

8TC16A

AW INCREMENTER TEST

June 26, 1961

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AW INCREMENTER TEST

I. PURPOSE OF TEST

To check the AW INCREMENTER in all MODES for correct wrap around and to verify that the wrap around is always accompanied by overflow checks.

II. METHOD OF TEST

It is assumed that the 7080 CPU and tape operation are in good working order in all areas other than the one tested in this Program.

A. Sections of the Test

The test is in two sections:

1. Section - 1: Test of the INCREMENTER in 705 I, 705 II, and 705 III 40K MODES
2. Section - 2: Test of the INCREMENTER in 705 III and 7080 MODES

B. There are 10 routines in Section 1 and 14 routines in Section 2. Each routine is independant and tests the stepping of AW INCREMENTER on RD or WR when the INCREMENTER has one of the following settings: 20K, 40K, 80K, 120K, 160K.

C. Order of Running the Test

The test should always be run in the following order:

1. Section - 1: Three passes, one in each of the 705 I, 705 II and 705 III 40K MODES is required
2. Section - 2: One pass in 705 III 80K is required

III. AREA OF MACHINE REQUIRED

A. Units

7080 CPU
7621 TCU
Tape Drive with address 2002

B. Memory Locations

1. 00000 to 04749 8TC16
2. 18200 to 18800 LOAD PROGRAM

IV. LOADING PROCEDURE

A. Card

Use standard load program 8LD01 with cards in the following order:

8LD01	2 cards
8TC16	74 cards
8TR02	1 card
Blanks	3 cards

B. Tape

Use a tape generated by 8TR06. Refer to the 8TR06 write-up for complete details on generating and using this tape.

V. PROGRAM CONTROL

A. Check Switches - all automatic

B. Alteration Switches

911 ON	- Bypass Error Typeouts and Halts
912 ON	- Repeat Routine
913 ON	- Halt on Error
914 ON	- Repeat One of the Two Sections of Program
914 OFF	- (a) Leave Program if in Section 2
	- (b) Enter Section 2 if in Section 1
915	- Not used
916 ON	- Do Section 2
OFF	- Do Section 1

C. Other Switches

40K - Do Section 1 once with this OFF and twice with this ON. When 40K is OFF in this section 705 I/II must be ON. (See Section D below).
OFF - in Section 2 of Program.

Non-Stop - OFF

I/O Interpret - OFF

705 I/II - Do Section 1 twice with this ON and once with this OFF. When 705 I/II is OFF in this section 40K SW must be ON. (See Section D below).
OFF - in Section 2 of Program.

D. Use of 705 I/II and 40K Switches in Section 1

Run Section 1 in three different modes. The switch setting for each mode is given as follows:

1.	Mode 1	705 I/II	ON	40K	OFF	705 I
2.	Mode 2	705 I/II	ON	40K	ON	705 II
3.	Mode 3	705 I/II	OFF	40K	ON	705 III 40K

A separate "Z" typeout must be obtained in each mode.

VI. MANUAL CONTROL

As the memory position 0004 is constantly being used as the work area in the test, it is not possible to Reset and start the program without manual intervention. Reset must be followed by the Manual Instruction TR 0014, then START. When switching modes at any point in the program Reset as above and Start.

VII. NORMAL STOPS

- A. Halt 0000 - On program entry, set switches per typeout and start.
- B. Halt 2222 - On Section 2 entry, set switches per typeout and start.

VIII. ERROR STOPS

- A. Halt 1111 - This occurs in Section 1 when both 705 I/II and 40K switches are off. Turn one or both ON and start.
- B. Halt 00XX - Routine failure with 913 ON. "XX" indicates the number of the routine that failed. Hit START.

Example: Halt 0015 means that routine 15 failed.

IX. TYPEOUTS

A. Normal Typeouts

- 1. "CHK SW ALL ON AUTO
SECTION 1
RUN IN 705 I, 705 II, 705 III 40K"

This occurs on program entry. Follow the instructions and hit Start.

2. "705 I/II AND 40K SW OFF
SECTION 2

RUN IN 705 III 80K. TURN 916 ON"

This occurs on entry to Section 2. Follow instructions and hit Start.

3. "Z" - After every pass in one section.

B. Error Typeouts

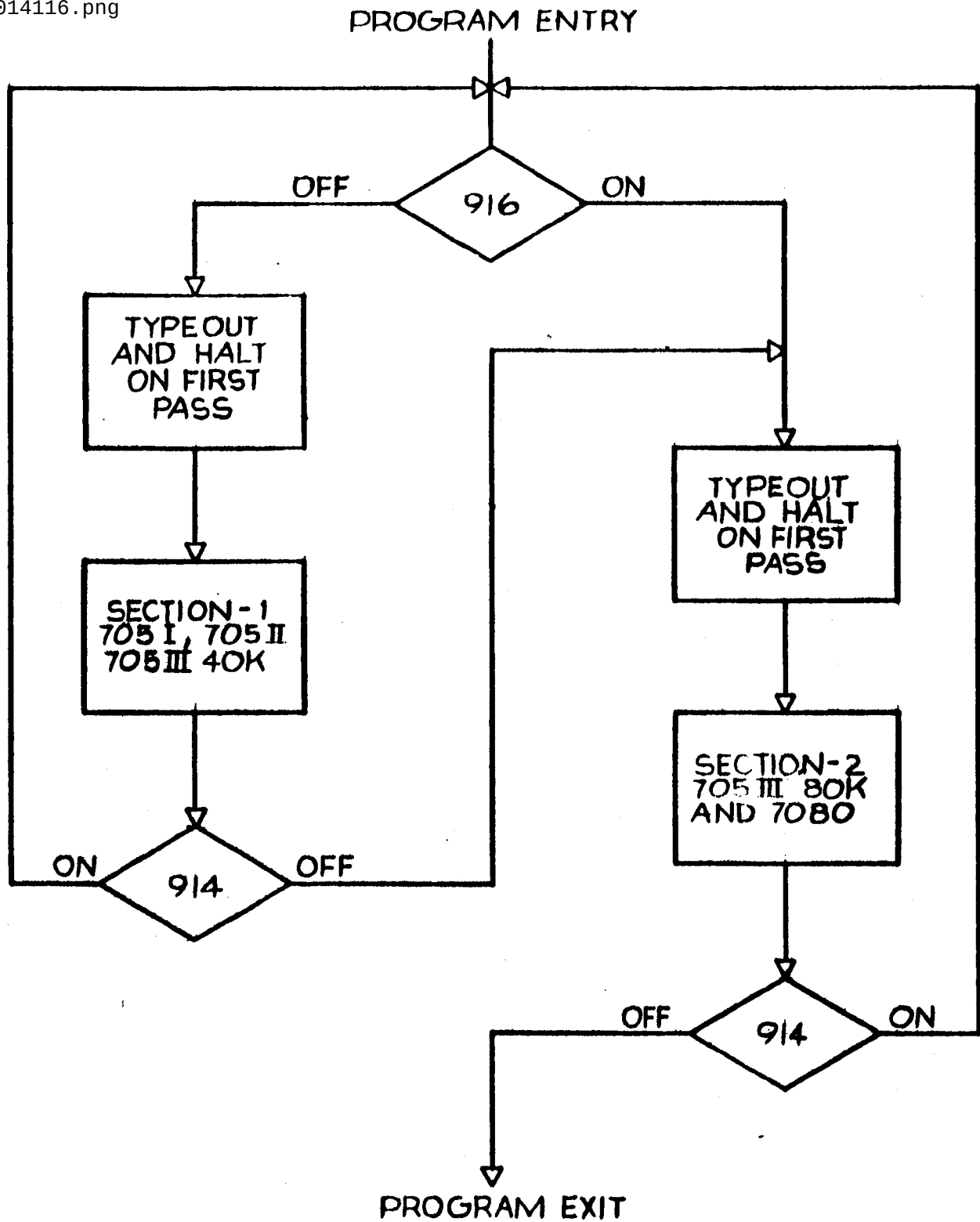
1. "MODE INCORRECT"

This occurs on entry to Section 1 when both 705 I/II and 40K switches are OFF. Turn ~~one~~ or both ON and Start.

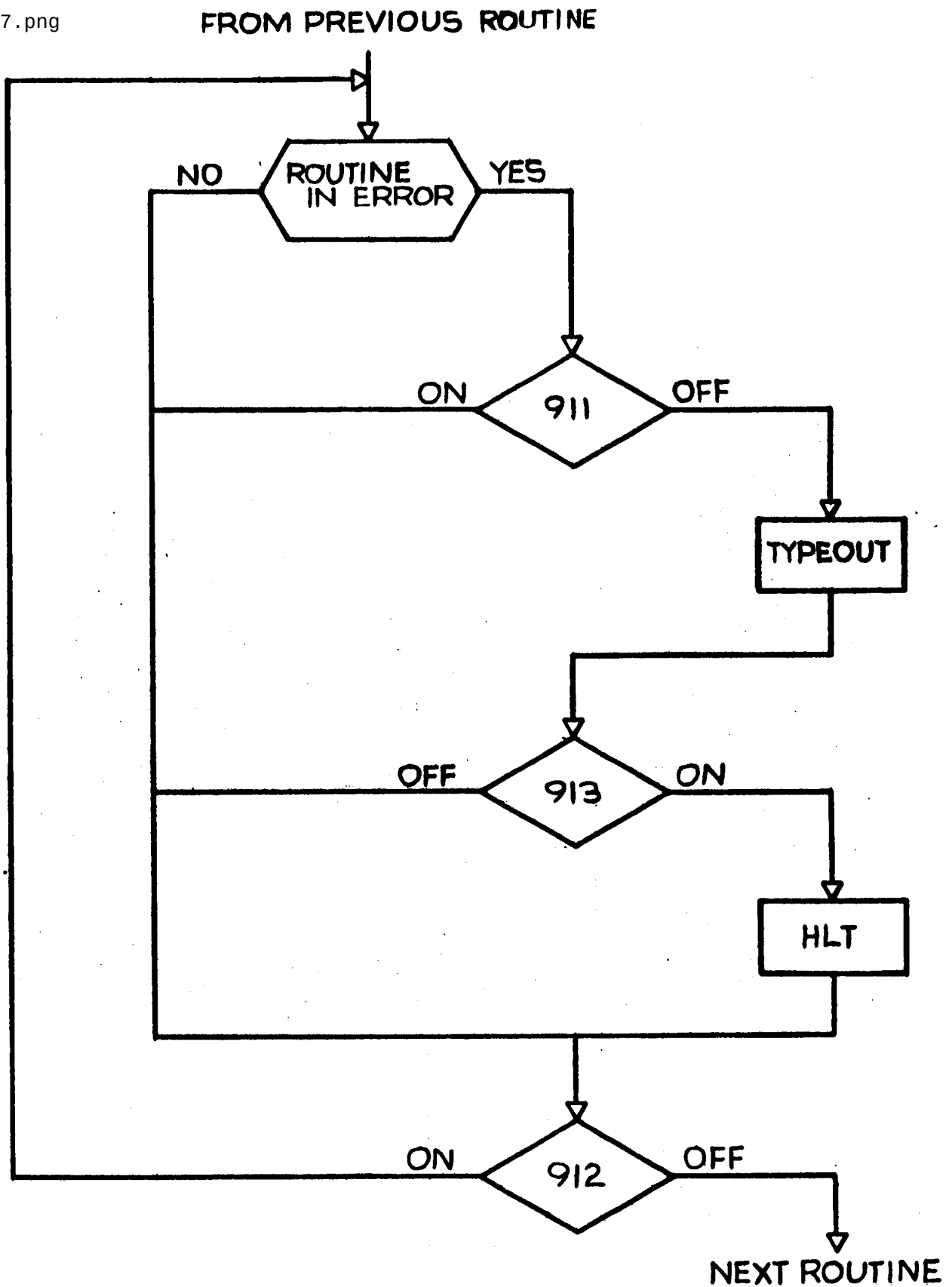
2. "00XX" This indicates routine failure with 911 OFF. "XX" stands for the number of the routine that failed.

X. COMMENTS

It should be remembered that it is not possible to leave the program with 914 OFF when in Section 1. Also the program should be run in this order: Section 1 and then Section 2. Section 1 should be run in three separate modes: 705 I, 705 II, and 705 III 40K and a separate 'Z' typeout obtained in each MODE.



GENERAL LAYOUT OF PROGRAM



USES OF ALTERATION SWITCHES IN
EACH ROUTINE

BKWD TR LOCATION OPN ASU ADDRESS

FWD TR

PAGE 01 OF 27

8TG16

8TG16A JUNE 26/1961
 AW INCREMENTER TEST
 ALL CHECK SWITCHES ON
 AUTO
 NONSTOP & I/O INTERPRET OFF.
 OTHER SWITCHES PER TYPEOUT
 INSTRUCTIONS.

WORK AREA

```

#####
00004 TR 1 0014
#####

```

```

2 001 00005
2 001 00006
2 001 00007
2 001 00008
2 001 00009

```

```

□
□
□
□
□

```

```

#####
00014 EEM 3 14 0000 06-0
00019 TRA I 06 2239 2SL9-----M14
00024 NOP A 0134
00029 SGN T 10 0020 0-K0
00034 SEL 2 0500
00039 WR R 0060
00044 WR R 0080
00049 WR R 0090
00054 HLT J 0000
00059 TR I 0134-----
#####

```

```

2 019 00078
2 001 00079
2 009 00088
2 001 00089
2 035 00124
2 001 00125

```

CONSTANTS & WORK AREA
 CHK SW ALL ON AUTO.

SECTION-1

RUN IN 705 I , 705 II , 705 III 40K

REWIND ALL TAPES ON FIRST
 PASS. ALSO REWIND ON
 END OF FILE

```

##### I
00134 TR 1 0159-----
00139 ADM 6 10 0130 0JL0
00144 SEL 2 2002
00149 TRS 0 0159-----
00154 TR 1 0184-----
00159 SEL 2 2002-----
00164 RWD 3 0002
00169 SKP 3 0009
00174 TRS 0 01 0184 01Y4-----
00179 TR 1 0174-----
#####

```

```

##### I
00184 LEM 3 15 0000 06&0...
00189 SET B 0004
00194 LOD 8 20004 -004
00199 CMP 4 0004
00204 TRE L 0249-----
00209 LOD 8 000M
00214 CMP 4 0004
00219 TRE L 0249-----
00224 SEL 2 0911
00229 TRS 0 0249-----
00234 SEL 2 0500
00239 WR R 0250
00244 HLT J 1111
00249 TR 1 0269-----A03
#####

```

CHECK THAT 40K SW IS
 SET EITHER TO 20K OR 40K.

911 ON BYPASS TYPEOUT

TO ROUTINE 1

2 014 00263
2 001 00264

MODE INCORRECT
□

CONSTANTS & WORK AREA

SECTION-1
ROUTINE 1
CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
40K. ALSO CHECK FOR
OVERFLOW CHECK WHEN
THIS OCCURS. SET UP A
WRITE FIELD SPREAD OVER
THE BOUNDARY TO PRODUCE
THE ABOVE CONDITION.
RUN ROUTINE IN THE FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

```

A01.....00269 EEM 3 14 0000 06-0
I 00274 SPC , 0000
I 00279 SET B 0001
I 00284 LOD 8 0460
I 00289 UNL 7 000N
I 00294 SET B 12 0005 0605
I 00299 LOD 8 12 0465 0D65
I 00304 SET B 0006
I 00309 LOD 8 0460
I 00314 UNL 7 0005
I 00319 SET B 0005
I 00324 LOD 8 0454
I 00329 UNL 7 39999 I999
I 00334 SEL 2 2002
I 00339 WR R 39995 I995
I 00344 LEM 3 15 0000 06&0
I 00349 SET B 18000 Y000
I 00354 EEM 3 14 0000 06-0
I 00359 TRS 0 03 0369 03F9
I 00364 TR 1 0409
I 00369 BSP 3 0004
I 00374 RD Y 8000
I 00379 TRS 0 03 0409 0469
I 00384 SET B 0005
I 00389 LOD 8 0004
I 00394 CMP 4 8009
I 00399 UNL 7 12 0004 0604
I 00404 TRE L 0439
I 00409 TRA I 01 0439 04T9
I 00414 SEL 2 0500
I 00419 WR R 0445
I 00424 TRA I 03 0434 04C4
I 00429 TR 1 0439
I 00434 HLT J 0001
I 00439 TRA I 02 0269 0209
I 00444 TR 1 0474
B04

```

PUT A GM IN 40005

SAVE TR 0014 IN ASU 12

SET UP WRITE FIELD

WRITE 10 CHARACTERS FROM
39995
DELAY TO COMPLETE WRITE

READ BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE .

CONSTANTS & WORK AREA

```

2 004 00448 0001
2 001 00449
2 010 00459 ABCDEFGHIJ
2 001 00460
2 005 00465 10014

```


SECTION-1
ROUTINE 3

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
80K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 80K. SET
UP A WRITE FIELD GOING OVER
80K BOUNDARY.
RUN ROUTINE IN THE FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

```

C04.....00644 EEM 3 14 0000 06-0
I 00649 SET B 12 0005 0605
I 00654 RCV U 0004
I 00659 BLM $ 0001
I 00664 SET B 0011
I 00669 LOD 8 0815
I 00674 UNL 7 000V
I 00679 SEL 2 2002
I 00684 WR R 3999N 199N
I 00689 LEM 3 15 0000 06&0
I 00694 SET B 1800 Y000
I 00699 EEM 3 14 0000 06-0
I 00704 TRS O 03 0764 07F4
I 00709 BSP 3 0004
I 00714 RD Y 8000
I 00719 TRS O 03 0764 07F4
I 00724 SET B 0005
I 00729 LOD 8 0004
I 00734 CMP 4 000U
I 00739 TRE L 0794
I 00744 CMP 4 8009
I 00749 UNL 7 12 0004 0604
I 00754 TRE L 0764
I 00759 TR 1 0794
I
I
I
I 00764 TRA I 01 0794 07Z4
I 00769 SEL 2 0500
I 00774 WR R 0800
I 00779 TRA I 03 0789 07H9
I 00784 TR 1 0794
I 00789 HLT J 0003
I 00794 TRA I 02 0644 06M4
I 00799 TR 1 0824

```

REPLACE FIELD BY BLANKS
SETUP WRITE FIELD

WRITE 10 CHARACTERS FROM
79995
DELAY TO COMPLETE WRITE

READ BACK INTO 8000

CHECK THAT MACHINE
IS 80K.

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

-D06 TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 00803
2 001 00804
2 010 00814
2 001 00815

0003
□
KLIMNOPQRS
□

0004
□
TUVWXYZABC
□

SECTION-1
ROUTINE 5
CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
160K. ALSO CHECK FOR
OVERFLOW CHECK AT 160K.
SET UP A WRITE FIELD GOING
OVER 160K BOUNDARY.
RUN ROUTINE IN THE FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

```

E06.....000994 EEM 3 14 0000 06-0
I 00999 SET B 12 0005 0605
I 01004 SET B 0011
I 01009 LOD 8 1145
I 01014 UNL 7 0005
I 01019 SEL 2 2002
I 01024 WR R 3999E 199E
I 01029 LEM 3 15 0000 0660
I 01034 SET B 18000 Y000
I 01039 EEM 3 14 0000 06-0
I 01044 TRS 0 03 1054 10E4
I 01049 TR 1 1094
I 01054 BSP 3 0004
I 01059 RD Y 8000
I 01064 TRS 0 03 1094 1014
I 01069 SET B 0010
I 01074 LOD 8 0004
I 01079 CMP 4 8009
I 01084 UNL 7 12 0004 0604
I 01089 TRE L 1124
I
I
I 01094 TRA I 01 1124 1154
I 01099 SEL 2 0500
I 01104 WR R 1130
I 01109 TRA I 03 1119 11A9
I 01114 TR 1 1124
I 01119 HLT J 0005
I 01124 TRA I 02 0994 09R4
I 01129 TR 1 1154
I

```

SET UP WRITE FIELD

WRITE 10 CHARACTERS FROM
159995
DELAY TO COMPLETE WRITE

READ BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

F08 TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 01133
2 001 01134
2 010 01144
2 001 01145

0005
DEF GHIJKLM

SECTION-1
 ROUTINE 6
 CHECK FOR WRAP AROUND
 OF AW INCREMENTER AT
 40K. ALSO CHECK FOR
 OVERFLOW CHECK AT 40K.
 RD OVER 40K BOUNDARY &
 CHECK THAT THE RD 00 IS
 CHANGED TO RD 01.
 RUN ROUTINE IN FOLLOWING
 MODES , 705 I , 705 II AND
 705 III 40K.

```

F07.....01154 EEM 3 14 0000 06-0
I 01159 SET B 12 0005 0605
I 01164 RCV U 0004
I 01169 BLM $ 0001
I 01174 RCV U 39999 1999
I 01179 BLM $ 0001
I 01184 SEL 2 2002
I 01189 WR R 1325
I 01194 TRS O 03 1284 12H4
I 01199 BSP 3 0004
I 01204 TRS O 03 1209 1269
I 01209 RD Y 39995 1995
I 01214 LEM B 15 0000 0660
I 01219 SET B 18000 Y000
I 01224 EEM 3 14 0000 06-0
I 01229 TRS O 03 1239 12C9
I 01234 TR 1 1284
I 01239 SET B 0005
I 01244 LOD 8 0004
I 01249 CMP 4 1340
I 01254 TRE L 1264
I 01259 TR 1 1284
I 01264 LOD 8 39999 1999
I 01269 CMP 4 1329
I 01274 UNL 7 12 0004 0604
I 01279 TRE L 1314
I 01284 TRA I 01 1314 13/4
I 01289 SEL 2 0500
I 01294 WR R 1320
I 01299 TRA I 03 1309 1369
I 01304 TR 1 1314
I 01309 HLT J 0006
+ 01314 TRA I 02 1154 11N4
  01319 TR 1 1349-----G09
  
```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
 39995
 DELAY TO COMPLETE READ
 CHECK FOR OVERFLOW CHECK

CHECK THAT 0004
 CONTAINS BLANKS

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 01323
 2 001 01324
 2 010 01334
 2 001 01335
 2 005 01340

0006
 DFHJL24680

SECTION-1
ROUTINE 7

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
20K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 20K.
CHECK THAT RD 00 IS NOT
CHANGED TO RD 01.
RUN ROUTINE IN FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

```
G08.....01349 EEM 3 14 0000 0&-0
I 01354 SET B 12 0005 0&05
I 01359 RCV U 0004
I 01364 BLM $ 0001
I 01369 RCV U 19999 Z999
I 01374 BLM $ 0002
I 01379 SEL 2 2002
I 01384 WR R 1525
I 01389 TRS O 03 1484 14H4
I 01394 BSP 3 0004
I 01399 TRS O 03 1404 14&4
I 01404 RD Y 19995 Z995
I 01409 LEM 3 15 0000 0&&0
I 01414 SET B 18000 Y000
I 01419 EEM 3 14 0000 0&-0
I 01424 TRS O 03 1484 14H4
I 01429 SET B 0010
I 01434 LOD 8 20004 -004
I 01439 CMP 4 1534
I 01444 TRE L 1454
I 01449 TR 1 1484
I 01454 SET B 0005
I 01459 LOD 8 0004
I 01464 CMP 4 1534
I 01469 UNL 7 12 0004 0&04
I 01474 TRE L 1484
I 01479 TR 1 1514
I 01484 TRA I 01 1514 15/4
I 01489 SEL 2 0500
I 01494 WR R 1520
I 01499 TRA I 03 1509 15&9
I 01504 TR 1 1514
I 01509 HLT J 0007
I 01514 TRA I 02 1349 13M9
I 01519 TR 1 1544
H10
```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
19995
DELAY TO COMPLETE READ

CHECK THAT RD 00 IS
NOT CHANGED TO RD 01

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 01523
2 001 01524
2 010 01534
2 001 01535

0007
13579EGIKM

SECTION-1

ROUTINE 8

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
80K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 80K.
CHECK THAT RD 00 IS NOT
CHANGED TO RD 01.
RUN ROUTINE IN FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

```

H09.....01544 EEM 3 14 0000 06-0
I 01549 SET B 12 0005 0605
I 01554 RCV U 0004
I 01559 BLM $ 0001
I 01564 RCV U 3999R 199R
I 01569 BLM $ 0002
I 01574 SEL 2 2002
I 01579 WR R 1720
I 01584 TRS O 03 1679 16G9
I 01589 BSP 3 0004
I 01594 TRS O 03 1599 1519
I 01599 RD Y 3999N 199N
I 01604 LEM 3 15 0000 0660
I 01609 SET B 18000 Y000
I 01614 EEM 3 14 0000 06-0
I 01619 TRS O 03 1679 16G9
I 01624 SET B 0005
I 01629 LOD 8 0004
I 01634 CMP 4 000U
I 01639 UNL 7 12 0004 0604
I 01644 TRE L 1709
I 01649 CMP 4 1729
I 01654 TRE L 1679
I 01659 SET B 0010
I 01664 LOD 8 000U
I 01669 CMP 4 1729
I 01674 TRE L 1709
I 01679 TRA I 01 1709 17 9
I 01684 SEL 2 0500
I 01689 WR R 1715
I 01694 TRA I 03 1704 1764
I 01699 TR 1 1709
I 01704 HLT J 0008
I 01709 TRA I 02 1544 15M4
I 01714 TR 1 1739

```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
79995
DELAY TO COMPLETE READ

CHECK THAT MACHINE
IS 80K
PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 01718
2 001 01719
2 010 01729
2 001 01730

0008
35890B2YAW

SECTION-1
ROUTINE 9

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
120K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 120K.
CHECK THAT RD 00 IS NOT
CHANGED TO RD 01.
RUN ROUTINE IN FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

```

J10.....01739 EEM 3 14 0000 0&-0
01744 SET B 12 0005 0&05
01749 RCV U 0004
01754 BLM $ 0001
01759 RCV U 3999Z 199Z
01764 BLM $ 0002
01769 SEL 2 2002
01774 WR R 1915
01779 TRS O 03 1874 18G4
01784 BSP 3 0004
01789 TRS O 03 1794 1714
01794 RD Y 3999V 199V
01799 LEM 3 15 0000 0&&0
01804 SET B 18000 Y000
01809 EEM 3 14 0000 0&-0
01814 TRS O 03 1874 18G4
01819 SET B 0010
01824 LOD 8 000D
01829 CMP 4 1924
01834 UNL 7 12 0004 0&04
01839 TRE L 1849
01844 TR I 1874
01849 SET B 0005.....
01854 LOD 8 0004
01859 CMP 4 1924
01864 TRE L 1874
01869 TR 1 1904
01874 TRA I 01 1904 19 4
01879 SEL 2 0500
01884 WR R 1910
01889 TRA I 03 1899 1819
01894 TR 1 1904
01899 HLT J 0009.....
01904 TRA I 02 1739 17L9
01909 TR 1 1934
  
```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
119995
DELAY TO COMPLETE READ

PUT ORIGINAL FIELD BACK

CHECK FOR NO WRAP AROUND

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 01913
2 001 01914
2 010 01924
2 001 01925

0009
2244335599

SECTION-1
ROUTINE 10
CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
160K. ALSO CHECK FOR
OVERFLOW CHECK AT 160K.
CHECK THAT RD 00 IS
CHANGED TO RD 01.
RUN ROUTINE IN FOLLOWING
MODES , 705 I , 705 II AND
705 III 40K.

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
159995
DELAY TO COMPLETE READ

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO END OF SECTION-1

CONSTANTS & WORK AREA

```

K11.....01934 EEM 3 14 0000 06-0
I 01939 SET B 12 0005 0605
I 01944 RCV U 0004
I 01949 BLM $ 0001
I 01954 RCV U 3999 1991
I 01959 BLM $ 0001
I 01964 SEL 2 2002
I 01969 WR 2085
I 01974 TRS 0 03 2044 20D4
I 01979 BSP 3 0004
I 01984 TRS 0 03 1989 19H9
I 01989 RD Y 3999 199E
I 01994 LEM 3 15 0000 0600
I 01999 SET B 18000 Y000
I 02004 EEM 3 14 0000 06-0
I 02009 TRS 0 03 2019 20A9
I 02014 TR 1 2044
I 02019 SET B 0005
I 02024 LOD 8 0004
I 02029 CMP 4 2100
I 02034 UNL 7 12 0004 0604
I 02039 TRE L 2074
I 02044 TRA I 01 2074 20X4
I 02049 SEL 2 0500
I 02054 WR R 2080
I 02059 TRA I 03 2069 20F9
I 02064 TR 1 2074
I 02069 HLT J 0010
I 02074 TRA I 02 1934 19L4
I 02079 TR 1 2109
L13

```

2 004 02083
2 001 02084
2 010 02094
2 001 02095
2 005 02100

0010
11334477BB

END SECTION-1

914 ON-LOOP IN SECTION-1
914 OFF-TYPE OUT AND LEAVE
SECTION-1

```

L12.....02109 SEL 2 0500
02114 WR R 2160
02119 SEL 2 0914
02124 TRS O 0014
02129 NOP A 2154
02134 SGN T 2125
02139 SEL 2 0500
02144 WR R 2165
02149 WR R 2189
02154 HLT J 2222
02159 TR 1 2239
  
```

TYPEOUT A Z

TYPEOUT ONLY ONCE

M14 TO SECTION 2

CONSTANTS & WORK AREA

```

2 001 02160
2 004 02164
2 023 02187
2 001 02188
2 031 02219
2 013 02232
2 001 02233
  
```

```

Z
705 I/II & 40K SW OFF .
SECTION 2 . RUN IN 705 III 80K.
TURN 916 ON.
  
```

```

ROUTINE 11
CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
80K. ALSO CHECK FOR
OVERFLOW CHECK AT 80K. SET
UP A WRITE FIELD GOING
OVER 80K BOUNDARY.
RUN ROUTINE ONLY IN 705 III
80K.

```

SET UP WRITE FIELD

WRITE 10 CHARACTERS FROM
79995

RD BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

```

2 004 02418      0011
2 001 02419      □
2 010 02429      DMQSP256A0
2 001 02430      □
2 005 02435      10014

```

SECTION-2
ROUTINE 12
CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
20K. ALSO CHECK FOR
NO OVERFLOW CHECKS AT
20K. SETUP A WRITE FIELD
GOING OVER 20K BOUNDARY.
RUN ROUTINE ONLY IN 705 III
80K.

```

N14.....02444 EEM 3 14 0000 06-0
I 02449 SET B 12 0005 0605
I 02454 RCV U 0004
I 02459 BLM $ 0001
I 02464 SET B 0011
I 02469 LOD 8 2610
I 02474 UNL 7 20005 -005
I 02479 SEL 2 2002
I 02484 WR R 19995 Z995
I 02489 LEM 3 15 0000 0660
I 02494 TRS 0 01 2504 25 4-
I 02499 TR 1 2494
I 02504 EEM 3 14 0000 06-0
I 02509 TRS 0 03 2559 25E9-
I 02514 BSP 3 0004
I 02519 RD Y 8000
I 02524 TRS 0 03 2559 25E9-
I 02529 SET B 0005
I 02534 LOD 8 0004
I 02539 CMP 4 8009
I 02544 UNL 7 12 0004 0604
I 02549 TRE L 2559-
I 02554 TR 1 2589-
I 02559 TRA I 01 2589 25Y9-
I 02564 SEL 2 0500
I 02569 WR R 2595
I 02574 TRA I 03 2584 25H4-
I 02579 TR 1 2589-
I 02584 HLT J 0012
I 02589 TRA I 02 2444 24M4-
I 02594 TR 1 2619

```

REPLACE FIELD BY BLANKS

SET UP WRITE FIELD

WRITE 10 CHARACTERS FROM
19995

READ BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 02598
2 001 02599
2 010 02609
2 001 02610

0012
2354658791

```

ROUTINE IS
CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
40K. ALSO CHECK FOR
NO OVERFLOW CHECK AT
40K. SETUP A WRITE FIELD
GOING OVER 40K BOUNDARY
RUN ROUTINE ONLY IN 705 III
80K.

```

SETUP WRITE FIELD

WRITE 10 CHARACTERS FROM
39995

READ BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

CONSTANTS & WORK AREA

```
P15.....02619 EEM 3 14 0000 08-0
I      02624 SET B 12 0005 0805
I      02629 RCV U     0004
I      02634 BLM $     0001
I      02639 SET B     0011
I      02644 LOD 8     2785
I      02649 UNL 7     000N
I      02654 SEL 2     2002
I      02659 WR  R     39995 1995
I      02664 LEM 3 15 0000 08&0
I+---02669 TRS 0 01 2679 26X9---I
I+-02674 TR 1     2669
I      02679 EEM 3 14 0000 08-0...I
I      02684 TRS 0 03 2734 27C4---I
I      02689 BSP 3     0004
I      02694 RD  Y     8000
I      02699 TRS 0 03 2734 27C4---Y
I      02704 SET B     0005
I      02709 LOD 8     0004
I      02714 CMP 4     8009
I      02719 UNL 7 12 0004 0804
I      02724 TRE L     2734-----Y
I      02729 TR 1     2764-----I
I      02734 TRA I 01 2764 27W4---Y
I      02739 SEL 2     0500
I      02744 WR  R     2770
I      02749 TRA I 03 2759 27E9---I
I      02754 TR 1     2764-----Y
I      02759 HLT J     0013.....II
I+-02764 TRA I 02 2619 26J9...I
I      02769 TR 1     2794-----Q17
```

2 004 02773
2 001 02774
2 010 02784
2 001 02785

00013
□
ACFIL14725
□

SECTION-2
ROUTINE 14

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
120K. ALSO CHECK FOR
NO OVERFLOW CHECK AT
120K. SET UP A WRITE FIELD
GOING OVER 120K BOUNDARY.
RUN ROUTINE ONLY IN 705 III
80K.

```

Q16.....02794 EEM 3 14 0000 08-0
I 02799 SET B 12 0005 0805
I 02804 RCV U 0004
I 02809 BLM $ 0001
I 02814 SET B 0011
I 02819 LOD 8 2960
I 02824 UNL 7 000E
I 02829 SEL 2 2002
I 02834 WR R 3999V 199V
I 02839 LEM 3 15 0000 0880
I 02844 TRS 0 01 2854 28V4
I 02849 TR 1 2844
I 02854 EEM 3 14 0000 08-0
I 02859 TRS 0 03 2909 2989
I 02864 BSP 3 0004
I 02869 RD Y 8000
I 02874 TRS 0 03 2909 2989
I 02879 SET B 0005
I 02884 LOD 8 0004
I 02889 CMP 4 8009
I 02894 UNL 7 12 0004-0804
I 02899 TRE L 2909
I 02904 TR 1 2939
I 02909 TRA I 01 2939 29T9
I 02914 SEL 2 0500
I 02919 WR R 2945
I 02924 TRA I 03 2934 29C4
I 02929 TR 1 2939
I 02934 HLT J 0014
I 02939 TRA I 02 2794 27R4
I 02944 TR 1 2969
  
```

REPLACE FIELD BY BLANKS

WRITE 10 CHARACTERS FROM
119995

RD BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2 004 02948
2 001 02949
2 010 02959
2 001 02960

0014
YZBDF13582

SECTION-2
ROUTINE 15

CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
160K. ALSO CHECK FOR
OVERFLOW CHECK AT 160K.
SET UP A WRITE FIELD GOING
OVER THE MEMORY BOUNDARY.
RUN ROUTINE ONLY IN 705 III
80K.

```

R17.....02969 EEM 3 14 0000 0&-0 0
I 02974 SET B 12 0005 0&05 0
I 02979 RCV U 0004 0
I 02984 BLM $ 0001 0
I 02989 SET B 0011 0
I 02994 LOD 8 3135 0
I 02999 UNL 7 0005 0
I 03004 SEL 2 2002 0
I 03009 WR RR 3999E 199E 0
I 03014 LEM 3 15 0000 0&&0 0
I 03019 IRS O 01 3029 30S9 0
I 03024 TR 1 3019 0
I 03029 EEM 3 14 0000 0&-0 0
I 03034 TRS O 03 3044 30D4 0
I 03039 TR 1 3084 0
I 03044 BSP 3 0004 0
I 03049 RD Y 8000 0
I 03054 TRS O 03 3084 30H4 0
I 03059 SET B 0005 0
I 03064 LOD 8 0004 0
I 03069 CMP 4 8009 0
I 03074 UNL 7 12 0004 0&04 0
I 03079 TRE L 3114 0
I 03084 TRA I 01 3114 31/4 0
I 03089 SEL 2 0500 0
I 03094 WR R 3120 0
I 03099 TRA I 03 3109 31&9 0
I 03104 TR 1 3114 0
I 03109 HLT J 0015 0
I 03114 TRA I 02 2969 2909 0
I 03119 TR 1 3144 0
S19

```

REPLACE FIELD BY BLANKS

WRITE 10 CHARACTERS FROM
159995

RD BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

```

2 004 03123
2 001 03124
2 010 03134
2 001 03135

```

```

0015
DJJLL33776

```

SECTION-2
 ROUTINE 16
 CHECK FOR WRAP AROUND
 OF AW INCREMENTER AT
 80K. ALSO CHECK FOR
 OVERFLOW CHECK AT 80K.
 CHECK THAT RD 00 IS CHANGED
 TO RD 01 ON WRAP AROUND .
 RUN ROUTINE ONLY IN 705 III
 80K.

```

S18.....03144 EEM 3 14 0000 06-0
I 03149 SET B 12 0005 0605
I 03154 RCV U 0004
I 03159 BLM $ 0001
I 03164 RCV U 3999R I99R
I 03169 BLM $ 0001
I 03174 SEL 2 2002
I 03179 WR R 3295
I 03184 TRS O 03 3254 32E4
I 03189 BSP 3 0004
I 03194 RD Y 3999N I99N
I 03199 LEM 3 15 0000 0660
I 03204 TRS O 01 3214 3274
I 03209 TR 1 3204
I 03214 EEM 3 14 0000 06-0
I 03219 TRS O 03 3229 32B9
I 03224 TR 1 3254
I 03229 SET B 0005
I 03234 LOD 8 0004
I 03239 CMP 4 3315
I 03244 UNL 7 12 0004 0604
I 03249 TRE L 3284
I 03254 TRA I 01 3284 32Y4
I 03259 SEL 2 0500
I 03264 WR R 3290
I 03269 TRA I 03 3279 32G9
I 03274 TR 1 3284
I 03279 HLT J 0016
I 03284 TRA I 02 3144 31M4
I 03289 TR 1 3324
  
```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
 79995

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

```

2 004 03293
2 001 03294
2 010 03304
2 001 03305
2 010 03315
  
```

```

0016
MPPFF5511
  
```

SECTION-2
ROUTINE 17

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
20K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 20K.
CHECK THAT RD 00 IS NOT
CHANGED TO RD 01. RUN
ROUTINE ONLY IN 705 III
80K.

```

T19.....03324 EEM 3 14 0000 06-0
I 03329 SET 8 12 0005 0605
I 03334 RCV U 0004
I 03339 BLM $ 0001
I 03344 RCV U 19999 Z999
I 03349 BLM $ 0002
I 03354 SEL 2 2002
I 03359 WR R 3500
I 03364 TRS O 03 3459 34E9
I 03369 BSP 3 0004
I 03374 RD Y 19995 Z995
I 03379 LEM 3 15 0000 0660
I 03384 TRS O 01 3394 33Z4
I 03389 TR 1 3384
I 03394 EEM 3 14 0000 06-0
I 03399 TRS O 03 3459 34E9
I 03404 SET B 0010
I 03409 LOD 8 20004 -004
I 03414 CMP 4 3509
I 03419 TRE L 3429
I 03424 TR 1 3459
I 03429 SET B 0005
I 03434 LOD 8 0004
I 03439 CMP 4 3509
I 03444 UNL 7 12 0004 0604
I 03449 TRE L 3459
I 03454 TR 1 3489
I 03459 TRA I 01 3489 34Y9
I 03464 SEL 2 0500
I 03469 WR R 3495
I 03474 TRA I 03 3484 34H4
I 03479 TR 1 3489
I 03484 HLT J 0017
I 03489 TRA I 02 3324 33K4
I 03494 TR 1 3519
U21

```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
19995CHECK THAT RD 00 IS
NOT CHANGED TO RD 01.

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

```

2 004 03498
2 001 03499
2 010 03509
2 001 03510

```

```

0017
4499CCSS22

```

0018
□
5961048372
□

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
120K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 120K.
CHECK THAT RD00 IS NOT
CHANGED TO RD 01. RUN
ROUTINE ONLY IN 705 III
80K.

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
119995

CHECK THAT RD 00 IS
NOT CHANGED TO RD 01

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

2	004	03888
2	001	03889
2	010	03899
2	001	03900

0019
□
5A6B7C8D9E
□

SECTION-2
ROUTINE 20
CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
160K. ALSO CHECK FOR
OVERFLOW CHECK AT 160K.
CHECK THAT RD 00 IS
CHANGED TO RD 01. RUN
ROUTINE ONLY IN 705 III
80K.

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
159995

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

```

W22.....03909 EEM 3 14 0000 06-0
          03914 SET B 12 0005 0605
          03919 RCV U 0004
          03924 BLM $ 0001
          03929 RCV U 3999 1991
          03934 BLM $ 0001
          03939 SEL 2 2002
          03944 WR R 4060
          03949 TRS O 03 4019 40A9
          03954 BSP 3 0004
          03959 RD Y 3999E 199E
          03964 LEM 3 15 0000 0680
          03969 TRS O 01 3979 39X9
          03974 TR 1 3969
          03979 EEM 3 14 0000 06-0
          03984 TRS O 03 3994 3914
          03989 TR 1 4019
          03994 SET B 0005
          03999 LOD 8 0004
          04004 CMP 4 4080
          04009 UNL 7 12 0004 0604
          04014 TRE L 4049
          04019 TRA I 01 4049 40U9
          04024 SEL 2 0500
          04029 WR R 4055
          04034 TRA I 03 4044 40D4
          04039 TR 1 4049
          04044 HLT J 0020
          04049 TRA I 02 3909 39-9
          04054 TR 1 4089
  
```

2 004 04058
2 001 04059
2 010 04069
2 001 04070
2 010 04080

0020
PQRSTUVWXYZ

SECTION-2
ROUTINE-21
CHECK FOR WRAP AROUND
OF AW INCREMENTER AT
160K. ALSO CHECK FOR
OVERFLOW CHECK AT 160K.
SET UP A WRITE FIELD
GOING OVER 160K BOUNDARY.
RUN ROUTINE IN 705 III 80K.

```

X23.....04089 EEM 3 14 0000 06-0
I 04094 SET B 12 0005 0605
I 04099 RCV U 0004
I 04104 BLM $ 0001
I 04109 SET B 0011
I 04114 LOD 8 4235
I 04119 UNL 7 0005
I 04124 SEL 2 2002
I 04129 WR R 3999E 199E
I 04134 TRS O 03 4144 41D4
I 04139 TR 1 4184
I 04144 BSP 3 0004
I 04149 RD Y 8000
I 04154 TRS O 03 4184 41H4
I 04159 SET B 0005
I 04164 LOD 8 0004
I 04169 CMP 4 8009
I 04174 UNL 7 12 0004 0604
I 04179 TRE L 4214
I
I
I 04184 TRA I 01 4214 42/4
I 04189 SEL 2 0500
I 04194 WR R 4220
I 04199 TRA I 03 4209 4269
I 04204 TR 1 4214
I 04209 HLT J 0021
* 04214 TRA I 02 4089 40Q9
I 04219 TR 1 4244
I
I

```

REPLACE FIELD BY BLANKS

SET UP WRITE FIELD

WRITE 10 CHARACTERS FROM
159995

RD BACK INTO 8000

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO NEXT ROUTINE

CONSTANTS & WORK AREA

```

2 004 04223
2 001 04224
2 010 04234
2 001 04235

```

```

0021
MMNN331249

```


SECTION-2
ROUTINE 22

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
80K. ALSO CHECK FOR
NO OVERFLOW CHECK AT
80K. SET UP A WRITE FIELD
GOING OVER 80K BOUNDARY.
RUN ROUTINE IN 705 III 80K.

	I	□	04244	EEM	3	14	0000	06-0	□		
Y24.....	I	□	04249	SET	B	12	0005	0605	□		
	I	□	04254	RVC	U		0004		□		
	I	□	04259	BLM	\$		0001		□		
	I	□	04264	SET	B		0011		□		
	I	□	04269	LDD	8		4400		□		
	I	□	04274	UNL	7		000V		□		
	I	□	04279	SEL	2		2002		□		
	I	□	04284	WR	R		3999N	I99N	□		
	I	□	04289	TRS	O	03	4349	43D9	-	→	
	I	□	04294	BSP	3		0004		□	I	
	I	□	04299	RD	Y		8000		□	I	
	I	□	04304	TRS	O	03	4349	43D9	-	→	
	I	□	04309	SET	B		0005		□	I	
	I	□	04314	LDD	8		0004		□	I	
	I	□	04319	CMP	4		000U		□	I	
	I	□	04324	TRE	L		4379		-	→	
	I	□	04329	CMP	4		8009		□	I I	
	I	□	04334	UNL	7	12	0004	0604	□	I I	
	I	□	04339	TRE	L		4349		-	→	
	I	□	04344	TR	1		4379		-	→	
	I	□								□	I I
	I	□								□	I I
	I	□	04349	TRA	I	01	4379	43X9	-	→	
	I	□	04354	SEL	2		0500		□	I	
	I	□	04359	WR	R		4385		□	I	
	I	□	04364	TRA	I	03	4374	43G4	-	→	
	I	□	04369	TR	1		4379		-	→	
	I	□	04374	HLL	J		0022		□	I I	
+ -	□	04379	TRA	I	02		4244	42M4	-	→	
	□	04384	TR	1			4409		-	→	

REPLACE FIELD BY BLANKS

SET UP WRITE FIELD

WRITE 10 CHARACTERS FROM
79995

READ BACK INTO 8000

CHECK MEMORY SIZE

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

CONSTANTS & WORK AREA

2 004 04388
2 001 04389
2 010 04399
2 001 04400

0022
□
5239CFGMQV
□

SECTION-2
ROUTINE 24

CHECK FOR NO WRAP AROUND
OF AW INCREMENTER AT
80K. ALSO CHECK FOR NO
OVERFLOW CHECK AT 80K.
CHECK THAT RD 00 IS NOT
CHANGED TO RD 01. RUN
ROUTINE IN 705 III 80K.

```

AA26.....04569 EEM 3 14 0000 06-0
04574 SET B 12 0005 0605
04579 RCV U 0004
04584 BLM $ 0001
04589 RCV U 3999R 199R
04594 BLM $ 0002
04599 SEL 2 2002
04604 WR R 4705
04609 TRS O 03 4664 46F4
04614 BSP 3 0004
04619 RD Y 3999N 199N
04624 TRS O 03 4664 46F4
04629 SET B 0010
04634 LOD 8 000U
04639 CMP 4 0004
04644 TRE L 4694
04649 CMP 4 4714
04654 UNL 7 12 0004 0604
04659 TRE L 4694
04664 TRA I 01 4694 46Z4
04669 SEL 2 0500
04674 WR R 4700
04679 TRA I 03 4689 46H9
04684 TR 1 4694
04689 HLT J 0024
04694 TRA I 02 4569 4509
04699 TR 1 4724
0004 04703 0024
0001 04704
0010 04714 AKJSBLMU92
0001 04715

```

REPLACE FIELD BY BLANKS

RD 10 CHARACTERS INTO
79995

CHECK MEMORY SIZE

PUT ORIGINAL FIELD BACK

ERROR ROUTINE

TO END OF TEST

CONSTANTS & WORK AREA

END OF TEST
914 ON-LOOP IN SECTION 2
914 OFF-CALL IN NEXT PROGRAM

TYPEOUT A Z

CONSTANTS & WORK AREA

```

2 001 04745
2 004 04749

```

```

Z

```

