 08899 TR  1      8959------◊-+-YI
          ◊ 08904 RCV U     39004 I004.◊.I II
          ◊ 08909 TZB . 06   8994 8ZR4-◊-¬ II
          ◊ 08914 RCV U     39001 I001.◊.I.II
          ◊ 08919 TZB . 06   8959 8ZN9-◊-+-Y
          ◊ 08924 RCV U     39002 I002 ◊ I I
          ◊ 08929 TZB . 06   8959 8ZN9-◊-+-Y
          ◊ 08934 RCV U     39003 I003 ◊ I I
          ◊ 08939 TZB . 06   8959 8ZN9-◊-+-Y
          ◊ 08944 RCV U     39004 I004 ◊ I I
          ◊ 08949 TZB . 06   8959 8ZN9-◊-+-Y
          ◊ 08954 TR  1      8834------◊-+-+--CD34
          ◊ 08959 LDA ‡      8959......◊.I.I
          ◊ 08964 TR  1      9454------◊-+----CH37  TR TO CHECK FOR STORAGE MARK
          ◊ 08969 SET B      0004       ◊ I
          ◊ 08974 LOD 8      9044       ◊ I
          ◊ 08979 UNL 7      9031       ◊ I
          ◊ 08984 UNL 7 10   9013 9-J3  ◊ I
          ◊ 08989 TR  1      8789------◊-+----CC34
          ◊ 08994 UNL 7 10   9013 9-J3.◊.I
          ◊ 08999 TR  1     10089 ■089-◊------CS39
          ◊◊◊
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2 013 09407                    TC-044-TP
2 001 09408                    ◊
2 001 09409                    -
2 024 09433                    D-DROP C BIT ALL  CHARS.
2 001 09434                    ◊
2 005 09439                     SOME
2 005 09444                     ALL
2 005 09449                    77777

          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
CH27      ◊                            ◊
CH29      ◊                            ◊
CH30      ◊                            ◊
CH32      ◊                            ◊
CH33      ◊                            ◊
CH35      ◊                            ◊
CH36      ◊                            ◊
CH39......◊.09454 ADD G      9919      ◊          CHECK FOR STORAGE MARK
          ◊ 09459 RCV U     39000 I000 ◊          IN FIRST CHARACTER
          ◊ 09464 TZB . 01   9474 94X4-◊-.
          ◊ 09469 TR  1      9549------◊-I---.
          ◊ 09474 TZB . 02   9484 94Q4.◊.I.  I
          ◊ 09479 TR  1      9549------◊--I--Y
          ◊ 09484 TZB . 03   9494 94I4.◊..I  I
          ◊ 09489 TR  1      9549------◊-I---Y
          ◊ 09494 TZB . 04   9504 9V04.◊.I.  I
          ◊ 09499 TR  1      9549------◊--I--Y
          ◊ 09504 TZB . 05   9514 9V/4.◊..I  I
          ◊ 09509 TR  1      9549------◊-I---Y
          ◊ 09514 TZB . 06   9524 9VK4.◊.I.  I
          ◊ 09519 TR  1      9549------◊--I--Y
          ◊ 09524 TZB . 07   9534 9VC4.◊..I  I
          ◊ 09529 TR  1      9549------◊-I---Y
          ◊ 09534 LDA ‡ 03   9534 95C4.◊.I   I
          ◊ 09539 TR  1     19514 Z514-◊-----I-FK75
          ◊ 09544 TR  1      9909------◊-----I-CK38
          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊     I
                                           I
          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊     I
          ◊ 09549 NOP A      0500......◊.....I      CHECK FOR STORAGE MARK
          ◊ 09554 RCV U     39001 I001 ◊          IN SECOND CHARACTER
          ◊ 09559 TZB . 01   9569 95W9-◊-.
          ◊ 09564 TR  1      9644------◊-I----CJ38
          ◊ 09569 TZB . 02   9579 95P9.◊.I.
          ◊ 09574 TR  1      9644------◊--I---CJ38
          ◊ 09579 TZB . 03   9589 95H9.◊..I
          ◊ 09584 TR  1      9644------◊-I----CJ38
          ◊ 09589 TZB . 04   9599 9V99.◊.I.
          ◊ 09594 TR  1      9644------◊--I---CJ38
          ◊ 09599 TZB . 05   9609 9W■9.◊..I
          ◊ 09604 TR  1      9644------◊-I----CJ38
          ◊ 09609 TZB . 06   9619 9WJ9.◊.I.
          ◊ 09614 TR  1      9644------◊--I---CJ38
          ◊ 09619 TZB . 07   9629 9WB9.◊..I
          ◊ 09624 TR  1      9644------◊-I----CJ38
          ◊ 09629 LDA ‡ 03   9629 96B9.◊.I
          ◊ 09634 TR  1     19514 Z514-◊------FK75
          ◊ 09639 TR  1      9909------◊------CK38
          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
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```
CL18
CL19
CL21
CL22
CL23
CL25.....09924 ADD G      9919
         09929 SET B 03  0001 00&1
         09934 LOD 8 03  4419 44A9
         09939 CMP 4 03 39001 I0&1
         09944 TRE L      9989------
         09949 CMP 4 03 39002 I0&2
         09954 TRE L      9989------
         09959 CMP 4 03 39003 I0&3
         09964 TRE L      9989------
         09969 CMP 4 03 39004 I0&4
         09974 TRE L      9989------
         09979 ULA *      9984
         09984 TR  1      1221
         09989 NOP A      018E......
         09994 SUB P      9989
         09999 ULA *     10004 ■004
         10004 TR  1      0000
```

CHECK FOR GROUP MARK IN ALL CHARACTERS

```
CM27.....10009 LDA #    10009 ■009
         10014 TR  1      9454------------CH37
         10019 TR  1      6839------------BN27
```

WHEELER TRANSFERS

```
2 005 10024                 001&

CN29.....10029 LDA #    10029 ■029
         10034 TR  1      9454------------CH37
         10039 TR  1      7229------------BQ28
CP30.....10044 LDA #    10044 ■044
         10049 TR  1      9454------------CH37
         10054 TR  1      7619------------BU30
CQ32.....10059 LDA #    10059 ■059
         10064 TR  1      9454------------CH37
         10069 TR  1      8009------------BW31
CR33.....10074 LDA #    10074 ■074
         10079 TR  1      9454------------CH37
         10084 TR  1      8399------------CA33
CS35.....10089 LDA #    10089 ■089
         10094 TR  1      9454------------CH37
         10099 TR  1      8789------------CC34
CT36.....10104 LDA #    10104 ■104
         10109 TR  1      9454------------CH37
         10114 TR  1      9184------------CG36
CU38.....10119 LDA # 03 10119 ■1A9
         10124 TR  1     19514 Z514-------FK75
         10129 TR  1      9909------------CK38
```

WHEELER TRANSFERS TO SERVICE PRECEEDING AREAS

ROUTINE #050

```
CV36
CV40.....10134 TRA I 05 10399 ■TZ9-------CW41
         10139 SET B      0004
         10144 LOD 8      0564
         10149 UNL 7     10189 ■189
         10154 UNL 7     10312 ■312
         10159 SET B      0001
         10164 LOD 8     10295 ■295
         10169 TRS 0 11  10179 ■JG9-
         10174 TR  1     10189 ■189-
         10179 LOD 8     10317 ■317.
         10184 UNL 7     10295 ■295
         10189 SEL 2           ......
```

CHANNEL CHECK MALFUNCTIONING ON FORCED ERRORS. SCANNER REGISTER SHOWS PROPER ERROR CONDITIONS

CHECK THAT REDUNDANT CHARACTE IS RESET

NEXT PAGE

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ROUTINE #052

```
                 ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
CW39             ◆                             ◆
CW40.......◆.10399 TRA I 05 11184 //Y4-◆------DC44   RW REGISTER VRC CHK.
         I ◆ 10404 SET B     0004      ◆           TRIGGER MALFUNCTIONING.
         I ◆ 10409 LOD 8     0564      ◆           FORCE ERROR.. OR 1 BIT NOT
         I ◆ 10414 UNL 7    10454 ■454 ◆           BEING SET IN SCANNER REGISTER.
         I ◆ 10419 UNL 7    10582 ■582 ◆
         I ◆ 10424 SET B     0001      ◆           CHECK THAT REDUNDANT
         I ◆ 10429 LOD 8    10565 ■565 ◆           CHARACTER IS RESET
         I ◆ 10434 TRS 0 11 10444 ■MD4-◆-.
         I ◆ 10439 TR  1    10454 ■454-◆-+.
         I ◆ 10444 LOD 8    10587 ■587.◆.II
         I ◆ 10449 UNL 7    10565 ■565 ◆  I
         I ◆ 10454 SEL 2          .....◆..I
         I ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
         I               I
         I ◆◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆◆
         I ◆ 10459 SB  % 08 10565 ■N65 ◆           BASIC ERROR TEST
         I ◆ 10464 CHR 3 13  0000 O&■O ◆
         I ◆ 10469 WR  R    10565 ■565 ◆           WRITE FORCED ERROR
         I ◆ 10474 TRS 0 03 10484 ■4H4-◆-.         BASIC ERROR TEST
         I ◆ 10479 TR  1    10594 ■594-◆-+---.
         I ◆ 10484 RCV U    39994 I994.◆.I    I
         I ◆ 10489 BLM $     0002      ◆       I
         I ◆ 10494 RD  Y 03 39990 I9IO ◆       I       RECOVER DIAG REGISTER
         I ◆ 10499 TRS 0 03 10504 ■5&4-◆-.     I
         I ◆ 10504 TR  1    10509 ■509-◆-+.    I
         I ◆ 10509 RCV U    39990 I990.◆..I    I
         I ◆ 10514 TZB . 01 10524 ■5S4-◆-.     I
         I ◆ 10519 TR  1    10594 ■594-◆-+---Y
         I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I    I
         I                                 I    I
         I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I    I
         I ◆ 10524 TRA I 06 10614 ■WJ4-◆-+---+-CZ42 ALT SWITCH AND T/O LOOP
CX42....I.◆.10529 TRA I 01 10594 ■5Z4-◆-----Y
CY42....I.◆.10534 SEL 2     0500      ◆       I
         I ◆ 10539 WR  R    10570 ■570 ◆       I
         I ◆ 10544 UNL 7 12 10583 ■E83 ◆       I
         I ◆ 10549 TRA I 03 10559 ■5E9-◆-.     I
         I ◆ 10554 TR  1    10564 ■564-◆-+.    I
         I ◆ 10559 HLT J     0052.....◆.II     I
         I ◆ 10564 TR  1    10594 ■594-◆--+--Y
         I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆      I
         I                                      I
         I                                      I
       2 001 10565                 7
       2 001 10566                 ◆
       2 001 10567                 ◆
       2 001 10568                 ◆
       2 001 10569                 ◆
       2 013 10582                 TC-052-TP
       2 001 10583                 ◆
       2 001 10584                 -
       2 001 10585                 D
       2 001 10586                 ◆
       2 001 10587                 7

         I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆      I
         I ◆ 10594 SB  % 09 10565 ■NW5.◆.....I
         I ◆ 10599 TRS 0 11 10604 ■O&4-◆-.
         +-◆-10604 TRA I 02 10399 ■3R9.◆.I
           ◆ 10609 TR  1    10694 ■694-◆------DA42
           ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

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```
2 003 10897                    777
2 002 10899                    ◊
2 013 10912                    TC-053-TP
2 001 10913                    ◊
2 002 10915                    -D
2 001 10916                    ◊
```

ROUTINE #054

```
          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
DB42......◊.10924 SET B      0004       ◊
        I ◊ 10929 LOD 8      0564       ◊
        I ◊ 10934 UNL 7     10944 ■944  ◊
        I ◊ 10939 UNL 7     11172 /172  ◊
        I ◊                             ◊
        I ◊                             ◊
        I ◊◊◊◊◊◊◊◊◊◊◊◊I◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
        I             I
        I ◊◊◊◊◊◊◊◊◊◊◊◊Ψ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
        I ◊ 10944 SEL 2      0000       ◊
        I ◊ 10949 RCV U     38004 H004  ◊
        I ◊ 10954 BLM $      0400       ◊
        I ◊ 10959 SET B      0005       ◊
        I ◊ 10964 LOD 8     11159 /159  ◊
        I ◊ 10969 UNL 7     38004 H004  ◊
        I ◊ 10974 RCV U     38009 H009  ◊
        I ◊ 10979 SET B      0040       ◊
        I ◊ 10984 SND /     38004 H004  ◊
        I ◊ 10989 SET B      0001       ◊
        I ◊ 10994 LOD 8     11176 /176  ◊
        I ◊ 10999 UNL 7     38199 H199  ◊
        I ◊ 11004 WR  R     38000 H000  ◊
        I ◊ 11009 LDA #     11009 /009  ◊
        I ◊ 11014 TRS 0 03  18804 Y8&4-◊------FE72
        I ◊ 11019 BSP 3      0004       ◊
        I ◊ 11024 RD  Y     39002 I002  ◊
        I ◊ 11029 TRS 0 03  11039 /0C9-◊-.
        I ◊ 11034 TR  1     11099 /099-◊-‡.
        I ◊ 11039 SET B      0200......◊.II
        I ◊ 11044 LOD 8     38599 H599  ◊  I
        I ◊ 11049 CMP 4     39199 I199  ◊  I
        I ◊ 11054 TRE L     11099 /099-◊--Y
        I ◊◊◊◊◊◊◊◊◊◊◊◊◊I◊◊◊◊◊◊◊◊◊◊◊◊◊  I
        I             I                I
        I ◊◊◊◊◊◊◊◊◊◊◊◊◊Ψ◊◊◊◊◊◊◊◊◊◊◊◊◊  I
        I ◊ 11059 TRA I 06  11109 //-9-◊--‡.
      .I.◊.11064 TRA I 01  11099 /0Z9-◊--YI
     .II.◊.11069 SEL 2      0500       ◊  II
    III ◊ 11074 WR  R     11160 /160  ◊  II
    III ◊ 11079 UNL 7 12  11173 /A73  ◊  II
    III ◊ 11084 TRA I 03  11094 /0I4-◊-.II
    III ◊ 11089 TR  1     11099 /099-◊-‡YI
    III ◊ 11094 HLT J      0054......◊.III
    II‡-◊-11099 TRA I 02  10924 ■9K4.◊..II
    II  ◊ 11104 TR  1     11184 /184-◊---‡--DC44
    II  ◊ 11109 SET B      0005......◊...I
    II  ◊ 11114 LOD 8     38399 H399  ◊
    II  ◊ 11119 CMP 4     39004 I004  ◊
    I‡--◊-11124 TRE L     11064 /064  ◊
    II  ◊ 11129 SET B      0195       ◊
    II  ◊ 11134 LOD 8     38199 H199  ◊
    II  ◊ 11139 CMP 4     39199 I199  ◊
    I‡--◊-11144 TRE L     11064 /064  ◊
    I   ◊ 11149 UNL 7 10  11173 /JP3  ◊
    ‡---◊-11154 TR  1     11069 /069  ◊
          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
```

CHECK THAT RD 01 STATUS OCCUR
IF ADDR. CK. WHILE READING.
IF ANALYSIS,TCU AREA FAILURE.
1ST 5 CHARS. OTHER THAN BLANK
RD 01 FAILURE IN REMAINING
195 CHARS.

BASIC ERROR TEST

ALT. SWITCH AND T/O LOOP

ANALYSIS SECTION

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```
DF44......◆.11394 TZB . 01 11309 /3■9-◆------0044   ANALYSIS SECTION
          ◆ 11399 RCV U    39901 I901 ◆
          ◆ 11404 TZB . 05 11309 /T■9-◆------0044
          ◆ 11409 BSP 3     0004      ◆
          ◆ 11414 RCV U    39904 I904 ◆
          ◆ 11419 BLM $     0002      ◆
          ◆ 11424 RD  Y    39900 I900 ◆
          ◆ 11429 TRS 0 03 11434 /4C4-◆-.
          ◆ 11434 SET B     0005......◆.I
          ◆ 11439 IOF 3     0000      ◆
          ◆ 11444 LOD 8    11349 /349 ◆
          ◆ 11449 CMP 4    39904 I904 ◆
          ◆ 11454 TRE L    11464 /464-◆-.
          ◆ 11459 TR  1    11309 /309-◆-I----0044
          ◆ 11464 UNL 7 10 11363 /L03.◆.I
          ◆ 11469 TR  1    11314 /314-◆------0E44
          ◆◆◆
```

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```
                 I
          ◆◆◆
```

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ROUTINE #064

```
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
DN48......◆.12309 SET 8      0004        ◆
        I ◆ 12314 LOD 8      0564        ◆
        I ◆ 12319 UNL 7     12329 S329 ◆
        I ◆ 12324 UNL 7     12492 S492 ◆
        I ◆ 12329 SEL 2                 ◆
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I               I
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I ◆ 12334 WR  R     12475 S475 ◆
        I ◆ 12339 TRS 0 03  12349 S3D9-◆-┐
        I ◆ 12344 TR  1     12434 S434-◆-┼--┐
        I ◆ 12349 RCV U     39804 I804.◆.I  I
        I ◆ 12354 BLM $      0040       ◆    I
        I ◆ 12359 RD  Y 03  39990 I9I0 ◆    I
        I ◆ 12364 TRS 0 03  12369 S3F9-◆-┐  I
        I ◆ 12369 SET 8      0002......◆.I  I
        I ◆ 12374 LOD 8     12497 S497 ◆    I
        I ◆ 12379 CMP 4     39991 I991 ◆    I
        I ◆ 12384 TRE L     12394 S394-◆-┐  I
        I ◆ 12389 TR  1     12434 S434-◆-┼--Y
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I  I
        I                                I  I
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I  I
        I ◆ 12394 TRA I 06  12444 SUM4-◆-┼-┐ I
      .I.◆.12399 TRA I 01  12434 S4T4-◆--┼-Y
     .II.◆.12404 SEL 2      0500       ◆  I I
    III ◆ 12409 WR  R     12480 S480 ◆  I I
    III ◆ 12414 UNL 7 12  12493 SD93 ◆  I I
    III ◆ 12419 TRA I 03  12429 S4B9-◆-┐I I
    III ◆ 12424 TR  1     12434 S434-◆-┼┼-Y
    III ◆ 12429 HLT J      0064......◆.II I
    II┼-◆-12434 TRA I 02  12309 S3-9.◆..I.I
    II  ◆ 12439 TR  1     12574 S574-◆--┼---DP50
    II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
    II                                  I
    II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
    II  ◆ 12444 BSP 3      0004......◆..I
    II  ◆ 12449 RCV U     39994 I994 ◆
    II  ◆ 12454 BLM $      0002       ◆
    II  ◆ 12459 RD  Y     39800 I800 ◆
    II  ◆ 12464 TRS 0 03  12474 S4G4-◆-┐
    I┼--◆-12469 TR  1     12399 S399 ◆ I
    II  ◆ 12474 TR  1     12504 S504-◆-┼-┐
    II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
    II                                  I
    II                                  I
    2 004 12478                 G.*#
    2 001 12479                 ◆
    2 013 12492                 TC-064-TP
    2 001 12493                 ◆
    2 001 12494                 -
    2 001 12495                 D
    2 001 12496                 ◆
    2 003 12499                   8

    II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
    II  ◆ 12504 SET 8      0005......◆..I
    II  ◆ 12509 LOD 8     12479 S479 ◆
    II  ◆ 12514 CMP 4     39804 I804 ◆
    II  ◆ 12519 TRE L     12529 S529-◆-┐
    I┼--◆-12524 TR  1     12399 S399 ◆ I
    II  ◆ 12529 RD  Y 03  39990 I9I0.◆.I
    II  ◆ 12534 TRS 0 03  12539 S5C9-◆-┐
    II  ◆ 12539 SET 8      0002......◆.I
    II  ◆ 12544 LOD 8     12499 S499 ◆
    II  ◆ 12549 CMP 4     39991 I991 ◆
    II  ◆ 12554 TRE L     12564 S564-◆-┐
    I┼--◆-12559 TR  1     12399 S399 ◆ I
    I   ◆ 12564 UNL 7 10  12493 SMR3.◆.I
    ┼---◆-12569 TR  1     12404 S404 ◆
        ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

READ LRCR TRIGGER ON, YET RECORD OK.

BASIC ERROR TEST

RECOVER DIAG REGISTER

ALT SWITCH AND T/O LOOP

ANALYSIS SECTION

```
12574 [illegible]
12579 [illegible] 0004
12584 LDD 8  00564 0564  tape address
12589 UNL 7  12593 S59   unload address into routine
12594 UNL 7  12752 S75   unload adress into message
12599 SEL 2  12752

12604 WR  K  12735 S735  write test record
12609 LDA 9  12609 S609  42844
12614 TRS 0 03 12804 T8 4  write error
12619 TRS 0 02 12604 S6-4  rewrite error record
12624 DSP 3  0004
12629 RCV U  39804 1804
12634 BLM 9  0040        blank memory read in area
12639 WR  K 03 12765 S7F5  set diagnostic register
12644 RD  Y  39800       read test record
12649 TRS 0 03 12659 S649  did forced error occur
12654 TR  1  12689 S689  no error occured failure condition
12659 RD  1 03 12760 S7F0  sense status bits
12664 TRS 0 03 12669 S6F9
12669 SET  8  0002
12674 LDD 8  12761 S761  load status bits
12679 CMP 4  12769 S769  compare status bits
12684 TR  L  12729 S729  correct error status

12689 TRA I 06 12774 S7M4  diagnostic routine (916)
12694 TRA I 01 12709 S709  bypass error typeouts
12699 SEL 2  0500
12704 WR  K  12740 S740  WRite routine error
12709 UNL 7 12 12753 S753  restore group mark
12714 TRA I 03 12724 S724  halt (913)
12719 TR  1  12729 S729  transfer to loop (
12724 HLT J  0066
12729 TRA I 02 12574 S5M4  loop in routine (912)
12734 TR  1  12799 S799  next  routine

2 004 12738          G.##
2 001 12739          ⌗ (group mark)
2 013 12752          TC-066-TP----
2 001 12753          ⌗ (groupmark)
2 002 12755             (blanks)
2 001 12756          -
2 001 12757          D
2 001 12758          ⌗ (groupmark)
2 005 12764
2 005 12769          8   8
12774 UNL 7 10 12753 S753  unload - in message
12779 SET 8  0002
12784 LDD 8  12761 S761  load status bits
12789 UNL 7  12755 S755  unload status bits in message
12794 TR  1  12699 S699  to write routine
```

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ROUTINE #068

```
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
DQ50......◆.12799 SET B     0004       ◆
        I ◆ 12804 LOD 8     0564       ◆
        I ◆ 12809 UNL 7    12819 S819  ◆
        I ◆ 12814 UNL 7    12947 S947  ◆
        I ◆ 12819 SEL 2                ◆
        I ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I              I
        I ◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I ◆ 12824 CHR 3 13  0000 O&■O  ◆
        I ◆ 12829 WR  R    12930 S930  ◆
        I ◆ 12834 TRS 0 03 12844 S8D4-◆-¬
        I ◆ 12839 TR  1    12919 S919-◆-┼--¬
        I ◆ 12844 RCV U    39994 I994.◆.I  I
        I ◆ 12849 BLM $     0002       ◆   I
        I ◆ 12854 RD  Y 03 39990 I9IO  ◆   I
        I ◆ 12859 TRS 0 03 12864 S8F4-◆-¬  I
        I ◆ 12864 TR  1    12869 S869-◆-┼- I
        I ◆ 12869 RCV U    39991 I991.◆..I I
        I ◆ 12874 TZB . 02 12919 S9J9-◆----Y
        I ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆    I
        I              I                   I
        I ◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆◆    I
        I ◆ 12879 TRA I 06 12959 SZN9-◆--¬ I
       .I.◆.12884 TRA I 01 12919 S9/9-◆--┼-Y
      .II.◆.12889 SEL 2     0500       ◆  I I
     III ◆ 12894 WR  R    12935 S935  ◆  I I
     III ◆ 12899 UNL 7 12 12948 SI48  ◆  I I
     III ◆ 12904 TRA I 03 12914 S9A4-◆-¬I I
     III ◆ 12909 TR  1    12919 S919-◆-┼┼-Y
     III ◆ 12914 HLT J     0068......◆.II I
     II┼-◆-12919 TRA I 02 12799 S7R9.◆..I.I
     II  ◆ 12924 TR  1    13059 T059-◆--┼---DR52
     II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
     II                                 I
     II                                 I
     2 005 12929                   82
     2 004 12933                G.*#
     2 001 12934                ◆
     2 013 12947                TC-068-TP
     2 001 12948                ◆
     2 001 12949                -
     2 001 12950                D
     2 001 12951                ◆

     II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
     II  ◆ 12959 SET B     0002......◆..I
     II  ◆ 12964 LOD 8    12929 S929  ◆
     II  ◆ 12969 CMP 4    39991 I991  ◆
     II  ◆ 12974 TRE L    12984 S984-◆-¬
     I┼--◆-12979 TR  1    12884 S884  ◆ I
     II  ◆ 12984 BSP 3     0004......◆.I
     II  ◆ 12989 RCV U    39994 I994  ◆
     II  ◆ 12994 BLM $     0002       ◆
     II  ◆ 12999 RCV U    39800 I800  ◆
     II  ◆ 13004 BLM $     0008       ◆
     II  ◆ 13009 RD  Y    39800 I800  ◆
     II  ◆ 13014 LDA #    13014 T014  ◆
     II  ◆ 13019 TRS 0 03 18919 Y9A9-◆------FF73
     II  ◆ 13024 SET B     0004       ◆
     II  ◆ 13029 LOD 8    12934 S934  ◆
     II  ◆ 13034 CMP 4    39804 I804  ◆
     II  ◆ 13039 TRE L    13049 T049-◆-¬
     I┼--◆-13044 TR  1    12884 S884  ◆ I
     I   ◆ 13049 UNL 7 10 12948 SRM8.◆.I
     ┼---◆-13054 TR  1    12889 S889  ◆
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

FALSE DWT CHECK

BASIC ERROR TEST

RECOVER DIAG REGISTER

ALT SWITCH AND T/O LOOP

ANALYSIS SECTION

g ns/g0013924.pmg

```
                 I
          ◆◆◆
```

gs ms/g0013925.png

```
                 13779 WR  R     13925 T925
                 13784 BSP 3      0004
                 13789 TR  1     13989 T989
                 13794 WR  R 03  13915 T9A5
                 13799 NOP A      0000
                 13804 NOP A      0000
                 13809 RD  Y     39800 I800
                 13814 TRS 0 03  13824 T8B4
                 13819 TR  1     13864 T864

                 13824 TRA I 06  13874 TYP4
                 13829 TRA I 01  13864 T8W4
                 13834 SEL 2      0500
                 13839 WR  R     13930 T930
                 13844 UNL 7 12  13943 TI43
                 13849 TRA I 03  13859 T8E9
                 13854 TR  1     13864 T864
                 13859 HLT J      0076
                 13864 TRA I 02  13754 T7N4
                 13869 TR  1     14004 U004
                 13874 SET B      0005
                 13879 LOD 8     13929 T929
                 13884 CMP 4     39804 I804
                 13889 TRE L     13829 T829
                 13894 BSP 3      0004
                 13899 WR  R 03  13920 T9B0
                 13904 RCV U     39804 I804
                 13909 BLM $      0002
                 13914 TR  1     13954 T954

    13915                        K
2 005 13915
2 005 13924
2 004 13928                      834D
2 001 13929                      TC-076-TP
2 013 13942
2 001 13943
2 001 13944
2 001 13945                      D
2 001 13946

                 13954 RD  Y     39800 I800
                 13959 TRS 0 03  13829 T8B9
                 13964 CMP 4     39804 I804
                 13969 TRE L     13979 T979
                 13974 TR  1     13829 T829
                 13979 UNL 7 10  13943 TRM3
                 13984 TR  1     13834 T834
                 13989 RCV U     39804 I804
                 13994 BLM $      0002
                 13999 TR  1     13794 T794

DV56             14004 SET B      0004
                 14009 LOD 8      0564
                 14014 UNL 7     14024 U024
                 14019 UNL 7     14162 U162
                 14024 SEL 2
```

BASIC ERROR TEST

USE READ REG B ONLY

ALT SWITCH AND T/O LOOP

ANALYSIS SECTION

USE READ REG. A ONLY

90KC

ROUTINE #078

ERROR OCCURRING IN TCU. NO RW CHECKS AND NO MPX CHECKS. OCCURRS AFTER READING REGULARLY THRU REG A AND REG B

NEXT PAGE

gallons/g0013926.pm6

```
                 I
          ◆◆◆
```

g ans/g0013927.pmg

```
                 I
          ◆◆◆
```

gns/g0013928.png

```
EE60......◆.15239 SET B      0002       ◆          ANALYSIS SECTION
          ◆ 15244 LOD 8     39991 I991  ◆
          ◆ 15249 CMP 4     15161 V161  ◆
          ◆ 15254 TRE L     15264 V264-◆-┬
          ◆ 15259 TR  1     15139 V139-◆-┼----EC60
          ◆ 15264 SET B      0004......◆.I
          ◆ 15269 LOD 8     15044 V044  ◆
          ◆ 15274 UNL 7     15284 V284  ◆
          ◆ 15279 UNL 7     15299 V299  ◆
          ◆ 15284 SEL 2                 ◆
          ◆ 15289 WR  R  .  15170 V170  ◆
          ◆ 15294 SEL 2      6001       ◆
          ◆ 15299 SEL 2                 ◆
          ◆ 15304 TRS 0 03 15139 V1C9-◆------EC60
          ◆ 15309 UNL 7 10 15183 VJQ3  ◆
          ◆ 15314 TR  1     15144 V144-◆------ED60
          ◆◆◆
```

```
g ns/g0013929.png◆◆◆
```

g...ans/g0013930.png

```
ET64......◆.16309 SET B      0200       ◆
          ◆ 16314 LOD 8     38199 H199 ◆
          ◆ 16319 CMP 4     39199 I199 ◆
          ◆ 16324 TRE L     16334 W334-◆-┬
          ◆ 16329 TR  1     16264 W264-◆-┼----ER64
          ◆ 16334 UNL 7 10  16368 WL08.◆.I
          ◆ 16339 TR  1     16269 W269-◆------ES64
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

      2 010 16349                      GGGGG
      2 005 16354                GGGGG
      2 013 16367                TC-092-TP
      2 001 16368                ◆
      2 002 16370                -D
      2 001 16371                ◆
      2 002 16373                8
```

ROUTINE #093

```
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
EU64......◆.16379 TRA I 05 16699 WWZ9-◆------EY66
        I ◆ 16384 SET B      0004       ◆
        I ◆ 16389 LOD 8      0564       ◆
        I ◆ 16394 UNL 7     16404 W404 ◆
        I ◆ 16399 UNL 7     16687 W687 ◆
        I ◆ 16404 SEL 2                 ◆
        I ◆ 16409 RCV U     38004 H004 ◆
        I ◆ 16414 BLM $      0400       ◆
        I ◆ 16419 SET B      0005       ◆
        I ◆ 16424 LOD 8     16674 W674 ◆
        I ◆ 16429 UNL 7     38004 H004 ◆
        I ◆ 16434 RCV U     38009 H009 ◆
        I ◆ 16439 SET B      0040       ◆
        I ◆ 16444 SNO /     38004 H004 ◆
        I ◆ 16449 SET B      0001       ◆
        I ◆ 16454 LOD 8     16691 W691 ◆
        I ◆ 16459 UNL 7     38199 H199 ◆
        I ◆ 16464 WR  R     38000 H000 ◆
        I ◆ 16469 TRS 0 03  16479 W4G9-◆-┬
        I ◆ 16474 TR  1     16594 W594-◆-┼--┬
        I ◆ 16479 RD  Y 03  39900 I9&0.◆.I  I
        I ◆ 16484 TRS 0 03  16489 W4H9-◆-┬  I
        I ◆ 16489 SET B      0002......◆.I  I
        I ◆ 16494 LOD 8     16693 W693 ◆    I
        I ◆ 16499 CMP 4     39901 I901 ◆    I
        I ◆ 16504 TRE L     16514 W514-◆-┬  I
        I ◆ 16509 TR  1     16594 W594-◆-┼--Y
        I ◆ 16514 BSP 3      0004......◆.I  I
        I ◆ 16519 RD  Y     39000 I000 ◆    I
        I ◆ 16524 LDA #     16524 W524 ◆    I
        I ◆ 16529 TRS 0 03  18919 Y9A9-◆----┼-FF73
        I ◆ 16534 SET B      0200       ◆    I
        I ◆ 16539 LOD 8     38199 H199 ◆    I
        I ◆ 16544 CMP 4     39199 I199 ◆    I
        I ◆ 16549 TRE L     16594 W594-◆----Y
        I ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆    I
        I              I                    I
        I ◆◆◆◆◆◆◆◆◆◆◆◆T◆◆◆◆◆◆◆◆◆◆◆◆◆    I
        I ◆ 16554 TRA I 06  16604 WW-4-◆----┼-EX66
EV66....I.◆.16559 TRA I 01  16594 W5Z4-◆----Y
EW66....I.◆.16564 SEL 2      0500       ◆    I
        I ◆ 16569 WR  R     16675 W675 ◆    I
        I ◆ 16574 UNL 7 12  16688 WF88 ◆    I
        I ◆ 16579 TRA I 03  16589 W5H9-◆-┬  I
        I ◆ 16584 TR  1     16594 W594-◆-┼--Y
        I ◆ 16589 HLT J      0093......◆.I  I
        ┼-◆-16594 TRA I 02  16379 W3P9.◆....I
          ◆ 16599 TR  1     16704 W704-◆------EZ66
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

ANALYSIS SECTION

CHECK THAT WR WITH ADDR.
OTHER THAN 0 OR 5 I.E. 8
WRITES FROM 0 UNITS POSITION
AREA NOT 5

SET UP 200 CHAR WR FIELD
-ALL G,S.

ALT SWITCH AND T/O LOOP

gs/ns/g0013931.png

```
                                  I
                                  ▼
            ◆◆◆
```

g ns/g0013932.png

```
2 013 17332                    TC-097-TP
2 001 17333                    ◊
2 002 17335                    -D
2 001 17336                    ◊
2 004 17340                    A
3     17344     17319 X319
2 005 17349                    A234E
2 005 17354                    55EGJ
2 005 17359                    0147E
```

gallons/g0013933.pdf

```
                 17724  SET 8      0012        ◆
                 17729  LOD 8     18018 Y018   ◆
                 17734  UNL 7     17926 X926   ◆
                 17739  WR  R     17898 X898   ◆
                 17744  UNL 7 09  17926 XR56   ◆
FD70.......      17749  TZB . 04  17779 XX79-  ◆--
                 17754  SET 8      0008        ◆ I
                 17759  LOD 8     18026 Y026   ◆ I
                 17764  UNL 7     17926 X926   ◆ I
                 17769  WR  R     17898 X898   ◆ I
                 17774  UNL 7 09  17926 XR56   ◆ I
                 17779  TZB . 05  17809 XV89-  ◆--I
                 17784  SET 8      0010        ◆  I
                 17789  LOD 8     18036 Y036   ◆  I
                 17794  UNL 7     17926 X926   ◆  I
                 17799  WR  R     17898 X898   ◆  I
                 17804  UNL 7 09  17926 XR56   ◆  I
                 17809  TZB . 06  17839 XVL9-  ◆--I
                 17814  SET 8      0012        ◆ I
                 17819  LOD 8     18048 Y048   ◆ I
                 17824  UNL 7     17926 X926   ◆ I
                 17829  WR  R     17898 X898   ◆ I
                 17834  UNL 7 09  17926 XR56   ◆ I
                 17839  SEL 2      0000        ◆ I
                 17844  TR  1      0000        ◆
                 ◆◆◆
```

gs ms/g0013934.png

GYPSY T/O CHAN CHK ON READ

```
                 ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FF07             ◆                              ◆
FF08             ◆                              ◆
FF09             ◆                              ◆
FF25             ◆                              ◆
FF51             ◆                              ◆
FF64             ◆                              ◆
FF65             ◆                              ◆
FF68.........◆.18919 ADD G     18803 Y803 ◆
             ◆ 18924 ULA *     19004 Z004 ◆
             ◆ 18929 SET B      0004      ◆
             ◆ 18934 LOD 8      0564      ◆
             ◆ 18939 UNL 7     19017 Z017 ◆
             ◆ 18944 UNL 7     18999 Y999 ◆
             ◆ 18949 TRS 0     18964 Y964-◆-.
             ◆ 18954 TRS 0 02  18974 Y9P4-◆-I.
             ◆ 18959 TR  1     19004 Z004-◆-II.
             ◆ 18964 LDA *     18964 Y964.◆.III
             ◆ 18969 TR  1      1014------◆--II---N04
             ◆ 18974 TRA I 01  19004 Z004.◆..IY
             ◆ 18979 SEL 2      0500      ◆   I
             ◆ 18984 WR  R     19005 Z005 ◆   I
             ◆ 18989 LDA *     18989 Y989 ◆   I
             ◆ 18994 TRA I 06  17364 XT04-◆---I--FC70
             ◆ 18999 SEL 2                ◆   I
             ◆ 19004 TR  1      0025......◆...I
             ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

       2 016 19020                 DATA CHK TO 1 RD
       2 001 19021                 ◆
       2 004 19028 00
       2 001 19029

             ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FG11         ◆                              ◆
FG14         ◆                              ◆
FG42.........◆.19034 ADD G     18803 Y803 ◆          DATA CHK GYPSY OTHER
             ◆ 19039 ULA *     19119 Z119 ◆          THAN WR OR RD
             ◆ 19044 SET B      0004      ◆
             ◆ 19049 LOD 8      0564      ◆
             ◆ 19054 UNL 7     19136 Z136 ◆
             ◆ 19059 UNL 7     19114 Z114 ◆
             ◆ 19064 TRS 0     19079 Z079-◆-.
             ◆ 19069 TRS 0 02  19089 Z089-◆-I.
             ◆ 19074 TR  1     19119 Z119-◆-II.
             ◆ 19079 LDA *     19079 Z079.◆.III
             ◆ 19084 TR  1      1014------◆--II---N04
             ◆ 19089 TRA I 01  19119 Z119.◆..IY
             ◆ 19094 SEL 2      0500      ◆   I
             ◆ 19099 WR  R     19120 Z120 ◆   I
             ◆ 19104 LDA *     19104 Z104 ◆   I
             ◆ 19109 TRA I 06  17364 XT04-◆---I--FC70
             ◆ 19114 SEL 2                ◆   I
             ◆ 19119 TR  1      0000......◆...I
             ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

gs ns/g0013935.png

```
        2 007 19391                    903 CHK
        2 001 19392                    ◆

            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FH74......◆.19399 ADD G     18803 Y803 ◆
          ---◆ 19404 ULA *     19424 Z424 ◆
            ◆ 19409 TRA I 01 19424 Z454-◆--
            ◆ 19414 SEL 2     0500      ◆ I
            ◆ 19419 WR  R    19425 Z425 ◆ I
            ◆ 19424 TR  1     0025......◆.I
            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

        2 007 19431                    904 CHK
        2 001 19432                    ◆

            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FJ74......◆.19439 ADD G     18803 Y803 ◆
            ◆ 19444 ULA *     19464 Z464 ◆
            ◆ 19449 TRA I 01 19464 Z4W4-◆--
            ◆ 19454 SEL 2     0500      ◆ I
            ◆ 19459 WR  R    19465 Z465 ◆ I
            ◆ 19464 TR  1     0025......◆.I
            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

        2 007 19471                    905 CHK
        2 001 19472                    ◆
        2 020 19492                    NO BITS IN RD FIELD-
        2 012 19504                    -AFTER WRITE
        2 001 19505                    ◆

            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FK37        ◆                          ◆
FK38        ◆                          ◆
FK39......◆.19514 ADD G 03 18803 Y8&3 ◆          GYPSY-NO BITS READ FIELD
            ◆ 19519 ULA * 03 19534 Z5C4 ◆
            ◆ 19524 SEL 2     0500      ◆
            ◆ 19529 WR  R    19473 Z473 ◆
            ◆ 19534 TR  1     0025      ◆
            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

        2 019 19553                    ERROR INDICATED ON
        2 017 19570                    INTERRUPT PROGRAM
        2 001 19571                    ◆

            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FL68......◆.19579 ADD G 08 18803 YQ03 ◆          GYPSY-FOR INTERRUPT PROGRAM
            ◆ 19584 ULA * 08 19629 ZO29 ◆
            ◆ 19589 SET 8     0004      ◆
            ◆ 19594 LOO 8     0564      ◆
            ◆ 19599 UNL 7    19624 Z624 ◆
            ◆ 19604 TRA I 01 19624 Z654-◆--
            ◆ 19609 SEL 2     0500      ◆ I
          ---19614 WR  R    19535 Z535 ◆ I
            ◆ 19619 TRS 0 12 19629 ZF29-◆-I-
            ◆ 19624 SEL 2             ......◆.II
            ◆ 19629 TR  1     0025......◆..I
            ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

        2 005 19749

        2 005 19984

        2 005 19994

        2 005 19999
```

g ans/g0013936.png

ROUTINE #100

```
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        ..◆.20004 TRA I 05 20314 -T/4-◆------AA10   REDUNDANCY IN CHANNEL
        I ◆ 20009 SET B     0004       ◆            CHECK SCANNER TRANSMISSION
        I ◆ 20014 LOD 8     0564       ◆
        I ◆ 20019 UNL 7    20059 -059 ◆
        I ◆ 20024 UNL 7    20187 -187 ◆
        I ◆ 20029 SET B     0001       ◆            CHECK THAT REDUNDANT
        I ◆ 20034 LOD 8    20170 -170 ◆             CHARACTER IS RESET
        I ◆ 20039 TRS 0 11 20049 --D9-◆-
        I ◆ 20044 TR  1    20059 -059-◆-
        I ◆ 20049 LOD 8    20192 -192.◆.II
        I ◆ 20054 UNL 7    20170 -170 ◆  I
        I ◆ 20059 SEL 2              .....◆..I
        I ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I              I
        I ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I ◆ 20064 RCV U    39804 I804 ◆             BASIC ERROR TEST
        I ◆ 20069 BLM $     0040       ◆
        I ◆ 20074 CHR 3 13  0000 0&■0 ◆
        I ◆ 20079 SB  % 08 20170 -J70 ◆             FORCE ERROR ON WRITE
        I ◆ 20084 WR  R    20170 -170 ◆
        I ◆ 20089 RCV U    39994 I994 ◆
        I ◆ 20094 BLM $     0002       ◆
        I ◆ 20099 RD  Y 03 39990 I9I0 ◆             RECOVER DIAG. REGISTER
        I ◆ 20104 TRS 0 03 20109 -1&9-◆-
        I ◆ 20109 SET B     0002......◆.I
        I ◆ 20114 LOD 8    39991 I991 ◆
        I ◆ 20119 TRS 0 11 20129 -JB9-◆-
        I ◆ 20124 TR  1    20199 -199-◆-
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ II
        I                                II
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ II
        I ◆ 20129 TRA I 06 20229 -SK9-◆-----Z10   ALT SWITCH AND T/O LOOP
X10....I.◆.20134 TRA I 01 20199 -1Z9-◆--Y
Y10....I.◆.20139 SEL 2     0500       ◆  I
        I ◆ 20144 WR  R    20175 -175 ◆  I
        I ◆ 20149 UNL 7 12 20188 -A88 ◆  I
        I ◆ 20154 TRA I 03 20164 -1F4-◆-I
        I ◆ 20159 TR  1    20199 -199-◆-Y
        I ◆ 20164 HLT J     0100......◆.II
        I ◆ 20169 TR  1    20199 -199-◆--Y
        I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
        I                                I
        I                                I
      2 002 20171                99
      2 001 20172                ◆
      2 001 20173                ◆
      2 001 20174                ◆
      2 013 20187                TC-100-TP
      2 001 20188                ◆
      2 001 20189                -
      2 001 20190                D
      2 001 20191                ◆
      2 001 20192                9

        I ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
        I ◆ 20199 SB  % 09 20170 -JX0.◆..I
        I ◆ 20204 RCV U    39804 I804 ◆
        I ◆ 20209 BLM $     0040       ◆
        I ◆ 20214 TRS 0 11 20219 -KA9-◆-
        I-◆-20219 TRA I 02 20004 -0-4.◆.I
          ◆ 20224 TR  1    20314 -314-◆------AA10
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

g ns/g0013937.png

```
        2 005 20464                    88
        2 013 20477                    TC-102-TP
        2 001 20478                    ◇
        2 001 20479                    -
        2 001 20480                    D
        2 001 20481                    ◇

            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
AC10......◇.20489 SEL 2      0500       ◇
          I ◇ 20494 WR  R    20465 -465 ◇
          I ◇ 20499 UNL 7 12 20478 -D78 ◇
          I ◇ 20504 TRA I 03 20514 -5A4-◇-.
          I ◇ 20509 TR  1    20519 -519-◇-I.
          I ◇ 20514 HLT J     0102......◇.II
AD10....I.◇.20519 TRA I 02 20314 -3J4-◇--I---AA10
          I ◇ 20524 TR  1    20644 -644-◇------.
          I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇      I
          I                                     I
          I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇      I
AE10....I.◇.20529 BSP 3     0004       ◇      I       ANALYSIS SECTION
          I ◇ 20534 RCV U    39994 I994 ◇      I
          I ◇ 20539 BLM $     0002      ◇      I
          I ◇ 20544 NOP A 13  0000 0&■0 ◇      I
          I ◇ 20549 RD  Y    39998 I998 ◇      I
          I ◇ 20554 TRS 0 03 20454 -4E4-◇------I-AB10
          I ◇ 20559 RCV U    39994 I994 ◇      I
          I ◇ 20564 BLM $     0002      ◇      I
          I ◇ 20569 RD  Y 03 39990 I9I0 ◇      I       RECOVER DIAG. REGISTER
          I ◇ 20574 TRS 0 03 20579 -5G9-◇-.    I
          I ◇ 20579 TR  1    20584 -584-◇-I.   I
          I ◇ 20584 SET B     0002......◇..I   I
          I ◇ 20589 LOD 8    20461 -461 ◇      I
          I ◇ 20594 CMP 4    39991 I991 ◇      I
          I ◇ 20599 TRE L    20609 -609-◇-.    I
          I ◇ 20604 TR  1    20454 -454-◇-I----I-AB10
          I ◇ 20609 SET B     0005......◇.I    I
          I ◇ 20614 LOD 8     0059      ◇      I
          I ◇ 20619 CMP 4    3999I I99I ◇      I
          I ◇ 20624 TRE L    20634 -634-◇-.    I
          I ◇ 20629 TR  1    20454 -454-◇-I----I-AB10
          I ◇ 20634 UNL 7 10 20478 -MP8.◇.I    I
          I-◇-20639 TR  1    20489 -489 ◇      I
            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇      I
                                                I
                                                I       ROUTINE #104
                                                I
            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇      I
AF12......◇.20644 EEM 3 14  0000 0&-0.◇.....I       80K OVERFLOW CHECK
            ◇ 20649 SET B     0004      ◇          NOT INDICATING
            ◇ 20654 LOD 8     0564      ◇
            ◇ 20659 UNL 7    20669 -669 ◇
            ◇ 20664 UNL 7    20807 -807 ◇
            ◇ 20669 SEL 2               ◇
            ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
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                                                                  ANALYSIS SECTION
AK12.......20864 ION 3     0003
           20869 RCV U    39994 I994
           20874 BLM %     0002
           20879 LEM 3 15  0000 0&0
           20884 RD  Y    3999- I99-
           20889 TRS 0 03 20784 -7H4-------AH12
           20894 EEM 3 14  0000 0&-0
           20899 RD  Y 03 39990 I9I0                              RECOVER DIAG. REGISTER
           20904 TRS 0 03 20909 -9&9-
           20909 TR  1    20914 -914-
           20914 SET B     0002......I
           20919 LOD 8    20791 -791
           20924 CMP 4    39991 I991
           20929 TRE L    20939 -939-
           20934 TR  1    20784 -784-----AH12
           20939 SET B     0005......I
           20944 LOD 8     0029
           20949 CMP 4    3999R I99R
           20954 TRE L    20964 -964-
           20959 TR  1    20784 -784-----AH12
           20964 UNL 7 10 20808 -0-8.I
           20969 TR  1    20819 -819-------AJ12
AL12.......20974 RCV U    3998R I98R
           20979 BLM %     0002
           20984 LEM 3 15  0000 0&0
           20989 TR  1    20714 -714-------AG12

                                                                  ROUTINE #106

AM12
AM14.......20994 NOP A     0000                                   40K OVERFLOW CHECK
           20999 SET B     0004                                   NOT INDICATING
           21004 LOD 8     0564
           21009 UNL 7    21019 J019
           21014 UNL 7    21317 J317
           21019 SEL 2
                                I
                                I
           21024 CHR 3 13  0000 0&=0                              BASIC ERROR TEST
           21029 SET B     0005
           21034 LOD 8     0004
           21039 CMP 4     000M
           21044 TRE L    21064 J064-
           21049 CMP 4     000U                                   I
           21054 TRE L    21184 J184-----AP14                     IF EQUAL-IS 80K-GO TO EXIT
           21059 TR  1    21184 J184-----AP14
           21064 RCV U    39889 I889.I
           21069 BLM %     0003
           21074 LEM 3 15  0000 0&0
           21079 WR  R    39995 I995
           21084 TRS 0 03 21184 J1H4-------AP14
           21089 RCV U    39894 I894
           21094 BLM %     0002
           21099 EEM 3 14  0000 0&-0
           21104 RD  Y 03 39890 I8I0                              RECOVER DIAG. REGISTER
           21109 TRS 0 03 21114 J1A4-
           21114 SET B     0002......I
           21119 LOD 8    21301 J301
           21124 CMP 4    39891 I891
           21129 TRE L    21139 J139-------AN14
           21134 TR  1    21184 J184-------AP14
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                 I
                 Ψ
          ◊ 21374 SET B     0005       ◊          CHECK FOR MEMORY SIZE
          ◊ 21379 LOD 8     0004       ◊
          ◊ 21384 CMP 4     000M       ◊
          ◊ 21389 TRE L    21484 J484-◊--¬
          ◊ 21394 CMP 4     000U       ◊  I
          ◊ 21399 TRE L    21444 J444-◊-¬I
          ◊ 21404 SGN T    21655 J655 ◊ II
          ◊ 21409 ADM 6    21655 J655 ◊ II
          ◊ 21414 ADM 6    21514 J514 ◊ II
          ◊ 21419 ADM 6    21534 J534 ◊ II
          ◊ 21424 SET B     0006       ◊ II
          ◊ 21429 LOD 8    21661 J661 ◊ II
          ◊ 21434 UNL 7    21646 J646 ◊ II
          ◊ 21439 TR  1    21514 J514-◊-‡‡¬
          ◊ 21444 SGN T    21654 J654.◊.III
          ◊ 21449 ADM 6    21654 J654 ◊  II
          ◊ 21454 ADM 6    21514 J514 ◊  II
          ◊ 21459 ADM 6    21534 J534 ◊  II
          ◊ 21464 SET B     0006       ◊  II
          ◊ 21469 LOD 8    21667 J667 ◊  II
          ◊ 21474 UNL 7    21646 J646 ◊  II
          ◊ 21479 TR  1    21509 J509-◊-¬II
          ◊ 21484 SET B     0006......◊.III
          ◊ 21489 LOD 8    21673 J673 ◊ I I
          ◊ 21494 UNL 7    21646 J646 ◊ I I
          ◊ 21499 RCV U    39989 I989 ◊ I I
          ◊ 21504 BLM $     0003       ◊ I I
          ◊◊◊◊◊◊◊◊◊◊◊◊◊I◊◊◊◊◊◊◊◊◊◊◊◊◊◊ I I
                       I                I I
          ◊◊◊◊◊◊◊◊◊◊◊◊◊Ψ◊◊◊◊◊◊◊◊◊◊◊◊◊◊ I I
          ◊ 21509 LEM 3 15  0000 0&&0.◊.I I          BASIC ERROR TEST
          ◊ 21514 WR  R    39995 I995.◊...I
          ◊ 21519 BSP 3     0004       ◊
          ◊ 21524 RCV U    39894 I894 ◊
          ◊ 21529 BLM $     0002       ◊
          ◊ 21534 RD  Y    39990 I990 ◊
          ◊ 21539 TRS 0 03 21549 J509-◊-¬
          ◊ 21544 TR  1    21609 J609-◊-‡¬
          ◊ 21549 SET B     0005......◊.II
          ◊ 21554 LOD 8    21653 J653 ◊  I
          ◊ 21559 CMP 4     0004       ◊  I
          ◊ 21564 TRE L    21609 J609-◊--Y
          ◊◊◊◊◊◊◊◊◊◊◊◊◊I◊◊◊◊◊◊◊◊◊◊◊◊◊◊  I
                       I                I
          ◊◊◊◊◊◊◊◊◊◊◊◊◊Ψ◊◊◊◊◊◊◊◊◊◊◊◊◊◊  I
          ◊ 21569 TRA I 06 21679 JWP9-◊--‡---AT16  ALT SWITCH AND T/O LOOP
AR16......◊.21574 TRA I 01 21609 J6■9-◊--Y
AS16......◊.21579 SEL 2     0500       ◊  I
          ◊ 21584 WR  R    21625 J625 ◊  I
          ◊ 21589 UNL 7 12 21638 JF38 ◊  I
          ◊ 21594 TRA I 03 21604 J6&4-◊-¬I
          ◊ 21599 TR  1    21609 J609-◊-‡Y
          ◊ 21604 HLT J     0108......◊.II
          ◊ 21609 UNL 7 03  0010 00A0.◊..I
          ◊ 21614 EEM 3 14  0000 0&-0 ◊
          ◊ 21619 TRA I 02 21329 J3K9-◊------AQ14
          ◊ 21624 TR  1    21734 J734-◊------AU16
          ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
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                 I
              ♦♦♦
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                                I
AZ18......◆.22324 LEM 3 15  0000 0&8O ◆          BASIC ERROR TEST
BA18......◆.22329 WR  R     39995 I995 ◆
          ◆ 22334 RCV U     39804 I804 ◆
          ◆ 22339 TR  1     22529 K529-◆------.
     ....◆.22344 RD  Y     38000 H000 ◆      I
     I    ◆ 22349 TRS 0 01 22359 K3V9-◆-.    I
     I    ◆ 22354 TR  1     22424 K424-◆-+-. I
     I    ◆ 22359 SET 8      0005......◆.I  I I
     I    ◆ 22364 LOD 8     22466 K466 ◆    I I
     I    ◆ 22369 CMP 4     38004 H004 ◆    I I
     I    ◆ 22374 TRE L     22384 K384-◆-. I I
     I    ◆ 22379 TR  1     22424 K424-◆-+-Y I
     I    ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I  I I
     I                                   I  I I
     I    ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I  I I
     I    ◆ 22384 TRA I 06 22494 KUR4-◆-+-I  I      ALT SWITCH AND T/O LOOP
     I  ..◆.22389 TRA I 01 22424 K4S4-◆--+Y I
     I.I.◆.22394 SEL 2      0500       ◆  II I
     III  ◆ 22399 WR  R     22435 K435 ◆  II I
     III  ◆ 22404 UNL 7 12 22448 KD48 ◆  II I
     III  ◆ 22409 TRA I 03 22419 K4A9-◆-.II I
     III  ◆ 22414 TR  1     22424 K424-◆-++Y I
     III  ◆ 22419 HLT J      0114......◆.III I
     III.◆.22424 EEM 3 14  0000 0&-0.◆..II I
     IIII◆ 22429 TRA I 02 22174 K1P4-◆--+--+-AY18
     IIII◆ 22434 TR  1     22574 K574-◆--+--+-B820
     IIII◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I  I
     IIII                                I  I
     IIII                                I  I
     2 013 22447                 TC-114-TP
     2 001 22448                 ◆
     2 001 22449                 -
     2 001 22450                 D
     2 006 22456                 ◆
     2 005 22461                 8-M88
     2 005 22466
     2 001 22467                 N
     2 001 22468                 E
     2 005 22473                 -160K
     2 001 22474                 ◆
     2 005 22479                  -40K
     2 001 22480                 ◆
     2 005 22485                  -80K
     2 001 22486                 ◆

     IIII◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I  I
     IIII◆ 22494 SET 8      0002......◆..I  I      ANALYSIS SECTION
     IIII◆ 22499 LOD 8     22458 K458 ◆     I
     IIII◆ 22504 CMP 4     39891 I891 ◆     I
     IIII◆ 22509 TRE L     22519 K519-◆-.   I
     II++◆-22514 TR  1     22389 K389 ◆ I   I
     II I◆ 22519 UNL 7 10 22448 KMM8.◆.I   I
     I+-++◆-22524 TR  1     22394 K394 ◆     I
     I  I◆ 22529 BLM $      0002......◆.....I
     I  I◆ 22534 TRS 0 03 22544 K5D4-◆-.
     I  ++-22539 TR  1     22424 K424 ◆ I
     I   ◆ 22544 RCV U     39894 I894.◆.I
     I   ◆ 22549 BLM $      0002       ◆
     I   ◆ 22554 EEM 3 14  0000 0&-0 ◆
     I   ◆ 22559 RD  Y 03 39890 I8I0 ◆
     I   ◆ 22564 BSP 3      0004       ◆
     +---◆-22569 TR  1     22344 K344 ◆
         ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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        2 013 22777                    TC-117-TP
        2 001 22778                    ◇
        2 001 22779                    -
        2 001 22780                    D
        2 001 22781                    ◇
        2 006 22787

            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
BF20......◇.22794 LOD 8     22953 K953 ◇
          ◇ 22799 CMP 4     39990 I990 ◇
          ◇ 22804 SB  % 12  39990 II90 ◇
          ◇ 22809 TRE L     22819 K819-◇-┬
          ◇ 22814 TR  1     22844 K844-◇-┼┬
          ◇ 22819 UNL 7 10  22778 KPP8.◇.II
          ◇ 22824 SET B      0007       ◇  I
          ◇ 22829 LOD 8     22963 K963 ◇  I
          ◇ 22834 UNL 7     22787 K787 ◇  I
          ◇ 22839 TR  1     23034 L034-◇--┼---┬
          ◇ 22844 SB  % 04  39990 IZ90.◇..I   I
          ◇ 22849 SET B      0001       ◇      I
          ◇ 22854 LOD 8     22952 K952 ◇      I
          ◇ 22859 CMP 4     39990 I990 ◇      I
          ◇ 22864 SB  % 12  39990 II90 ◇      I
          ◇ 22869 TRE L     22879 K879-◇-┬    I
          ◇ 22874 TR  1     22904 K904-◇-┼┬   I
          ◇ 22879 UNL 7 10  22778 KPP8.◇.II   I
          ◇ 22884 SET B      0007       ◇  I   I
          ◇ 22889 LOD 8     22970 K970 ◇  I   I
          ◇ 22894 UNL 7     22787 K787 ◇  I   I
          ◇ 22899 TR  1     23034 L034-◇--┼--┴
          ◇ 22904 SET B      0001......◇..I   I
          ◇ 22909 LOD 8     22951 K951 ◇      I
          ◇ 22914 CMP 4     39990 I990 ◇      I
          ◇ 22919 TRE L     22929 K929-◇-┬    I
          ◇ 22924 TR  1     22989 K[illegible]-◇-┼┬   I
          ◇ 22929 UNL 7 10  22778 K[illegible] ◇.II   I
          ◇ 22934 SET B      0007       ◇  I   I
          ◇ 22939 LOD 8     22977 K977 ◇  I   I
          ◇ 22944 UNL 7     22787 K787 ◇  I   I
          ◇ 22949 TR  1     23034 L034-◇--┼--┴
          ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇  I   I
                                          I   I
                                          I   I
        2 001 22950                    7
        2 001 22951                    ‡
        2 005 22956                    56-1
        2 006 22962                    -1 BIT
        2 001 22963                    ◇
        2 006 22969                    -2 BIT
        2 001 22970                    ◇
        2 006 22976                    -4 BIT
        2 001 22977                    ◇
        2 006 22983                    -8 BIT
        2 001 22984                    ◇

            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇  I   I
BG20......◇.22989 SET B      0001......◇..I   I
          ◇ 22994 LOD 8     22950 K950 ◇      I
          ◇ 22999 CMP 4     39990 I990 ◇      I
          ◇ 23004 TRE L     23014 L014-◇-┬    I
          ◇ 23009 TR  1     23044 L044-◇-┼┬   I
          ◇ 23014 UNL 7 10  22778 KPP8.◇.II   I
          ◇ 23019 SET B      0007       ◇  I   I
          ◇ 23024 LOD 8     22984 K984 ◇  I   I
          ◇ 23029 UNL 7     22787 K787 ◇  I   I
          ◇ 23034 IOF 3      0000......◇..I..I
          ◇ 23039 TR  1     22689 K689-◇--┼---BD20
          ◇ 23044 IOF 3      0000......◇..I
          ◇ 23049 TR  1     22754 K754-◇------BC20
BH20......◇.23054 IOF 3      0000       ◇
          ◇ 23059 TR  1     22719 K719-◇------BE20
          ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
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BM22......◆.23319 CMP 4     23214 L214 ◆
          ◆ 23324 TRE L     23334 L334-◆-┐
          ◆ 23329 TR  1     23259 L259-◆-┼----BK22
          ◆ 23334 TRS 0 03  23259 L2E9-◆-┼----BK22
          ◆ 23339 TRS 0 11  23349 LLD9-◆-┘
          ◆ 23344 TR  1     23259 L259-◆-┼----BK22
          ◆ 23349 UNL 7 10  23238 LKL8.◆.I
          ◆ 23354 TR  1     23264 L264-◆------BL22
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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ANALYSIS SECTION

ROUTINE #122

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          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
BN22      ◆                                ◆
BN24......◆.23359 TRA I 05  23639 LWT9-◆------BR24
          ◆ 23364 SET B      0004        ◆
          ◆ 23369 LOD 8      0564        ◆
          ◆ 23374 UNL 7     23384 L384 ◆
          ◆ 23379 UNL 7     23517 L517 ◆
          ◆ 23384 SEL 2                 ◆
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
                       I
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
          ◆ 23389 RCV U     39804 I804 ◆
          ◆ 23394 BLM $      0040       ◆
          ◆ 23399 SET B      0010       ◆
          ◆ 23404 LOD 8     23504 L504 ◆
          ◆ 23409 UNL 7     39809 I809 ◆
          ◆ 23414 SB  % 08  39804 IQ04 ◆
          ◆ 23419 WR  R     39800 I800 ◆
          ◆ 23424 TRS 0 03  23434 L4C4-◆-┐
          ◆ 23429 TR  1     23574 L574-◆-┼----BQ24
          ◆ 23434 SB  % 08  39804 IQ04.◆.I
          ◆ 23439 WR  R     39800 I800 ◆
          ◆ 23444 TRS 0 03  23574 L5G4-◆------BQ24
          ◆ 23449 BSP 3      0004       ◆
          ◆ 23454 RD  Y     39900 I900 ◆
       ..◆.23459 TRS 0 01  23469 L4W9-◆-┐
     ┼-◆-23464 TR  1     23459 L459 ◆ I
          ◆ 23469 LOD 8     39909 I909.◆.I
          ◆ 23474 CMP 4     23504 L504 ◆
          ◆ 23479 TRE L     23574 L574-◆------BQ24
          ◆ 23484 TR  1     23534 L534-◆------BP24
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

     2 004 23488                ABCD
     2 001 23489                ◆
     2 005 23494
     2 009 23503                ABCDEFGH
     2 001 23504                ◆
     2 013 23517                TC-122-TP
     2 001 23518                ◆
     2 001 23519                -
     2 001 23520                D
     2 007 23527                ..8 BIT
     2 001 23528                ◆
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8 BIT FAILURE IN GROUP MARK RECOGNITION CIRCUIT.

BASIC ERROR TEST

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        2 004 23768                    ABCD
        2 001 23769                    ◊
        2 005 23774
        2 009 23783                    ABCD.EFGH
        2 001 23784                    ◊
        2 013 23797                    TC-124-TP
        2 001 23798                    ◊
        2 001 23799                    -
        2 001 23800                    D
        2 007 23807                    ..4 BIT
        2 001 23808                    ◊

            ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
BS24......◊.23814 TRA I 06 23879 LYP9-◊----.        ALT SWITCH AND T/O LOOP
        ..◊.23819 TRA I 01 23854 L8V4-◊--. I
       .I.◊.23824 SEL 2     0500       ◊  I I
       II ◊ 23829 WR  R    23785 L785 ◊  I I
       II ◊ 23834 UNL 7 12 23798 LG98 ◊  I I
       II ◊ 23839 TRA I 03 23849 L8D9-◊-.I I
       II ◊ 23844 TR  1    23854 L854-◊-‡Y I
       II ◊ 23849 HLT J     0124......◊.II I
BT24...II.◊.23854 TRS 0 11 23859 LQE9-◊--I I
       II ◊ 23859 RCV U    39804 I804.◊.I  I
       II ◊ 23864 BLM $     0040       ◊   I
       II ◊ 23869 TRA I 02 23639 L6L9-◊----‡-BR24
       II ◊ 23874 TR  1    23919 L919-◊---.I
       II ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊  II
       II                                  II
       II ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊  II
       II ◊ 23879 CMP 4    23774 L774.◊...II        ANALYSIS SECTION
       II ◊ 23884 TRE L    23894 L894-◊-. I
       I‡-◊-23889 TR  1    23819 L819 ◊ I I
       I‡-◊-23894 TRS 0 03 23819 L8A9.◊.I I
       II ◊ 23899 TRS 0 11 23909 LR&9-◊-. I
       I‡-◊-23904 TR  1    23819 L819 ◊ I I
       I  ◊ 23909 UNL 7 10 23798 LPR8.◊.I I
       ‡--◊-23914 TR  1    23824 L824 ◊  I
            ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊   I
                                            I
                                            I        ROUTINE #126
                                            I
            ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊   I
BU24        ◊                          ◊    I
BU26......◊.23919 TRA I 05 24219 MS/9-◊...‡--BV27  2 BIT FAILURE IN GROUP MARK
            ◊ 23924 SET 8     0004       ◊        RECOGNITION CIRCUIT.
            ◊ 23929 LOD 8     0564       ◊
            ◊ 23934 UNL 7    23944 L944 ◊
            ◊ 23939 UNL 7    24087 M087 ◊
            ◊ 23944 SEL 2               ◊
            ◊◊◊◊◊◊◊◊◊◊◊◊I◊◊◊◊◊◊◊◊◊◊◊◊◊◊
                        ▼
                    NEXT PAGE
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          ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
BV25      ◇                            ◇
BV26......◇.24219 TRA I 05 26059 O■V9-◇------CL35   1 BIT FAILURE IN GROUP MARK
       I  ◇ 24224 SET B      0004      ◇            RECOGNITION CIRCUIT.
       I  ◇ 24229 LOD 8      0564      ◇
       I  ◇ 24234 UNL 7     24244 M244 ◇
       I  ◇ 24239 UNL 7     24372 M372 ◇
       I  ◇ 24244 SEL 2                ◇
       I  ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
       I               I
       I  ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
       I  ◇ 24249 RCV U     39804 I804 ◇ ) Block 200 posn
       I  ◇ 24254 BLM $      0040      ◇            BASIC ERROR TEST
       I  ◇ 24259 SET B      0010      ◇
       I  ◇ 24264 LOD 8     24359 M359 ◇  ABCD¤EFGH¤ 0BA2
       I  ◇ 24269 UNL 7     39809 I809 ◇
       I  ◇ 24274 SB  % 10  39804 IQ-4 ◇  SET 2BITON
       I  ◇ 24279 WR  R     39800 I800 ◇
       I  ◇ 24284 TRS 0     24429 M429-◇---.
       I  ◇ 24289 BSP 3      0004      ◇   I
       I  ◇ 24294 RD  Y     39900 I900 ◇   I
       I..◇.24299 TRS 0 01  24309 M3■9-◇-. I
       I+-◇-24304 TR  1     24299 M299 ◇ I I  SET 4BIT OFF  BA8X21
       I  ◇ 24309 SB  % 03  39904 I9&4.◇.I I
       I  ◇ 24314 LOD 8     39909 I909 ◇   I
       I  ◇ 24319 CMP 4     24349 M349 ◇   I
       I  ◇ 24324 TRE L     24429 M429-◇---Y
       I  ◇ 24329 TR  1     24389 M389-◇-. I
       I  ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇ I I
       I                                 I I
       I                                 I I
     2 005 24334                 ABCD.
     2 005 24339
     2 009 24348                 ABCD&EFGH
     2 001 24349                 ◇
     2 009 24358                 ABCD◇EFGH
     2 001 24359                 ◇
     2 013 24372                 TC-128-TP
     2 001 24373                 ◇
     2 001 24374                 -
     2 001 24375                 D
     2 007 24382                 ..1 BIT
     2 001 24383                 ◇

       I  ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇ I I
       I  ◇ 24389 TRA I 06 24454 MUN4-◇-+-+-       ALT SWITCH AND ERROR T/O LOOP
       I..◇.24394 TRA I 01 24429 M4S9-◇---YI
      .II.◇.24399 SEL 2      0500      ◇   II
      III ◇ 24404 WR  R     24360 M360 ◇   II
      III ◇ 24409 UNL 7 12  24373 MC73 ◇   II
      III ◇ 24414 RCV U 03  24424 M4B4 ◇   II
      III ◇ 24419 TR  1     24429 M429-◇---YI
      III ◇ 24424 HLT J      0128      ◇   II
      III ◇ 24429 TRS 0 11  24434 MMC4-◇-..II
      III ◇ 24434 RCV U     39804 I804.◇.I  I
      III ◇ 24439 BLM $      0040      ◇    I
      I++-◇-24444 TRA I 02  24219 M2J9 ◇    I
      I I ◇ 24449 TR  1     24484 M484-◇----+-BW28
      I I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇    I
      I I                                   I
      I I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇    I
      I I ◇ 24454 CMP 4     24339 M339.◇....I       ANALYSIS SECTION
      I I ◇ 24459 TRE L     24469 M469-◇-.
      I +-◇-24464 TR  1     24394 M394 ◇ I
      I +-◇-24469 TRS 0 11  24394 MLI4.◇.I
      I   ◇ 24474 UNL 7 10  24373 MLP3 ◇
      +---◇-24479 TR  1     24399 M399 ◇
          ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
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                                                          ANALYSIS SECTION
BZ28.....24734 CMP 4     24629 M629
         24739 TRE L     24749 M749
         24744 TR  1     24674 M674--BX28
         24749 TRS 0 03  24674 M6G4--BX28
         24754 TRS 0 11  24764 MPF4
         24759 TR  1     24674 M674--BX28
         24764 UNL 7 10  24653 MON3.
         24769 TR  1     24679 M679--BY28

                                                          ROUTINE #132

CA28.....24774 SET B     0004......
         24779 LOD 8     0564
         24784 UNL 7     24947 M947                       CHECK UNITS POSITION OF RECOR
         24789 UNL 7     24794 M794                       COUNTER. ON DIAG.REC. CTR.4
         24794 SEL 2                                      SETTING OPERATES OK.
         24799 WR  R 02  0080 OOQO                        BASIC ERROR TEST
         24804 WR  R     25050 N050
         24809 LDA #     24809 M809
         24814 TRS 0 03  18804 Y8&4--------R05
         24819 TRS 0 02  24919 M9J9
         24824 WR  R 02  0080 OOQO
         24829 BSP 3     0004
         24834 WR  R 02  0080 OOQO
         24839 RD  Y     39800 I800
         24844 LDA #     24844 M844
         24849 TRS 0 03  18919 Y9A9----S06
         24854 TRS 0 02  24919 M9J9
         24859 SET B     0040
         24864 LOD 8     25089 N089
         24869 CMP 4     39839 I839
         24874 TRE L     24919 M919

         24879 TRA I 06  24959 MZN9---CE30                 ALT SWITCH AND T/O LOOP
CB30.....24884 TRA I 01  24919 M9/9
CC30.....24889 SEL 2     0500
         24894 WR  R     24935 M935
         24899 UNL 7 12  24948 MI48
         24904 TRA I 03  24914 M9A4
         24909 TR  1     24919 M919
         24914 HLT J     0132......
CD30.....24919 RCV U     39804 I804.
         24924 BLM $     0040
         24929 TRA I 02  24774 M7P4
         24934 TR  1     25094 N094------CF30

2 013 24947                 TC-132-TP
2 001 24948                 -
2 001 24949                 D
2 001 24950
2 001 24951
```

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```
                 I
◆◆◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
◆ 25119 WR  R     25415 N415 ◆                BASIC ERROR TEST
◆ 25124 TRS 0 03  25279 N2G9-◆---¬
◆ 25129 SET B      0020       ◆   I
◆ 25134 LOD 8     25414 N414 ◆   I
◆ 25139 UNL 7     19999 Z999 ◆   I
◆ 25144 WR  R 01  19980 Z9Y0 ◆   I
◆ 25149 LDA ‡     25149 N149 ◆   I
◆ 25154 TRS 0 03  18804 Y8&4-◆---+---R05
◆ 25159 RD  Y 02  39900 I9-0 ◆   I
◆ 25164 TRS 0 03  25279 N2G9-◆---Y
◆ 25169 SET B      0005       ◆   I
◆ 25174 LOD 8     25369 N369 ◆   I
◆ 25179 CMP 4     39904 I904 ◆   I
◆ 25184 TRE L     25239 N239-◆-¬ I
◆ 25189 TR  1     25279 N279-◆-+-Y
◆ 25194 BSP 3      0004       ◆ I I
◆ 25199 RD  Y     39800 I800 ◆ I I
◆ 25204 LDA ‡     25204 N204 ◆ I I
◆ 25209 TRS 0 03  18919 Y9A9-◆-+-+---S06
◆ 25214 TRS 0 02  25279 N2P9-◆-+-Y
◆ 25219 SET B      0020       ◆ I I
◆ 25224 LOD 8     25414 N414 ◆ I I
◆ 25229 CMP 4     39819 I819 ◆ I I
◆ 25234 TRE L     25279 N279-◆-+-Y
◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I I
                I              I I
◆◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I I
◆ 25239 TRA I 06  25309 NT-9-◆-+-I          ALT SWITCH AND T/O LOOP
..◆.25244 TRA I 01  25279 N2X9-◆--+Y
.I.◆.25249 SEL 2      0500       ◆  II
II ◆ 25254 WR  R     25370 N370 ◆  II
II ◆ 25259 UNL 7 12  25383 NC83 ◆  II
II ◆ 25264 TRA I 03  25274 N2G4-◆-¬II
II ◆ 25269 TR  1     25279 N279-◆-++Y
II ◆ 25274 HLT J      0134......◆.III
II ◆ 25279 RCV U     39804 I804.◆..II
II ◆ 25284 BLM $      0040       ◆  I
II ◆ 25289 RCV U     19984 Z984 ◆  I
II ◆ 25294 BLM $      0004       ◆  I
II ◆ 25299 TRA I 02  25094 NOR4-◆--+---CF30
II ◆ 25304 TR  1     25444 N444-◆--+---CG32
II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
II                                  I
II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
II ◆ 25309 SET B      0009......◆..I        ANALYSIS SECTION
II ◆ 25314 LOD 8     39709 I709 ◆
II ◆ 25319 CMP 4     39808 I808 ◆
II ◆ 25324 TRE L     25334 N334-◆-¬
I+-◆-25329 TR  1     25244 N244 ◆ I
II ◆ 25334 SET B      0005......◆.I
II ◆ 25339 LOD 8     25394 N394 ◆
II ◆ 25344 CMP 4     39904 I904 ◆
II ◆ 25349 TRE L     25359 N359-◆-¬
I+-◆-25354 TR  1     25244 N244 ◆ I
I  ◆ 25359 UNL 7 10  25383 NLQ3.◆.I
+--◆-25364 TR  1     25249 N249 ◆
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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                                                                  ALT SWITCH AND T/O LOOP
CH32.....25589 TRA I 06 25659 NWN9-----
         ..25594 TRA I 01 25629 N6S9-----I
        .I.25599 SEL 2     0500        I
        II 25604 WR  R     25690 N690  I
        II 25609 UNL 7 12  25703 NG03  I
        II 25614 TRA I 03  25624 N6B4--II
        II 25619 TR  1     25629 N629--IIII
        II 25624 HLT J     0136......IIII
CJ32...II.25629 RCV U     39804 I804...II
        II 25634 BLM $     0040        I
        II 25639 RCV U     19984 Z984  I
        II 25644 BLM $     0004        I
        II 25649 TRA I 02  25444 N4M4-----I--CG32
        II 25654 TR  1     25764 N764-----I
        II                                II
        II                                II
        II 25659 SET 8     0045......II                ANALYSIS SECTION
        II 25664 LOD 8     20024 -024  I
        II 25669 CMP 4     39844 I844  I
        II 25674 TRE L     25684 N684--I
        II-25679 TR  1     25594 N594  II
        I  25684 UNL 7 10  25703 NP-3..II
        I--25689 TR  1     25599 N599  I
                                       I
                                       I
                                       I
2 013 25702                            TC-136-TP
2 001 25703                            .
2 001 25704                            -
2 001 25705                            D
2 001 25706                            .
2 005 25711                            0-010
2 005 25719 00                         ABCDE
2 005 25724                            FGHIJ
2 005 25729                            KLMNO
2 005 25734                            PQRST
2 005 25739                            UVWXY
2 005 25744                            11111
2 005 25749                            SSSSS
2 004 25754                            *****
2 004 25759                            3333
2 001 25759                            .
                                                                  ROUTINE #138

                                       I
CK34.....25764 SET 8     0004......II                CHECK BKSP AFTER RD-
         25769 LOD 8     0364        I                DIAG CHECKS SMAC POSITIONING.
         25774 UNL 7     25784 N784  I
         25779 UNL 7     26042 0042  I
         25784 SEL 2                 I
                       I
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NEXT PAGE

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                 ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
CL27             ◆                            ◆
CL34.......      ◆.26059 SET B     0004       ◆
           I     ◆ 26064 LOD 8     0564       ◆
           I     ◆ 26069 UNL 7    26222 0222  ◆
           I     ◆ 26074 UNL 7    26079 0079  ◆
           I     ◆ 26079 SEL 2                ◆
           I     ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
           I                   I
           I     ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆
           I     ◆ 26084 WR  R    26205 0205  ◆
           I     ◆ 26089 LDA #    26089 0089  ◆
           I     ◆ 26094 TRS 0 03 18804 Y8&4-◆-------R05
           I     ◆ 26099 TRS 0 02 26184 01Q4-◆--.
           I     ◆ 26104 BSP 3     0004       ◆  I
           I     ◆ 26109 RD  Y    39800 I800  ◆  I
           I     ◆ 26114 LDA #    26114 0114  ◆  I
           I     ◆ 26119 TRS 0 03 18919 Y9A9-◆--I----S06
           I     ◆ 26124 SET B     0005       ◆  I
           I     ◆ 26129 LOD 8    26209 0209  ◆  I
           I     ◆ 26134 CMP 4    39804 I804  ◆  I
           I     ◆ 26139 TRE L    26184 0184-◆--Y
           I     ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
           I                   I                I
           I     ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
           I     ◆ 26144 TRA I 06 26239 05L9-◆--I---CP36
CM36....I.◆.26149 TRA I 01 26184 01Y4-◆--Y
CN36....I.◆.26154 SEL 2     0500       ◆  I
           I     ◆ 26159 WR  R    26210 0210  ◆  I
           I     ◆ 26164 UNL 7 12 26223 0B23  ◆  I
           I     ◆ 26169 TRA I 02 26179 01P9-◆-.I
           I     ◆ 26174 TR  1    26184 0184-◆-IY
           I     ◆ 26179 MLT J     0140.....◆.II
           I     ◆ 26184 RCV U    39804 I804.◆..I
           I     ◆ 26189 BLM $     0040       ◆
           I-◆-26194 TRA I 02 26059 00N9       ◆
           ◆ 26199 TR  1    26379 0379-◆------CQ36
           ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

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BASIC ERROR TEST

```
                 I
◆◆◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
◆ 26424 WR  R 01 19000 Z0■0 ◆
◆ 26429 LDA ‡    26429 0429 ◆
◆ 26434 TRS 0 03 18804 Y8&4-◆-------R05
◆ 26439 TRS 0 02 26739 07L9-◆------CS38
◆ 26444 BSP 3     0004      ◆
◆ 26449 RCV U    38004 H004 ◆
◆ 26454 BLM $     0400      ◆
◆ 26459 SET B     0005      ◆
◆ 26464 LOD 8    26927 0927 ◆
◆ 26469 UNL 7    38004 H004 ◆
◆ 26474 RD  Y    38000 H000 ◆
..◆.26479 RCV U    38000 H000 ◆
I ◆ 26484 TZB . 04 26494 0U94-◆-.
‡-◆-26489 TR  1    26479 0479 ◆ I
◆ 26494 NOP A     2720......◆.I
◆ 26499 RCV U    39004 I004 ◆
◆ 26504 TMT 9    19004 Z004 ◆
..◆.26509 TRS 0 01 26519 05/9-◆-.
‡-◆-26514 TR  1    26509 0509 ◆ I
◆ 26519 TRS 0 02 26739 07L9-◆-‡----CS38
◆ 26524 TR  1    26564 0564-◆--.
...◆.26529 LOD 8    19749 Z749 ◆  I
I ◆ 26534 CMP 4    38749 H749 ◆  I
I ◆ 26539 TRE L    26549 0549-◆-.I
I ◆ 26544 TR  1    26639 0639-◆-‡‡.
I ◆ 26549 LOD 8    19749 Z749.◆.III
I ◆ 26554 CMP 4    39749 I749 ◆  II
I ◆ 26559 TR  1    26614 0614-◆--‡‡.
I ◆ 26564 SET B     0004......◆..III
I ◆ 26569 LOD 8    26419 0419 ◆   II
I ◆ 26574 UNL 7    26579 0579 ◆   II
I ◆ 26579 SEL 2               ◆   II
I..◆.26584 TRS 0 01 26594 05Z4-◆-. II
I‡-◆-26589 TR  1    26584 0584 ◆ I II
I ◆ 26594 LDA ‡    26594 0594.◆.I II
I ◆ 26599 TRS 0 02 18919 Y9J9-◆---‡‡--S06
I ◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆   II
I               I                  II
I               I                  II
I ◆◆◆◆◆◆◆◆◆◆◆◆◆Ψ◆◆◆◆◆◆◆◆◆◆◆◆◆   II
I ◆ 26604 SET B     0250      ◆   II
‡--◆-26609 TR  1    26529 0529 ◆   II
◆ 26614 TRE L    26739 0739-◆...‡‡-CS38
◆ 26619 SET B     0041      ◆   I
◆ 26624 LOD 8    26968 0968 ◆   I
◆ 26629 UNL 7    26911 0911 ◆   I
◆ 26634 TR  1    26699 0699-◆---‡--CR38
◆ 26639 LOD 8    19749 Z749.◆...I
◆ 26644 CMP 4    39749 I749 ◆
◆ 26649 TRE L    26659 0659-◆-.
◆ 26654 TR  1    26679 0679-◆-‡.
◆ 26659 SET B     0041......◆.II
◆ 26664 LOD 8    27009 P009 ◆  I
◆ 26669 UNL 7    26911 0911 ◆  I
◆ 26674 TR  1    26699 0699-◆--‡---CR38
◆ 26679 SET B     0050......◆..I
◆ 26684 LOD 8    27059 P059 ◆
◆ 26689 UNL 7    26921 0921 ◆
◆ 26694 TR  1    26699 0699-◆------CR38
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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gbbons/g0013951.png

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                 I
              ◆◆◆
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gscans/g0013952.jpg

```
*****************************************
* 27649 set B      0004        *
* 27654 lod 8      0564        *
* 27659 uml 7     27832 p832   *
* 27664 unl77     27669 p669   *
* 27669 sel 2                  *
*****************************************
```

Check timing of skip between 2 write fields to check that skip is operating properly.

```
                I
*****************************************
* 27674 rad E     27808 P808   *
* 27679 WR RR     27810 P810   *
* 27684 LDA #     27684 P684   *
* 27689 TRS 0 03 18804 Y8A4    *
* 27694 SKP 3      0009        *
* 27699 LDA #     27699 P699   *
* 27704 TRS 0 03 19034 Z0C4    *
* 27709 WR  R     27815 P815   *
* 27714 LDA #     27714 P714   *
* 27719 TRS 0 03 18804 Y8A4    *
* 27724 BSP 3      0004        *
* 27729 BSP 3      0004        *
* 27734 RCV U     39904 I904   *
* 27739 BLM $     39900 I900   *
* 27744 RED TY    39900 I900   *
* 27749 LDA #     27749 P749   *
* 27754 TRS 0 03 18919 Y9A9    *
* 27759 SET B 01   0005 00#5   *
* 27764 LOD 8 01  27813 P8/3   *
* 27769 CMP 4 01  39903 I9#3   *
* 27774 TRE  L    27784 P784   *
* 27779 TR  1     27879 P879   *
* 27784 RD  Y     39910 I910   *
* 27789 TR  1     27844 P844   *
*****************************************
```

```
2 019 27808                  & 000000000000000000
2 001 27809
2 004 27813                   ABCD
2 001 27814                   X
2 004 27818                   1237
2 001 27819                   Y
2 013 27832                   TC-150-TP
2 001 27833                   X
2 001 27834                   -
2 001 27835                   B
2 001 27836                   X
*****************************************
* 27844 RAD E     27808 P808   *
* 27849 TRS 0 01  27864 P864   *
* 27854 ADD G     27964 P964   *
* 27859 TR  1     27849 P849   *
* 27864 SET B      0005        *
* 27869 CMP 4     27964 P964   *
* 27874 TRE K     27919 P919   *
*****************************************
```

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```
                 I
                 I
*****************************
* 27879 XMA I 06 27989 2BA9 *
* 27884 XMA I 01 27919 F9/9 *
* 27889 SEL 2      0900     *
* 27894 WR  1    27888 2B88 *
* 27899 UEL 7 12 27833 2E33 *
* 27904 XMA I 03 27924 F924 *
* 27909 TR  1    27919 F919 *
* 27914 SEF J      0190     *
* 27919 XMA I 02 27849 2849 *
* 27924 TR  1    27989 2989 *
*****************************
```

Alternation switch and T/O loop

```
*****************************
* 27929 SEF 1      0005     *
* 27934 LOD 8    27819 2819 *
* 27939 CMP 4    39924 3924 *
* 27944 XMB 1    27924 2924 *
* 27949 TR  1    27884 2884 *
* 27954 UEL 7 10 27833 2E33 *
* 27959 TR  1    27889 2889 *
*****************************
```

Analysis section

```
2 005 27964                00700
2 040 27964                  00000000000000000A
```

```
CX40.....27579 WR   R 02   0020 00K0
         27584 WR   R      27550 P550
         27589 WR   R 02   0030 00L0
         27594 BSP  3      0004
         27599 WR   R 02   0010 00J0
         27604 RD   Y      39800 I800
         27609 TRS  0 01   27619 P679
         27614 TR   1      27609 P609
         27619 TRS  0      27634 P634
         27624 IOF  3      0000
         27629 TR   1      27504 P504---CV40
         27634 UNL  7 10   27569 PN09
         27639 IOF  3      0000
         27644 TR   1      27509 P509------CW40
```

ANALYSIS SECTION

ROUTINE #150

```
CY40
CY42.....27649 SET  B      0004
         27654 LOD  8      0564
         27659 UNL  7      27837 P837
         27664 UNL  7      27669 P669
         27669 SEL  2
```

CHECK TIMING OF SKIP BETWEEN 2 WR FIELDS TO CHECK THAT SKIP IS OPERATING PROPERLY.

```
         27674 NOP  A      0037
         27679 RAD  H      27813 P813
         27684 WR   R      27815 P815
         27689 LDA  #      27689 P689
         27694 TRS  0 03   18804 Y884-------R05
         27699 SKP  3      0009
         27704 LDA  #      27704 P704
         27709 TRS  0 03   19034 Z0C4-------T06
         27714 WR   R      27820 P820
         27719 LDA  #      27719 P719
         27724 TRS  0 03   18804 Y884-------R05
         27729 BSP  3      0004
         27734 BSP  3      0004
         27739 RCL  U      39904 I904
         27744 BLM  $      0020
         27749 RD   Y      39900 I900
         27754 LDA  #      27754 P754
         27759 TRS  0 03   18919 Y9A9-------S06
         27764 SET  B 01   0005 00■5
         27769 LOD  8 01   27815 P8/5
         27774 CMP  4 01   39904 I9■4
         27779 TRE  L      27789 P789
         27784 TR   1      27919 P919----DA42
         27789 RD   Y      39910 I910
         27794 TR   1      27849 P849------CZ42
```

BASIC ERROR TEST

416

0 1 2 3

27818
39903
27879

Rest etc.

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                 ◆◆◆
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```
        2 013 28592                    TC-154-TP
        2 001 28593                    ◇
        2 001 28594                    -
        2 001 28595                    D
        2 001 28596                    ◇

            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
DG44......◇.28604 SET B 08  0001 0-01 ◇
            ◇ 28609 LOD 8 08 28557 QN57 ◇
            ◇ 28614 UNL 7 08 28637 Q037 ◇
            ◇ 28619 UNL 7 08 28657 Q057 ◇
            ◇ 28624 SGN T 10 28754 QPN4 ◇
            ◇ 28629 ADM 6 10 28754 QPN4 ◇
            ◇ 28634 ADM 6 10 28637 QOL7 ◇
            ◇ 28639 LIP , 03  2 00 2■&0 ◇
            ◇ 28644 SPC ,     0000      ◇
            ◇ 28649 LDA # 08 28649 Q049 ◇
            ◇ 28654 TRS 0 03 19579 Z5G9-◇-------W08
            ◇ 28659 SPC ,     2 10      ◇
            ◇ 28664 SET B     0004      ◇
            ◇ 28669 CMP 4    28798 Q798 ◇
            ◇ 28674 TRE L    28684 Q684-◇-.
            ◇ 28679 TR  1    28859 Q859-◇-I---.
            ◇ 28684 SET B 03  0040 OOOO.◇.I   I
            ◇ 28689 LOD 8 03 28794 Q7I4 ◇     I
            ◇ 28694 CMP 4 03 39989 I9H9 ◇     I
            ◇ 28699 TRE L    28709 Q709-◇-.   I
            ◇ 28704 TR  1    28819 Q819-◇-I-. I
            ◇ 28709 LOD 8 03 28424 Q4B4.◇.I I I
            ◇ 28714 CMP 4 03 39939 I9C9 ◇   I I
            ◇ 28719 TRE L    28729 Q729-◇-. I I
            ◇ 28724 TR  1    28819 Q819-◇-I-Y I
            ◇ 28729 SET B 03  0007 OO&7.◇.I I I
            ◇ 28734 LOD 8 03 28949 Q9D9 ◇   I I
            ◇ 28739 CMP 4 03 39996 I9I6 ◇   I I
            ◇ 28744 TRE L    28804 Q804-◇-. I I
            ◇ 28749 TR  1    28819 Q819-◇-I-Y I
            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇ I I I
                                          I I I
                                          I I I
        2 005 28754                     A
        2 005 28759                    A234E
        2 005 28764                    55EGJ
        2 005 28769                    KLMNO
        2 005 28774                    PQRST
        2 005 28779                    UVWXY
        2 005 28784                    Z1234
        2 005 28789                    5BCD9
        2 004 28793                    0.◇&
        2 001 28794                    ◇
        2 004 28798                    I990

            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇ I I I
            ◇ 28804 LOD 8 03 28959 Q9E9.◇.I I I
            ◇ 28809 CMP 4 03 39948 I9D8 ◇   I I
            ◇ 28814 TRE L    28859 Q859-◇---I-Y
            ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇   I I
                         I                  I I
            ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇   I I   28874 QYP4
DH44......◇.28819 TRA I 06 ~~28804 QVQ4~~.◇...I-I DL46 ALT SWITCH AND T/O LOOP
DJ46......◇.28824 TRA I 01 28859 Q8V9-◇-----Y
DK46......◇.28829 SEL 2     0500      ◇     I
            ◇ 28834 WR  R    28580 Q580 ◇     I
            ◇ 28839 UNL 7 12 28593 QE93 ◇     I
            ◇ 28844 TRA I 03 28854 Q8E4-◇-.   I
            ◇ 28849 TR  1    28859 Q859-◇-I---Y
            ◇ 28854 HLT J     0154......◇.I   I
            ◇ 28859 LIP , 15  3700 3G&0.◇.....I      SATISFY INTERRUPT MODE-
            ◇ 28864 TRA I 02 28389 Q3Q9-◇------DF44  SETS TO CASU 15-GOES TO NEXT
            ◇ 28869 TR  1    28964 Q964-◇------DM46  INSTRUCTION IC
            ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
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        2 005 29124                    02500
        2 005 29129                    00300
        2 004 29133                    ABCD
        2 001 29134                    ◊
        2 013 29147                    TC-157-TP
        2 001 29148                    ◊
        2 001 29149                    -
        2 001 29150                    D
        2 004 29154

            ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊
            ◊ 29159 NOP A     0000       ◊
DP46.......◊.29164 RCV U    38004 H004  ◊
            ◊ 29169 BLM S     0400       ◊
            ◊ 29174 RAD H    27813 P813  ◊
            ◊ 29179 WR  R 01 18000 Y0■0  ◊
            ◊ 29184 BSP 3     0004       ◊
            ◊ 29189 RD  Y    38000 H000  ◊
          ..◊.29194 TRS 0 01 29209 R2■9-◊-.
          I ◊ 29199 ADD G    27984 P984  ◊ I
          ‡-◊-29204 TR  1    29194 R194  ◊ I
            ◊ 29209 SET B     0005......◊.I
            ◊ 29214 CMP 4    29337 R337  ◊
            ◊ 29219 TRH K    29319 R319-◊----.
            ◊ 29224 NOP A    29319 R319  ◊    I
            ◊ 29229 SET B 02  0008 00-8  ◊    I
            ◊ 29234 LOD 8 02 29332 R3L2  ◊    I
            ◊ 29239 UNL 7 02 29158 R1N8  ◊    I
            ◊ 29244 SET B 03  0005 00&5  ◊    I
            ◊ 29249 LOD 8 03 29342 R3D2  ◊    I
            ◊ 29254 UNL 7 03 29352 R3E2  ◊    I
            ◊ 29259 TR  1    29279 R279-◊-. I
DQ46.......◊.29264 SET B 03  0005 00&5  ◊ I I
            ◊ 29269 LOD 8 03 29347 R3D7  ◊ I I
            ◊ 29274 UNL 7 03 29352 R3E2  ◊ I I
            ◊◊◊◊◊◊◊◊◊◊◊◊I◊◊◊◊◊◊◊◊◊◊◊◊◊◊ I I
                        I                 I I
            ◊◊◊◊◊◊◊◊◊◊◊◊▼◊◊◊◊◊◊◊◊◊◊◊◊◊◊ I I
            ◊ 29279 TRA I 06 29359 RTN9-◊-‡-‡--DU48  ALT SWITCH AND T/O LOOP
DR48.......◊.29284 TRA I 01 29319 R3/9-◊---Y
DS48.......◊.29289 SEL 2     0500       ◊    I
            ◊ 29294 WR  R    29135 R135  ◊    I
            ◊ 29299 UNL 7 12 29148 RA48  ◊    I
            ◊ 29304 TRA I 03 29314 R3A4-◊-. I
            ◊ 29309 TR  1    29319 R319-◊-‡-Y
            ◊ 29314 HLT J     0157......◊.I I
DT46.......◊.29319 TRA I 02 28964 Q904-◊---‡--DM46
            ◊ 29324 TR  1    29539 R539-◊------DW48
            ◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊◊

        2 007 29331                    -MOD II   (90KC) - MOD  - V
        2 001 29332                    ◊
        2 005 29337                    03000
        2 005 29342                    01400
        2 005 29347                    01000
        2 005 29352
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BASIC ERROR TEST

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          ◆◆◆
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                    I
                    Ψ
  30139 SDL 3      0037
  30144 LIM , 07   0000 0■&0
  30149 RAD H     27813 P813
  30154 RCV U     39804 I804
  30159 BLM $      0040
  30164 WR  R     29705 R705
..30169 TRS 0 01  30184 &1Y4-
I 30174 ADD G     27984 P984  I
-30179 TR  1      30169 &169  I
  30184 SET B      0005......I
  30189 CMP 4     30289 &289
  30194 TRH K     30239 &239-
                    I
                    I
                    Ψ                                  BASIC ERROR TEST
  30199 TRA I 06  30249 &SM9-
..30204 TRA I 01  30239 &2T9-                          ALT SWITCH AND T/O LOOP
.I.30209 SEL 2      0500
II 30214 WR  R     30290 &290
II 30219 UNL 7 12  30303 &C03
II 30224 TRA I 03  30234 &2C4-
II 30229 TR  1     30239 &239-
II 30234 HLT J      0163......I
II 30239 TRA I 02  30114 &1J4-                         --EB50
II 30244 TR  1     30314 &314-
II
II
II
II 30249 BSP 3      0004......I..                      ANALYSIS SECTION
II 30254 RD  Y     39900 I900
II 30259 TRS 0 03  30264 &2F4-
II 30264 LOD 8     29709 R709.I
II 30269 CMP 4     39904 I904
I-30274 TRE L      30204 &204
I 30279 UNL 7 10   30303 &L-3
--30284 TR  1      30209 &209
                                                       I
                                                       I
                                                       I
2 005 30289                    00200
2 013 30302                    TC-163-TP
2 001 30303                    
2 001 30304                    -
2 001 30305                    D
2 001 30306                    
                                                       ROUTINE #165

                                                       I
EC52.....30314 SET B      0004......I..                TEST TRS 03 WITH TI ON.
  30319 LOD 8      0564                                DIAG. TRIES TRS 00 AFTER
  30324 UNL 7     30334 &334                           READY LOOP TO SENSE TM
  30329 UNL 7     30487 &487                           INDICATOR.
  30334 SEL 2
                    I
                    Ψ
  30339 TRA I     30344 &344-                          BASIC ERROR TEST
  30344 IOF 3      0000......I
  30349 LDA #     30349 &349
  30354 TRS 0      0999------                          -------L04
  30359 ION 3      0003
  30364 TRS 0 03  30469 &4F9-                          ------ED52
  30369 IOF 3      0000
                    I
                    Ψ
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NEXT PAGE

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                    ◆◆◆
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                                I
                                T
          ◆ 31049 WR  R     31185 A185 ◆                BASIC ERROR TEST
          ◆ 31054 TRS 0 03  31174 A1G4-◆------.
          ◆ 31059 BSP 3      0004       ◆     I
          ◆ 31064 RCV U     39804 I804  ◆     I
          ◆ 31069 BLM $      0040       ◆     I
          ◆ 31074 NOP A 13   0000 08■0  ◆     I
          ◆ 31079 WR  R 03  31180 A1H0  ◆     I
          ◆ 31084 RD  Y     39800 I800  ◆     I
          ◆ 31089 TRS 0 03  31099 A0I9-◆-.    I
          ◆ 31094 TR  1     31174 A174-◆-I---Y
          ◆ 31099 RD  Y 03  39900 I9&0.◆.I    I
          ◆ 31104 TRS 0 03  31109 A1&9-◆-.    I
          ◆ 31109 SET B      0002......◆.I    I
          ◆ 31114 LOD 8     31209 A209  ◆     I
          ◆ 31119 CMP 4     39901 I901  ◆     I
          ◆ 31124 TRE L     31134 A134-◆-.    I
          ◆ 31129 TR  1     31174 A174-◆-I---Y
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I    I
                                            I    I
          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆ I    I
          ◆ 31134 TRA I 06  31214 ASJ4-◆-I-.  I      ALT SWITCH AND T/O LOOP
       ..◆.31139 TRA I 01  31174 A1X4-◆--I--Y
     .I.◆.31144 SEL 2      0500       ◆  I   I
    II ◆ 31149 WR  R     31190 A190  ◆  I   I
    II ◆ 31154 UNL 7 12  31203 AB03  ◆  I   I
    II ◆ 31159 TRA I 03  31169 A1F9-◆-.I   I
    II ◆ 31164 TR  1     31174 A174-◆-II--Y
    II ◆ 31169 HLT J      0169......◆.II   I
    II ◆ 31174 TRA I 02  31024 A0K4-◆-.I-.I-EM54
    II ◆ 31179 TR  1     31249 A249-◆--I-.
    II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  II
    II                                   II
    II                                   II
  2 001 31180                  8
  2 004 31184                  ◆
  2 003 31187                  777
  2 001 31188                  ◆
  2 001 31189                  ◆
  2 013 31202                  TC-169-TP
  2 001 31203                  ◆
  2 001 31204                  -
  2 001 31205                  D
  2 001 31206                  ◆
  2 001 31207
  2 002 31209                  88

    II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  II
    II ◆ 31214 SET B      0005......◆..II         ANALYSIS SECTION
    II ◆ 31219 LOD 8     31189 A189  ◆    I
    II ◆ 31224 CMP 4     39800 I800  ◆    I
    II ◆ 31229 TRE L     31239 A239-◆-.   I
    II-◆-31234 TR  1     31139 A139  ◆ I  I
    I  ◆ 31239 UNL 7 10  31203 AK-3.◆.I   I
    I--◆-31244 TR  1     31144 A144  ◆    I
       ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆    I
                                          I
                                          I        ROUTINE #171
                                          I
       ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆    I
EN56.....◆.31249 SET B      0004......◆...I         FORCE WTC RESET CHECK IS NOT
       ◆ 31254 LOD 8      0564       ◆              INDICATING. DIAG. CHECKS FOR
       ◆ 31259 UNL 7     31456 A456  ◆              SCANNER CHECK CAUSED BY
       ◆ 31264 UNL 7     31279 A279  ◆              FORCING DWT CHECK USING
       ◆ 31269 UNL 7     31329 A329  ◆              SEL 6001-MOD IV TAPES
       ◆ 31274 UNL 7     31419 A419  ◆
       ◆ 31279 SEL 2                 ◆
       ◆ 31284 WR  R     31440 A440  ◆
       ◆ 31289 SET B      9000       ◆
       ◆ 31294 TRS 0 01  31304 A3■4-◆------EP56
       ◆ 31299 TR  1     31384 A384-◆------EQ56
       ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
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                                                                  BASIC ERROR TEST
  31534 WR  R     31665 A665
  31539 TRS 0 03  31549 A5D9
  31544 TR  1     31624 A624
  31549 WTM 3      0001
  31554 TRS 0 01  31564 A5W4
  31559 TR  1     31554 A554
  31564 TRS 0 03  31574 A5G4
  31569 TR  1     31614 A614

  31574 TRA I 06  31634 AWL4                                      ALT SWITCH AND T/O LOOP
  31579 TRA I 01  31614 A6/4
  31584 SEL 2      0500
  31589 WR  R     31671 A671
  31594 UNL 7 12  31684 AF84
  31599 TRA I 03  31609 A689
  31604 TR  1     31614 A614
  31609 HLT J      0172
  31614 SB  % 09  31665 AOW5
  31619 TRS 0 11  31624 AOB4
  31624 TRA I 02  31474 A4P4                                      -ER56
  31629 TR  1     31694 A694

  31634 WR  R     31665 A665                                      ANALYSIS SECTION
  31639 TRS 0 03  31649 A6D9
  31644 TR  1     31579 A579
  31649 WR  R     31671 A671
  31654 TRS 0 03  31579 A5G9
  31659 UNL 7 10  31684 AOQ4
  31664 TR  1     31584 A584

2 004 31668                AB9G
2 001 31669                
2 001 31670                A
2 013 31683                TC-172-TP
2 001 31684                
2 001 31685                -
2 001 31686                D
2 001 31687                

                                                                  ROUTINE #173

ES56
ES58.....31694 SET B      0004
  31699 LOD 8      0564
  31704 UNL 7     31877 A877
  31709 UNL 7     31714 A714
  31714 SEL 2
```

CHECK BIAS TGR. FOR MARGINAL ERROR CONDITION ON WRITE. THIS MAY MEAN NOISE BECOMING MARGINAL.

NEXT PAGE

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```
EV58......◆.32009 LOD 8     39200 I200 ◆
          ◆ 32014 CMP 4     32061 B061 ◆
          ◆ 32019 TRE L     32049 B049-◆-.
          ◆ 32024 CMP 4     32062 B062 ◆ I
          ◆ 32029 TRE L     32049 B049-◆-Y
          ◆ 32034 CMP 4     32060 B060 ◆ I
          ◆ 32039 TRE L     32049 B049-◆-Y
          ◆ 32044 TR  1     31964 A964-◆-I----ET58
          ◆ 32049 UNL 7 10  31878 AQP8.◆.I
          ◆ 32054 TR  1     31969 A969-◆------EU58
          ◆◆◆
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          ◆◆◆
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ROUTINE #181

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          ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FB62......◆.32934 SET B      0004        ◆
        I ◆ 32939 LOD 8      0564        ◆
        I ◆ 32944 UNL 7     33127 C127   ◆
        I ◆ 32949 UNL 7     32969 B969   ◆
        I ◆ 32954 UNL 7     33009 C009   ◆
        I ◆ 32959 RCV U     39004 I004   ◆
        I ◆ 32964 BLM $      0200        ◆
        I ◆ 32969 SEL 2                  ◆
        I ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I              I
        I ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
        I ◆ 32974 WR  R     33110 C110   ◆
        I ◆ 32979 SET B      9000        ◆
        I ◆ 32984 TRS 0 01 33059 COV9-◆--.
        I ◆ 32989 WR  R     33110 C110   ◆  I
        I ◆ 32994 SEL 2      6001        ◆  I
        I ◆ 32999 TRS 0 02 33059 CON9-◆--Y
        I ◆ 33004 SET B      7700        ◆  I
        I ◆ 33009 SEL 2                  ◆  I
        I ◆ 33014 TRS 0 02 33059 CON9-◆--Y
        I ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
        I              I                    I
        I ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
        I ◆ 33019 TRA I 06 33074 C■P4-◆--‡.
      .I.◆.33024 TRA I 01 33059 COV9-◆--YI
     .II.◆.33029 SEL 2      0500        ◆  II
    III ◆ 33034 WR  R     33115 C115   ◆  II
    III ◆ 33039 UNL 7 12 33128 CA28    ◆  II
    III ◆ 33044 TRA I 03 33054 COE4-◆-.II
    III ◆ 33049 TR  1     33059 CO59-◆-‡YI
    III ◆ 33054 HLT J      0181......◆.III
    III ◆ 33059 CHR 3 13  0000 08■0.◆..II
    II‡-◆-33064 TRA I 02 32934 B9L4    ◆   I
    II  ◆ 33069 TR  1     33139 C139-◆--.I
    II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  II
    II                                   II
    II  ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  II
    II  ◆ 33074 WR  R     33110 C110.◆..II
    II  ◆ 33079 SET B      7700        ◆  I
    I‡--◆-33084 TRS 0 02 33024 COK4    ◆  I
    II  ◆ 33089 SEL 2      6001        ◆  I
    II  ◆ 33094 TRS 0 02 33104 C1-4-◆-.I
    I‡--◆-33099 TR  1     33024 CO24   ◆ II
    I   ◆ 33104 UNL 7 10 33128 CJK8.◆.II
    ‡---◆-33109 TR  1     33029 CO29   ◆  I
        ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
                                         I
                                         I
    2 004 33113                G.◆#
    2 001 33114                ◆
    2 013 33127                TC-181-TP
    2 001 33128                ◆
    2 001 33129                -
    2 001 33130                D
    2 001 33131                ◆
```

BASIC ERROR TEST

ALT SWITCH AND T/O LOOP

ANALYSIS SECTION

ROUTINE #182

```
        ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
FC64......◆.33139 SET B      0004......◆..I
        ◆ 33144 LOD 8      0564        ◆
        ◆ 33149 UNL 7     33342 C342   ◆
        ◆ 33154 UNL 7     33169 C169   ◆
        ◆ 33159 UNL 7     33214 C214   ◆
        ◆ 33164 UNL 7     33304 C304   ◆
        ◆ 33169 SEL 2                  ◆
        ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
                     ▼
```

CHECK THAT SEL. 6001 HOLDS THE WTC TRIGGER IN A RESET CONDITION CAUSING CHAN. CHECK BY THE SAR 8 ERROR TRIGGER ON MOD II TAPES

NEXT PAGE

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```
                 33379 RCV U     38004 H004
                 33384 BLM $      0400
                 33389 SET B      0005
                 33394 LOD 8     33589 C589
                 33399 UNL 7     38004 H004
                 33404 RCV U     38004 H004
                 33409 SET B      0040
                 33414 SNO /     38009 H009
                 33419 SET B      0001
                 33424 LOD 8     33606 C606
                 33429 UNL 7     38199 H199
                 33434 WR  R     38000 H000
                 33439 TRS 0 03  33449 C4D9
                 33444 TR  1     33524 C524
                 33449 RD  Y 03  39900 I980.
                 33454 TRS 0 03  33459 C4E9
                 33459 SET B      0002.....
                 33464 LOD 8     33608 C608
                 33469 CMP 4     39901 I901
                 33474 TRE L     33484 C484
                 33479 TR  1     33524 C524
                 33484 TRA I 06  33534 CVL4
                 33489 TRA I 01  33524 C554
                 33494 SEL 2      0500
                 33499 WR  R     33590 C590
                 33504 UNL 7 12  33603 CF03
                 33509 TRA I 03  33519 C5A9
                 33514 TR  1     33524 C524
                 33519 HLT J      0184.....
                 33524 TRA I 02  33354 C3N4-FD64
                 33529 TR  1     33614 C614
                 33534 BSP 3      0004.....
                 33539 RD  Y     39000 I000
                 33544 LDA #     33544 C544
                 33549 TRS 0 03  18919 Y9A9-S06
                 33554 SET B      0200
                 33559 LOD 8     38199 H199
                 33564 CMP 4     39199 I199
                 33569 TRE L     33579 C579
                 33574 TR  1     33489 C489
                 33579 UNL 7 10  33603 C0-3.
                 33584 TR  1     33494 C494

2 005 33589                      G.*#
2 013 33602                      TC-184-TP
2 001 33603                      
2 002 33605                      -D
2 001 33606                      
2 002 33608                      8

FE66.....33614 SET B      0004.....
         33619 LOD 8      0564
         33624 UNL 7     33842 C842
         33629 UNL 7     33634 C634
         33634 SEL 2
```

BASIC ERROR TEST

ALT SWITCH AND T/O LOOP

ANALYSIS SECTION

ROUTINE #185

TEST THAT RD 02 AFTER WR 01
IS CORRECT AND NOT REDUNDANT

NEXT PAGE

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```
                 I
◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
◆ 33909 SDH 3      0038       ◆          BASIC ERROR TEST
◆ 33914 WR  R     34190 D190  ◆
◆ 33919 LDA #     33919 C919  ◆
◆ 33924 TRS 0 03  18804 Y8&4-◆-------R05
◆ 33929 RCV U     38004 H004  ◆
◆ 33934 BLM $      0400       ◆
◆ 33939 LIM , 07   0000 0■&0  ◆
◆ 33944 EIM , 06   0000 0■-0  ◆
◆ 33949 TIP , 14  33984 CIQ4-◆-.
◆ 33954 SET B     19998 Z998  ◆ I
◆ 33959 SET B     19998 Z998  ◆ I
◆ 33964 SET B     19998 Z998  ◆ I
◆ 33969 SET B     19998 Z998  ◆ I
◆ 33974 SET B     19998 Z998  ◆ I
◆ 33979 TR  1     34094 D094-◆-I.
◆ 33984 SEL 2            .....◆.II          TAPE SUBROUTINE
◆ 33989 WR  R     34485 D485  ◆  I          WR GROUP MARK
◆ 33994 LDA # 08  33994 CR94  ◆  I
◆ 33999 TRA I     19579 Z579-◆--I----W08
◆ 34004 SET B 03   0001 00&1  ◆  I
◆ 34009 LOD 8 03  33982 C9H2  ◆  I
◆ 34014 UNL 7 03  34032 DOC2  ◆  I
◆ 34019 SGN T 10  34207 DK-7  ◆  I
◆ 34024 ADM 6 10  34207 DK-7  ◆  I
◆ 34029 ADM 6 10  34032 D-L2  ◆  I
◆ 34034 LIP ,      2 &0       ◆  I
◆ 34039 SPC ,      0000       ◆  I
◆ 34044 LDA #     34044 D044  ◆  I
◆ 34049 TRS 0 03  18804 Y8&4-◆--I----R05
◆◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
             I                  I
◆◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
◆ 34054 TRA I 06  34114 D/J4-◆--I.         ALT SWITCH AND T/O LOOP
..◆.34059 TRA I 01  34094 DOZ4-◆--YI
.I.◆.34064 SEL 2     0500       ◆  II
II ◆ 34069 WR  R     34170 D170  ◆  II
II ◆ 34074 UNL 7 12  34183 DA83  ◆  II
II ◆ 34079 TRA I 03  34089 DOH9-◆-.II
II ◆ 34084 TR  1     34094 D094-◆-IYI
II ◆ 34089 HLT J      0186......◆.III
II ◆ 34094 LIM , 07   0000 0■&0.◆..II
II ◆ 34099 SPC ,      0000       ◆   I
II ◆ 34104 TRA I 02  33859 C8N9-◆---I--FF66
II ◆ 34109 TR  1     34214 D214-◆---I--FG68
II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆   I
II                                  I
II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆   I
II ◆ 34114 SEL 2            ......◆...I        ANALYSIS SECTION
II ◆ 34119 BSP 3      0004       ◆
II ◆ 34124 RD  Y     38000 H000  ◆
II ◆ 34129 LDA #     34129 D129  ◆
II ◆ 34134 TRS 0 03  18919 Y9A9-◆-------S06
II ◆ 34139 SET B      0005       ◆
II ◆ 34144 LOD 8     34495 D495  ◆
II ◆ 34149 CMP 4     38009 H009  ◆
II ◆ 34154 TRE L     34164 D164-◆-.
II-◆-34159 TR  1     34059 D059  ◆ I
I  ◆ 34164 UNL 7 10  34183 DJQ3.◆.I
I--◆-34169 TR  1     34064 D064  ◆
   ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆

2 013 34182                TC-186-TP
2 001 34183                ◆
2 002 34185                -D
2 020 34205                ◆GGGGGGGGGGGGGGGGGGG
2 001 34206                ◆
2 001 34207                A
```

g ans/g0013968.png ROUTINE #188

```
                 ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
FH68             ◆                            ◆
FH70.......◆.34509 EEM 3 14  0000 08-0 ◆        CHECK OVERLAP, CPU WITH
           ◆ 34514 SET B     0004      ◆        TAPE READ,USING TCT. THERE
           ◆ 34519 LOD 8     0564      ◆        ARE 3 DIAG. TYPE OUTS, WR 01
           ◆ 34524 UNL 7    34992 D992 ◆        FIELD AT 19000 TO 19999,
           ◆ 34529 UNL 7    34549 D549 ◆        RD FIELD AT 38000 TO 38999
           ◆ 34534 SET B     0001      ◆        TTC FIELD FROM 19000 TO 19999
           ◆ 34539 LOD 8    35047 E047 ◆        TRANSMITTED TO 39000 TO 39999
           ◆ 34544 UNL 7    19999 Z999 ◆
           ◆ 34549 SEL 2               ◆
           ◆ 34554 WR  R 01 19000 Z0■0 ◆
           ◆ 34559 LDA #    34559 D559 ◆
           ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
                        I
           ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
           ◆ 34564 TRS 0 03 18804 Y8&4-◆-------R05   BASIC ERROR TEST
           ◆ 34569 TRS 0 02 34859 D8N9-◆------FK70
           ◆ 34574 BSP 3     0004      ◆
           ◆ 34579 RCV U    38000 H000 ◆
           ◆ 34584 BLM $     0400      ◆
           ◆ 34589 SET B     0005      ◆
           ◆ 34594 LOD 8    35052 E052 ◆
           ◆ 34599 UNL 7    38004 H004 ◆
           ◆ 34604 RD  Y    38000 H000 ◆
        ..◆.34609 RCV U     38000 H000 ◆
        I  ◆ 34614 TZB . 03 34624 D6B4-◆-.
        ‡-◆-34619 TR  1     34609 D609 ◆ I
           ◆ 34624 RCV U    39009 I009.◆.I
           ◆ 34629 TCT , 08 19009 Z-09 ◆
           ◆ 34634 TR  1    34684 D684-◆--.
           ◆ 34639 SPC ,     0000      ◆  I
           ◆ 34644 SET B     0250      ◆  I
       ...◆.34649 LOD 8     19749 Z749 ◆  I
       I   ◆ 34654 CMP 4    38749 H749 ◆  I
       I   ◆ 34659 TRE L    34669 D669-◆-.I
       I   ◆ 34664 TR  1    34759 D759-◆-‡‡.
       I   ◆ 34669 LOD 8    19749 Z749.◆.III
       I   ◆ 34674 CMP 4    39749 I749 ◆  II
       I   ◆ 34679 TR  1    34734 D734-◆--‡‡.
       I   ◆ 34684 SET B     0004......◆..III
       I   ◆ 34689 LOD 8    34549 D549 ◆   II
       I   ◆ 34694 UNL 7    34699 D699 ◆   II
       I   ◆ 34699 SEL 2               ◆   II
       I..◆.34704 TRS 0 01 34714 D7/4-◆-. II
       I‡-◆-34709 TR  1     34704 D704 ◆ I II
       I   ◆ 34714 LDA #    34714 D714.◆.I II
       I   ◆ 34719 TRS 0    18919 Y919-◆---‡‡--S06
       I   ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆   II
       I                I                  II
       I                I                  II
       I   ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆   II
       I   ◆ 34724 SET B     0250      ◆   II
       ‡--◆-34729 TR  1     34649 D649 ◆   II
           ◆ 34734 TRE L    34859 D859-◆...‡‡-FK70
           ◆ 34739 SET B     0041      ◆   I
           ◆ 34744 LOD 8    35093 E093 ◆   I
           ◆ 34749 UNL 7    35036 E036 ◆   I
           ◆ 34754 TR  1    34819 D819-◆---‡--FJ70
           ◆ 34759 LOD 8    19749 Z749.◆...I
           ◆ 34764 CMP 4    39749 I749 ◆
           ◆ 34769 TRE L    34779 D779-◆-.
           ◆ 34774 TR  1    34799 D799-◆-‡.
           ◆ 34779 SET B     0041......◆.II
           ◆ 34784 LOD 8    35134 E134 ◆  I
           ◆ 34789 UNL 7    35035 E035 ◆  I
           ◆ 34794 TR  1    34819 D819-◆--‡---FJ70
           ◆ 34799 SET B     0050......◆..I
           ◆ 34804 LOD 8    35184 E184 ◆
           ◆ 34809 UNL 7    35045 E045 ◆
           ◆ 34814 TR  1    34819 D819-◆------FJ70
           ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆
```

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```
                 I
          ◆◆◆
```

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ROUTINE #191

```
FN72
FN74.....35744 SET B     0004
         35749 LOD 8     0564
         35754 UNL 7    35824 E824
         35759 UNL 7    35984 E984
         35764 UNL 7    36264 F264
         35769 RCV U    38004 H004
         35774 BLM $     0400
         35779 SET B     0005
         35784 LOD 8    35719 E719
         35789 UNL 7    38004 H004
         35794 SET B     0040
         35799 RCV U    38009 H009
         35804 SND /    38004 H004
         35809 SET B     0001
         35814 LOD 8    36275 F275
         35819 UNL 7    38199 H199
```

CHECK FOR TOO QUICK INTERRUPT ON RD. TAPE MODEL INCLUDED IN T/O.TAPE START AND STOP TIMIN ALSO CHECKED.

```
         35824 SEL 2
         35829 WR  R    35715 E715
         35834 SET B     9000
         35839 TRS 0 01 35849 E8U9-
         35844 TR  1    35879 E879-
         35849 SET B     0007.....
         35854 LOD 8    36281 F281
         35859 UNL 7    36271 F271
         35864 SET B     0004
         35869 LOD 8    36286 F286
         35874 UNL 7    36296 F296
         35879 EEM 3 14  0000 0&-0.
         35884 LIM , 07  0000 0■&0
         35889 WR  R    38000 H000
         35894 LDA #    35894 E894
         35899 TRS 0 03 18804 Y8&4-------R05
         35904 BSP 3     0004
         35909 TRS 0 03 35914 E9A4-
         35914 SET B     0001
         35919 LOD 8    35982 E982
         35924 UNL 7    35992 E992
         35929 UNL 7    36012 F012
         35934 SGN T 11 34207 DK&7
         35939 ADM 6 11 34207 DK&7
         35944 ADM 6 11 35992 ERI2
         35949 LIM , 07  0000 0■&0
         35954 EIM , 06  0000 0■-0
         35959 TIP , 14 35984 EIQ4-
         35964 RAD H    27813 P813
         35969 ADD G    27984 P984
         35974 TR  1    35969 E969
         35979 TR  1    36014 F014-
         35984 SEL 2          .....
         35989 RD  Y    39000 I000
         35994 LIP ,     2 &0
         35999 SPC ,     3700
         36004 LFC , 02 36309 F3-9
         36009 LIP , 15  0009 0&&9
         36014 SPC ,     2 10......
         36019 SET B     0004
         36024 CMP 4    36251 F251
         36029 TRE L    36164 F164-------FP74
```

0006

BASIC ERROR TEST

LOAD MOD IV COUNTER COMPARE CONSTANT

NEXT PAGE

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```
FR74......◆.36364 WR  R     36535 F535 ◆          BASIC ERROR TEST
          ◆ 36369 SET B      4000      ◆
          ◆ 36374 TRS 0 02 36444 F4M4-◆--.
          ◆ 36379 SEL 2      6002      ◆  I
          ◆ 36384 SET B      0150      ◆  I
          ◆ 36389 SET B      8000      ◆  I
          ◆ 36394 SEL 2                ◆  I
          ◆ 36399 TRS 0 03 36444 F4D4-◆--Y
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆  I
                      I                  I
          ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆  I
          ◆ 36404 TRA I 06 36454 FUN4-◆--+.      ALT SWITCH AND T/O LOOP
       ..◆.36409 TRA I 01 36444 F4U4-◆--YI
     .I.◆.36414 SEL 2      0500      ◆  II
    II ◆ 36419 WR  R     36540 F540 ◆  II
    II ◆ 36424 UNL 7 12 36553 FE53 ◆  II
    II ◆ 36429 TRA I 03 36439 F4C9-◆-.II
    II ◆ 36434 TR  1     36444 F444-◆-+YI
    II ◆ 36439 HLT J      0193......◆.III
FS74...II.◆.36444 TRA I 02 36314 F3J4-◆--++--FQ74
    II ◆ 36449 TR  1     36564 F564-◆--.I
    II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  II
    II                                  II
    II ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  II
    II ◆ 36454 WR  R     36535 F535.◆..II      ANALYSIS SECTION
    II ◆ 36459 SEL 2      6002      ◆  I
    I+-◆-36464 TRS 0 02 36409 F4-9 ◆  I
    II ◆ 36469 SET B      5100      ◆  I
    II ◆ 36474 SEL 2      0500      ◆  I
    II ◆ 36479 SEL 2                ◆  I
    II ◆ 36484 TRS 0 02 36494 F4R4-◆-.I
    I+-◆-36489 TR  1     36409 F409 ◆ II
    I  ◆ 36494 UNL 7 10 36553 FNN3.◆.II
    +--◆-36499 TR  1     36414 F414 ◆  I
       ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
                                        I
                                        I
  2 004 36503                 AGC7
  2 035 36538                 ABCDEFGHIJKLMNOPQRSTUVWXYZ@%*◆■,$.7
  2 001 36539                 ◆
  2 013 36552                 TC-193-TP
  2 001 36553                 ◆
  2 001 36554                 -
  2 001 36555                 D
  2 001 36556                 ◆

                                          ROUTINE #195

       ◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆◆  I
FT76......◆.36564 SET B      0004......◆..I      CHECK THAT SEL 6002 HOLDS
          ◆ 36569 LOD 8      0564      ◆        THE SAR 8 TRIGGER IN A RESET
          ◆ 36574 UNL 7     36767 F767 ◆        CONDITION CAUSING CHAN. CHK
          ◆ 36579 UNL 7     36594 F594 ◆        BY THE SAR 8 ERROR TGR ON-
          ◆ 36584 UNL 7     36639 F639 ◆        MOD. II TAPES
          ◆ 36589 UNL 7     36729 F729 ◆
          ◆ 36594 SEL 2                ◆
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆
                      I
          ◆◆◆◆◆◆◆◆◆◆◆◆▼◆◆◆◆◆◆◆◆◆◆◆◆◆
          ◆ 36599 WR  R     36750 F750 ◆          BASIC ERROR TEST
          ◆ 36604 SET B      9000      ◆
          ◆ 36609 TRS 0 01 36689 F6Y9-◆------FU76
          ◆ 36614 WR  R     36505 F505 ◆
          ◆ 36619 SET B      6000      ◆
          ◆ 36624 TRS 0 02 36689 F6Q9-◆------FU76
          ◆ 36629 SEL 2      6002      ◆
          ◆ 36634 SET B      8000      ◆
          ◆ 36639 SEL 2                ◆
          ◆ 36644 TRS 0 03 36689 F6H9-◆------FU76
          ◆◆◆◆◆◆◆◆◆◆◆◆I◆◆◆◆◆◆◆◆◆◆◆◆◆
                      ▼
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NEXT PAGE

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                 I
          ◆◆◆
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```
2 005 37384                GGGGG
2 005 37389                ◇
2 013 37402                TC-197-TP
2 001 37403                ◇
2 002 37405                -D
2 005 37410                ◇
3     37414    37329 G329
```

ROUTINE #198

```
        ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
FX78.....◇.37419 SET B     0004       ◇
       I ◇ 37424 LOD 8     0564       ◇
       I ◇ 37429 UNL 7    37439 G439 ◇
       I ◇ 37434 UNL 7    37647 G647 ◇
       I ◇◇◇◇◇◇◇◇◇◇◇◇I◇◇◇◇◇◇◇◇◇◇◇◇◇◇
       I              I
       I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
       I ◇ 37439 SEL 2                ◇
       I ◇ 37444 LIM , 07  0000 0■&0 ◇
       I ◇ 37449 WR  R    37625 G625 ◇
       I ◇ 37454 SET B     0001       ◇
       I ◇ 37459 LOD 8    37437 G437 ◇
       I ◇ 37464 UNL 7    37492 G492 ◇
       I ◇ 37469 UNL 7    37587 G587 ◇
       I ◇ 37474 UNL 7    37607 G607 ◇
       I ◇ 37479 SGN T 15 37650 GFE0 ◇
       I ◇ 37484 ADM 6 15 37650 GFE0 ◇
       I ◇ 37489 ADM 6 15 37607 GF&7 ◇
       I ◇ 37494 SPC ,     2 00       ◇
       I ◇ 37499 LFC , 02 37655 G6N5 ◇
       I ◇ 37504 LDA ⇑    37504 G504 ◇
       I ◇ 37509 TRS 0 03 18804 Y8&4-◆-------R05
       I ◇ 37514 LIM , 07  0000 0■&0 ◇
       I ◇ 37519 EIM , 06  0000 0■-0 ◇
       I ◇ 37524 TR  1    37569 G569-◆--.
       I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇  I
       I                                I
       I ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇  I
       I ◇ 37529 TRA I 06 37589 GVQ9-◆--I.
     .I.◇.37534 TRA I 01 37569 G5W9-◆--YI
    .II.◇.37539 SEL 2     0500       ◇  II
    III ◇ 37544 WR  R    37635 G635 ◇  II
    III ◇ 37549 UNL 7 12 37648 GF48 ◇  II
    III ◇ 37554 TRA I 03 37564 G5F4-◆-.II
    III ◇ 37559 TR  1    37569 G569-◆-IYI
    III ◇ 37564 HLT J     0198......◇.III
    III ◇ 37569 CHR 3 13  0000 0&■0.◇..II
    III ◇ 37574 SPC ,     0000       ◇   I
    II I-◆-37579 TRA I 02 37419 G4J9 ◇   I
    II  ◇ 37584 TR  1    19144 Z144 ◇   I
    II  ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   I
    II                                   I
    II  ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇   I
    II  ◇ 37589 SPC ,     2 00......◇...I
    II  ◇ 37594 LFC , 02 37659 G6N9 ◇
    II  ◇ 37599 CHR 3 13  0000 0&■0 ◇
    II  ◇ 37604 EIM , 06  0000 0■-0 ◇
    II  ◇ 37609 LIP , 15  2000 2&0 ◇
    I I--◆-37614 TR  1    37534 G534 ◇-
    I   ◇ 37619 UNL 7 10 37648 G0M8 ◇
    I---◆-37624 TR  1    37539 G539 ◇
        ◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇◇
```

CHECK THAT LIM TURNS OFF INTERRUPT CALL TRIGGERS.

BASIC ERROR TEST

ALT. SWITCH AND T/O LOOP

ANALYSIS SECTION

2 005 38004
2 005 38009
2 005 38019
2 005 38099
2 005 38254
2 005 38404
2 005 38504
2 005 38804
2 005 38999
2 005 39004
2 005 39204
2 005 39249
2 005 39499
2 005 39504
2 005 39749
2 005 39804
2 005 39809
2 005 39814
2 005 39819
2 005 39824
2 005 39839
2 005 39844
2 005 39854
2 005 39889
2 005 39894
2 005 39904
2 005 39909
2 005 39914
2 005 39939
2 005 39949
2 005 39954
2 005 39969
2 005 39989
2 005 39994
2 005 39999

IBM - POUGHKEEPSIE
Dept. B59 - Bldg. 965

Oct. 29, 1963

7080 /

DIAGNOST NGIN R RELEASE

Subject: Diagnostic Program 8TC10
7080-7621-729 Tape Error Detection Test

____ New Program; Replaces _____
____ Insert in Master File between _____ and _____
X Program Modifications

Requests for Data Systems Division Series Diagnostic writeups, listings and/or cards "including Special Features" should be directed to Product Reliability and Serviceability Engineering, Department B59, Building 965 Poughkeepsie, New York. All correspondence should include customer's name and installation number.

Comment:

DISTRIBUTION:

ENCLOSURES: _____ Pages

4 Cards Numbered 196 197, 199, 573

With 1 Pages of Corrections

| Date Released | Changes to Program | Writeup | Comments |
|---|---|---|---|
| Oct. 30, 1963 | | | Four cards changed. This modifies routine 66 of 8TC10B. |

All pages of corrections for this program with their original dates will be released with each correction.

The date of this page will correspond to the date of the last correction or release.

ans/g0013922.png

DSD- Poughkeepsie
Dept. B 59, Bldg. 965
Oct. 29, 1963

# CHANGES TO 8TC10B

## 7080-7621-729 Tape Error Detection Test

The following changes should be made to Routine # 66 of the above diagnostic program:

### A. Listings

| Location | Present | Change to |
|---|---|---|
| 12579 | LFC(02) 00564 | SET (07)0004 |
| 12584 | UNL 12594 | LOD(07)00564 |
| 12589 | UNL 12752 | UNL(07)12594 |
| 12624 | RCV 39804 | UNL(07)39804 |
| 12629 | BLM 00040 | UNL(07)12752 |
| 12644 | TRS(03) 12709 | TRS(03) 12649 |
| 12649 | LOD 12739 | TR 37664 |
| 12654 | CMP 39804 | LOD 12732 |
| 12659 | TRE 12669 | CMP 39991 |
| 12664 | TR 12709 | TRE 12709 |
| 12784 | TR 12669 | TR 12674 |
| 37664 | | RD 03 39990 |
| 37669 | | TRS 03 37674 |
| 37674 | | SET 00002 |
| 37679 | | TR 12654 |

### B. Card Deck

Replace cards # 196, 197, 199 & 573 by cards # 196, 197, 199 & 573 enclosed

U47R
4479

s/g0014010.png

1V00M TR 55004

CU37 Channel Inst

g ns/g0014011.png

June 7, 1963

**ERRATA Sheet and Addenda for**
**7080 Diagnostic 8TG10B**

**The following changes and additions should be made to the above program to incorporate:**

**Routine #299 - Disconnected or Non-Operational Erasehead check.**

**Changes to:**

A. [illegible]

[illegible]

B. [illegible]

gscans/g0014015.png

gscans/g0014016.png

gscans/g0014017.png

gscans/g0014018.png

gscans/g0014019.png

ocrsans/00013875.pnc

| INDEX | TAG | OP | NU | AT | OPERAND | PROGRAM 8TC10B 04-25-62 | COMMENTS | LOC | OP | SU | ADDRESS | | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AA 01 | | TITLE | | | | ROUTINE #240 | # | | | | | | 00030 | | |
| AA 02 | | LASN | | | @40000 | | | 040000 | | | | | 00040 | | |
| AA 03 | 20220 | SET | | | @00004 | BACKSPACE OPERATION IS | | 040004 | B | | 000004 | 0004 | 00050 | 002 | |
| AA 04 | | LOD | | | @00564 | MALFUNCTIONING-MOD II TAPES | | 040009 | 8 | | 000564 | 0564 | 00060 | | |
| AA 05 | | UNL | | | 20792 | | | 040014 | 7 | | 040332 | 033K | 00070 | | AB20 |
| AA 06 | | UNL | | | 20355 | | | 040019 | 7 | | 040069 | 006R | 00080 | | AA16 |
| AA 07 | | SET | | | @00005 | | | 040024 | B | | 000005 | 0005 | 00090 | | |
| AA 08 | | LOD | | | 20790 | | | 040029 | 8 | | 040314 | 031M | 00100 | | AB18 |
| AA 09 | | UNL | | | @38004 | | | 040034 | 7 | | 038004 | H004 | 00110 | | |
| AA 10 | | SET | | | @00200 | | | 040039 | B | | 000200 | 0200 | 00120 | | |
| AA 11 | | RCV | | | @38009 | | | 040044 | U | | 038009 | H009 | 00130 | | |
| AA 12 | | SND | | | @38004 | | | 040049 | / | | 038004 | H004 | 00140 | | |
| AA 13 | | SET | | | @00001 | | | 040054 | B | | 000001 | 0001 | 00150 | | |
| AA 14 | | LOD | | | 20793 | | | 040059 | 8 | | 040333 | 033L | 00160 | | AB21 |
| AA 15 | | UNL | | | @39000 | | | 040064 | 7 | | 039000 | I000 | 00170 | 003 | |
| AA 16 | 20355 | SEL | | | @00000 | IS TAPE MOD II | | 040069 | 2 | | 000000 | 0000 | 00180 | | |
| AA 17 | | RCV | | | @39009 | | | 040074 | U | | 039009 | I009 | 00190 | | |
| AA 18 | | BLM | | | @00199 | | | 040079 | $ | | 000199 | 0199 | 00200 | | |
| AA 19 | | WR | | | 20792 | | | 040084 | R | | 040320 | 032- | 00210 | | AB20 |
| AA 20 | | SET | | | @09000 | | | 040089 | B | | 009000 | 9000 | 00220 | | |
| AA 21 | | TRR | | | 20580 | NOT MOD II | | 040094 | O | 1 | 040224 | 02SM | 00230 | | AA47 |
| AA 22 | | WR | | | @38000 | IS MOD II-BASIC ERROR TEST | # | 040099 | R | | 038000 | H000 | 00240 | | |
| AA 23 | | BSP | | | @00004 | | | 040104 | 3 | | 000004 | 0004 | 00250 | | |
| AA 24 | | WR | | | 20790 | 5 CHAR. RECORD | | 040109 | R | | 040310 | 031- | 00260 | | AB18 |
| AA 25 | 00270 | LDA | | | 00270 | | | 040114 | # | | 040114 | 011M | 00270 | | AA25 |
| AA 26 | | TSA | | | @18804 | | | 040119 | O | 3 | 018804 | Y864 | 00280 | | |
| AA 27 | | TTC | | | 20580 | | | 040124 | O | 2 | 040224 | 02KM | 00290 | 004 | AA47 |
| AA 28 | | BSP | 00 | | @00004 | | | 040129 | 3 | | 000004 | 0004 | 00300 | | |
| AA 29 | | RD | 00 | | @39500 | | | 040134 | Y | | 039500 | I500 | 00310 | | |
| AA 30 | | WR | 00 | | 20792 | 13 CHAR. RECORD-BASIC ERROR TEST | | 040139 | R | | 040320 | 032- | 00320 | | AB20 |
| AA 31 | 20441 | LDA | 00 | | 20441 | | | 040144 | # | | 040144 | 014M | 00330 | | AA31 |
| AA 32 | | TSA | | | @18804 | | | 040149 | O | 3 | 018804 | Y864 | 00340 | | |
| AA 33 | | TTC | | | 20580 | | | 040154 | O | 2 | 040224 | 02KM | 00350 | | AA47 |
| AA 34 | | BSP | 00 | | @00004 | | | 040159 | 3 | | 000004 | 0004 | 00360 | | |
| AA 35 | | BSP | 00 | | @00004 | | | 040164 | 3 | | 000004 | 0004 | 00370 | | |
| AA 36 | | SET | 00 | | @19900 | DELAY TO CHECK BSP OPERATION | | 040169 | B | | 019900 | Z900 | 00380 | | |
| AA 37 | | TRR | | | 20500 | | | 040174 | O | 1 | 040184 | 01YM | 00390 | | AA39 |
| AA 38 | | TR | 00 | | 20580 | | | 040179 | 1 | | 040224 | 022M | 00400 | | AA47 |
| AA 39 | 20500 | TAF | | | 20610 | ALT. SWITCH AND T/O LOOP | # | 040184 | I | 6 | 040239 | 0SLR | 00410 | 005 | AB01 |
| AA 40 | 20510 | TAA | | | 20580 | | | 040189 | I | 1 | 040224 | 02SM | 00420 | | AA47 |
| AA 41 | 20520 | SEL | 00 | | @00500 | | | 040194 | 2 | | 000500 | 0500 | 00430 | | |
| AA 42 | | WR | 00 | | 20792 | | | 040199 | R | | 040320 | 032- | 00440 | | AB20 |
| AA 43 | | UNL | 12 | | 20793 | | | 040204 | 7 | 12 | 040333 | 0C3L | 00450 | | AB21 |
| AA 44 | | TAC | | | 20570 | | | 040209 | I | 3 | 040219 | 02AR | 00460 | | AA46 |
| AA 45 | | TR | 00 | | 20580 | | | 040214 | 1 | | 040224 | 022M | 00470 | | AA47 |
| AA 46 | 20570 | HLT | 00 | | @00240 | | | 040219 | J | | 000240 | 0240 | 00480 | | |
| AA 47 | 20580 | TMC | | | 20590 | | | 040224 | O | 11 | 040229 | 0KBR | 00490 | | AA48 |
| AA 48 | 20590 | TAB | | | 20220 | | | 040229 | I | 2 | 040004 | 00-M | 00500 | | AA03 |
| AA 49 | | TR | 00 | | 21220 | | | 040234 | 1 | | 040344 | 034M | 00510 | | AB27 |

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| INDEX | TAG | OP | NU | AT | OPERAND | PROGRAM 8TC10B 04-25-62 | COMMENTS | LOC | OP | SU | ADDRESS | | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AC 01 | 21431 | LDA | 00 | | 21431 | | | 040454 | # | | 040454 | 045M | 01010 | | AC01 |
| AC 02 | | TSA | | | @18804 | | | 040459 | O | 3 | 018804 | Y8&4 | 01020 | | |
| AC 03 | | TTC | | | 21580 | | | 040464 | O | 2 | 040564 | 050M | 01030 | 010 | AC23 |
| AC 04 | | BSP | 00 | | @00004 | | | 040469 | 3 | | 000004 | 0004 | 01040 | | |
| AC 05 | | RD | 00 | | @39500 | | | 040474 | Y | | 039500 | I500 | 01050 | | |
| AC 06 | | WR | 00 | | 21792 | 13 CHAR. RECORD | | 040479 | R | | 040670 | 067- | 01060 | | AD01 |
| AC 07 | 21441 | LDA | 00 | | 21441 | | | 040484 | # | | 040484 | 048M | 01070 | | AC07 |
| AC 08 | | TSA | | | @18804 | | | 040489 | O | 3 | 018804 | Y8&4 | 01080 | | |
| AC 09 | | TTC | | | 21580 | | | 040494 | O | 2 | 040564 | 050M | 01090 | | AC23 |
| AC 10 | | BSP | 00 | | @00004 | | | 040499 | 3 | | 000004 | 0004 | 01100 | | |
| AC 11 | | BSP | 00 | | @00004 | | | 040504 | 3 | | 000004 | 0004 | 01110 | | |
| AC 12 | | SET | 00 | | @19900 | DELAY TO CHECK BSP OPERATION | | 040509 | B | | 019900 | Z900 | 01120 | | |
| AC 13 | | TRR | | | 21500 | | | 040514 | O | 1 | 040524 | 05SM | 01130 | | AC15 |
| AC 14 | | TR | 00 | | 21580 | | | 040519 | 1 | | 040564 | 056M | 01140 | | AC23 |
| AC 15 | 21500 | TAF | | | 21610 | ALT. SWITCH AND T/O LOOP | # | 040524 | I | 6 | 040579 | 0VPR | 01150 | 011 | AC26 |
| AC 16 | 21510 | TAA | | | 21580 | | | 040529 | I | 1 | 040564 | 05WM | 01160 | | AC23 |
| AC 17 | 21520 | SEL | 00 | | @00500 | | | 040534 | 2 | | 000500 | 0500 | 01170 | | |
| AC 18 | | WR | 00 | | 21792 | | | 040539 | R | | 040670 | 067- | 01180 | | AD01 |
| AC 19 | | UNL | 12 | | 21793 | | | 040544 | 7 | 12 | 040683 | 0F8L | 01190 | | AD02 |
| AC 20 | | TAC | | | 21570 | | | 040549 | I | 3 | 040559 | 05ER | 01200 | | AC22 |
| AC 21 | | TR | 00 | | 21580 | | | 040554 | 1 | | 040564 | 056M | 01210 | | AC23 |
| AC 22 | 21570 | HLT | 00 | | @00242 | | | 040559 | J | | 000242 | 0242 | 01220 | | |
| AC 23 | 21580 | TMC | | | 21590 | | | 040564 | O | 11 | 040569 | 0NFR | 01230 | | AC24 |
| AC 24 | 21590 | TAB | | | 21220 | | | 040569 | I | 2 | 040344 | 03MM | 01240 | | AB27 |
| AC 25 | | TR | 00 | | 22220 | | | 040574 | 1 | | 040694 | 069M | 01250 | | AD08 |
| AC 26 | 21610 | RD | 00 | | @39000 | ANALYSIS SECTION | # | 040579 | Y | | 039000 | I000 | 01260 | | |
| AC 27 | 21611 | LDA | 00 | | 21611 | | | 040584 | # | | 040584 | 058M | 01270 | 012 | AC27 |
| AC 28 | | TSA | | | @18919 | | | 040589 | O | 3 | 018919 | Y9A9 | 01280 | | |
| AC 29 | | TTC | | | 21510 | | | 040594 | O | 2 | 040529 | 05KR | 01290 | | AC16 |
| AC 30 | | RD | 00 | | @39200 | | | 040599 | Y | | 039200 | I200 | 01300 | | |
| AC 31 | | TSA | | | 21640 | | | 040604 | O | 3 | 040609 | 06&R | 01310 | | AC32 |
| AC 32 | 21640 | SET | 00 | | @00005 | | | 040609 | B | | 000005 | 0005 | 01320 | | |
| AC 33 | | LOD | 00 | | 21790 | | | 040614 | 8 | | 040664 | 066M | 01330 | | AC45 |
| AC 34 | | CMP | 00 | | @39004 | | | 040619 | 4 | | 039004 | I004 | 01340 | | |
| AC 35 | | TRE | 00 | | 21690 | | | 040624 | L | | 040634 | 063M | 01350 | | AC37 |
| AC 36 | | TR | 00 | | 21510 | | | 040629 | 1 | | 040529 | 052R | 01360 | | AC16 |
| AC 37 | 21690 | SET | 00 | | @00013 | | | 040634 | B | | 000013 | 0013 | 01370 | | |
| AC 38 | | LOD | 00 | | 21792 | | | 040639 | 8 | | 040682 | 068K | 01380 | | AD01 |
| AC 39 | | CMP | 00 | | @39212 | | | 040644 | 4 | | 039212 | I212 | 01390 | 013 | |
| AC 40 | | TRE | 00 | | 21510 | | | 040649 | L | | 040529 | 052R | 01400 | | AC16 |
| AC 41 | | UNL | 10 | | 21793 | | | 040654 | 7 | 10 | 040683 | 00QL | 01410 | | AD02 |
| AC 42 | | TR | 00 | | 21520 | | | 040659 | 1 | | 040534 | 053M | 01420 | | AC17 |
| AC 43 | | TITLE | | | | CONSTANTS | | | | | | | 01421 | | |
| AC 44 | | NAME | 00 | | | | | 040660 | | | | | 01430 | | |
| AC 45 | 21790 | CON | 05 | | 22222 | | | 040664 | | | | | 01440 | | |
| AC 46 | | | 0 | 05 | ¤ | | | 040669 | | | | | 01450 | | |

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PROGRAM 8TC10B 04-25-62

| INDEX | TAG | OP | NU | AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | | PGLIN | SER REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AE 01 | 22570 | HLT | 00 | | @00244 | | 040909 | J | | 000244 | 0244 | 01980 | |
| AE 02 | 22580 | TIC | | | 22590 | | 040914 | O | 10 | 040919 | 0RJR | 01990 | AE03 |
| AE 03 | 22590 | TAB | | | 22220 | | 040919 | I | 2 | 040694 | 06RM | 02000 | AD08 |
| AE 04 | | TR | 00 | | 23220 | | 040924 | 1 | | 041049 | 104R | 02010 | AE34 |
| AE 05 | 22610 | RD | 00 | | @39000 | ANALYSIS SECTION # | 040929 | Y | | 039000 | I000 | 02020 | |
| AE 06 | 22611 | LDA | 00 | | 22611 | | 040934 | # | | 040934 | 093M | 02030 | 018AE06 |
| AE 07 | | TSA | | | @18919 | | 040939 | O | 3 | 018919 | Y9A9 | 02040 | |
| AE 08 | | TTC | | | 22510 | | 040944 | O | 2 | 040879 | 08PR | 02050 | AD45 |
| AE 09 | | RD | 00 | | @39200 | | 040949 | Y | | 039200 | I200 | 02060 | |
| AE 10 | | TSA | | | 22640 | | 040954 | O | 3 | 040959 | 09ER | 02070 | AE11 |
| AE 11 | 22640 | SET | 00 | | @00005 | | 040959 | B | | 000005 | 0005 | 02080 | |
| AE 12 | | LOD | 00 | | 22790 | | 040964 | 8 | | 041019 | 101R | 02090 | AE25 |
| AE 13 | | CMP | 00 | | @39004 | | 040969 | 4 | | 039004 | I004 | 02100 | |
| AE 14 | | TRE | 00 | | 22690 | | 040974 | L | | 040984 | 098M | 02110 | AE16 |
| AE 15 | | TR | 00 | | 22510 | | 040979 | 1 | | 040879 | 087R | 02120 | AD45 |
| AE 16 | 22690 | SET | 00 | | @00013 | | 040984 | B | | 000013 | 0013 | 02130 | |
| AE 17 | | LOD | 00 | | 22792 | | 040989 | 8 | | 041037 | 103P | 02140 | AE27 |
| AE 18 | | CMP | 00 | | @39212 | | 040994 | 4 | | 039212 | I212 | 02150 | 019 |
| AE 19 | | TRE | 00 | | 22706 | | 040999 | L | | 041009 | 100R | 02160 | AE21 |
| AE 20 | | TR | 00 | | 22510 | | 041004 | 1 | | 040879 | 087R | 02170 | AD45 |
| AE 21 | 22706 | UNL | 10 | | 22793 | | 041009 | 7 | 10 | 041038 | 1-LQ | 02180 | AE28 |
| AE 22 | | TR | 00 | | 22520 | | 041014 | 1 | | 040884 | 088M | 02190 | AD46 |
| **AE 23** | | **TITLE** | | | | **CONSTANTS** | | | | | | **02191** | |
| AE 24 | | NAME | 00 | | | | 041015 | | | | | 02200 | |
| AE 25 | 22790 | CON | 05 | | 22222 | | 041019 | | | | | 02210 | |
| AE 26 | | 0 | 05 | | ¤ | | 041024 | | | | | 02220 | |
| AE 27 | 22792 | 0 | 13 | | TC-244-TP | | 041037 | | | | | 02230 | |
| AE 28 | 22793 | 0 | 01 | | ¤ | | 041038 | | | | | 02240 | |
| AE 29 | | | 01 | | - | | 041039 | | | | | 02260 | |
| AE 30 | | | 1 | | D | | 041040 | | | | | 02270 | |
| AE 31 | | 0 | 01 | | ¤ | | 041041 | | | | | 02290 | |
| **AE 32** | | **TITLE** | | | **ROUTINE #246** | # | | | | | | **02300** | |
| **AE 33** | | **TITLE** | | | | | | | | | | **02310** | |
| AE 34 | 23220 | SET | 00 | | @00004 | BACKSPACE OPERATION IS | 041049 | B | | 000004 | 0004 | 02320 | 020 |
| AE 35 | | LOD | | | @00564 | MALFUNCTIONING-MOD IV TAPES | 041054 | 8 | | 000564 | 0564 | 02330 | |
| AE 36 | | UNL | 00 | | 23792 | | 041059 | 7 | | 041382 | 138K | 02340 | AG08 |
| AE 37 | | UNL | 00 | | 23355 | | 041064 | 7 | | 041114 | 111M | 02350 | AF02 |
| AE 38 | | SET | 00 | | @00005 | | 041069 | B | | 000005 | 0005 | 02360 | |
| AE 39 | | LOD | 00 | | 23790 | | 041074 | 8 | | 041364 | 136M | 02370 | AG06 |
| AE 40 | | UNL | 00 | | @38004 | | 041079 | 7 | | 038004 | H004 | 02380 | |
| AE 41 | | SET | 00 | | @00200 | | 041084 | B | | 000200 | 0200 | 02390 | |
| AE 42 | | RCV | 00 | | @38009 | | 041089 | U | | 038009 | H009 | 02400 | |
| AE 43 | | SND | 00 | | @38004 | | 041094 | / | | 038004 | H004 | 02410 | |
| AE 44 | | SET | 00 | | @00001 | | 041099 | B | | 000001 | 0001 | 02420 | |
| AE 45 | | LOD | 00 | | 23793 | | 041104 | 8 | | 041383 | 138L | 02430 | AG09 |

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```
INDEX    TAG     OP    NU AT   OPERAND    PROGRAM 8TC10B 04-25-62   COMMENTS      LOC  OP SU   ADDRESS   PGLIN SER REF

AG 01            TR    00      23510                                             041349 1     041239 123R 02920 025AF27

AG 02 23730      UNL   10      23793                                             041354 7 10  041383 1LQL 02930    AG09
AG 03            TR    00      23520                                             041359 1     041244 124M 02940    AF28

AG 04            TITLE                      CONSTANTS                                                    02941

AG 05            NAME  00                                                        041360                     02950
AG 06 23790      CON   05      22222                                             041364                     02960
AG 07               0  05      ¤                                                 041369                     02970
AG 08 23792         0  13      TC-246-TP                                         041382                     02980
AG 09 23793         0  01      ¤                                                 041383                     02990
AG 10                  01      -                                                 041384                     03010
AG 11                   1      D                                                 041385                     03020
AG 12               0  01      ¤                                                 041386                     03040

AG 13            TITLE         ROUTINE #248                                  #                              03050

AG 14            TITLE                                                                                      03060
AG 15 24220      SET   00      @00004     CHECK FOR ERRONEOUS BITS               041394 B     000004 0004 03070 026
AG 16            LOD           @00564     LEFT IN TAPE GAP AS A                  041399 8     000564 0564 03080
AG 17            UNL   00      24792      POSSIBLE RESULT OF FAILURE TO          041404 7     041737 173P 03090    AH37
AG 18            UNL   00      24355      WR FORWARD ON A BACKSPACE              041409 7     041459 145R 03100    AG28
AG 19            SET   00      @00005     OPERATION ON MOD IV TAPES              041414 B     000005 0005 03110
AG 20            LOD   00      24790                                             041419 8     041719 171R 03120    AH35
AG 21            UNL   00      @38004                                            041424 7     038004 H004 03130
AG 22            SET   00      @00200                                            041429 B     000200 0200 03140
AG 23            RCV   00      @38009                                            041434 U     038009 H009 03150
AG 24            SND   00      @38004                                            041439 /     038004 H004 03160
AG 25            SET   00      @00001                                            041444 B     000001 0001 03170
AG 26            LOD   00      24793                                             041449 8     041738 173Q 03180    AH38
AG 27            UNL   00      @39000                                            041454 7     039000 I000 03190 027
AG 28 24355      SEL   00      @00000     IS TAPE MOD IV                         041459 2     000000 0000 03200
AG 29            RCV   00      @39009                                            041464 U     039009 I009 03210
AG 30            BLM   00      @00199                                            041469 $     000199 0199 03220
AG 31            WR    00      24790                                             041474 R     041715 171N 03230    AH35
AG 32            SET   00      @09000                                            041479 B     009000 9000 03240
AG 33            TRR           24410      NOT MOD IV                             041484 O  1  041494 14ZM 03250    AG35
AG 34            TR    00      24580                                             041489 1     041619 161R 03260    AH13

AG 35 24410      WR    00      @38000     IS MOD IV-BASIC ERROR TEST         #  041494 R     038000 H000 03270
AG 36            BSP   00      @00004                                            041499 3     000004 0004 03280
AG 37            WR    00      24790      5 CHAR. RECORD                         041504 R     041715 171N 03290    AH35
AG 38 24431      LDA   00      24431                                             041509 #     041509 150R 03300    AG38
AG 39            TSA           @18804                                            041514 O  3  018804 Y864 03310 028
AG 40            TTC           24580                                             041519 O  2  041619 16JR 03320    AH13
AG 41            BSP   00      @00004                                            041524 3     000004 0004 03330
AG 42            RD    00      @39500                                            041529 Y     039500 I500 03340
AG 43            WR    00      24792      13 CHAR. RECORD                        041534 R     041725 172N 03350    AH37
AG 44 24441      LDA   00      24441                                             041539 #     041539 153R 03360    AG44
AG 45            TSA           @18804                                            041544 O  3  018804 Y864 03370
AG 46            TTC           24580                                             041549 O  2  041619 16JR 03380    AH13
AG 47            BSP   00      @00004                                            041554 3     000004 0004 03390
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AI 01 | | LOD | | | @00564 | OPERATION YET ERRONEOUS | | 041754 | 8 | | 000564 0564 | 03850 | |
| AI 02 | | UNL | 00 | | 25792 | INFORMATION IS NOT LEFT IN | | 041759 | 7 | | 042087 208P | 03860 | AJ20 |
| AI 03 | | UNL | 00 | | 25355 | TAPE GAP, USING MOD IV TAPES. | | 041764 | 7 | | 041814 181M | 03870 | AI13 |
| AI 04 | | SET | 00 | | @00005 | | | 041769 | B | | 000005 0005 | 03880 | |
| AI 05 | | LOD | 00 | | 24790 | | | 041774 | 8 | | 041719 171R | 03890 | AH35 |
| AI 06 | | UNL | 00 | | @38004 | | | 041779 | 7 | | 038004 H004 | 03900 | |
| AI 07 | | SET | 00 | | @00200 | | | 041784 | B | | 000200 0200 | 03910 | |
| AI 08 | | RCV | 00 | | @38009 | | | 041789 | U | | 038009 H009 | 03920 | |
| AI 09 | | SND | 00 | | @38004 | | | 041794 | / | | 038004 H004 | 03930 | |
| AI 10 | | SET | 00 | | @00001 | | | 041799 | B | | 000001 0001 | 03940 | |
| AI 11 | | LOD | 00 | | 25793 | | | 041804 | 8 | | 042088 208Q | 03950 | AJ21 |
| AI 12 | | UNL | 00 | | @39000 | | | 041809 | 7 | | 039000 I000 | 03960 | 033 |
| AI 13 | 25355 | SEL | 00 | | @00000 | IS TAPE MOD IV | | 041814 | 2 | | 000000 0000 | 03970 | |
| AI 14 | | RCV | 00 | | @39009 | | | 041819 | U | | 039009 I009 | 03980 | |
| AI 15 | | RLM | 00 | | @00199 | | | 041824 | $ | | 000199 0199 | 03990 | |
| AI 16 | | WR | 00 | | 24790 | | | 041829 | R | | 041715 171N | 04000 | AH35 |
| AI 17 | | SET | 00 | | @09000 | | | 041834 | B | | 009000 9000 | 04010 | |
| AI 18 | | TRR | | | 25410 | NOT MOD IV | | 041839 | O | 1 | 041849 18UR | 04020 | AI20 |
| AI 19 | | TR | 00 | | 25580 | | | 041844 | 1 | | 041974 197M | 04030 | AI45 |
| AI 20 | 25410 | WR | 00 | | @38000 | IS MOD IV-BASIC ERROR TEST | # | 041849 | R | | 038000 H000 | 04040 | |
| AI 21 | | BSP | 00 | | @00004 | | | 041854 | 3 | | 000004 0004 | 04050 | |
| AI 22 | | WR | 00 | | 24790 | 5 CHAR. RECORD | | 041859 | R | | 041715 171N | 04060 | AH35 |
| AI 23 | 25431 | LDA | 00 | | 25431 | | | 041864 | # | | 041864 186M | 04070 | AI23 |
| AI 24 | | TSA | | | @18804 | | | 041869 | O | 3 | 018804 Y864 | 04080 | 034 |
| AI 25 | | TTC | | | 25580 | | | 041874 | O | 2 | 041974 19PM | 04090 | AI45 |
| AI 26 | | BSP | 00 | | @00004 | | | 041879 | 3 | | 000004 0004 | 04100 | |
| AI 27 | | RD | 00 | | @39500 | . | | 041884 | Y | | 039500 I500 | 04110 | |
| AI 28 | | WR | 00 | | 25792 | 13 CHAR. RECORD | | 041889 | R | | 042075 207N | 04120 | AJ20 |
| AI 29 | 25441 | LDA | 00 | | 25441 | | | 041894 | # | | 041894 189M | 04130 | AI29 |
| AI 30 | | TSA | | | @18804 | | | 041899 | O | 3 | 018804 Y864 | 04140 | |
| AI 31 | | TTC | | | 25580 | | | 041904 | O | 2 | 041974 19PM | 04150 | AI45 |
| AI 32 | | BSP | 00 | | @00004 | | | 041909 | 3 | | 000004 0004 | 04160 | |
| AI 33 | | BSP | 00 | | @00004 | | | 041914 | 3 | | 000004 0004 | 04170 | |
| AI 34 | | SET | 00 | | @13500 | DELAY TO CHECK BSP OPERATION | | 041919 | B | | 013500 T500 | 04180 | |
| AI 35 | | TRR | | | 25500 | | | 041924 | O | 1 | 041934 19TM | 04190 | AI37 |
| AI 36 | | TR | 00 | | 25580 | | | 041929 | 1 | | 041974 197M | 04200 | 035AI45 |
| AI 37 | 25500 | TAF | | | 25610 | ALT. SWITCH AND T/O LOOP | # | 041934 | I | 6 | 041989 1ZQR | 04210 | AI48 |
| AI 38 | 25510 | TAA | | | 25580 | | | 041939 | I | 1 | 041974 19XM | 04220 | AI45 |
| AI 39 | 25520 | SEL | 00 | | @00500 | | | 041944 | 2 | | 000500 0500 | 04230 | |
| AI 40 | | WR | 00 | | 25792 | | | 041949 | R | | 042075 207N | 04240 | AJ20 |
| AI 41 | | UNL | 12 | | 25793 | | | 041954 | 7 | 12 | 042088 2&8Q | 04250 | AJ21 |
| AI 42 | | TAC | | | 25570 | | | 041959 | I | 3 | 041969 19FR | 04260 | AI44 |
| AI 43 | | TR | 00 | | 25580 | | | 041964 | 1 | | 041974 197M | 04270 | AI45 |
| AI 44 | 25570 | HLT | 00 | | @00250 | | | 041969 | J | | 000250 0250 | 04280 | |
| AI 45 | 25580 | TMC | | | 25590 | | | 041974 | O | 11 | 041979 1RGR | 04290 | AI46 |
| AI 46 | 25590 | TAB | | | 25220 | | | 041979 | I | 2 | 041749 17MR | 04300 | AH44 |
| AI 47 | | TR | 00 | | 11030 | | | 041984 | 1 | | 042794 279M | 04310 | AM20 |
| AI 48 | 25610 | RD | 00 | | @39000 | ANALYSIS SECTION | # | 041989 | Y | | 039000 I000 | 04320 | 036 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AK 01 | 05190 | TRS | | | 05201 | TI SHOULD BE ON | | 042294 | O | | 042304 | 230M | 05190 | AK03 |
| AK 02 | | TR | | | 06100 | | | 042299 | 1 | | 042379 | 237R | 05200 | AK18 |
| AK 03 | 05201 | IOF | | | @00000 | | | 042304 | 3 | | 000000 | 0000 | 05201 | |
| AK 04 | | RD | | | @39000 | | | 042309 | Y | | 039000 | I000 | 05210 | |
| AK 05 | | TSA | | | 05230 | | | 042314 | O | 3 | 042319 | 23AR | 05220 | AK06 |
| AK 06 | 05230 | SET | | | @00005 | | | 042319 | B | | 000005 | 0005 | 05230 | |
| AK 07 | | LOD | | | @39004 | | | 042324 | 8 | | 039004 | I004 | 05240 | 040 |
| AK 08 | | CMP | | | 13190 | | | 042329 | 4 | | 043094 | 309M | 05250 | AN34 |
| AK 09 | | TRE | | | 06100 | | | 042334 | L | | 042379 | 237R | 06010 | AK18 |
| AK 10 | | TAF | | | 06130 | ALT. SWITCH AND T/O LOOP | # | 042339 | I | 6 | 042399 | 2TRR | 06020 | AK22 |
| AK 11 | 06030 | TAA | | | 06100 | | | 042344 | I | 1 | 042379 | 23XR | 06030 | AK18 |
| AK 12 | 06040 | SEL | | | @00500 | | | 042349 | 2 | | 000500 | 0500 | 06040 | |
| AK 13 | | WR | | | 07230 | | | 042354 | R | | 042475 | 247N | 06050 | AK40 |
| AK 14 | | UNL | 12 | | 07240 | | | 042359 | 7 | 12 | 042488 | 2D8Q | 06060 | AK41 |
| AK 15 | | TAC | | | 06090 | | | 042364 | I | 3 | 042374 | 23GM | 06070 | AK17 |
| AK 16 | | TR | | | 06100 | | | 042369 | 1 | | 042379 | 237R | 06080 | AK18 |
| AK 17 | 06090 | HLT | | | @00252 | | | 042374 | J | | 000252 | 0252 | 06090 | |
| AK 18 | 06100 | LIM | 07 | | @00000 | | | 042379 | , | 7 | 000000 | 0#60 | 06100 | |
| AK 19 | | CHR | 13 | | @00000 | | | 042384 | 3 | 13 | 000000 | 06#0 | 06101 | 041 |
| AK 20 | | TAB | | | 05013 | | | 042389 | I | 2 | 042204 | 22-M | 06110 | AJ28 |
| AK 21 | | TR | | | 08030 | | | 042394 | 1 | | 042504 | 250M | 06120 | AL03 |
| AK 22 | 06130 | DMP | | | @00000 | ANALYTICAL SECTION | # | 042399 | R | 1 | 000000 | 00#0 | 06130 | |
| AK 23 | | TSA | | | 06030 | | | 042404 | O | 3 | 042344 | 23DM | 06150 | AK11 |
| AK 24 | | WR | | | 07230 | | | 042409 | R | | 042475 | 247N | 06160 | AK40 |
| AK 25 | | TSA | | | 06030 | | | 042414 | O | 3 | 042344 | 23DM | 06180 | AK11 |
| AK 26 | | WR | | | 07230 | | | 042419 | R | | 042475 | 247N | 06190 | AK40 |
| AK 27 | | TSA | | | 06030 | | | 042424 | O | 3 | 042344 | 23DM | 06210 | AK11 |
| AK 28 | | BSP | | | @00004 | | | 042429 | 3 | | 000004 | 0004 | 06220 | |
| AK 29 | | RD | | | @09100 | | | 042434 | Y | | 009100 | 9100 | 06230 | |
| AK 30 | | TSA | | | 06030 | | | 042439 | O | 3 | ~~042344~~ | ~~23DM~~ | ~~06240~~ | ~~AK11~~ |
| AK 31 | | SET | | | @00005 | | | 042444 | B | | 000005 | 0005 | 06250 | 042 |
| AK 32 | | LOD | | | 13190 | | | 042449 | 8 | | 043094 | 309M | 07010 | AN34 |
| AK 33 | | CMP | | | @3900J | | | 042454 | 4 | | 003900 | 3900 | 07020 | |
| AK 34 | | TRE | | | 07050 | | | 042459 | L | | 042469 | 246R | 07030 | AK36 |
| AK 35 | | TR | | | 06030 | | | 042464 | 1 | | 042344 | 234M | 07040 | AK11 |
| AK 36 | 07050 | UNL | 10 | | 07240 | | | 042469 | 7 | 10 | 042488 | 2MQQ | 07050 | AK41 |
| AK 37 | | TR | | | 06040 | | | 042474 | 1 | | 042349 | 234R | 07060 | AK12 |
| AK 38 | | TITLE | | | | CONSTANTS | # | | | | | | 07180 | |
| AK 39 | | NAME | 00 | | | | | 042475 | | | | | 07200 | |
| AK 40 | 07230 | CON | 13 | | TC-252-TP | | | 042487 | | | | | 07230 | |
| AK 41 | 07240 | | 01 | | ¤ | | | 042488 | | | | | 07240 | |
| AK 42 | | | 01 | | - | | | 042489 | | | | | 07250 | |
| AK 43 | | | 01 | | D | | | 042490 | | | | | 07251 | |
| AK 44 | | | 01 | | ¤ | | | 042491 | | | | | 07252 | |
| AK 45 | | TITLE | | | | ROUTINE #254 | # | | | | | | 08010 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AM 01 | | LIM | 07 | | @00000 | | 042729 | • | 7 | 000000 | 0#60 | 09111 | | |
| AM 02 | | TIP | 14 | | 09150 | | 042734 | • | 14 | 042749 | 2GMR | 09120 | | AM05 |
| AM 03 | | SET | | | @19998 | | 042739 | B | | 019998 | Z998 | 09130 | | |
| AM 04 | | TR | | | 08250 | | 042744 | 1 | | 042659 | 265R | 09140 | 047 | AL34 |
| AM 05 | 09150 | SEL | | | @ | | 042749 | 2 | | 000000 | 0000 | 09150 | | |
| AM 06 | | WR | | | 10200 | | 042754 | R | | 042770 | 277- | 09160 | | AM12 |
| AM 07 | 09170 | LIP | 15 | | @02000 | | 042759 | • | 15 | 002000 | 2&60 | 09170 | | |
| AM 08 | | UNL | 10 | | 10220 | | 042764 | 7 | 10 | 042784 | 2PQM | 09180 | | AM14 |
| AM 09 | | TR | | | 09010 | | 042769 | 1 | | 042664 | 266M | 09190 | | AL35 |
| **AM 10** | | **TITLE** | | | | **CONSTANTS** # | | | | | | **10180** | | |
| AM 11 | | NAME | 00 | | | | 042770 | | | | | 10192 | | |
| AM 12 | 10200 | CON | 01 | | A | | 042770 | | | | | 10200 | | |
| AM 13 | 10210 | | 13 | | TC-254-TP | | 042783 | | | | | 10210 | | |
| AM 14 | 10220 | | 01 | | ¤ | | 042784 | | | | | 10220 | | |
| AM 15 | | | 01 | | - | | 042785 | | | | | 10230 | | |
| AM 16 | | | 01 | | D | | 042786 | | | | | 10231 | | |
| AM 17 | | | 01 | | ¤ | | 042787 | | | | | 10240 | | |
| **AM 18** | | **TITLE** | | | | **ROUTINE #256** | | | | | | **11010** | | |
| **AM 19** | | **TITLE** | | | | | | | | | | **11020** | | |
| AM 20 | 11030 | SET | | | @00004 | TEST EARLY SAMPLE CONTROL BY WRITING | 042794 | B | | 000004 | 0004 | 11030 | 048 | |
| AM 21 | | LOD | | | @00564 | VARIABLE LENGTH RECORDS. THIS IS | 042799 | 8 | | 000564 | 0564 | 11040 | | |
| AM 22 | | UNL | | | 11090 | WR 03-1 BIT. | 042804 | 7 | | 042824 | 282M | 11050 | | AM26 |
| AM 23 | | UNL | | | 13200 | | 042809 | 7 | | 043112 | 311K | 11060 | | AN36 |
| AM 24 | | SET | 01 | | @00001 | | 042814 | B | 1 | 000001 | 00#1 | 11070 | | |
| AM 25 | | LOD | 01 | | 13190 | | 042819 | 8 | 1 | 043094 | 30ZM | 11080 | | AN34 |
| AM 26 | 11090 | SEL | | | @ | BASIC ERROR TEST # | 042824 | 2 | | 000000 | 0000 | 11090 | | |
| AM 27 | | UNL | 12 | | @39004 | | 042829 | 7 | 12 | 039004 | I&04 | 11100 | | |
| AM 28 | | SET | 04 | | @00005 | | 042834 | B | 4 | 000005 | 0#05 | 11110 | | |
| AM 29 | | LOD | 04 | | 13190 | | 042839 | 8 | 4 | 043094 | 3#9M | 11120 | | AN34 |
| AM 30 | | UNL | 04 | | @38004 | | 042844 | 7 | 4 | 038004 | H#04 | 11130 | | |
| AM 31 | | SET | | | @00199 | | 042849 | B | | 000199 | 0199 | 11140 | | |
| AM 32 | | RCV | | | @38009 | SET UP WR AREA | 042854 | U | | 038009 | H009 | 11150 | 049 | |
| AM 33 | | SND | | | @38004 | | 042859 | / | | 038004 | H004 | 11160 | | |
| AM 34 | | WR | 03 | | 13240 | SET EARLY SAMPLE | 042864 | R | 3 | 043120 | 31B- | 11170 | | AN41 |
| AM 35 | | WR | | | @38000 | WR 1000 CHAR. RECORD | 042869 | R | | 038000 | H000 | 11180 | | |
| AM 36 | | TSA | | | 12090 | ERROR EXIT | 042874 | O | 3 | 042949 | 29DR | 11190 | | AN03 |
| AM 37 | | WR | 03 | | 13240 | SET EARLY SAMPLE | 042879 | R | 3 | 043120 | 31B- | 11200 | | AN41 |
| AM 38 | | DMP | | | @38000 | WR 2000CHAR. RECORD | 042884 | R | 1 | 038000 | H0#0 | 11210 | | |
| AM 39 | | TSA | | | 12090 | ERROR EXIT | 042889 | O | 3 | 042949 | 29DR | 11220 | | AN03 |
| AM 40 | | UNL | 12 | | @38099 | | 042894 | 7 | 12 | 038099 | H&99 | 11230 | | |
| AM 41 | | WR | 03 | | 13240 | SET EARLY SAMPLE | 042899 | R | 3 | 043120 | 31B- | 11240 | | AN41 |
| AM 42 | | WR | | | @38000 | WR 100 CHAR. RECORD | 042904 | R | | 038000 | H000 | 11250 | | |
| AM 43 | | TSA | | | 12090 | ERROR EXIT | 042909 | O | 3 | 042949 | 29DR | 12010 | | AN03 |
| AM 44 | | UNL | 01 | | @38099 | | 042914 | 7 | 1 | 038099 | H0Z9 | 12020 | 050 | |
| AM 45 | | UNL | 12 | | @38300 | | 042919 | 7 | 12 | 038300 | HC00 | 12030 | | |
| AM 46 | | WR | 03 | | 13240 | SET EARLY SAMPLE | 042924 | R | 3 | 043120 | 31B- | 12040 | | AN41 |
| AM 47 | | WR | | | @38000 | WR 300 CHAR. RECORD | 042929 | R | | 038000 | H000 | 12050 | | |
| AM 48 | | TSA | | | 12090 | ERROR EXIT | 042934 | O | 3 | 042949 | 29DR | 12060 | | AN03 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AO 01 | | SET | | | @00004 | COUNTER OPERATION IS NOT RESET | 043134 | B | | 000004 | 0004 | 14030 | | |
| AO 02 | | LOD | | | @00564 | BETWEEN RECORDS | 043139 | 8 | | 000564 | 0564 | 14040 | | |
| AO 03 | | UNL | | | 16230 | | 043144 | 7 | | 043447 | 344P | 14050 | | AP21 |
| AO 04 | | UNL | | | 14070 | | 043149 | 7 | | 043184 | 318M | 14060 | | AO11 |
| AO 05 | | SET | | | 1 | | 043154 | B | | 000001 | 0001 | 14061 | 054 | |
| AO 06 | | LOD | | | 16170-001 | | 043159 | 8 | | 043422 | 342K | 14062 | | AP15 |
| AO 07 | | TMC | | | 14065 | | 043164 | O | 11 | 043174 | 3JGM | 14063 | | AO09 |
| AO 08 | | TR | | | 14070 | | 043169 | 1 | | 043184 | 318M | 14064 | | AO11 |
| AO 09 | 14065 | LOD | | | 16230-011 | | 043174 | 8 | | 043436 | 3430 | 14065 | | AP21 |
| AO 10 | | UNL | | | 16170-001 | | 043179 | 7 | | 043422 | 342K | 14066 | | AP15 |
| AO 11 | 14070 | SEL | | | @ | BASIC ERROR TEST # | 043184 | 2 | | 000000 | 0000 | 14070 | | |
| AO 12 | | SBR | | | 16170 -001 | | 043189 | % | 8 | 043422 | 3M2K | 14080 | | AP15 |
| AO 13 | | SRC | | | @00050 | | 043194 | R | 2 | 000050 | 00N0 | 14090 | | |
| AO 14 | | WR | | | 16151 | | 043199 | R | | 043415 | 341N | 14100 | | AP13 |
| AO 15 | | TSA | | | 14130 | | 043204 | O | 3 | 043214 | 32AM | 14110 | | AO17 |
| AO 16 | | TR | | | 14180 | IF NO DATA CHECK IS ERROR | 043209 | 1 | | 043239 | 323R | 14120 | | AO22 |
| AO 17 | 14130 | SRC | | | @00050 | | 043214 | R | 2 | 000050 | 00N0 | 14130 | 055 | |
| AO 18 | | BSP | | | @00004 | | 043219 | 3 | | 000004 | 0004 | 14140 | | |
| AO 19 | | SRC | | | @00050 | | 043224 | R | 2 | 000050 | 00N0 | 14150 | | |
| AO 20 | | RD | | | @38000 | | 043229 | Y | | 038000 | H000 | 14160 | | |
| AO 21 | | TSA | | | 15010 | | 043234 | O | 3 | 043279 | 32GR | 14170 | | AO30 |
| AO 22 | 14180 | TAF | | | 15040 | ALT. SWITCH AND T/O LOOP | 043239 | I | 6 | 043299 | 3SRR | 14180 | | AO34 |
| AO 23 | 14190 | TAA | | | 15010 | | 043244 | I | 1 | 043279 | 32XR | 14190 | | AO30 |
| AO 24 | 14200 | SEL | | | @00500 | | 043249 | 2 | | 000500 | 0500 | 14200 | | |
| AO 25 | | WR | | | 16230 | | 043254 | R | | 043435 | 343N | 14210 | | AP21 |
| AO 26 | | UNL | 12 | | 16240 | | 043259 | 7 | 12 | 043448 | 3D4Q | 14220 | | AP22 |
| AO 27 | | TAC | | | 14250 | | 043264 | I | 3 | 043274 | 32GM | 14230 | | AO29 |
| AO 28 | | TR | | | 15010 | | 043269 | 1 | | 043279 | 327R | 14240 | | AO30 |
| AO 29 | 14250 | HLT | | | @00258 | | 043274 | J | | 000258 | 0258 | 14250 | 056 | |
| AO 30 | 15010 | SBN | 1 | | 16170 | | 043279 | % | 9 | 043423 | 3MSL | 15010 | | AP15 |
| AO 31 | | TMC | | | 15020 | | 043284 | O | 11 | 043289 | 3KHR | 15011 | | AO32 |
| AO 32 | 15020 | TAB | | | 14021 | | 043289 | I | 2 | 043129 | 31KR | 15020 | | AN45 |
| AO 33 | | TR | | | 17030 | | 043294 | 1 | | 043459 | 345R | 15030 | | AP28 |
| AO 34 | 15040 | BSP | | | @00004 | ANALYSIS SECTION | 043299 | 3 | | 000004 | 0004 | 15040 | | |
| AO 35 | | BSP | | | @00004 | | 043304 | 3 | | 000004 | 0004 | 15050 | | |
| AO 36 | | BSP | | | @00004 | | 043309 | 3 | | 000004 | 0004 | 15060 | | |
| AO 37 | | BSP | | | @00004 | | 043314 | 3 | | 000004 | 0004 | 15070 | | |
| AO 38 | | BSP | | | @00004 | | 043319 | 3 | | 000004 | 0004 | 15080 | | |
| AO 39 | | WR | | | 16151 | | 043324 | R | | 043415 | 341N | 15090 | | AP13 |
| AO 40 | | TSA | | | 14190 | | 043329 | O | 3 | 043244 | 32DM | 15100 | | AO23 |
| AO 41 | | WR | | | 16170 | | 043334 | R | | 043420 | 342- | 15110 | 057 | AP15 |
| AO 42 | | TSA | | | 15140 | | 043339 | O | 3 | 043349 | 33DR | 15120 | | AO44 |
| AO 43 | | TR | | | 14190 | | 043344 | 1 | | 043244 | 324M | 15130 | | AO23 |
| AO 44 | 15140 | WR | | | 16190 | | 043349 | R | | 043425 | 342N | 15140 | | AP17 |
| AO 45 | | TSA | | | 14190 | | 043354 | O | 3 | 043244 | 32DM | 15150 | | AO23 |
| AO 46 | | BSP | | | @00004 | | 043359 | 3 | | 000004 | 0004 | 15160 | | |
| AO 47 | | BSP | | | @00004 | | 043364 | 3 | | 000004 | 0004 | 15170 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| AQ 01 | | SST | | | @39100 | | | 043564 | Y | 3 | 039100 | I1&0 | 17202 | |
| AQ 02 | | TSA | | | 17204 | | | 043569 | O | 3 | 043574 | 35GM | 17203 | AQ03 |
| AQ 03 | 17204 | SET | | | 2 | | | 043574 | B | | 000002 | 0002 | 17204 | |
| AQ 04 | | LOD | | | 19260 | | | 043579 | 8 | | 043926 | 3920 | 17205 | 062AR3C |
| AQ 05 | | CMP | | | @39101 | | | 043584 | 4 | | 039101 | I101 | 17206 | |
| AQ 06 | | TRE | | | 17210 | | | 043589 | L | | 043599 | 359R | 17207 | AQ08 |
| AQ 07 | | TR | | | 18090 | | | 043594 | 1 | | 043764 | 376M | 17208 | AQ41 |
| AQ 08 | 17210 | DMP | | | @38000 | WR 2000 CHAR. RECORD | | 043599 | R | 1 | 038000 | H0#0 | 17210 | |
| AQ 09 | | TSA | | | 18170 | | | 043604 | O | 3 | 043804 | 38&M | 17220 | AR01 |
| AQ 10 | | BSP | | | | | | 043609 | 3 | | 000004 | 0004 | 17221 | |
| AQ 11 | | WR | 03 | | 19240 | SET COMPARE CHECK WHILE READING | | 043614 | R | 3 | 043920 | 39B- | 17222 | AR28 |
| AQ 12 | | RD | | | @55000 | | 57000 | 043619 | Y | | ~~055000~~ | ~~V00-~~ | 17223 | X005 |
| AQ 13 | | SST | | | @39100 | | | 043624 | Y | 3 | 039100 | I1&0 | 17224 | |
| AQ 14 | | TSA | | | 17226 | | | 043629 | O | 3 | 043634 | 36CM | 17225 | AQ15 |
| AQ 15 | 17226 | CMP | | | @39101 | | | 043634 | 4 | | 039101 | I101 | 17226 | |
| AQ 16 | | TRE | | | 17249 | | | 043639 | L | | 043649 | 364R | 17227 | 063AQ18 |
| AQ 17 | | TR | | | 18090 | | | 043644 | 1 | | 043764 | 376M | 17228 | AQ41 |
| AQ 18 | 17249 | UNL | 12 | | @38099 | | | 043649 | 7 | 12 | 038099 | H&99 | 17249 | |
| AQ 19 | | WR | | | @38000 | WR 100 CHAR. RECORD | | 043654 | R | | 038000 | H000 | 17250 | |
| AQ 20 | | TSA | | | 18170 | | | 043659 | O | 3 | 043804 | 38&M | 18010 | AR01 |
| AQ 21 | | UNL | 01 | | @38099 | | | 043664 | 7 | 1 | 038099 | H0Z9 | 18011 | |
| AQ 22 | | BSP | | | | | | 043669 | 3 | | 000004 | 0004 | 18012 | |
| AQ 23 | | WR | 03 | | 19240 | SET COMPARE CHECK WHILE READING | | 043674 | R | 3 | 043920 | 39B- | 18040 | AR28 |
| AQ 24 | | RD | | | @58000 | | | 043679 | Y | | 058000 | Y00- | 18041 | |
| AQ 25 | | SST | | | @39100 | | | 043684 | Y | 3 | 039100 | I1&0 | 18042 | |
| AQ 26 | | TSA | | | 18044 | | | 043689 | O | 3 | 043694 | 36IM | 18043 | AQ27 |
| AQ 27 | 18044 | CMP | | | @39101 | | | 043694 | 4 | | 039101 | I101 | 18044 | |
| AQ 28 | | TRE | | | 18049 | | | 043699 | L | | 043709 | 370R | 18045 | 064AQ30 |
| AQ 29 | | TR | | | 18090 | | | 043704 | 1 | | 043764 | 376M | 18046 | AQ41 |
| AQ 30 | 18049 | UNL | 12 | | @38300 | | | 043709 | 7 | 12 | 038300 | HC00 | 18049 | |
| AQ 31 | | WR | | | @38000 | WR 300 CHAR. RECORD | | 043714 | R | | 038000 | H000 | 18050 | |
| AQ 32 | | TSA | | | 18090 | | | 043719 | O | 3 | 043764 | 37FM | 18060 | AQ41 |
| AQ 33 | | UNL | 01 | | @38300 | | | 043724 | 7 | 1 | 038300 | H3#0 | 18070 | |
| AQ 34 | | BSP | | | | | | 043729 | 3 | | 000004 | 0004 | 18071 | |
| AQ 35 | | WR | 03 | | 19240 | SET COMPARE CHECK WHILE READING | | 043734 | R | 3 | 043920 | 39B- | 18072 | AR28 |
| AQ 36 | | RD | | | @59000 | | | 043739 | Y | | 059000 | Z00- | 18073 | |
| AQ 37 | | SST | | | @39100 | | | 043744 | Y | 3 | 039100 | I1&0 | 18074 | |
| AQ 38 | | TSA | | | 18080 | | | 043749 | O | 3 | 043754 | 37EM | 18075 | AQ39 |
| AQ 39 | 18080 | CMP | | | @39101 | | | 043754 | 4 | | 039101 | I101 | 18080 | |
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| AQ 41 | 18090 | TAF | | | 18220 | ALT. SWITCH AND T/O LOOP | # | 043764 | I | 6 | 043829 | 3YKR | 18090 | AR06 |
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| AW 03 | | WR | | | TO270 | | | 046169 | R | | 046425 | 642N | 45380 | AX11 |
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| AW 06 | | TR | | | *&10 | | | 046184 | 1 | | 046194 | 619M | 45410 | 086 |
| AW 07 | | HLT | | | @00270 | | | 046189 | J | | 000270 | 0270 | 45420 | |
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| AW 10 | | SET | | | 1 | | ANALYSIS SECTION | 046204 | B | | 000001 | 0001 | 45450 | |
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| AW 13 | | UNL | | | TPG270 | -001 | | 046219 | 7 | | 046273 | 627L | 45480 | AW24 |
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| AW 16 | | UNL | | | TPJ270 | -001 | | 046234 | 7 | | 046398 | 639Q | 45510 | AX04 |
| AW 17 | | UNL | | | TPK270 | -001 | | 046239 | 7 | | 046408 | 640Q | 45520 | AX06 |
| AW 18 | | UNL | | | TPL270 | -001 | | 046244 | 7 | | 046313 | 631L | 45521 | 087AW32 |
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| AY 35 | | TRR | | | *&10 | | | 046789 | O | 1 | 046799 | 67ZR | 46555 | |
| AY 36 | | TR | | | TPJ271 | | | 046794 | 1 | | 046984 | 698M | 46556 | AZ28 |
| AY 37 | | TRS | | | TPI271 | | | 046799 | O | | 046804 | 680M | 46557 | AY38 |
| AY 38 | TPI271 | SEL | | | 0207 | | | 046804 | 2 | | 000207 | 0207 | 46558 | |
| AY 39 | | IOF | | | | | | 046809 | 3 | | 000000 | 0000 | 46559 | |
| AY 40 | TPL271 | SEL | | | 0203 | | | 046814 | 2 | | 000203 | 0203 | 46570 | |
| AY 41 | | TRR | | | *&10 | | | 046819 | O | 1 | 046829 | 68SR | 46572 | |
| AY 42 | | TR | | | *&50 | | | 046824 | 1 | | 046874 | 687M | 46574 | |
| AY 43 | | ION | | | | | | 046829 | 3 | | 000003 | 0003 | 46576 | |
| AY 44 | TPM271 | SEL | | | 0201 | | | 046834 | 2 | | 000201 | 0201 | 46578 | |
| AY 45 | | TRR | | | *&10 | | | 046839 | O | 1 | 046849 | 68UR | 46580 | |
| AY 46 | | TR | | | *&30 | | | 046844 | 1 | | 046874 | 687M | 46582 | 097 |

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INDEX    TAG      OP    NU AT  OPERAND      PROGRAM 8TC10B 04-25-62  COMMENTS          LOC  OP SU  ADDRESS   PGLIN SER REF

BA 01                  01     -                                                       047048                    46953
BA 02                  01     D                                                       047049                    46954
BA 03                  01     -                                                       047050                    46955
BA 04                  10     NOT 8 LINE                                              047060                    46956
BA 05                  01     ¤                                                       047061                    46957

BA 06            TITLE                                          ROUTINE #272                                   47010
BA 07 ROUT272    SET          1                          TO CHECK NOT 2 LINE AND 2 LINE 047069 B    000001 0001 47030 101
BA 08            LOD          @00563                     IN TAPE ADDR UNITS DECODER     047074 8    000563 0563 47040
BA 09            UNL          TPA272     -001            FOR SEL ADDRESSES 0201 & 0203  047079 7    047138 713Q 47050    BA21
BA 10            UNL          TPB272     -001                                           047084 7    047153 715L 47060    BA24
BA 11            UNL          TPC272     -001                                           047089 7    047173 717L 47070    BA28
BA 12            UNL          TPD272     -001                                           047094 7    047183 718L 47080    BA30
BA 13            UNL          TPE272     -001                                           047099 7    047203 720L 47090    BA34
BA 14            SET          4                                                         047104 B    000004 0004 47100
BA 15            LOD          @00564                                                    047109 8    000564 0564 47110
BA 16            CMP          TPA272                                                    047114 4    047139 713R 47120    BA21
BA 17            TRE          TPA272                                                    047119 L    047139 713R 47130    BA21
BA 18            CMP          TPB272                                                    047124 4    047154 715M 47140    BA24
BA 19            TRE          TPA272                                                    047129 L    047139 713R 47150 102BA21
BA 20            TR           ROUT273                                                   047134 1    047479 747R 47160    BB46

BA 21 TPA272     SEL          0201                                                      047139 2    000201 0201 47170
BA 22            TRR          *&10                       ARE TAPES READY                047144 0  1 047154 71VM 47180
BA 23            TR           ROUT273                                                   047149 1    047479 747R 47190    BB46

BA 24 TPB272     SEL          0203                                                      047154 2    000203 0203 47200
BA 25            TRR          *&10                                                      047159 0  1 047169 71WR 47210
BA 26            TR           ROUT273                                                   047164 1    047479 747R 47220    BB46

BA 27            ION                                                                    047169 3    000003 0003 47230
BA 28 TPC272     SEL          0201                                                      047174 2    000201 0201 47240
BA 29            TRS          *&20                       ERROR                          047179 0    047199 719R 47250
BA 30 TPD272     SEL          0203                       NO ERROR                       047184 2    000203 0203 47260
BA 31            IOF                                                                    047189 3    000000 0000 47270 103
BA 32            TR           EX272                                                     047194 1    047254 725M 47310    BA44

BA 33            IOF                                                                    047199 3    000000 0000 47320
BA 34 TPE272     SEL          0203                                                      047204 2    000203 0203 47330
BA 35            IOF                                                                    047209 3    000000 0000 47340
BA 36            TAF          *&50                       ALT SWITCH AND T/O LOOP        047214 I  6 047264 7SOM 47350
BA 37 TAA272     TAA          *&35                                                      047219 I  1 047254 72VM 47360
BA 38            SEL          0500                                                      047224 2    000500 0500 47370
BA 39            WR           TO272                                                     047229 R    047440 744- 47380    BB38
BA 40            UNL     12   DIAG272                                                   047234 7 12 047446 7D40 47390    BB39
BA 41            TAC          *&10                                                      047239 I  3 047249 72DR 47400
BA 42            TR           *&10                                                      047244 1    047254 725M 47410

BA 43            HLT          @00272                                                    047249 J    000272 0272 47420 104

BA 44 EX272      TAB          ROUT272                                                   047254 I  2 047069 700R 47430    BA07
BA 45            TR           ROUT273                                                   047259 1    047479 747R 47440    BB46
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BC 01             LOD        @00563                 IN TAPE ADDR UNITS DECODER     047484 8    000563 0563 48040
BC 02             UNL        TPA273    -001         FOR SEL ADDRESSES 0200 & 0201  047489 7    047548 754Q 48050    BC14
BC 03             UNL        TPB273    -001                                        047494 7    047563 756L 48060    BC17
BC 04             UNL        TPC273    -001                                        047499 7    047583 758L 48070    BC21
BC 05             UNL        TPD273    -001                                        047504 7    047593 759L 48080    BC23
BC 06             UNL        TPE273    -001                                        047509 7    047613 761L 48090    BC27
BC 07             SET        4                                                     047514 B    000004 0004 48100
BC 08             LOD        @00564                                                047519 8    000564 0564 48110
BC 09             CMP        TPA273                                                047524 4    047549 754R 48120    BC14
BC 10             TRE        TPA273                                                047529 L    047549 754R 48130    BC14
BC 11             CMP        TPB273                                                047534 4    047564 756M 48140    BC17
BC 12             TRE        TPA273                                                047539 L    047549 754R 48150 109BC14
BC 13             TR         ROUT274                                               047544 1    047719 771R 48160    BD05

BC 14 TPA273      SEL        0200                                                  047549 2    000200 0200 48170
BC 15             TRR        *&10                ARE TAPES READY                   047554 O  1 047564 75WM 48180
BC 16             TR         ROUT274                                               047559 1    047719 771R 48190    BD05

BC 17 TPB273      SEL        0201                                                  047564 2    000201 0201 48200
BC 18             TRR        *&10                                                  047569 O  1 047579 75XR 48210
BC 19             TR         ROUT274                                               047574 1    047719 771R 48220    BD05

BC 20             ION                                                              047579 3    000003 0003 48230
BC 21 TPC273      SEL        0200                                                  047584 2    000200 0200 48240
BC 22             TRS        *&20                ERROR                             047589 O    047609 760R 48250
BC 23 TPD273      SEL        0201                NO ERROR                          047594 2    000201 0201 48260
BC 24             IOF                                                              047599 3    000000 0000 48270 110
BC 25             TR         EX273                                                 047604 1    047664 766M 48310    BC37

BC 26             IOF                                                              047609 3    000000 0000 48320
BC 27 TPE273      SEL        0201                                                  047614 2    000201 0201 48330
BC 28             IOF                                                              047619 3    000000 0000 48340
BC 29             TAF        *&50                ALT SWITCH AND T/O LOOP           047624 I  6 047674 7WPM 48350
BC 30             TAA        *&35                                                  047629 I  1 047664 76WM 48360
BC 31             SEL        0500                                                  047634 2    000500 0500 48370
BC 32             WR         TO273                                                 047639 R    047680 768- 48380    BC42
BC 33             UNL   12   DIAG273                                              047644 7 12 047686 7F80 48390    BC43
BC 34             TAC        *&10                                                  047649 I  3 047659 76ER 48400
BC 35             TR         *&10                                                  047654 1    047664 766M 48410

BC 36             HLT        @00273                                                047659 J    000273 0273 48420 111

BC 37 EX273       TAB        ROUT273                                               047664 I  2 047479 74PR 48430    BB46
BC 38             TR         ROUT274                                               047669 1    047719 771R 48440    BD05

BC 39             UNL   10   DIAG273                                              047674 7 10 047686 70QO 48441    BC43
BC 40             TR         TPE273    &020                                        047679 1    047634 763M 48442    BC27

BC 41             TITLE                          CONSTANTS                                                48880
BC 42 TO273       CON   06   TC-273                                               047685                   48890
BC 43 DIAG273         01   ¤                                                      047686                   48900
BC 44                 01   -                                                      047687                   48910
BC 45                 01   D                                                      047688                   48920
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BE 01 | | UNL | | | TPF274 -001 | | 047924 | 7 | | 047953 795L | 49470 | | BE07 |
| BE 02 | | UNL | | | TPG274 -001 | | 047929 | 7 | | 047973 797L | 49480 | | BE11 |
| BE 03 | | UNL | | | TPH274 -001 | | 047934 | 7 | | 047993 799L | 49490 | | BE15 |
| BE 04 | | UNL | | | TPI274 -001 | | 047939 | 7 | | 048013 801L | 49500 | | BE19 |
| BE 05 | | UNL | | | TPJ274 -001 | | 047944 | 7 | | 048028 802Q | 49510 | | BE22 |
| BE 06 | | UNL | | | TPK274 -001 | | 047949 | 7 | | 048038 803Q | 49520 | | BE24 |
| BE 07 | TPF274 | SEL | | | 0209 | | 047954 | 2 | | 000209 0209 | 49530 | | |
| BE 08 | | TRR | | | *&10 | | 047959 | 0 | 1 | 047969 79WR | 49531 | 116 | |
| BE 09 | | TR | | | TPK274 | | 047964 | 1 | | 048039 803R | 49532 | | BE24 |
| BE 10 | | IOF | | | | | 047969 | 3 | | 000000 0000 | 49540 | | |
| BE 11 | TPG274 | SEL | | | 0203 | | 047974 | 2 | | 000203 0203 | 49550 | | |
| BE 12 | | TRR | | | *&10 | | 047979 | 0 | 1 | 047989 79YR | 49560 | | |
| BE 13 | | TR | | | TPK274 | | 047984 | 1 | | 048039 803R | 49570 | | BE24 |
| BE 14 | | ION | | | | | 047989 | 3 | | 000003 0003 | 49610 | | |
| BE 15 | TPH274 | SEL | | | 0203 | | 047994 | 2 | | 000203 0203 | 49620 | | |
| BE 16 | | TRR | | | *&10 | | 047999 | 0 | 1 | 048009 80#R | 49630 | | |
| BE 17 | | TR | | | TPJ274 | | 048004 | 1 | | 048029 802R | 49640 | | BE22 |
| BE 18 | | TRS | | | TPI274 | | 048009 | 0 | | 048014 801M | 49650 | | BE19 |
| BE 19 | TPI274 | SEL | | | 0207 | | 048014 | 2 | | 000207 0207 | 49670 | | |
| BE 20 | | IOF | | | | | 048019 | 3 | | 000000 0000 | 49680 | 117 | |
| BE 21 | | TR | | | TAA274 | | 048024 | 1 | | 047869 786R | 49690 | | BD35 |
| BE 22 | TPJ274 | SEL | | | 0203 | | 048029 | 2 | | 000203 0203 | 49700 | | |
| BE 23 | | IOF | | | | | 048034 | 3 | | 000000 0000 | 49710 | | |
| BE 24 | TPK274 | SEL | | | 0207 | | 048039 | 2 | | 000207 0207 | 49720 | | |
| BE 25 | | IOF | | | | | 048044 | 3 | | 000000 0000 | 49730 | | |
| BE 26 | | UNL | 10 | | DIAG274 | | 048049 | 7 | 10 | 048061 8-0J | 49731 | | BE30 |
| BE 27 | | TR | | | TAA274 &005 | | 048054 | 1 | | 047874 787M | 49740 | | BD35 |
| **BE 28** | | **TITLE** | | | | **CONSTANTS** | | | | | **49880** | | |
| BE 29 | TO274 | CON | 06 | | TC-274 | | 048060 | | | | 49890 | | |
| BE 30 | DIAG274 | | 01 | | ¤ | | 048061 | | | | 49900 | | |
| BE 31 | | | 01 | | - | | 048062 | | | | 49910 | | |
| BE 32 | | | 01 | | D | | 048063 | | | | 49920 | | |
| BE 33 | | | 01 | | - | | 048064 | | | | 49930 | | |
| BE 34 | | | 20 | | NOT 4 LINE OR 4 LINE | | 048084 | | | | 49940 | 118 | |
| BE 35 | | | 01 | | ¤ | | 048085 | | | | 49950 | | |
| **BE 36** | | **TITLE** | | | | **ROUTINE #275** | | | | | **50010** | | |
| BE 37 | ROUT275 | SET | | | 1 | TO CHECK NOT 1 LINE AND 1 LINE | 048094 | B | | 000001 0001 | 50030 | 119 | |
| BE 38 | | LOD | | | @00563 | IN TAPE ADDR UNITS DECODER | 048099 | 8 | | 000563 0563 | 50040 | | |
| BE 39 | | UNL | | | TPA275 -001 | FOR SEL ADDRESSES 0202 & 0203 | 048104 | 7 | | 048163 816L | 50050 | | BF04 |
| BE 40 | | UNL | | | TPB275 -001 | | 048109 | 7 | | 048178 817Q | 50060 | | BF07 |
| BE 41 | | UNL | | | TPC275 -001 | | 048114 | 7 | | 048198 819Q | 50070 | | BF11 |
| BE 42 | | UNL | | | TPD275 -001 | | 048119 | 7 | | 048208 820Q | 50080 | | BF13 |
| BE 43 | | UNL | | | TPE275 -001 | | 048124 | 7 | | 048228 822Q | 50090 | | BF17 |
| BE 44 | | SET | | | 4 | | 048129 | B | | 000004 0004 | 50100 | | |
| BE 45 | | LOD | | | @00564 | | 048134 | 8 | | 000564 0564 | 50110 | | |
| BE 46 | | CMP | | | TPA275 | | 048139 | 4 | | 048164 816M | 50120 | | BF04 |
| BE 47 | | TRE | | | TPA275 | | 048144 | L | | 048164 816M | 50130 | | BF04 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BG 01 | | LOD | | | @00564 | | 048364 | 8 | | 000564 | 0564 | 51110 | | |
| BG 02 | | CMP | | | TPA276 | | 048369 | 4 | | 048394 | 839M | 51120 | | BG07 |
| BG 03 | | TRE | | | TPA276 | | 048374 | L | | 048394 | 839M | 51130 | | BG07 |
| BG 04 | | CMP | | | TPB276 | | 048379 | 4 | | 048409 | 840R | 51140 | | BG10 |
| BG 05 | | TRE | | | TPA276 | | 048384 | L | | 048394 | 839M | 51150 | 124 | BG07 |
| BG 06 | | TR | | | ROUT277 | | 048389 | 1 | | 048689 | 868R | 51160 | | BH23 |
| BG 07 | TPA276 | SEL | | | 0201 | | 048394 | 2 | | 000201 | 0201 | 51170 | | |
| BG 08 | | TRR | | | *&10 | ARE TAPES READY | 048399 | O | 1 | 048409 | 84#R | 51180 | | |
| BG 09 | | TR | | | ROUT277 | | 048404 | 1 | | 048689 | 868R | 51190 | | BH23 |
| BG 10 | TPB276 | SEL | | | 0205 | | 048409 | 2 | | 000205 | 0205 | 51200 | | |
| BG 11 | | TRR | | | *&10 | | 048414 | O | 1 | 048424 | 84SM | 51210 | | |
| BG 12 | | TR | | | ROUT277 | | 048419 | 1 | | 048689 | 868R | 51220 | | BH23 |
| BG 13 | | ION | | | | | 048424 | 3 | | 000003 | 0003 | 51230 | | |
| BG 14 | TPC276 | SEL | | | 0201 | | 048429 | 2 | | 000201 | 0201 | 51240 | | |
| BG 15 | | TRS | | | *&20 | ERROR | 048434 | O | | 048454 | 845M | 51250 | | |
| BG 16 | TPD276 | SEL | | | 0205 | NO ERROR | 048439 | 2 | | 000205 | 0205 | 51260 | | |
| BG 17 | | IOF | | | | | 048444 | 3 | | 000000 | 0000 | 51270 | 125 | |
| BG 18 | | TR | | | EX276 | | 048449 | 1 | | 048509 | 850R | 51310 | | BG30 |
| BG 19 | | IOF | | | | | 048454 | 3 | | 000000 | 0000 | 51320 | | |
| BG 20 | TPE276 | SEL | | | 0205 | | 048459 | 2 | | 000205 | 0205 | 51330 | | |
| BG 21 | | IOF | | | | | 048464 | 3 | | 000000 | 0000 | 51340 | | |
| BG 22 | | TAF | | | *&50 | ALT SWITCH AND T/O LOOP | 048469 | I | 6 | 048519 | 8VJR | 51350 | | |
| BG 23 | TAA276 | TAA | | | *&35 | | 048474 | I | 1 | 048509 | 85#R | 51360 | | |
| BG 24 | | SEL | | | 0500 | | 048479 | 2 | | 000500 | 0500 | 51370 | | |
| BG 25 | | WR | | | TO276 | | 048484 | R | | 048650 | 865- | 51380 | | BH15 |
| BG 26 | | UNL | 12 | | DIAG276 | | 048489 | 7 | 12 | 048656 | 8F50 | 51390 | | BH16 |
| BG 27 | | TAC | | | *&10 | | 048494 | I | 3 | 048504 | 85&M | 51400 | | |
| BG 28 | | TR | | | *&10 | | 048499 | 1 | | 048509 | 850R | 51410 | | |
| BG 29 | | HLT | | | @00276 | | 048504 | J | | 000276 | 0276 | 51420 | 126 | |
| BG 30 | EX276 | TAB | | | ROUT276 | | 048509 | I | 2 | 048324 | 83KM | 51430 | | BF38 |
| BG 31 | | TR | | | ROUT277 | | 048514 | 1 | | 048689 | 868R | 51440 | | BH23 |
| BG 32 | | SET | | | 1 | ANALYSIS SECTION | 048519 | B | | 000001 | 0001 | 51450 | | |
| BG 33 | | LOD | | | @00563 | | 048524 | 8 | | 000563 | 0563 | 51460 | | |
| BG 34 | | UNL | | | TPF276 -001 | | 048529 | 7 | | 048558 | 855Q | 51470 | | BG40 |
| BG 35 | | UNL | | | TPG276 -001 | | 048534 | 7 | | 048568 | 856Q | 51480 | | BG42 |
| BG 36 | | UNL | | | TPH276 -001 | | 048539 | 7 | | 048588 | 858Q | 51490 | | BH01 |
| BG 37 | | UNL | | | TPI276 -001 | | 048544 | 7 | | 048608 | 860Q | 51500 | | BH05 |
| BG 38 | | UNL | | | TPJ276 -001 | | 048549 | 7 | | 048623 | 862L | 51510 | | BH08 |
| BG 39 | | UNL | | | TPK276 -001 | | 048554 | 7 | | 048633 | 863L | 51520 | | BH10 |
| BG 40 | TPF276 | SEL | | | 0205 | | 048559 | 2 | | 000205 | 0205 | 51530 | | |
| BG 41 | | IOF | | | | | 048564 | 3 | | 000000 | 0000 | 51540 | 127 | |
| BG 42 | TPG276 | SEL | | | 0207 | | 048569 | 2 | | 000207 | 0207 | 51550 | | |
| BG 43 | | TRR | | | *&10 | | 048574 | O | 1 | 048584 | 85YM | 51560 | | |
| BG 44 | | TR | | | TPK276 | | 048579 | 1 | | 048634 | 863M | 51570 | | BH10 |
| BG 45 | | ION | | | | | 048584 | 3 | | 000003 | 0003 | 51610 | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BI 01 | | IOF | | | --- | | | 048809 | 3 | | 000000 0000 | 52270 | 132 | |
| BI 02 | | TR | | | EX277 | | | 048814 | 1 | | 048874 887M | 52310 | | BI14 |
| BI 03 | | IOF | | | | | | 048819 | 3 | | 000000 0000 | 52320 | | |
| BI 04 | TPE277 | SEL | | | 0206 | | | 048824 | 2 | | 000206 0206 | 52330 | | |
| BI 05 | | IOF | | | | | | 048829 | 3 | | 000000 0000 | 52340 | | |
| BI 06 | | TAF | | | *&50 | | ALT SWITCH AND T/O LOOP | 048834 | I | 6 | 048884 8YQM | 52350 | | |
| BI 07 | TAA277 | TAA | | | *&35 | | | 048839 | I | 1 | 048874 88XM | 52360 | | |
| BI 08 | | SEL | | | 0500 | | | 048844 | 2 | | 000500 0500 | 52370 | | |
| BI 09 | | WR | | | TO277 | | | 048849 | R | | 049015 901N | 52380 | | BI44 |
| BI 10 | | UNL | 12 | | DIAG277 | | | 048854 | 7 | 12 | 049021 9&2J | 52390 | | BI45 |
| BI 11 | | TAC | | | *&10 | | | 048859 | I | 3 | 048869 88FR | 52400 | | |
| BI 12 | | TR | | | *&10 | | | 048864 | 1 | | 048874 887M | 52410 | | |
| BI 13 | | HLT | | | @00277 | | | 048869 | J | | 000277 0277 | 52420 | 133 | |
| BI 14 | EX277 | TAB | | | ROUT277 | | | 048874 | I | 2 | 048689 86QR | 52430 | | BH23 |
| BI 15. | | TR | | | ROUT278 | | | 048879 | 1 | | 049054 905M | 52440 | | BJ07 |
| BI 16 | | SET | | | 1 | | ANALYSIS SECTION | 048884 | B | | 000001 0001 | 52450 | | |
| BI 17 | | LOD | | | @00563 | | | 048889 | 8 | | 000563 0563 | 52460 | | |
| BI 18 | | UNL | | | TPF277 | -001 | | 048894 | 7 | | 048923 892L | 52470 | | BI24 |
| BI 19 | | UNL | | | TPG277 | -001 | | 048899 | 7 | | 048933 893L | 52480 | | BI26 |
| BI 20 | | UNL | | | TPH277 | -001 | | 048904 | 7 | | 048953 895L | 52490 | | BI30 |
| BI 21 | | UNL | | | TPI277 | -001 | | 048909 | 7 | | 048973 897L | 52500 | | BI34 |
| BI 22 | | UNL | | | TPJ277 | -001 | | 048914 | 7 | | 048988 898Q | 52510 | | BI37 |
| BI 23 | | UNL | | | TPK277 | -001 | | 048919 | 7 | | 048998 899Q | 52520 | | BI39 |
| BI 24 | TPF277 | SEL | | | 0206 | | | 048924 | 2 | | 000206 0206 | 52530 | | |
| BI 25 | | IOF | | | | | | 048929 | 3 | | 000000 0000 | 52540 | 134 | |
| BI 26 | TPG277 | SEL | | | 0200 | | | 048934 | 2 | | 000200 0200 | 52550 | | |
| BI 27 | | TRR | | | *&10 | | | 048939 | 0 | 1 | 048949 89UR | 52560 | | |
| BI 28 | | TR | | | TPK277 | | | 048944 | 1 | | 048999 899R | 52570 | | BI39 |
| BI 29 | | ION | | | | | | 048949 | 3 | | 000003 0003 | 52610 | | |
| BI 30 | TPH277 | SEL | | | 0208 | | | 048954 | 2 | | 000208 0208 | 52620 | | |
| BI 31 | | TRR | | | *&10 | | | 048959 | 0 | 1 | 048969 89WR | 52630 | | |
| BI 32 | | TR | | | TPJ277 | | | 048964 | 1 | | 048989 898R | 52640 | | BI37 |
| BI 33 | | TRS | | | TPI277 | | | 048969 | 0 | | 048974 897M | 52650 | | BI34 |
| BI 34 | TPI277 | SEL | | | 0200 | | | 048974 | 2 | | 000200 0200 | 52670 | | |
| BI 35 | | IOF | | | | | | 048979 | 3 | | 000000 0000 | 52680 | | |
| BI 36 | | TR | | | TAA277 | | | 048984 | 1 | | 048839 883R | 52690 | | BI07 |
| BI 37 | TPJ277 | SEL | | | 0200 | | | 048989 | 2 | | 000200 0200 | 52700 | 135 | |
| BI 38 | | IOF | | | | | | 048994 | 3 | | 000000 0000 | 52710 | | |
| BI 39 | TPK277 | SEL | | | 0206 | | | 048999 | 2 | | 000206 0206 | 52720 | | |
| BI 40 | | IOF | | | | | | 049004 | 3 | | 000000 0000 | 52730 | | |
| BI 41 | | UNL | 10 | | DIAG277 | | | 049009 | 7 | 10 | 049021 9-KJ | 52731 | | BI45 |
| BI 42 | | TR | | | TAA277 | &005 | | 049014 | 1 | | 048844 884M | 52740 | | BI07 |
| BI 43 | | TITLE | | | | | CONSTANTS | | | | | 52880 | | |
| BI 44 | TO277 | CON | 06 | | TC-277 | | | 049020 | | | | 52890 | | |
| BI 45 | DIAG277 | | 01 | | ¤ | | | 049021 | | | | 52900 | | |

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PROGRAM 8TC108 04-25-62

| INDEX | TAG | OP | NU | AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BK 01 | | TITLE | | | | CONSTANTS | | | | | 53880 | | |
| BK 02 | TO278 | CON | 06 | | TC-278 | | 049250 | | | | 53890 | | |
| BK 03 | DIAG278 | | 01 | | ¤ | | 049251 | | | | 53900 | | |
| BK 04 | | | 01 | | - | | 049252 | | | | 53910 | | |
| BK 05 | | | 01 | | D | | 049253 | | | | 53920 | | |
| BK 06 | | | 01 | | - | | 049254 | | | | 53930 | | |
| BK 07 | | | 20 | | NOT 1 LINE OR 1 LINE | | 049274 | | | | 53940 | | |
| BK 08 | | | 01 | | ¤ | | 049275 | | | | 53950 | | |
| BK 09 | | TITLE | | | | ROUTINE #279 | | | | | 54010 | | |
| BK 10 | ROUT279 | SET | | | 1 | TO CHECK NOT 4 LINE AND 4 LINE | 049284 | B | | 000001 0001 | 54030 | 141 | |
| BK 11 | | LOD | | | @00563 | IN TAPE ADDR UNITS DECODER | 049289 | 8 | | 000563 0563 | 54040 | | |
| BK 12 | | UNL | | | TPA279 -001 | FOR SEL ADDRESSES 0206 & 0202 | 049294 | 7 | | 049353 935L | 54050 | | BK24 |
| BK 13 | | UNL | | | TPB279 -001 | | 049299 | 7 | | 049368 936Q | 54060 | | BK27 |
| BK 14 | | UNL | | | TPC279 -001 | | 049304 | 7 | | 049388 938Q | 54070 | | BK31 |
| BK 15 | | UNL | | | TPD279 -001 | | 049309 | 7 | | 049398 939Q | 54080 | | BK33 |
| BK 16 | | UNL | | | TPE279 -001 | | 049314 | 7 | | 049418 941Q | 54090 | | BK37 |
| BK 17 | | SET | | | 4 | | 049319 | B | | 000004 0004 | 54100 | | |
| BK 18 | | LOD | | | @00564 | | 049324 | 8 | | 000564 0564 | 54110 | | |
| BK 19 | | CMP | | | TPA279 | | 049329 | 4 | | 049354 935M | 54120 | | BK24 |
| BK 20 | | TRE | | | TPA279 | | 049334 | L | | 049354 935M | 54130 | | BK24 |
| BK 21 | | CMP | | | TPB279 | | 049339 | 4 | | 049369 936R | 54140 | | BK27 |
| BK 22 | | TRE | | | TPA279 | | 049344 | L | | 049354 935M | 54150 | 142 | BK24 |
| BK 23 | | TR | | | ROUT280 | | 049349 | 1 | | 049649 964R | 54160 | | BL39 |
| BK 24 | TPA279 | SEL | | | 0206 | | 049354 | 2 | | 000206 0206 | 54170 | | |
| BK 25 | | TRR | | | *&10 | ARE TAPES READY | 049359 | 0 | 1 | 049369 93WR | 54180 | | |
| BK 26 | | TR | | | ROUT280 | | 049364 | 1 | | 049649 964R | 54190 | | BL39 |
| BK 27 | TPB279 | SEL | | | 0202 | | 049369 | 2 | | 000202 0202 | 54200 | | |
| BK 28 | | TRR | | | *&10 | | 049374 | 0 | 1 | 049384 93YM | 54210 | | |
| BK 29 | | TR | | | ROUT280 | | 049379 | 1 | | 049649 964R | 54220 | | BL39 |
| BK 30 | | ION | | | | | 049384 | 3 | | 000003 0003 | 54230 | | |
| BK 31 | TPC279 | SEL | | | 0206 | | 049389 | 2 | | 000206 0206 | 54240 | | |
| BK 32 | | TRS | | | *&20 | ERROR | 049394 | 0 | | 049414 941M | 54250 | | |
| BK 33 | TPD279 | SEL | | | 0202 | NO ERROR | 049399 | 2 | | 000202 0202 | 54260 | | |
| BK 34 | | IOF | | | | | 049404 | 3 | | 000000 0000 | 54270 | 143 | |
| BK 35 | | TR | | | EX279 | | 049409 | 1 | | 049469 946R | 54310 | | BL01 |
| BK 36 | | IOF | | | | | 049414 | 3 | | 000000 0000 | 54320 | | |
| BK 37 | TPE279 | SEL | | | 0202 | | 049419 | 2 | | 000202 0202 | 54330 | | |
| BK 38 | | IOF | | | | | 049424 | 3 | | 000000 0000 | 54340 | | |
| BK 39 | | TAF | | | *&50 | ALT SWITCH AND T/O LOOP | 049429 | I | 6 | 049479 9UPR | 54350 | | |
| BK 40 | TAA279 | TAA | | | *&35 | | 049434 | I | 1 | 049469 94WR | 54360 | | |
| BK 41 | | SEL | | | 0500 | | 049439 | 2 | | 000500 0500 | 54370 | | |
| BK 42 | | WR | | | TO279 | | 049444 | R | | 049610 961- | 54380 | | BL31 |
| BK 43 | | UNL | 12 | | DIAG279 | | 049449 | 7 | 12 | 049616 9F10 | 54390 | | BL32 |
| BK 44 | | TAC | | | *&10 | | 049454 | I | 3 | 049464 94FM | 54400 | | |
| BK 45 | | TR | | | *&10 | | 049459 | 1 | | 049469 946R | 54410 | | |
| BK 46 | | HLT | | | @00279 | | 049464 | J | | 000279 0279 | 54420 | 144 | |

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PROGRAM 8TC10B 04-25-62

| INDEX | TAG | OP | NU | AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BM 01 | | CMP | | | TPA280 | | 049694 | 4 | | 049719 | 971R | 55120 | BM06 |
| BM 02 | | TRE | | | TPA280 | | 049699 | L | | 049719 | 971R | 55130 | BM06 |
| BM 03 | | CMP | | | TPB280 | | 049704 | 4 | | 049734 | 973M | 55140 | BM09 |
| BM 04 | | TRE | | | TPA280 | | 049709 | L | | 049719 | 971R | 55150 | 149BM06 |
| BM 05 | | TR | | | ROUT281 | | 049714 | 1 | | 050014 | #01M | 55160 | BN22 |
| BM 06 | TPA280 | SEL | | | 0205 | | 049719 | 2 | | 000205 | 0205 | 55170 | |
| BM 07 | | TRR | | | *&10 | ARE TAPES READY | 049724 | O | 1 | 049734 | 97TM | 55180 | |
| BM 08 | | TR | | | ROUT281 | | 049729 | 1 | | 050014 | #01M | 55190 | BN22 |
| BM 09 | TPB280 | SEL | | | 0207 | | 049734 | 2 | | 000207 | 0207 | 55200 | |
| BM 10 | | TRR | | | *&10 | | 049739 | O | 1 | 049749 | 97UR | 55210 | |
| BM 11 | | TR | | | ROUT281 | | 049744 | 1 | | 050014 | #01M | 55220 | BN22 |
| BM 12 | | ION | | | | | 049749 | 3 | | 000003 | 0003 | 55230 | |
| BM 13 | TPC280 | SEL | | | 0205 | | 049754 | 2 | | 000205 | 0205 | 55240 | |
| BM 14 | | TRS | | | *&20 | ERROR | 049759 | O | | 049779 | 977R | 55250 | |
| BM 15 | TPD280 | SEL | | | 0207 | NO ERROR | 049764 | 2 | | 000207 | 0207 | 55260 | |
| BM 16 | | IOF | | | | | 049769 | 3 | | 000000 | 0000 | 55270 | 150 |
| BM 17 | | TR | | | EX280 | | 049774 | 1 | | 049834 | 983M | 55310 | BM29 |
| BM 18 | | IOF | | | | | 049779 | 3 | | 000000 | 0000 | 55320 | |
| BM 19 | TPE280 | SEL | | | 0207 | | 049784 | 2 | | 000207 | 0207 | 55330 | |
| BM 20 | | IOF | | | | | 049789 | 3 | | 000000 | 0000 | 55340 | |
| BM 21 | | TAF | | | *&50 | ALT SWITCH AND T/O LOOP | 049794 | I | 6 | 049844 | 9YMM | 55350 | |
| BM 22 | TAA280 | TAA | | | *&35 | | 049799 | I | 1 | 049834 | 98TM | 55360 | |
| BM 23 | | SEL | | | 0500 | | 049804 | 2 | | 000500 | 0500 | 55370 | |
| BM 24 | | WR | | | TO280 | | 049809 | R | | 049975 | 997N | 55380 | BN14 |
| BM 25 | | UNL | 12 | | DIAG280 | | 049814 | 7 | 12 | 049981 | 9I8J | 55390 | BN15 |
| BM 26 | | TAC | | | *&10 | | 049819 | I | 3 | 049829 | 98BR | 55400 | |
| BM 27 | | TR | | | *&10 | | 049824 | 1 | | 049834 | 983M | 55410 | |
| BM 28 | | HLT | | | @00280 | | 049829 | J | | 000280 | 0280 | 55420 | 151 |
| BM 29 | EX280 | TAB | | | ROUT280 | | 049834 | I | 2 | 049649 | 96MR | 55430 | BL39 |
| BM 30 | | TR | | | ROUT281 | | 049839 | 1 | | 050014 | #01M | 55440 | BN22 |
| BM 31 | | SET | | | 1 | ANALYSIS SECTION | 049844 | B | | 000001 | 0001 | 55450 | |
| BM 32 | | LOD | | | @00563 | | 049849 | 8 | | 000563 | 0563 | 55460 | |
| BM 33 | | UNL | | | TPF280 -001 | | 049854 | 7 | | 049883 | 988L | 55470 | BM39 |
| BM 34 | | UNL | | | TPG280 -001 | | 049859 | 7 | | 049893 | 989L | 55480 | BM41 |
| BM 35 | | UNL | | | TPH280 -001 | | 049864 | 7 | | 049913 | 991L | 55490 | BM45 |
| BM 36 | | UNL | | | TPI280 -001 | | 049869 | 7 | | 049933 | 993L | 55500 | BN04 |
| BM 37 | | UNL | | | TPJ280 -001 | | 049874 | 7 | | 049948 | 994Q | 55510 | BN07 |
| BM 38 | | UNL | | | TPK280 -001 | | 049879 | 7 | | 049958 | 995Q | 55520 | BN09 |
| BM 39 | TPF280 | SEL | | | 0207 | | 049884 | 2 | | 000207 | 0207 | 55530 | |
| BM 40 | | IOF | | | | | 049889 | 3 | | 000000 | 0000 | 55540 | 152 |
| BM 41 | TPG280 | SEL | | | 0201 | | 049894 | 2 | | 000201 | 0201 | 55550 | |
| BM 42 | | TRR | | | *&10 | | 049899 | O | 1 | 049909 | 99#R | 55560 | |
| BM 43 | | TR | | | TPK280 | | 049904 | 1 | | 049959 | 995R | 55570 | BN09 |
| BM 44 | | ION | | | | | 049909 | 3 | | 000003 | 0003 | 55610 | |
| BM 45 | TPH280 | SEL | | | 0209 | | 049914 | 2 | | 000209 | 0209 | 55620 | |

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INDEX    TAG      OP    NU AT  OPERAND     PROGRAM 8TC10B 04-25-62  COMMENTS        LOC  OP SU  ADDRESS   PGLIN SER REF

BO 01             TR          EX281                                               050139 1    050199 #19R 56310     BO13

BO 02             IOF                                                             050144 3    000000 0000 56320
BO 03 TPE281      SEL         0206                                                050149 2    000206 0206 56330
BO 04             IOF                                                             050154 3    000000 0000 56340
BO 05             TAF         *&50            ALT SWITCH AND T/O LOOP             050159 I  6 050209 #S-R 56350
BO 06             TAA         *&35                                                050164 I  1 050199 #1ZR 56360
BO 07             SEL         0500                                                050169 2    000500 0500 56370
BO 08             WR          TO281                                               050174 R    050205 #20N 56380     BO16
BO 09             UNL    12   DIAG281                                            050179 7 12 050211 #B1J 56390     BO17
BO 10             TAC         *&10                                                050184 I  3 050194 #1IM 56400
BO 11             TR          *&10                                                050189 1    050199 #19R 56410

BO 12             HLT         @00281                                              050194 J    000281 0281 56420 158

BO 13 EX281       TAB         ROUT281                                             050199 I  2 050014 #0JM 56430     BN22
BO 14             TR          ROUT282                                             050204 1    050244 #24M 56440     BO24

BO 15             TITLE                       CONSTANTS                                                   56880
BO 16 TO281       CON    06   TC-281                                              050210                  56890
BO 17 DIAG281          01   ¤                                                   050211                  56900
BO 18                  01   -                                                   050212                  56910
BO 19                  01   D                                                   050213                  56920
BO 20                  01   -                                                   050214                  56930
BO 21                  20   NOT 1 LINE OR 1 LINE                                050234                  56940
BO 22                  01   ¤                                                   050235                  56950

BO 23             TITLE                                   ROUTINE #282                                    57010
BO 24 ROUT282     SET         1                   TO CHECK NOT 1 LINE AND 1 LINE 050244 B    000001 0001 57030 159
BO 25             LOD         @00563              IN TAPE ADDR UNITS DECODER     050249 8    000563 0563 57040
BO 26             UNL         TPA282    -001      FOR SEL ADDRESSES 0208 & 0209  050254 7    050313 #31L 57050     BO38
BO 27             UNL         TPB282    -001                                     050259 7    050328 #32Q 57060     BO41
BO 28             UNL         TPC282    -001                                     050264 7    050348 #34Q 57070     BO45
BO 29             UNL         TPD282    -001                                     050269 7    050358 #35Q 57080     BP02
BO 30             UNL         TPE282    -001                                     050274 7    050378 #37Q 57090     BP06
BO 31             SET         4                                                   050279 B    000004 0004 57100
BO 32             LOD         @00564                                              050284 8    000564 0564 57110
BO 33             CMP         TPA282                                              050289 4    050314 #31M 57120     BO38
BO 34             TRE         TPA282                                              050294 L    050314 #31M 57130     BO38
BO 35             CMP         TPB282                                              050299 4    050329 #32R 57140     BO41
BO 36             TRE         TPA282                                              050304 L    050314 #31M 57150 160BO38
BO 37             TR          ROUT283                                             050309 1    050474 #47M 57160     BP27

BO 38 TPA282      SEL         0208                                                050314 2    000208 0208 57170
BO 39             TRR         *&10            ARE TAPES READY                     050319 O  1 050329 #3SR 57180
BO 40             TR          ROUT283                                             050324 1    050474 #47M 57190     BP27

BO 41 TPB282      SEL         0209                                                050329 2    000209 0209 57200
BO 42             TRR         *&10                                                050334 O  1 050344 #3UM 57210
BO 43             TR          ROUT283                                             050339 1    050474 #47M 57220     BP27

BO 44             ION                                                             050344 3    000003 0003 57230
BO 45 TPC282      SEL         0208                                                050349 2    000208 0208 57240
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| INDEX | TAG | OP | NU | AT | OPERAND | | COMMENTS | LOC | OP | SU | ADDRESS | | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BQ 01 | | ION | | | | | | 050574 | 3 | | 000003 | 0003 | 58230 | | |
| BQ 02 | TPC283 | SEL | | | 0200 | | | 050579 | 2 | | 000200 | 0200 | 58240 | | |
| BQ 03 | | TRS | | | *&20 | | ERROR | 050584 | O | | 050604 | #60M | 58250 | | |
| BQ 04 | TPD283 | SEL | | | 0208 | | NO ERROR | 050589 | 2 | | 000208 | 0208 | 58260 | | |
| BQ 05 | | IOF | | | | | | 050594 | 3 | | 000000 | 0000 | 58270 | 165 | |
| BQ 06 | | TR | | | EX283 | | | 050599 | 1 | | 050659 | #65R | 58310 | | BQ18 |
| BQ 07 | | IOF | | | | | | 050604 | 3 | | 000000 | 0000 | 58320 | | |
| BQ 08 | TPE283 | SEL | | | 0208 | | | 050609 | 2 | | 000208 | 0208 | 58330 | | |
| BQ 09 | | IOF | | | | | | 050614 | 3 | | 000000 | 0000 | 58340 | | |
| BQ 10 | | TAF | | | *&50 | | ALT SWITCH AND T/O LOOP | 050619 | I | 6 | 050669 | #WOR | 58350 | | |
| BQ 11 | TAA283 | TAA | | | *&35 | | | 050624 | I | 1 | 050659 | #6VR | 58360 | | |
| BQ 12 | | SEL | | | 0500 | | | 050629 | 2 | | 000500 | 0500 | 58370 | | |
| BQ 13 | | WR | | | TO283 | | | 050634 | R | | 051050 | /05- | 58380 | | BS09 |
| BQ 14 | | UNL | 12 | | DIAG283 | | | 050639 | 7 | 12 | 051056 | /&50 | 58390 | | BS10 |
| BQ 15 | | TAC | | | *&10 | | | 050644 | I | 3 | 050654 | #6EM | 58400 | | |
| BQ 16 | | TR | | | *&10 | | | 050649 | 1 | | 050659 | #65R | 58410 | | |
| BQ 17 | | HLT | | | @00283 | | | 050654 | J | | 000283 | 0283 | 58420 | 166 | |
| BQ 18 | EX283 | TAB | | | ROUT283 | | | 050659 | I | 2 | 050474 | #4PM | 58430 | | BP27 |
| BQ 19 | | TR | | | ROUT284 | | | 050664 | 1 | | 051134 | /13M | 58440 | | BS25 |
| BQ 20 | | SET | | | 1 | | ANALYSIS SECTION | 050669 | B | | 000001 | 0001 | 58450 | | |
| BQ 21 | | LOD | | | @00563 | | | 050674 | 8 | | 000563 | 0563 | 58460 | | |
| BQ 22 | | UNL | | | TPF283 | -001 | | 050679 | 7 | | 050753 | #75L | 58470 | | BQ37 |
| BQ 23 | | UNL | | | TPG283 | -001 | | 050684 | 7 | | 050763 | #76L | 58480 | | BQ39 |
| BQ 24 | | UNL | | | TPH283 | -001 | | 050689 | 7 | | 050783 | #78L | 58490 | | BQ43 |
| BQ 25 | | UNL | | | TPI283 | -001 | | 050694 | 7 | | 051008 | /00Q | 58500 | | BR41 |
| BQ 26 | | UNL | | | TPJ283 | -001 | | 050699 | 7 | | 051023 | /02L | 58510 | | BS02 |
| BQ 27 | | UNL | | | TPK283 | -001 | | 050704 | 7 | | 051033 | /03L | 58520 | | BS04 |
| BQ 28 | | UNL | | | TPL283 | -001 | | 050709 | 7 | | 050808 | #80Q | 58521 | | BR01 |
| BQ 29 | | UNL | | | TPM283 | -001 | | 050714 | 7 | | 050818 | #81Q | 58522 | 167 | BR03 |
| BQ 30 | | UNL | | | TPN283 | -001 | | 050719 | 7 | | 050838 | #83Q | 58523 | | BR07 |
| BQ 31 | | UNL | | | TPO283 | -001 | | 050724 | 7 | | 050863 | #86L | 58524 | | BR12 |
| BQ 32 | | UNL | | | TPP283 | -001 | | 050729 | 7 | | 050878 | #87Q | 58525 | | BR15 |
| BQ 33 | | UNL | | | TPQ283 | -001 | | 050734 | 7 | | 050938 | #93Q | 58526 | | BR27 |
| BQ 34 | | UNL | | | TPR283 | -001 | | 050739 | 7 | | 050948 | #94Q | 58527 | | BR29 |
| BQ 35 | | UNL | | | TPS283 | -001 | | 050744 | 7 | | 050968 | #96Q | 58528 | | BR33 |
| BQ 36 | | UNL | | | TPT283 | -001 | | 050749 | 7 | | 050993 | #99L | 58529 | | BR38 |
| BQ 37 | TPF283 | SEL | | | 0208 | | | 050754 | 2 | | 000208 | 0208 | 58530 | | |
| BQ 38 | | IOF | | | | | | 050759 | 3 | | 000000 | 0000 | 58540 | | |
| BQ 39 | TPG283 | SEL | | | 0206 | | | 050764 | 2 | | 000206 | 0206 | 58550 | | |
| BQ 40 | | TRR | | | *&10 | | | 050769 | O | 1 | 050779 | #7XR | 58551 | | |
| BQ 41 | | TR | | | TPK283 | | | 050774 | 1 | | 051034 | /03M | 58552 | 168 | BS04 |
| BQ 42 | | ION | | | | | | 050779 | 3 | | 000003 | 0003 | 58553 | | |
| BQ 43 | TPH283 | SEL | | | 0208 | | | 050784 | 2 | | 000208 | 0208 | 58554 | | |
| BQ 44 | | TRR | | | *&10 | | | 050789 | O | 1 | 050799 | #7ZR | 58555 | | |
| BQ 45 | | TR | | | TPJ283 | | | 050794 | 1 | | 051024 | /02M | 58556 | | BS02 |
| BQ 46 | | TRS | | | *&10 | | | 050799 | O | | 050809 | #80R | 58557 | | |
| BQ 47 | | TR | | | TPK283 | | | 050804 | 1 | | 051034 | /03M | 58558 | | BS04 |

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BS 01              TR          TAA283                                              051019 1     050624 #62M 58690     BQ11

BS 02 TPJ283       SEL         0206                                                051024 2     000206 0206 58700
BS 03              IOF                                                             051029 3     000000 0000 58710
BS 04 TPK283       SEL         0208                                                051034 2     000208 0208 58720
BS 05              IOF                                                             051039 3     000000 0000 58730
BS 06              UNL    10   DIAG283.                                            051044 7 10  051056 /-NO 58731     BS10
BS 07              TR          TAA283     &005                                     051049 1     050629 #62R 58740     BQ11

BS 08              TITLE                          CONSTANTS                                                  58880
BS 09 TO283        CON    06   TC-283                                              051055                     58890
BS 10 DIAG283          01   ¤                                                      051056                     58900
BS 11                  01   -                                                      051057                     58910
BS 12                  01   D                                                      051058                     58920
BS 13                  01   -                                                      051059                     58930
BS 14                  20   NOT 8 LINE OR 8 LINE                                   051079                     58940 173
BS 15                  24    OR NOT 2 LINE OR 2 LINE                               051103                     58942
BS 16                  01   ¤                                                      051104                     58950
BS 17 TOB283           06   TC-283                                                 051110                     58952
BS 18 UNLB283          01   ¤                                                      051111                     58953
BS 19                  01   -                                                      051112                     58954
BS 20                  01   D                                                      051113                     58955
BS 21                  01   -                                                      051114                     58956
BS 22                  10   NOT 8 LINE                                             051124                     58957
BS 23                  01   ¤                                                      051125                     58958

BS 24              TITLE                                ROUTINE #284                                         59010
BS 25 ROUT284      SET         1                  TO CHECK NOT 4 LINE AND 4 LINE  051134 B     000001 0001 59030 174
BS 26              LOD         @00563             IN TAPE ADDR UNITS DECODER      051139 8     000563 0563 59040
BS 27              UNL         TPA284     -001    FOR SEL ADDRESSES 0200 & 0204   051144 7     051203 /20L 59050     BS39
BS 28              UNL         TPB284     -001                                    051149 7     051218 /21Q 59060     BS42
BS 29              UNL         TPC284     -001                                    051154 7     051238 /23Q 59070     BS46
BS 30              UNL         TPD284     -001                                    051159 7     051248 /24Q 59080     BT01
BS 31              UNL         TPE284     -001                                    051164 7     051268 /26Q 59090     BT05
BS 32              SET         4                                                  051169 B     000004 0004 59100
BS 33              LOD         @00564                                             051174 8     000564 0564 59110
BS 34              CMP         TPA284                                             051179 4     051204 /20M 59120     BS39
BS 35              TRE         TPA284                                             051184 L     051204 /20M 59130     BS39
BS 36              CMP         TPB284                                             051189 4     051219 /21R 59140     BS42
BS 37              TRE         TPA284                                             051194 L     051204 /20M 59150 175BS39
BS 38              TR          EX284                                              051199 1     051319 /31R 59160     BT15

BS 39 TPA284       SEL         0200                                               051204 2     000200 0200 59170
BS 40              TRR         *&10                ARE TAPES READY                051209 0  1  051219 /2/R 59180
BS 41              TR          EX284                                              051214 1     051319 /31R 59190     BT15

BS 42 TPB284       SEL         0204                                               051219 2     000204 0204 59200
BS 43              TRR         *&10                                               051224 0  1  051234 /2TM 59210
BS 44              TR          EX284                                              051229 1     051319 /31R 59220     BT15

BS 45              ION                                                            051234 3     000003 0003 59230
BS 46 TPC284       SEL         0200                                               051239 2     000200 0200 59240
BS 47              TRS         *&20                ERROR                          051244 0     051264 /26M 59250
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INDEX     TAG        OP    NU AT   OPERAND     PROGRAM 8TC10B 04-25-62   COMMENTS        LOC   OP SU   ADDRESS   PGLIN SER REF

BU 01 DIAG284              01   ¤                                                     051466                  59900
BU 02                      01   -                                                     051467                  59910
BU 03                      01   D                                                     051468                  59920
BU 04                      01   -                                                     051469                  59930
BU 05                      20   NOT 4 LINE OR 4 LINE                                  051489                  59940
BU 06                      01   ¤                                                     051490                  59950 180

BU 07              TITLE   from 45384 Routine 266                ROUTINE #286                                 59999
BU 08 ROUT286      SET          @00004      CC 0 NOT BEING BLOCKED ON GM             051499 B     000004 0004 60000 181
BU 09              LOD          @00564      RECOGNITION. AS RESULT ADDR WD IS        051504 8     000564 0564 60010
BU 10              UNL          TO286       5 HIGH ON ALL WRITE OPERATIONS           051509 7     051767 /76P 60030     BV13
BU 11              UNL          SELRT286                                             051514 7     051559 /55R 60040     BU20
BU 12              RCV          @38004                                               051519 U     038004 H004 60050
BU 13              BLM          @00400                                               051524 $     000400 0400 60060
BU 14              RCV          @38204                                               051529 U     038204 H204 60070
BU 15              SET          @00001                                               051534 B     000001 0001 60080
BU 16              SND          DATA                                                 051539 /     051779 /77R 60090     BV17
BU 17              SET          @00019                                               051544 B     000019 0019 60100
BU 18              SND          @38204                                               051549 /     038204 H204 60110
BU 19              UNL    12    @38299                                               051554 7 12  038299 HB99 60120
BU 20 SELRT286     SEL          @00000      BASIC ERROR SECTION                      051559 2     000000 0000 60130 182
BU 21              WR           @38200                                               051564 R     038200 H200 60140
BU 22              LDA          *                                                    051569 #     051569 /56R 60150
BU 23              TSA          @18804                                               051574 O   3 018804 Y8&4 60160
BU 24              TTC          EXIT286                                              051579 O   2 051649 /6MR 60170     BU38
BU 25              RMA          @38500                                               051584 Y   2 038500 H5-0 60180
BU 26              SET          @00004                                               051589 B     000004 0004 60190
BU 27              LOD          @38504                                               051594 8     038504 H504 60200
BU 28              CMP          ADRWD                                                051599 4     051783 /78L 60210     BV18
BU 29              TRE          EXIT286                                              051604 L     051649 /64R 60220     BU38
BU 30              TAF          *&50        ALT SWITCH AND T/O LOOP                  051609 I   6 051659 /WNR 60230
BU 31 ERROR286     TAA          *&35                                                 051614 I   1 051649 /6UR 60310
BU 32 LONGTO286    SEL          @00500                                               051619 2     000500 0500 60320 183
BU 33              WR           TO286                                                051624 R     051755 /75N 60330     BV13
BU 34              UNL    12    GM286                                                051629 7 12  051768 /G6Q 60331     BV14
BU 35              TAC          *&10                                                 051634 I   3 051644 /6DM 60340
BU 36              TR           *&10                                                 051639 1     051649 /64R 60350

BU 37              HLT          @00286                                               051644 J     000286 0286 60360

BU 38 EXIT286      TAB          ROUT286                                              051649 I   2 051499 /4RR 60370     BU08
BU 39              TR           ROUT288                                              051654 1     051794 /79M 60380     BV21

BU 40              BSP          @00004      ANALYSIS SECTION                         051659 3     000004 0004 60400
BU 41              RD           @39200                                               051664 Y     039200 I200 60410
BU 42              LDA          *                                                    051669 #     051669 /66R 60420
BU 43              TSA          @18919                                               051674 O   3 018919 Y9A9 60430
BU 44              SET          @00004                                               051679 B     000004 0004 60440 184
BU 45              LOD          @38504                                               051684 8     038504 H504 60450
BU 46              CMP          ADRWDPLUS5                                           051689 4     051787 /78P 60460     BV19
BU 47              TRE          60490                                                051694 L     051704 /70M 60470     BV01
BU 48              TR           ERROR286                                             051699 1     051614 /61M 60480     BU31
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PROGRAM 8TC10B 04-25-62

| INDEX | TAG | OP | NU | AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW 01 | | BSP | | | @00004 | | 051944 | 3 | | 000004 | 0004 | 61380 | | |
| BW 02 | | BSP | | | @00004 | | 051949 | 3 | | 000004 | 0004 | 61390 | | |
| BW 03 | | BSP | | | @00004 | | 051954 | 3 | | 000004 | 0004 | 61400 | | |
| BW 04 | | RCV | | | @76004 | | 051959 | U | | 076004 | F00M | 61403 | | |
| BW 05 | | BLM | | | @00800 | | 051964 | $ | | 000800 | 0800 | 61406 | | |
| BW 06 | | RD | | | @76000 | | 051969 | Y | | 076000 | F00- | 61410 | | |
| BW 07 | | LDA | | | * | | 051974 | # | | 051974 | /97M | 61420 | 189 | |
| BW 08 | | TSA | | | @18919 | | 051979 | O | 3 | 018919 | Y9A9 | 61430 | | |
| BW 09 | | TTC | | | *&10 | | 051984 | O | 2 | 051994 | /9RM | 61440 | | |
| BW 10 | | TR | | | *&10 | | 051989 | 1 | | 051999 | /99R | 61450 | | |
| BW 11 | | SGN | | 15 | NOP288 | | 051994 | T | 15 | 052594 | SEIM | 61460 | | BY40 |
| BW 12 | | RCV | | | RD02AREA | | 051999 | U | | 052609 | S60R | 61461 | | BZ02 |
| BW 13 | | BLM | | | @1 | | 052004 | $ | | 000001 | 0001 | 61462 | | |
| BW 14 | | RMA | | | RD02AREA | CHECK AW | 052009 | Y | 2 | 052605 | S6-N | 61463 | | BZ02 |
| BW 15 | | TSA | | | *&5 | | 052014 | O | 3 | 052019 | S0AR | 61464 | | |
| BW 16 | | SET | | | 5 | | 052019 | B | | 000005 | 0005 | 61465 | | |
| BW 17 | | LOD | | | RD02AREA | | 052024 | 8 | | 052609 | S60R | 61466 | | BZ02 |
| BW 18 | | CMP | | | RD1 | | 052029 | 4 | | 052614 | S61M | 61467 | | BZ03 |
| BW 19 | | TRE | | | *&10 | | 052034 | L | | 052044 | S04M | 61468 | 190 | |
| BW 20 | | TR | | | 916288 | | 052039 | 1 | | 052544 | S54M | 61469 | | BY30 |
| BW 21 | | RD | | | @77200 | | 052044 | Y | | 077200 | G20- | 61470 | | |
| BW 22 | | LDA | | | * | | 052049 | # | | 052049 | S04R | 61480 | | |
| BW 23 | | TSA | | | @18919 | | 052054 | O | 3 | 018919 | Y9A9 | 61490 | | |
| BW 24 | | TTC | | | *&10 | | 052059 | O | 2 | 052069 | S00R | 61500 | | |
| BW 25 | | TR | | | *&10 | | 052064 | 1 | | 052074 | S07M | 61510 | | |
| BW 26 | | SGN | | 15 | NOP288 | | 052069 | T | 15 | 052594 | SEIM | 61520 | | BY40 |
| BW 27 | | RCV | | | RD02AREA | | 052074 | U | | 052609 | S60R | 61521 | | BZ02 |
| BW 28 | | BLM | | | @1 | | 052079 | $ | | 000001 | 0001 | 61522 | | |
| BW 29 | | RMA | | | RD02AREA | | 052084 | Y | 2 | 052605 | S6-N | 61523 | | BZ02 |
| BW 30 | | TSA | | | *&5 | | 052089 | O | 3 | 052094 | S0IM | 61524 | | |
| BW 31 | | SET | | | 5 | | 052094 | B | | 000005 | 0005 | 61525 | 191 | |
| BW 32 | | LOD | | | RD02AREA | | 052099 | 8 | | 052609 | S60R | 61526 | | BZ02 |
| BW 33 | | CMP | | | RD2 | | 052104 | 4 | | 052619 | S61R | 61527 | | BZ04 |
| BW 34 | | TRE | | | *&10 | | 052109 | L | | 052119 | S11R | 61528 | | |
| BW 35 | | TR | | | 916288 | | 052114 | 1 | | 052544 | S54M | 61529 | | BY30 |
| BW 36 | | RD | | | @79300 | | 052119 | Y | | 079300 | I30- | 61530 | | |
| BW 37 | | LDA | | | * | | 052124 | # | | 052124 | S12M | 61540 | | |
| BW 38 | | TSA | | | @18919 | | 052129 | O | 3 | 018919 | Y9A9 | 61550 | | |
| BW 39 | | TTC | | | *&10 | | 052134 | O | 2 | 052144 | S1MM | 61560 | | |
| BW 40 | | TR | | | *&10 | | 052139 | 1 | | 052149 | SI4R | 61570 | | |
| BW 41 | | SGN | | 15 | NOP288 | | 052144 | T | 15 | 052594 | SEIM | 61610 | | BY40 |
| BW 42 | | RCV | | | RD02AREA | | 052149 | U | | 052609 | S60R | 61611 | | BZ02 |
| BW 43 | | BLM | | | @1 | | 052154 | $ | | 000001 | 0001 | 61612 | 192 | |
| BW 44 | | RMA | | | RD02AREA | | 052159 | Y | 2 | 052605 | S6-N | 61613 | | BZ02 |
| BW 45 | | TSA | | | *&5 | | 052164 | O | 3 | 052169 | S1FR | 61614 | | |
| BW 46 | | SET | | | 5 | | 052169 | B | | 000005 | 0005 | 61615 | | |
| BW 47 | | LOD | | | RD02AREA | | 052174 | 8 | | 052609 | S60R | 61616 | | BZ02 |
| BW 48 | | CMP | | | RD3 | | 052179 | 4 | | 052624 | S62M | 61617 | | BZ05 |

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PROGRAM BICOB 04-29-62

| INDEX | TAG | OP | NU | AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BY 01 | | CMP | | | @79750 | | 052399 | 4 | | 079750 | I75- | 62070 | |
| BY 02 | | TRE | | | *&10 | | 052404 | L | | 052414 | S41M | 62090 | |
| BY 03 | | TR | | | 916288 | | 052409 | 1 | | 052544 | S54M | 62100 | BY30 |
| BY 04 | | LOD | | | @39500 | | 052414 | 8 | | 039500 | I500 | 62110 | |
| BY 05 | | CMP | | | @79200 | | 052419 | 4 | | 079200 | I20- | 62120 | |
| BY 06 | | TRE | | | *&10 | | 052424 | L | | 052434 | S43M | 62130 | |
| BY 07 | | TR | | | 916288 | | 052429 | 1 | | 052544 | S54M | 62140 | BY30 |
| BY 08 | | CMP | | | @78950 | | 052434 | 4 | | 078950 | H95- | 62150 | |
| BY 09 | | TRE | | | *&10 | | 052439 | L | | 052449 | S44R | 62160 | |
| BY 10 | | TR | | | 916288 | | 052444 | 1 | | 052544 | S54M | 62170 | BY30 |
| BY 11 | | CMP | | | @78700 | | 052449 | 4 | | 078700 | H70- | 62180 | |
| BY 12 | | TRE | | | *&10 | | 052454 | L | | 052464 | S46M | 62190 | 197 |
| BY 13 | | TR | | | 916288 | | 052459 | 1 | | 052544 | S54M | 62200 | BY30 |
| BY 14 | | CMP | | | @78500 | | 052464 | 4 | | 078500 | H50- | 62210 | |
| BY 15 | | TRE | | | *&10 | | 052469 | L | | 052479 | S47R | 62220 | |
| BY 16 | | TR | | | 916288 | | 052474 | 1 | | 052544 | S54M | 62230 | BY30 |
| BY 17 | | SET | | | @00125 | | 052479 | B | | 000125 | 0125 | 62233 | |
| BY 18 | | LOD | | | @39050 | | 052484 | 8 | | 039050 | I050 | 62236 | |
| BY 19 | | CMP | | | @77050 | | 052489 | 4 | | 077050 | G05- | 62240 | |
| BY 20 | | TRE | | | *&10 | | 052494 | L | | 052504 | S50M | 62250 | |
| BY 21 | | TR | | | 916288 | | 052499 | 1 | | 052544 | S54M | 62260 | BY30 |
| BY 22 | | CMP | | | @78250 | | 052504 | 4 | | 078250 | H25- | 62310 | |
| BY 23 | | TRE | | | *&10 | | 052509 | L | | 052519 | S51R | 62320 | |
| BY 24 | | TR | | | 916288 | | 052514 | 1 | | 052544 | S54M | 62330 | 198BY30 |
| BY 25 | | CMP | | | @79445 | | 052519 | 4 | | 079445 | I44N | 62340 | |
| BY 26 | | TRE | | | *&10 | | 052524 | L | | 052534 | S53M | 62350 | |
| BY 27 | | TR | | | 916288 | | 052529 | 1 | | 052544 | S54M | 62355 | BY30 |
| BY 28 | | CMP | | | @79845 | | 052534 | 4 | | 079845 | I84N | 62360 | |
| BY 29 | | TRE | | | EXIT288 | | 052539 | L | | 052584 | S58M | 62365 | BY38 |
| BY 30 | 916288 | TAF | | | NOP288 | ALT SWITCH AND T/O LOOP | 052544 | I | 6 | 052594 | SVRM | 62370 | BY40 |
| BY 31 | 911288 | TAA | | | EXIT288 | | 052549 | I | 1 | 052584 | S5YM | 62380 | BY38 |
| BY 32 | TYPEOUT | SEL | | | 500 | | 052554 | 2 | | 000500 | 0500 | 62390 | |
| BY 33 | | WR | | | ROUTTO288 | | 052559 | R | | 052630 | S63- | 62400 | BZ07 |
| BY 34 | | UNL | 12 | | ROUTTO288 &001 | | 052564 | 7 | 12 | 052643 | SF4L | 62410 | BZ07 |
| BY 35 | | TAC | | | *&10 | | 052569 | I | 3 | 052579 | S5GR | 62420 | |
| BY 36 | | TR | | | *&10 | | 052574 | 1 | | 052584 | S58M | 62430 | 199 |
| BY 37 | | HLT | | | @00288 | | 052579 | J | | 000288 | 0288 | 62440 | |
| BY 38 | EXIT288 | TAB | | | ROUT288 | | 052584 | I | 2 | 051794 | /7RM | 62450 | BV21 |
| BY 39 | | TR | | | ROUT290 | | 052589 | 1 | | 052659 | S65R | 62460 | BZ14 |
| BY 40 | NOP288 | NOP | | | 911288 | ANALYSIS SECTION | 052594 | A | | 052549 | S54R | 62470 | BY31 |
| BY 41 | | UNL | 10 | | ROUTTO288 &001 | | 052599 | 7 | 10 | 052643 | SOML | 62480 | BZ07 |
| BY 42 | | TR | | | TYPEOUT | | 052604 | 1 | | 052554 | S55M | 62490 | BY32 |

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INDEX   TAG        OP   NO AT  OPERAND      PROGRAM 8TC10B 04-25-62  COMMENTS        LOC  OP SU   ADDRESS   PGLIN SER REF.
CA 01              WR          @38000          ANALYSIS SECTION                     052839 R    038000 H000 64430 204
CA 02              TRR         *&10                                                 052844 0  1 052854 S9VM 64440
CA 03              TR          *-5                                                  052849 1    052844 S84M 64450

CA 04              TTC         911290                                               052854 0  2 052784 S7QM 64460     BZ39
CA 05              UNL    10   ROUTTO290 &001                                       052859 7 10 052883 SQQL 64470     CA09
CA 06              TR          LONGTO290                                            052864 1    052789 S78R 64480     BZ40

CA 07              TITLE                           CONSTANT FIELD                                           64500
CA 08 FOURCHRTPS   CON    05    H000                                                 052869                 64501
CA 09 ROUTTO290    CON    13    TC-290-TP                                            052882                 64502
CA 10                     01    ¤                                                    052883                 64503
CA 11                     02    D¤                                                   052885                 64504
CA 12 R290CON             05    GGGGG                                                052890                 64505

CA 13              TITLE                           ROUTINE 292                                              6470

CA 14              TITLE                           CHECK ERASE HEAD POLARITY                                6471
CA 15 ROUT 292     SET         @0001               OR ERASE HEAD TOUCHING           052899 B    000001 0001 6472  205
CA 16              LOD         A                     TAPE                           052904 8    053369 T36R 6473     CC14
CA 17              UNL         BADTAPE   -004       SET SW TO NOP                  052909 7    053270 T27- 6474     CB42
CA 18              UNL         ONE RETRY -004       SET SW TO NOP                  052914 7    053275 T27N 6475     CB43
CA 19 RETRYENTRY   SET         @0001                                              052919 B    000001 0001 6476
CA 20              LOD         GRPMRK                                             052924 S    053360 T36- 6477     CC11
CA 21              UNL         @39060              GROUP MARK AT 39060            052929 7    039060 I060 6478
CA 22              UNL         @39000              GROUP MARK AT 39000            052934 7    039000 I000 6479
CA 23              SET    04   @0005               GENERATE 1000 AND 50 CHARACTER 052939 B  4 000005 0#05 6480
CA 24              LOD    04   GEN1KFLD            FIELDS                         052944 8  4 053354 TT5M 6481     CC09
CA 25              UNL    04   @38004                                              052949 7  4 038004 H#04 6482
CA 26              RCV         @38009                                              052954 U    038009 H009 6483
CA 27              SET         @0199                                              052959 B    000199 0199 6484  206
CA 28              SND         @38004                                              052964 /    038004 H004 6485
CA 29              LOD    04   GEN50FLD                                           052969 8  4 053359 TT5R 6487     CC10
CA 30              UNL    04   @39014                                              052974 7  4 039014 I#14 6488
CA 31              RCV         @39019                                              052979 U    039019 I019 6489
CA 32              SET         @0009                                              052984 B    000009 0009 6490
CA 33              SND         @39014              50 ONES 39010 TO 39059         052989 /    039014 I014 6491
CA 34              SET    04   @0004                                              052994 B  4 000004 0#04 6492
CA 35              LOD    04   @0564               GET TD SELECT ADDRESS          052999 8  4 000564 0V64 6493
CA 36              UNL    04   TDSEL                                              053004 7  4 053014 T#1M 64940     CA38
CA 37              UNL    04   TYPOUT                                             053009 7  4 053382 TT8K 6495      CC15
CA 38 TDSEL        SEL         @0000                                              053014 2    000000 00Q0 6496
CA 39              WTM         @0001               STARTING POINT OF TEST         053019 3    000001 0001 6497  207
CA 40              SRC    02   @0020                                              053024 R  2 000020 00K0 6498
CA 41              SKP         @0009               ERASE PORTION OF TAPE          053029 3    000009 0009 6499
CA 42              WR          @39010              WRITE 50 ONES                  053034 R    039010 I010 6500
CA 43 REENT 1      LDA         REENT 1                                            053039 #    053039 T03R 6501      CA43
CA 44              TSA         @18804          CHAN CK ON WRITE                   053044 O  3 018804 Y8&4 6502
CA 45              BSF    01   @0004                                              053049 3  1 000004 00#4 6503
CA 46              RD          TM                  RETURN TAPE TO STARTING POINT  053054 Y    053345 T34N 6504      CC08
CA 47              IOF         @0000                                              053059 3    000000 0000 6505
CA 48              WR          @38000              WRITE 1000 G,S                 053064 R    038000 H000 6506
CA 49 REENT 2      LDA         REENT 2                                            053069 #    053069 T06R 6507      CA49
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INDEX    TAG        OP    NU AT   OPERAND      PROGRAM 8TC10B 04-25-62   COMMENTS        LOC  OP SU   ADDRESS   PGLIN SER REF
CC 01               TAC         HLT                                    913 ON, HALT      053324 I  3 053334 T3CM 6559      CC03
CC 02               TR          LOOPOREXIT                                               053329 1    053339 T33R 6560      CC04

CC 03 HLT           HLT         @0292                                                    053334 J    000292 0292 6561

CC 04 LOOPOREXIT    TAB         ROUT 292                               912 ON, LOOP      053339 I  2 052899 S8RR 6562      CA15
CC 05               TR          ROUT293                                                  053344 1    053389 T38R 6563      CC18

CC 06               TITLE                                              CONSTANTS                                   6564

CC 07               NAME   0    TM                                                       053345                      6565
CC 08 TM            CON    5                                                             053349                      6566
CC 09 GEN1KFLD         5   GGGGG                                                        053354                      6567
CC 10 GEN50FLD         5   11111                                                        053359                      6568
CC 11 GRPMRK           1   ¤                                                            053360                      6569
CC 12 ONE              1   1                                                            053361                      6570
CC 13 ALLBITS          7   1111111                                                      053368                      6571
CC 14 A                1   A                                                            053369                      6572
CC 15 TYPOUT          13   TC-292-TP                                                    053382                      6573  213
CC 16                  1   ¤                                                            053383                      6574

CC 17               TITLE                                              ROUTINE #293                                65750
CC 18 ROUT293       SET        4                                       CHECK CORRECT STEPPING    053389 B    000004 0004 6576  214
CC 19               LOD        @0564                                   OF ADDRESS WORD ON WRITE  053394 8    000564 0564 6577
CC 20               UNL        ROUT TO293                              WHEN GROUP MARK IN OTHER  053399 7    053767 T76P 6578      CD46
CC 21               UNL        R293SEL                                 THAN 4 OR 9 POSITION      053404 7    053439 T43R 6579      CC28
CC 22               SET        5                                                         053409 B    000005 0005 6580
CC 23               LOD        R293CON                                                   053414 8    053773 T77L 6581      CD48
CC 24               UNL        @38004                                                    053419 7    038004 H004 6582
CC 25               RCV        @38009                                                    053424 U    038009 H009 6583
CC 26               SET        55                                                        053429 B    000055 0055 6584
CC 27               SND        @38004                                                    053434 /    038004 H004 6585
CC 28 R293SEL       SEL        0000                                                      053439 2    000000 0000 6586
CC 29               SET    01  1                                                         053444 B  1 000001 00#1 6587
CC 30               LOD    01  @38248                                                    053449 8  1 038248 H2U8 6588  215
CC 31               UNL    12  @38248                                 GM IN 8 POSITION   053454 7 12 038248 HB48 6589
CC 32               WR         @38000                                                    053459 R    038000 H000 6590
CC 33               LDA        *                                                         053464 #    053464 T46M 6591
CC 34               TSA        @18804                                                    053469 O  3 018804 Y8G4 6592
CC 35               RCVS       R293RMA     -004                                          053474 U    053771 T77J 6593      CE02
CC 36               BLXS       @0005                                                     053479 $  1 000005 00#5 6594
CC 37               RMA        R293RMA                                                   053484 Y  2 053775 T7PN 6595      CE02
CC 38               TSA        *&5                                                       053489 O  3 053494 T4IM 6596
CC 39               SET    02  5                                                         053494 B  2 000005 00-5 6597
CC 40               LOD    02  R293FAW                                                   053499 8  2 053789 T7QR 6598      CE04
CC 41               CMP    02  R293RMA                                                   053504 4  2 053779 T7PR 6599      CE02
CC 42               UNL    01  @38248                                                    053509 7  1 038248 H2U8 6600  216
CC 43               TRE        *&10                                                      053514 L    053524 T52M 6601
CC 44               TR         R293ALTSW                                                 053519 1    053719 T71R 6602      CD37

CC 45               LOD    01  @38247                                 GM IN 7 POSITION   053524 8  1 038247 H2U7 6604
CC 46               UNL    12  @38247                                                    053529 7 12 038247 HB47 6605
CC 47               WR         @38000                                                    053534 R    038000 H000 6606
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INDEX    TAG        OP    NU AT   OPERAND    PROGRAM 8TC10B 04-25-62   COMMENTS      LOC   OP SU   ADDRESS   PGLIN SER REF

CE 01                     01                                          053774                      66384
CE 02 R293RMA             05                                          053779                      66386
CE 03                     05   ¤                                      053784                      66387
CE 04 R293FAW             05   0H255                                  053789                      66388
CE 05 R293FAW1            05   0H250                                  053794                      66389

CE 06              TITLE                     ROUTINE 294                                          6640

CE 07              TITLE                     READ TAPE MARK CHECK                                 6641
CE 08 ROUT294      SET        @0004                                   053799 B     000004 0004 6642
CE 09              LOD        @0564          GET TAPE ADDRESS         053804 8     000564 0564 6643
CE 10              UNL        TDSEL294                                053809 7     053839 T83R 6644   221CE16
CE 11              UNL        TYPOUT294                               053814 7     053959 T95R 6645     CE43
CE 12              SBN    8   SEVEN          CREATE TAPE MARK ---8421 053819 % 12 053945 TI4N 6646     CE41
CE 13              SET   04   @0001                                   053824 B  4  000001 0#01 6647
CE 14              LOD   04   SEVEN          STORE TAPE MARK IN ASU 4 053829 8  4  053945 TZ4N 6648     CE41
CE 15              SBZ    8   SEVEN                                   053834 %  4  053945 TZ4N 6649     CE41
CE 16 TDSEL294     SEL        @0000                                   053839 2     000000 0000 6650
CE 17              WTM        @0001                                   053844 3     000001 0001 6651
CE 18              BSP        @0004                                   053849 3     000004 0004 6652
CE 19              RCV        @38004                                  053854 U     038004 H004 66524
CE 20              BLM        @0005                                   053859 $     000005 0005 66526
CE 21              RD         @38000         RD TAPE MARK             053864 Y     038000 H000 6653
CE 22              TSA        *65                                     053869 O  3  053874 T8GM 66532 222
CE 23              IOF        @0000                                   053874 3     000000 0000 66534
CE 24              CMP   04   @38000         CMP TO TAPE MARK IN ASU 4 053879 4  4 038000 H#00 6654
CE 25              TRE        ERROR294       ERROR, TAPE MARK HAS BEEN READ 053884 L  053909 T90R 6655     CE31
CE 26              SET        @0001                                   053889 B     000001 0001 6656
CE 27              LOD        BLANK                                   053894 8     053946 T94O 6657     CE42
CE 28              CMP        @38000         CMP TO BLANK             053899 4     038000 H000 6658
CE 29              TRE        LOOP294        NO ERROR,RD BECAME RD01  053904 L     053939 T93R 6659     CE38

CE 30              TITLE                     ERROR ROUTINE                                        6660
CE 31 ERROR294     TAA        LOOP294        911 ON, BYPASS T/O AND HALT 053909 I  1 053939 T9TR 6661     CE38
CE 32              SEL        @0500                                   053914 2     000500 0500 6662
CE 33              WR         TYPOUT294                               053919 R     053947 T94P 6663     CE43
CE 34              TAC        HLT294         913 ON, HLT              053924 I  3  053934 T9CM 6664     CE36
CE 35              TR         LOOP294                                 053929 1     053939 T93R 6665   223CE38

CE 36 HLT294       HLT        @0294                                   053934 J     000294 0294 6666

CE 37              TITLE                     LOOP OR EXIT                                         6667
CE 38 LOOP294      TAB        ROUT294        912 ON, LOOP             053939 I  2  053799 T7RR 6668     CE08
CE 39              TR         @2974                                   053944 1     002974 2974 6669

CE 40              TITLE                     CONSTANTS                                            6670
CE 41 SEVEN        CON   01   7                                       053945                      6671
CE 42 BLANK           01                                              053946                      6672
CE 43 TYPOUT294       13   TC-294-TP                                  053959                      6673
CE 44                 01   ¤                                          053960                      6674

CE 45              TITLE                     CHANGES TO HANDLE MODEL                              67000

CE 46              TITLE                     5 AND 6 DRIVES - 8TC10B                              67010
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INDEX    TAG        OP    NU AT   OPERAND     PROGRAM 8TC10B 04-25-62   COMMENTS     LOC    OP SU   ADDRESS   PGLIN SER REF
CG 01               UNL         @29912                                               054214 7    029912 R912 67460
CG 02               LOD         CON00684                                             054219 8    054502 U50K 67470     CH02
CG 03               UNL         @29347                                               054224 7    029347 R347 67480
CG 04               UNL         @29704                                               054229 7    029704 R704 67490
CG 05               LOD         CON00210                                             054234 8    054547 U54P 67495     CH11
CG 06               UNL         @29699                                               054239 7    029699 R699 67497
CG 07               LOD         CON03500                                             054244 8    054517 U51P 67500     CH05
CG 08               UNL         @29917                                               054249 7    029917 R917 67510
CG 09               LOD         CON00300                                             054254 8    054522 U52K 67520     CH06
CG 10               UNL         @36286                                               054259 7    036286 F286 67530
CG 11               LOD         CON00400                                             054264 8    054527 U52P 67540     CH07
CG 12               UNL         @36291                                               054269 7    036291 F291 67550 229
CG 13               UNL         @36296                                               054274 7    036296 F296 67560
CG 14               TR          @0019                                                054279 1    000019 0019 67570

CG 15 CHNFORSW3     SET         5                CHANGES FOR SW AT 3                 054284 B    000005 0005 67580
CG 16               LOD         CON02500         HI DEN 556 BPI                      054289 8    054467 U46P 67590     CG46
CG 17               UNL         @29124           LO DEN 200 BPI                      054294 7    029124 R124 67600
CG 18               UNL         @29922                                               054299 7    029922 R922 67610
CG 19               LOD         CON00260                                             054304 8    054552 U55K 67615     CH12
CG 20               UNL         @29699                                               054309 7    029699 R699 67617
CG 21               LOD         CON03000                                             054314 8    054472 U47K 67620     CG47
CG 22               UNL         @29337                                               054319 7    029337 R337 67630
CG 23               LOD         CON01400                                             054324 8    054477 U47P 67640     CG48
CG 24               UNL         @29342                                               054329 7    029342 R342 67650 230
CG 25               LOD         CON01000                                             054334 8    054482 U48K 67660     CG49
CG 26               UNL         @29347                                               054339 7    029347 R347 67670
CG 27               LOD         CON01300                                             054344 8    054507 U50P 67680     CH03
CG 28               UNL         @29704                                               054349 7    029704 R704 67690
CG 29               LOD         CON01750                                             054354 8    054512 U51K 67700     CH04
CG 30               UNL         @29912                                               054359 7    029912 R912 67710
CG 31               LOD         CON03500                                             054364 8    054517 U51P 67720     CH05
CG 32               UNL         @29917                                               054369 7    029917 R917 67730
CG 33               LOD         CON00300                                             054374 8    054522 U52K 67740     CH06
CG 34               UNL         @36286                                               054379 7    036286 F286 67750
CG 35               LOD         CON00400                                             054384 8    054527 U52P 67760     CH07
CG 36               UNL         @36291                                               054389 7    036291 F291 67770 231
CG 37               UNL         @36296                                               054394 7    036296 F296 67780
CG 38               TR          @0019                                                054399 1    000019 0019 67790

CG 39               TITLE       CONSTANTS AND DATA AREA                                                     67800
CG 40 SWSETDIGIT    CON    01                                                        054400                 67810
CG 41 CKTPDENSW        33       CHECK TAPE DENSITY OPTION SWITCH¤                   054433                 67820
CG 42 STR123           26       STORE 1, 2, OR 3 AT      ¤                          054459                 67830 232
CG 43 SWDIG1           01       1                                                   054460                 67840
CG 44 SWDIG2           01       2                                                   054461                 67850
CG 45 SWDIG3           01       3                                                   054462                 67860
CG 46 CON02500         05       02500                                               054467                 67870
CG 47 CON03000         05       03000                                               054472                 67880
CG 48 CON01400         05       01400                                               054477                 67890
CG 49 CON01000         05       01000                                               054482                 67900
CG 50 CON01500         05       01500                                               054487                 67910
CG 51 CON01045         05       01045                                               054492                 67920
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| INDX | LOC | OPN | | SU | ADDRESS | | COMMENTS | 8TC10 | 10-08-62 | REF |
|---|---|---|---|---|---|---|---|---|---|---|
| AA01 | 055000 | LASN | | | | | | | | |
| AA02 | | TITLE | | | | | ROUTINE #295 | | | |
| AA03 | 055004 | SET | B | | 000004 | 0004 | CHECK REWIND READ | | | |
| AA04 | 055009 | LOD | 8 | | 000564 | 0564 | AT LOAD POINT | | | |
| AA05 | 055014 | UNL | 7 | | 055024 | V02M | | | | AA07 |
| AA06 | 055019 | UNL | 7 | | 055202 | V20K | | | | AA42 |
| AA07 | 055024 | SEL | 2 | | 000000 | 0000 | | | | |
| AA08 | 055029 | RWD | 3 | | 000002 | 0002 | | | | |
| AA09 | 055034 | SET | B | | 000005 | 0005 | | | | |
| AA10 | 055039 | LOD | 8 | | 055208 | V20Q | | | | AA43 |
| AA11 | 055044 | UNL | 7 | | 038004 | H004 | | | | |
| AA12 | 055049 | RCV | U | | 038009 | H009 | | | | |
| AA13 | 055054 | SET | B | | 000040 | 0040 | | | | |
| AA14 | 055059 | SND | / | | 038004 | H004 | | | | |
| AA15 | 055064 | SET | B | | 000001 | 0001 | | | | |
| AA16 | 055069 | LOD | 8 | | 055203 | V20L | POSITION GM | | | AA42 |
| AA17 | 055074 | UNL | 7 | | 038200 | H200 | | | | |
| AA18 | 055079 | WR | R | | 038000 | H000 | | | | |
| AA19 | 055084 | TSA | O | 3 | 055089 | V0HR | | | | |
| AA20 | 055089 | DMP | R | 1 | 000000 | 00#0 | | | | |
| AA21 | 055094 | TSA | O | 3 | 055099 | V0IR | | | | |
| AA22 | 055099 | RCV | U | | 060004 | -00M | | | | |
| AA23 | 055104 | BLM | $ | | 000040 | 0040 | | | | |
| AA24 | 055109 | RWD | 3 | | 000002 | 0002 | | | | |
| AA25 | 055114 | FSP | Y | 1 | 060000 | -0#- | | | | |
| AA26 | 055119 | RWD | 3 | | 000002 | 0002 | | | | |
| AA27 | 055124 | RD | Y | | 060000 | -00- | | | | |
| AA28 | 055129 | TSA | O | 3 | 055134 | V1CM | | | | |
| AA29 | 055134 | SET | B | | 000050 | 0050 | | | | |
| AA30 | 055139 | LOD | 8 | | 038049 | H049 | | | | |
| AA31 | 055144 | CMP | 4 | | 060049 | -04R | | | | |
| AA32 | 055149 | TRE | L | | 055184 | V18M | | | | AA39 |
| AA33 | 055154 | TAA | I | 1 | 055184 | V1YM | | | | AA39 |
| AA34 | 055159 | SEL | 2 | | 000500 | 0500 | | | | |
| AA35 | 055164 | WR | R | | 055190 | V19- | | | | AA42 |
| AA36 | 055169 | TAC | I | 3 | 055179 | V1GR | | | | |
| AA37 | 055174 | TR | 1 | | 055184 | V18M | | | | AA39 |
| AA38 | 055179 | HLT | J | | 000295 | 0295 | | | | |
| AA39 | 055184 | TAB | I | 2 | 055004 | V0-M | | | | AA03 |
| AA40 | 055189 | TR | 1 | | 055214 | V21M | | | | AA45 |
| AA41 | | TITLE | | | | | CONSTANTS | | | |
| AA42 | 055203 | CON | | 14 | TC-295-TP | | ¤ | | | |
| AA43 | 055208 | | | 05 | G.#@8 | | | | | |
| AA44 | | TITLE | | | | | ROUTINE #296 | | | |
| AA45 | 055214 | SET | B | | 000004 | 0004 | TAPE MARKER RECOGNITION | | | |
| AA46 | 055219 | LOD | 8 | | 000564 | 0564 | AT LOAD POINT | | | |
| AA47 | 055224 | UNL | 7 | | 055239 | V23R | | | | AB02 |
| AA48 | 055229 | UNL | 7 | | 055269 | V26R | WRITE 2 CHARACTER | | | AB08 |

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| INDX | LOC | OPN | | SU | ADDRESS | | COMMENTS 8TC10 10-08-62 | REF |
|---|---|---|---|---|---|---|---|---|
| AB01 | 055234 | UNL | 7 | | 055422 | V42K | RECORD - RWD AND READ | AB38 |
| AB02 | 055239 | SEL | 2 | | 000000 | 0000 | REPEAT 5 TIMES CHECKING | |
| AB03 | 055244 | RWD | 3 | | 000002 | 0002 | TAPE ALWAYS READY AFTER REWIND | |
| AB04 | 055249 | SET | B | 1 | 000000 | 00#0 | | |
| AB05 | 055254 | SET | B | 1 | 000007 | 00#7 | | |
| AB06 | 055259 | SET | B | | 019998 | Z998 | | |
| AB07 | 055264 | NTR | X | 1 | 055259 | V2VR | | |
| AB08 | 055269 | SEL | 2 | | 000000 | 0000 | | |
| AB09 | 055274 | TRR | O | 1 | 055284 | V2YM | | |
| AB10 | 055279 | TR | 1 | | 055374 | V37M | | AB29 |
| AB11 | 055284 | SET | B | | 000005 | 0005 | | |
| AB12 | 055289 | LOD | 8 | | 055427 | V42P | | AB40 |
| AB13 | 055294 | UNL | 7 | | 038004 | H004 | | |
| AB14 | 055299 | WR | R | | 038000 | H000 | | |
| AB15 | 055304 | TSA | O | 3 | 055309 | V3&R | | |
| AB16 | 055309 | SET | B | 2 | 000000 | 00-0 | | |
| AB17 | 055314 | SET | B | 2 | 000006 | 00-6 | | |
| AB18 | 055319 | RWD | 3 | | 000002 | 0002 | | |
| AB19 | 055324 | SET | B | 1 | 000000 | 00#0 | | |
| AB20 | 055329 | SET | B | 1 | 000007 | 00#7 | | |
| AB21 | 055334 | SET | B | | 019998 | Z998 | | |
| AB22 | 055339 | NTR | X | 1 | 055334 | V3TM | | |
| AB23 | 055344 | TRR | O | 1 | 055354 | V3VM | | |
| AB24 | 055349 | TR | 1 | | 055374 | V37M | | AB29 |
| AB25 | 055354 | RD | Y | | 039000 | I000 | | |
| AB26 | 055359 | TSA | O | 3 | 055364 | V3FM | | |
| AB27 | 055364 | NTR | X | 2 | 055319 | V3JR | | AB18 |
| AB28 | 055369 | TR | 1 | | 055404 | V40M | | AB35 |
| AB29 | 055374 | TAA | I | 1 | 055404 | V4#M | | AB35 |
| AB30 | 055379 | SEL | 2 | | 000500 | 0500 | | |
| AB31 | 055384 | WR | R | | 055410 | V41- | | AB38 |
| AB32 | 055389 | TAC | I | 3 | 055399 | V3IR | | |
| AB33 | 055394 | TR | 1 | | 055404 | V40M | | |
| AB34 | 055399 | HLT | J | | 000296 | 0296 | | |
| AB35 | 055404 | TAB | I | 2 | 055214 | V2JM | | AA45 |
| AB36 | 055409 | TR | 1 | | 055434 | V43M | | AB42 |
| AB37 | | TITLE | | | | | CONSTANTS | |
| AB38 | 055423 | CON | | 14 | TC-296-TP | | ¤ | |
| AB39 | 055424 | CON | | 1 | | | | |
| AB40 | 055427 | CON | | 03 | G8¤ | | | |
| AB41 | | TITLE | | | | | ROUTINE #297 | |
| AB42 | 055434 | SET | B | | 000004 | 0004 | CHECK THAT SELECT AND READY | |
| AB43 | 055439 | LOD | 8 | | 000564 | 0564 | LINES IN INTERRUPT | |
| AB44 | 055444 | UNL | 7 | | 055474 | V47M | PROGRAM ARE NOTSEL-NOT RDY | AC04 |
| AB45 | 055449 | UNL | 7 | | 055519 | V51R | WHEN LAST CYCLE OF LIP COMPLETE | AC13 |
| AB46 | 055454 | UNL | 7 | | 055602 | V60K | | AC29 |

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| INDX | LOC | OPN | | SU | ADDRESS | | COMMENTS 8TC10 10-08-62 | REF |
|---|---|---|---|---|---|---|---|---|
| AC01 | 055459 | SHR | C | | 000002 | 0002 | | |
| AC02 | 055464 | UNL | 7 | | 055537 | V53P | | AC17 |
| AC03 | 055469 | EEM | 3 | 14 | | 0&-0 | ENTER 80 MODE | |
| AC04 | 055474 | SEL | 2 | | 000000 | 0000 | INSURE TAPE READY INITIALLY | |
| AC05 | 055479 | TRR | O | 1 | 055489 | V4YR | | |
| AC06 | 055484 | TR | 1 | | 055549 | V54R | | AC19 |
| AC07 | 055489 | SEL | 2 | | 009999 | 9999 | DESELECT TAPE | |
| AC08 | 055494 | TIP | , | 14 | 055514 | VEJM | | AC12 |
| AC09 | 055499 | TRR | O | 1 | 055549 | V5UR | SEL 9999 SHOULD NOT BE READY | AC19 |
| AC10 | 055504 | NOP | A | | 000004 | 0004 | WHEN LIP RETURNS TO MAIN P-G | |
| AC11 | 055509 | TR | 1 | | 055579 | V57R | | AC25 |
| AC12 | 055514 | EEM | 3 | 14 | 000000 | 0&-0 | | |
| AC13 | 055519 | SEL | 2 | | 000000 | 0000 | | |
| AC14 | 055524 | NOP | A | | 000004 | 0004 | | |
| AC15 | 055529 | SBN | % | 13 | 055537 | VETP | | AC17 |
| AC16 | 055534 | SBN | % | 14 | 055537 | VELP | | AC17 |
| AC17 | 055539 | LIP | , | 15 | 000000 | 0&&0 | | |
| AC18 | 055544 | TR | 1 | | 055514 | V51M | | AC12 |
| AC19 | 055549 | TAA | I | 1 | 055579 | V5XR | | AC25 |
| AC20 | 055554 | SEL | 2 | | 000500 | 0500 | | |
| AC21 | 055559 | WR | R | | 055590 | V59= | | AC29 |
| AC22 | 055564 | TAC | I | 3 | 055574 | V5GM | | |
| AC23 | 055569 | TR | 1 | | 055579 | V57R | | |
| AC24 | 055574 | HLT | J | | 000297 | 0297 | | |
| AC25 | 055579 | TAB | I | 2 | 055434 | V4LM | | AB42 |
| AC26 | 055584 | LEM | 3 | 15 | | 0&&0 | LEAVE 80 MODE | |
| AC27 | 055589 | TR | 1 | | 055609 | V60R | | AC31 |
| AC28 | | TITLE | | | | | CONSTANTS | |
| AC29 | 055603 | CON | | 14 | TC-297-TP | | ¤ | |
| AC30 | | TITLE | | | | | ROUTINE #298 | |
| AC31 | 055609 | TAE | I | 5 | 055834 | VYTM | FORCE A CHAR-CTRL | AD30 |
| AC32 | 055614 | SET | B | | 000004 | 0004 | CHECK BY FORCING | |
| AC33 | 055619 | LOD | 8 | | 000564 | 0564 | CHAR CTRL IN DATA WORD | |
| AC34 | 055624 | UNL | 7 | | 055649 | V64R | A DURING READ | AC39 |
| AC35 | 055629 | UNL | 7 | | 055857 | V85P | | AD34 |
| AC36 | 055634 | SHR | C | | 000002 | 0002 | | |
| AC37 | 055639 | UNL | 7 | | 055782 | V78K | | AD20 |
| AC38 | 055644 | EEM | 3 | 14 | | 0&-0 | | |
| AC39 | 055649 | SEL | 2 | | 000000 | 0000 | | |
| AC40 | 055654 | SDL | 3 | | 000037 | 0037 | | |
| AC41 | 055659 | SET | B | | 000005 | 0005 | | |
| AC42 | 055664 | LOD | 8 | | 055866 | V860 | | AD37 |
| AC43 | 055669 | UNL | 7 | | 038004 | H004 | | |
| AC44 | 055674 | RCV | U | | 038009 | H009 | | |
| AC45 | 055679 | SET | B | | 000250 | 0250 | | |
| AC46 | 055684 | SND | / | | 038004 | H004 | | |

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| INDX | LOC | OPN | | SU | ADDRESS | | COMMENTS | 8TC10 | 10-08-62 | REF |
|---|---|---|---|---|---|---|---|---|---|---|
| AD01 | 055689 | SET | B | | 000001 | 0001 | | | | |
| AD02 | 055694 | LOD | 8 | | 055858 | V85Q | | | | AD34 |
| AD03 | 055699 | UNL | 7 | | 039250 | I250 | | | | |
| AD04 | 055704 | WR | R | | 038000 | H000 | | | | |
| AD05 | 055709 | TSA | O | 3 | 055719 | V7AR | | | | |
| AD06 | 055714 | TR | 1 | | 055734 | V73M | | | | AD10 |
| AD07 | 055719 | BSP | 3 | | 000004 | 0004 | | | | |
| AD08 | 055724 | SKP | 3 | | 000009 | 0009 | | | | |
| AD09 | 055729 | TR | 1 | | 055704 | V70M | | | | AD04 |
| AD10 | 055734 | WR | R | | 038000 | H000 | | | | |
| AD11 | 055739 | TSA | O | 3 | 055749 | V7DR | | | | |
| AD12 | 055744 | TR | 1 | | 055764 | V76M | | | | AD16 |
| AD13 | 055749 | BSP | 3 | | 000004 | 0004 | | | | |
| AD14 | 055754 | SKP | 3 | | 000009 | 0009 | | | | |
| AD15 | 055759 | TR | 1 | | 055734 | V73M | | | | AD10 |
| AD16 | 055764 | BSP | 3 | | 000004 | 0004 | BACKSPACE REC#1 | | | |
| AD17 | 055769 | BSP | 3 | | 000004 | 0004 | BSP RECORD #I | | | |
| AD18 | 055774 | RD | Y | | 060000 | -00- | | | | |
| AD19 | 055779 | RD | Y | | 060000 | -00- | | | | |
| AD20 | 055784 | SPC | , | | 000025 | 0025 | FORCE AN *A* | | | |
| AD21 | 055789 | LFC | , | 2 | 055861 | V8OJ | INTO CHAR 5 OF | | | AD36 |
| AD22 | 055794 | SPC | , | | 000000 | 0000 | DATA WORD A | | | |
| AD23 | 055799 | TSA | O | 3 | 055834 | V8CM | CHAN CK SHOULD BE ON | | | AD30 |
| AD24 | 055804 | TAA | I | 1 | 055834 | V8TM | ERROR ROUTINE | | | AD30 |
| AD25 | 055809 | SEL | 2 | | 000500 | 0500 | | | | |
| AD26 | 055814 | WR | R | | 055845 | V84N | | | | AD34 |
| AD27 | 055819 | TAC | I | 3 | 055829 | V8BR | | | | |
| AD28 | 055824 | TR | 1 | | 055834 | V83M | | | | |
| AD29 | 055829 | HLT | J | | 000298 | 0298 | | | | |
| AD30 | 055834 | TAB | I | 2 | 055609 | V6-R | | | | AC31 |
| AD31 | 055839 | NOP | A | | 000004 | 0004 | | | | |
| AD32 | 055844 | TR | 1 | | ~~040004~~ | ~~000M~~ | 55904 | | | |
| AD33 | | TITLE | | | | | CONSTANTS | | | |
| AD34 | 055858 | CON | | 14 | TC-298-TP | | ¤ | | | |
| AD35 | 055860 | | | 02 | | | | | | |
| AD36 | 055861 | | | 01 | A | | | | | |
| AD37 | 055866 | | | 05 | G8G8G | | | | | |

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| INDX | LOC | OPN | | SU | ADDRESS | | COMMENTS | 8TC10 | 05-29-63 | REF |
|---|---|---|---|---|---|---|---|---|---|---|
| **AA01** | **055900** | **LASN** | | | | | | | | |
| **AA02** | | **TITLE** | | | | | **ROUTINE #299** | | | |
| AA03 | 055904 | SET | B | | 000004 | 0004 | CHECK DISCONNECTED OR | | | |
| AA04 | 055909 | LOD | 8 | | 000564 | 0564 | NON-OPERATIONAL ERASE HEAD | | | |
| AA05 | 055914 | UNL | 7 | | 055924 | V92M | | | | AA07 |
| AA06 | 055919 | UNL | 7 | | 056117 | W11P | | | | AA45 |
| AA07 | 055924 | SEL | 2 | | 000000 | 0000 | SEL AND REWIND TO LOAD POINT | | | |
| AA08 | 055929 | WR | R | | 056105 | W10N | | | | AA45 |
| AA09 | 055934 | SET | B | | 009000 | 9000 | | | | |
| AA10 | 055939 | TRR | O | 1 | 055964 | V9WM | | | | |
| AA11 | 055944 | SET | B | | 000004 | 0004 | LOAD DLY FOR MOD 2-5 DRIVE | | | |
| AA12 | 055949 | LOD | 8 | | 056122 | W12K | | | | AA46 |
| AA13 | 055954 | UNL | 7 | | 056044 | W04M | | | | AA31 |
| AA14 | 055959 | TR | 1 | | 055979 | V97R | | | | |
| AA15 | 055964 | SET | B | | 000004 | 0004 | LOAD DLY FOR MOD 4-6 DRIVE | | | |
| AA16 | 055969 | LOD | 8 | | 056126 | W12O | | | | AA47 |
| AA17 | 055974 | UNL | 7 | | 056044 | W04M | | | | AA31 |
| AA18 | 055979 | RWD | 3 | | 000002 | 0002 | | | | |
| AA19 | 055984 | TRR | O | 1 | 055994 | V9ZM | | | | |
| AA20 | 055989 | TR | 1 | | 055984 | V98M | | | | |
| AA21 | 055994 | RCV | U | | 060004 | -00M | | | | |
| AA22 | 055999 | BLM | $ | | 001005 | 1005 | | | | |
| AA23 | 056004 | SET | B | | 000001 | 0001 | | | | |
| AA24 | 056009 | LOD | 8 | | 056118 | W11Q | | | | AA45 |
| AA25 | 056014 | UNL | 7 | | 065000 | N00- | POSITION GROUP MARK | | | |
| AA26 | 056019 | WR | R | | 060000 | -00- | WRITE 5000 CHAR REC | | | |
| AA27 | 056024 | RWD | 3 | | 000002 | 0002 | REWIND | | | |
| AA28 | 056029 | WR | R | | 064900 | M90- | WRITE 100 CHAR RECORD | | | |
| AA29 | 056034 | RD | Y | | 065000 | N00- | READ CHECK FOR ERASED GAP | | | |
| AA30 | 056039 | SPC | , | | 003000 | 3000 | | | | |
| AA31 | 056044 | SET | B | | 000000 | 0000 | DELAY | | | |
| AA32 | 056049 | CHR | 3 | 13 | | 0&#0 | | | | |
| AA33 | 056054 | SPC | , | | 000000 | 0000 | | | | |
| AA34 | 056059 | CMP | 4 | | 065000 | N00- | CMP TO SEE THAT NOTHING | | | |
| AA35 | 056064 | TRE | L | | 056099 | W09R | READ TO DESTROY GM | | | AA42 |
| AA36 | 056069 | TAA | I | 1 | 056099 | W0ZR | | | | |
| AA37 | 056074 | SEL | 2 | | 000500 | 0500 | | | | |
| AA38 | 056079 | WR | R | | 056105 | W10N | | | | AA45 |
| AA39 | 056084 | TAC | I | 3 | 056094 | W0IM | | | | |
| AA40 | 056089 | TR | 1 | | 056099 | W09R | | | | |
| AA41 | 056094 | HLT | J | | 000299 | 0299 | | | | |
| AA42 | 056099 | TAB | I | 2 | 055904 | V9-M | | | | AA03 |
| AA43 | 056104 | TR | 1 | | 040004 | 000M | | | | |
| **AA44** | | **TITLE** | | | | | **CONSTANTS** | | | |
| AA45 | 056118 | CON | | 14 | TC-299-TP | | ¤ | | | |
| AA46 | 056122 | CON | | 04 | 8600 | | | | | |
| AA47 | 056126 | CON | | 04 | 5300 | | | | | |

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| INDEX | TAG | OP | NU | AT | OPERAND | PROGRAM STORAGE | LOC | OP | SU | ADDRESS | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CH 01 | CON01063 | | 05 | | 01063 | | [illegible] | | | | 67930 | | |
| CH 02 | CON00684 | | 05 | | 00684 | | 054502 | | | | 67940 | | |
| CH 03 | CON01300 | | 05 | | 01300 | | 054507 | | | | 67950 | 233 | |
| CH 04 | CON01750 | | 05 | | 01750 | | 054512 | | | | 67960 | | |
| CH 05 | CON03500 | | 05 | | 03500 | | 054517 | | | | 67970 | | |
| CH 06 | CON00300 | | 05 | | 00300 | | 054522 | | | | 67980 | | |
| CH 07 | CON00400 | | 05 | | 00400 | | 054527 | | | | 67990 | | |
| CH 08 | CON00280 | | 05 | | 00280 | | 054532 | | | | 68000 | | |
| CH 09 | CON00450 | | 05 | | 00450 | | 054537 | | | | 68010 | | |
| CH 10 | CON01200 | | 05 | | 01200 | | 054542 | | | | 68015 | | |
| CH 11 | CON00210 | | 05 | | 00210 | | 054547 | | | | 68017 | | |
| CH 12 | CON00260 | | 05 | | 00260 | | 054552 | | | | 68018 | | |
| CH 13 | DIGSTERR | | 19 | | CHECK DIGIT STORED= | | 054571 | | | | 68020 | 234 | |

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PROGRAM 8TC10B 04-25-62

| INDEX | TAG | OP | NU AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CF 01 | | SEL | | 500 | | 053969 | 2 | | 000500 | 0500 | 67020 | 224 |
| CF 02 | | WR | | CKTPDENSW | | 053974 | ~~X~~ | A | 054401 | U40J | 67030 | CG41 |
| CF 03 | | WR | | STR123 | | 053979 | ~~X~~ | A | 054434 | U43M | 67040 | CG42 |
| CF 04 | | HLT | | @0000 | | 053984 | J | | 000000 | 0000 | 67050 | |
| CF 05 | | SET | | 1 | | 053989 | B | | 000001 | 0001 | 67055 | |
| CF 06 | CMPSWSET | LOD | | SWSETDIGIT | | 053994 | 8 | | 054400 | U40- | 67060 | CG40 |
| CF 07 | | CMP | | SWDIG3 | | 053999 | 4 | | 054462 | U46K | 67070 | CG45 |
| CF 08 | | TRE | | CHNFORSW3 | SW AT 3 556 - 200 | 054004 | L | | 054284 | U28M | 67080 | CG15 |
| CF 09 | | CMP | | SWDIG1 | | 054009 | 4 | | 054460 | U46- | 67090 | CG43 |
| CF 10 | | TRE | | CHNFORSW1 | SW AT 1 800 - 556 | 054014 | L | | 054049 | U04R | 67100 | CF17 |
| CF 11 | | CMP | | SWDIG2 | | 054019 | 4 | | 054461 | U46J | 67110 | CG44 |
| CF 12 | | TRE | | CHNFORSW2 | SW AT 2 800 - 200 | 054024 | L | | 054169 | U16R | 67120 | CF41 |
| CF 13 | | SEL | | 500 | | 054029 | 2 | | 000500 | 0500 | 67130 | 225 |
| CF 14 | | WR | | DIGSTERR | | 054034 | R | | 054553 | U55L | 67140 | CH13 |
| CF 15 | | HLT | | @7621 | | 054039 | J | | 007621 | 7621 | 67150 | |
| CF 16 | | TR | | CMPSWSET | | 054044 | 1 | | 053994 | T99M | 67160 | CF06 |
| CF 17 | CHNFORSW1 | SET | | 5 | CHANGES FOR SW AT 1 | 054049 | B | | 000005 | 0005 | 67170 | |
| CF 18 | | LOD | | CON01500 | HI DEN 800 BPI | 054054 | 8 | | 054487 | U48P | 67180 | CG50 |
| CF 19 | | UNL | | @29337 | LO DEN 556 BPI | 054059 | 7 | | 029337 | R337 | 67190 | |
| CF 20 | | LOD | | CON01045 | | 054064 | 8 | | 054492 | U49K | 67200 | CG51 |
| CF 21 | | UNL | | @29124 | | 054069 | 7 | | 029124 | R124 | 67210 | |
| CF 22 | | LOD | | CON01063 | | 054074 | 8 | | 054497 | U49P | 67220 | CH01 |
| CF 23 | | UNL | | @29342 | | 054079 | 7 | | 029342 | R342 | 67230 | |
| CF 24 | | LOD | | CON01300 | | 054084 | 8 | | 054507 | U50P | 67235 | CH10 |
| CF 25 | | UNL | | @29912 | | 054089 | 7 | | 029912 | R912 | 67240 | 226 |
| CF 26 | | LOD | | CON00684 | | 054094 | 8 | | 054502 | U50K | 67250 | CH02 |
| CF 27 | | UNL | | @29347 | | 054099 | 7 | | 029347 | R347 | 67260 | |
| CF 28 | | UNL | | @29704 | | 054104 | 7 | | 029704 | R704 | 67270 | |
| CF 29 | | LOD | | CON00210 | | 054109 | 8 | | 054547 | U54P | 67275 | CH11 |
| CF 30 | | UNL | | @29699 | | 054114 | 7 | | 029699 | R699 | 67277 | |
| CF 31 | | LOD | | CON01750 | | 054119 | 8 | | 054512 | U51K | 67280 | CH04 |
| CF 32 | | UNL | | @29917 | | 054124 | 7 | | 029917 | R917 | 67290 | |
| CF 33 | | LOD | | CON01300 | | 054129 | 8 | | 054507 | U50P | 67300 | CH03 |
| CF 34 | | UNL | | @29922 | | 054134 | 7 | | 029922 | R922 | 67310 | |
| CF 35 | | LOD | | CON00280 | | 054139 | 8 | | 054532 | U53K | 67320 | CH08 |
| CF 36 | | UNL | | @36286 | | 054144 | 7 | | 036286 | F286 | 67330 | |
| CF 37 | | LOD | | CON00450 | | 054149 | 8 | | 054537 | U53P | 67340 | 227CH09 |
| CF 38 | | UNL | | @36291 | | 054154 | 7 | | 036291 | F291 | 67350 | |
| CF 39 | | UNL | | @36296 | | 054159 | 7 | | 036296 | F296 | 67360 | |
| CF 40 | | TR | | @0019 | | 054164 | 1 | | 000019 | 0019 | 67370 | |
| CF 41 | CHNFORSW2 | SET | | 5 | CHANGES FOR SW AT 2 | 054169 | B | | 000005 | 0005 | 67380 | |
| CF 42 | | LOD | | CON02500 | HI DEN 800 BPI | 054174 | 8 | | 054467 | U46P | 67390 | CG46 |
| CF 43 | | UNL | | @29124 | LO DEN 200 BPI | 054179 | 7 | | 029124 | R124 | 67400 | |
| CF 44 | | UNL | | @29922 | | 054184 | 7 | | 029922 | R922 | 67410 | |
| CF 45 | | LOD | | CON03000 | | 054189 | 8 | | 054472 | U47K | 67420 | CG47 |
| CF 46 | | UNL | | @29337 | | 054194 | 7 | | 029337 | R337 | 67430 | |
| CF 47 | | LOD | | CON01063 | | 054199 | 8 | | 054497 | U49P | 67440 | CH01 |
| CF 48 | | UNL | | @29342 | | 054204 | 7 | | 029342 | R342 | 67450 | |
| CF 49 | | LOD | | CON01300 | | 054209 | 8 | | 054507 | U50P | 67455 | 228CH10 |

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PROGRAM 8TC10B 04-25-62

| INDEX | TAG | OP | NU | AT | OPERAND | COMMENTS | LOC | OP | SU | ADDRESS | | PGLIN | SER | REF |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CD 01 | | LDA | | | * | | 053539 | # | | 053539 | T53R | 66070 | | |
| CD 02 | | TSA | | | @18804 | | 053544 | O | 3 | 018804 | Y8&4 | 6608 | | |
| CD 03 | | RCVS | | | R293RMA -004 | | 053549 | U | | 053771 | T77J | 6609 | | CE02 |
| CD 04 | | BLMS | | | @0005 | | 053554 | $ | 1 | 000005 | 00#5 | 6610 | | |
| CD 05 | | RMA | | | R293RMA | | 053559 | Y | 2 | 053775 | T7PN | 66110 | | CE02 |
| CD 06 | | TSA | | | *&5 | | 053564 | O | 3 | 053569 | T5FR | 66120 | | |
| CD 07 | | CMP | 02 | | R293RMA | | 053569 | 4 | 2 | 053779 | T7PR | 6613 | 217 | CE02 |
| CD 08 | | UNL | 01 | | @38247 | | 053574 | 7 | 1 | 038247 | H2U7 | 6614 | | |
| CD 09 | | TRE | | | * + 10 | | 053579 | L | | 053589 | T58R | 6615 | | |
| CD 10 | | TR | | | R293ALTSW | | 053584 | 1 | | 053719 | T71R | 6616 | | CD37 |
| CD 11 | | LOD | 01 | | @38246 | GM IN 6 POSITION | 053589 | 8 | 1 | 038246 | H2U6 | 6617 | | |
| CD 12 | | UNL | 12 | | @38246 | | 053594 | 7 | 12 | 038246 | HB46 | 66180 | | |
| CD 13 | | WR | | | @38000 | | 053599 | R | | 038000 | H000 | 6619 | | |
| CD 14 | | LDA | | | * | | 053604 | # | | 053604 | T60M | 6620 | | |
| CD 15 | | TSA | | | @18804 | | 053609 | O | 3 | 018804 | Y8&4 | 6621 | | |
| CD 16 | | RCVS | | | R293RMA -004 | | 053614 | U | | 053771 | T77J | 66220 | | CE02 |
| CD 17 | | BLMS | | | @0005 | | 053619 | $ | 1 | 000005 | 00#5 | 66230 | | |
| CD 18 | | RMA | | | R293RMA | | 053624 | Y | 2 | 053775 | T7PN | 6624 | | CE02 |
| CD 19 | | TSA | | | *&5 | | 053629 | O | 3 | 053634 | T6CM | 6625 | 218 | |
| CD 20 | | CMP | 02 | | R293RMA | | 053634 | 4 | 2 | 053779 | T7PR | 6626 | | CE02 |
| CD 21 | | UNL | 01 | | @38246 | | 053639 | 7 | 1 | 038246 | H2U6 | 6627 | | |
| CD 22 | | TRE | | | * + 10 | | 053644 | L | | 053654 | T65M | 6628 | | |
| CD 23 | | TR | | | R293ALTSW | | 053649 | 1 | | 053719 | T71R | 6629 | | CD37 |
| CD 24 | | LOD | 01 | | @38245 | | 053654 | 8 | 1 | 038245 | H2U5 | 66295 | | |
| CD 25 | | UNL | 12 | | @38245 | | 053659 | 7 | 12 | 038245 | HB45 | 6630 | | |
| CD 26 | | WR | | | @38000 | | 053664 | R | | 038000 | H000 | 66305 | | |
| CD 27 | | LDA | | | * | | 053669 | # | | 053669 | T66R | 6631 | | |
| CD 28 | | TSA | | | @18804 | | 053674 | O | 3 | 018804 | Y8&4 | 66315 | | |
| CD 29 | | RCVS | | | R293RMA -004 | | 053679 | U | | 053771 | T77J | 6632 | | CE02 |
| CD 30 | | BLMS | | | @0005 | | 053684 | $ | 1 | 000005 | 00#5 | 66325 | | |
| CD 31 | | RMA | | | R293RMA | | 053689 | Y | 2 | 053775 | T7PN | 6633 | 219 | CE02 |
| CD 32 | | TSA | | | *&5 | | 053694 | O | 3 | 053699 | T6IR | 66335 | | |
| CD 33 | | LOD | 02 | | R293FAW1 | | 053699 | A | 2 | 053794 | T7RM | 6634 | | CE05 |
| CD 34 | | CMP | 02 | | R293RMA | | 053704 | 4 | 2 | 053779 | T7PR | 66345 | | CE02 |
| CD 35 | | UNL | 01 | | @38245 | | 053709 | 7 | 1 | 038245 | H2U5 | 6635 | | |
| CD 36 | | TRE | | | R293912 | | 053714 | L | | 053749 | T74R | 66355 | | CD43 |
| CD 37 | R293ALTSW | TAA | | | R293912 | | 053719 | I | 1 | 053749 | T7UR | 6636 | | CD43 |
| CD 38 | | SEL | | | 500 | | 053724 | 2 | | 000500 | 0500 | 66362 | | |
| CD 39 | | WR | | | ROUT TO293 | | 053729 | R | | 053755 | T75N | 66364 | | CD46 |
| CD 40 | | TAC | | | *&10 | | 053734 | I | 3 | 053744 | T7DM | 66366 | | |
| CD 41 | | TR | | | *&10 | | 053739 | 1 | | 053749 | T74R | 66368 | | |
| CD 42 | | HLT | | | @0293 | | 053744 | J | | 000293 | 0293 | 6637 | | |
| CD 43 | R293912 | TAB | | | ROUT293 | | 053749 | I | 2 | 053389 | T3QR | 66372 | 220 | CC18 |
| CD 44 | | TR | | | ROUT294 | | 053754 | 1 | | 053799 | T79R | 66374 | | CE08 |
| CD 45 | | TITLE | | | | CONSTANTS | | | | | | 66376 | | |
| CD 46 | ROUT TO293 | CON | 13 | | TC-293-TP | | 053767 | | | | | 66378 | | |
| CD 47 | | | 01 | | ¤ | | 053768 | | | | | 6638 | | |
| CD 48 | R293CON | | 05 | | G7#.H | | 053773 | | | | | 66382 | | |

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INDEX    TAG        OP    NU AT   OPERAND     PROGRAM 8TC10B 04-25-62   COMMENTS          LOC    OP SU   ADDRESS   PGLIN SER REF

CB 01               TSA         @18804        CHAN CK ON WRITE                           053074 O  3 018804 Y8&4 6508
CB 02               BSF    01   @0004                                                    053079 3  1 000004 00#4 6509  208
CB 03               RD          TM                  RETURN TAPE TO STARTING POINT        053084 Y    053345 T34N 6510     CC08
CB 04               IOF         @0000                                                    053089 3    000000 0000 6511
CB 05               RD          @38000              READ 1000 G,S                        053094 Y    038000 H000 6512
CB 06 REENT 3       LDA         REENT 3                                                  053099 #    053099 T09R 6513     CB06
CB 07               TSA         @18919        CHAN CK ON READ                            053104 O  3 018919 Y9A9 6514
CB 08               RD          @39800              READ TAPE TEST AREA                  053109 Y    039800 I800 6515
CB 09               TSA         ERROR                                                    053114 O  3 053124 T1BM 6516     CB12
CB 10               TR          LOOPOREXIT                                               053119 1    053339 T33R 6517     CC04

CB 11               TITLE                           ERROR TEST                                                   6518
CB 12 ERROR         SET         @0050                                                    053124 B    000050 0050 6519
CB 13               LOD         @39010                                                   053129 8    039010 I010 6520
CB 14               CMP         @39800              COMPARE ENTIRE FIELD                 053134 4    039800 I800 6521
CB 15               TRE         LOOPOREXIT                                               053139 L    053339 T33R 6522  209CC04
CB 16               SET         @0005                                                    053144 B    000005 0005 6523
CB 17               LOD         @39010                                                   053149 8    039010 I010 6524
CB 18               CMP         @39800              COMPARE FIRST FIVE CHARACTERS        053154 4    039800 I800 6525
CB 19               TRE         LOOPOREXIT                                               053159 L    053339 T33R 6526     CC04
CB 20               SET         @0001                                                    053164 B    000001 0001 6527
CB 21               LOD         ONE                                                      053169 8    053361 T36J 6528     CC12
CB 22               RCVS   01   @39800              LOOK FOR 7 BIT SPLASH                053174 U  1 039800 I8#0 6529
CB 23 C BIT         TZB    C    B BIT               IN FIRST CHARACTER                   053179 .  7 053189 T/HR 6530     CB25
CB 24               UNL         @39500              C                                    053184 7    039500 I500 6531
CB 25 B BIT         TZB    B    A BIT                                                    053189 .  6 053199 T/RR 6532     CB27
CB 26               UNL         @39501              B                                    053194 7    039501 I501 6533
CB 27 A BIT         TZB    A    8 BIT                                                    053199 .  5 053209 TS#R 6534  210CB29
CB 28               UNL         @39502              A                                    053204 7    039502 I502 6535
CB 29 8 BIT         TZB    8    4 BIT                                                    053209 .  4 053219 TS19 6536     CB31
CB 30               UNL         @39503              8                                    053214 7    039503 I503 6537
CB 31 4 BIT         TZB    4    2 BIT                                                    053219 .  3 053229 T2BR 6538     CB33
CB 32               UNL         @39504              4                                    053224 7    039504 I504 6539
CB 33 2 BIT         TZB    2    1 BIT                                                    053229 .  2 053239 T2LR 6540     CB35
CB 34               UNL         @39505              2                                    053234 7    039505 I505 6541
CB 35 1 BIT         TZB    1    REENT 4                                                  053239 .  1 053269 T2WR 6542     CB41
CB 36               UNL         @39506              1                                    053244 7    039506 I506 6543
CB 37               SET         @0007                                                    053249 B    000007 0007 6544
CB 38               LOD         ALLBITS                                                  053254 8    053368 T36Q 6545     CC13
CB 39               CMP         @39506                                                   053259 4    039506 I506 6546  211
CB 40               TRE         SW 911              ERASE HEAD POLARITY REVERSED         053264 L    053309 T30R 6547     CB49
CB 41 REENT 4       LDA         REENT 4                                                  053269 #    053269 T26R 6548     CB41
CB 42 BADTAPE       NOP         @18919              CHAN CK ON RD NOT ERASE HEAD         053274 A    018919 Y919 6549
CB 43 ONE RETRY     NOP         LOOPOREXIT                                               053279 A    053339 T33R 6550     CC04
CB 44               SRC    02   @0020               IF NOT ALL BITS SKIP TAPE AND        053284 R  2 000020 00K0 6551
CB 45               SKP         @0009               MAKE ONE RETRY                       053289 3    000009 0009 6552
CB 46               SGN         BADTAPE    -004                                          053294 T    053270 I27- 6553     CB42
CB 47               SGN         ONE RETRY  -004                                          053299 T    053275 T27N 6554     CB43
CB 48               TR          RETRYENTRY                                               053304 1    052919 S91R 6555     CA19

CB 49 SW 911        TAA         LOOPOREXIT          911 ON BYPASS T/O AND HALT           053309 I  1 053339 T3TR 6556     CC04
CB 50               SEL         @0500                                                    053314 2    000500 0500 6557
CB 51               AR          TYPOUT                                                   053319 R    053370 T37- 6558  212CC15
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INDEX    TAG        OP    NU AT   OPERAND     PROGRAM 8TC10B 04-25-62   COMMENTS        LOC  OP SU   ADDRESS   PGLIN SER REF

CB 01               TSA         @18804        CHAN CK ON WRITE                          053074 O  3 018804 Y8&4 6508
CB 02               BSF   01    @0004                                                   053079 3  1 000004 00#4 6509  208
CB 03               RD          TM                          RETURN TAPE TO STARTING POINT 053084 Y    053345 T34N 6510     CC08
CB 04               IOF         @0000                                                   053089 3    000000 0000 6511
CB 05               RD          @38000                      READ 1000 G,S               053094 Y    038000 H000 6512
CB 06 REENT 3       LDA         REENT 3                                                 053099 #    053099 T09R 6513     CB06
CB 07               TSA         @18919        CHAN CK ON READ                           053104 O  3 018919 Y9A9 6514
CB 08               RD          @39800                      READ TAPE TEST AREA         053109 Y    039800 I800 6515
CB 09               TSA         ERROR                                                   053114 O  3 053124 T1BM 6516     CB12
CB 10               TR          LOOPOREXIT                                              053119 1    053339 T33R 6517     CC04

CB 11               TITLE                                   ERROR TEST                                          6518
CB 12 ERROR         SET         @0050                                                   053124 B    000050 0050 6519
CB 13               LOD         @39010                                                  053129 8    039010 I010 6520
CB 14               CMP         @39800                      COMPARE ENTIRE FIELD        053134 4    039800 I800 6521
CB 15               TRE         LOOPOREXIT                                              053139 L    053339 T33R 6522  209CC04
CB 16               SET         @0005                                                   053144 B    000005 0005 6523
CB 17               LOD         @39010                                                  053149 8    039010 I010 6524
CB 18               CMP         @39800                      COMPARE FIRST FIVE CHARACTERS 053154 4  039800 I800 6525
CB 19               TRE         LOOPOREXIT                                              053159 L    053339 T33R 6526     CC04
CB 20               SET         @0001                                                   053164 B    000001 0001 6527
CB 21               LOD         ONE                                                     053169 8    053361 T36J 6528     CC12
CB 22               RCVS  01    @39800                      LOOK FOR 7 BIT SPLASH       053174 U  1 039800 I8#0 6529
CB 23 C BIT         TZB   C     B BIT                       IN FIRST CHARACTER          053179 .  7 053189 T/HR 6530     CB25
CB 24               UNL         @39500                      C                           053184 7    039500 I500 6531
CB 25 B BIT         TZB   B     A BIT                                                   053189 .  6 053199 T/RR 6532     CB27
CB 26               UNL         @39501                      B                           053194 7    039501 I501 6533
CB 27 A BIT         TZB   A     8 BIT                                                   053199 .  5 053209 TS#R 6534  210CB29
CB 28               UNL         @39502                      A                           053204 7    039502 I502 6535
CB 29 8 BIT         TZB   8     4 BIT                                                   053209 .  4 053219 TS1R 6536     CB31
CB 30               UNL         @39503                      8                           053214 7    039503 I503 6537
CB 31 4 BIT         TZB   4     2 BIT                                                   053219 .  3 053229 T2BR 6538     CB33
CB 32               UNL         @39504                      4                           053224 7    039504 I504 6539
CB 33 2 BIT         TZB   2     1 BIT                                                   053229 .  2 053239 T2LR 6540     CB35
CB 34               UNL         @39505                      2                           053234 7    039505 I505 6541
CB 35 1 BIT         TZB   1     REENT 4                                                 053239 .  1 053269 T2WR 6542     CB41
CB 36               UNL         @39506                      1                           053244 7    039506 I506 6543
CB 37               SET         @0007                                                   053249 B    000007 0007 6544
CB 38               LOD         ALLBITS                                                 053254 8    053368 T36Q 6545     CC13
CB 39               CMP         @39506                                                  053259 4    039506 I506 6546  211
CB 40               TRE         SW 911                      ERASE HEAD POLARITY REVERSED 053264 L   053309 T30R 6547     CB49
CB 41 REENT 4       LDA         REENT 4                                                 053269 #    053269 T26R 6548     CB41
CB 42 BADTAPE       NOP         @18919                      CHAN CK ON RD NOT ERASE HEAD 053274 A   018919 Y91R 6549
CB 43 ONE RETRY     NOP         LOOPOREXIT                                              053279 A    053339 T33R 6550     CC04
CB 44               SRC   02    @0020                       IF NOT ALL BITS SKIP TAPE AND 053284 R  2 000020 00K0 6551
CB 45               SKP         @0009                       MAKE ONE RETRY              053289 3    000009 0009 6552
CB 46               SGN         BADTAPE    -004                                         053294 T    053270 I27- 6553     CB42
CB 47               SGN         ONE RETRY -004                                          053299 T    053275 T27N 6554     CB43
CB 48               TR          RETRYENTRY                                              053304 1    052919 S91R 6555     CA19

CB 49 SW 911        TAA         LOOPOREXIT                  911 ON BYPASS T/O AND HALT  053309 I  1 053339 T3TR 6556     CC04
CB 50               SEL         @0500                                                   053314 2    000500 0500 6557
CB 51               AR          TYPOUT                                                  053319 R    053370 T37- 6558  212CC15
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INDEX   TAG        OP    NU AT   OPERAND      PROGRAM 8TC10B 04-25-62   COMMENTS        LOC  OP SU   ADDRESS   PGLIN SER REF

BZ 01              TITLE                                CONSTSNT FIELD                                            62500
BZ 02 RD02AREA     CON   05                                                                052609                  62510
BZ 03 RD1          CON   05    0G00N                                                     052614                  62520
BZ 04 RD2             05    0I20-                                                        052619                  62530
BZ 05 RD3             05    0I40-                                                        052624                  62540
BZ 06 RD4             05    0I80-                                                        052629                  62550
BZ 07 ROUTTO288    CON   13    TC-288-TP                                                 052642                  62560 200
BZ 08                 01    ¤                                                            052643                  62570
BZ 09                 01    -                                                            052644                  62580
BZ 10                 02    D¤                                                           052646                  62585
BZ 11 R288A           01    A                                                            052647                  62590
BZ 12 R288CON         05    GGGGG                                                        052652                  62600

BZ 13              TITLE                                                ROUTINE #290                              64000
BZ 14 ROUT290      SET         4                 CHECK THAT REDUNDANT CHAR               052659 B    000004 0004 64010 201
BZ 15              LOD         @0564             IN WRITE ADDRESS WORD CAUSES            052664 8    000564 0564 64020
BZ 16              UNL         ROUTTO290         CHAN CHECK                              052669 7    052882 S88K 64030    CA09
BZ 17              UNL         SEL290                                                    052674 7    052689 S68R 64035    BZ20
BZ 18              SHR         2                                                         052679 C    000002 0002 64040
BZ 19              UNL         SPC290     -002                                           052684 7    052747 S74P 64050    BZ32
BZ 20 SEL290       SEL         @00000                                                    052689 2    000000 0000 64110
BZ 21              RCV         @38004                                                    052694 U    038004 H004 64120
BZ 22              BLM         @00400                                                    052699 $    000400 0400 64130
BZ 23              SET         @00005                                                    052704 B    000005 0005 64140
BZ 24              LOD         R290CON                                                   052709 8    052890 S89- 64150    CA12
BZ 25              UNL         @38004                                                    052714 7    038004 H004 64160
BZ 26              RCV         @38009                                                    052719 U    038009 H009 64170 202
BZ 27              SET         @00019                                                    052724 B    000019 0019 64180
BZ 28              SND         @38004                                                    052729 /    038004 H004 64190
BZ 29              UNL    12   @38099                                                    052734 7 12 038099 H&99 64200
BZ 30              WR          @38000                                                    052739 R    038000 H000 64210
BZ 31              SBR         FOURCHRTRS                                                052744 % 8  052869 SQ6R 64211    CA08
BZ 32 SPC290       SPC         @0010                                                     052749 ,    000010 0010 64220
BZ 33              LFC         FOURCHRTRS                                                052754 , 2  052869 S8OR 64230    CA08
BZ 34              SPC         @00000                                                    052759 ,    000000 0000 64240
BZ 35              TRR         *&10                                                      052764 O 1  052774 S7XM 64250
BZ 36              TR          *-5                                                       052769 1    052764 S76M 64260

BZ 37              TTC         912SW290   -010                                           052774 O 2  052819 S8JR 64310    BZ48
BZ 38              TAF         912SW290   &010                                           052779 I 6  052839 SYLR 64320 203BZ48
BZ 39 911290       TAA         *&35                                                      052784 I 1  052819 S8/R 64330
BZ 40 LONGTO290    SEL         @00500                                                    052789 2    000500 0500 64340
BZ 41              WR          ROUTTO290                                                 052794 R    052870 S87- 64350    CA09
BZ 42              UNL    12   ROUTTO290 &001                                            052799 7 12 052883 SH8L 64360    CA09
BZ 43              TAC         *&10                                                      052804 I 3  052814 S8AM 64370
BZ 44              TR          *&10                                                      052809 1    052819 S81R 64380

BZ 45              HLT         @00290                                                    052814 J    000290 0290 64390

BZ 46              SBR         FOURCHRTRS                                                052819 % 8  052869 SQ6R 64391    CA08
BZ 47              TMC         *&5                                                       052824 O 11 052829 SQBR 64392
BZ 48 912SW290     TAB         ROUT290                                                   052829 I 2  052659 S6NR 64400    BZ14
BZ 49              TR          ROUT 292                                                  052834 1    052899 S89R 64410    CA15
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