

The image displays a grid of 150 small, illegible text fragments arranged in 10 columns and 15 rows. These fragments appear to be individual lines of code or data from a larger document, possibly a test log or a source code listing. The text is too small and faded to be read accurately, but it follows a structured, tabular format.

A small, illegible logo or text fragment located in the bottom right corner of the page.



601

BTFL02.80350

00010000

770309

PDP10 411

HDR1DGKABCSE0

00010000

770309



.REPT 0 .REM ?

IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DGKAB-C-D  
 PRODUCT NAME: 11/04 TRAP TEST  
 DATE: JANUARY 1977  
 MAINTAINER: DIAGNOSTIC GROUP  
 AUTHOR: AL LOSCHAK

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\*-----\*  
 \* 11-DEC-76 09:40:00 \*  
 \* 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 \*  
 \*-----\*











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IF AN ERROR IS DETECTED ;IT COULD BE BECAUSE OF TWO REASONS.  
A) WRONG TEST NUMBER  
B) ERROR IN THE PRESENT TEST.

////////////////////////////////////  
THE TEST SEQUENCE LOCATION "TESTN" SHOULD BE CHECKED FIRST  
TO SEE IF IT MATCHES THE PRESENT TEST.  
IF IT DOESN'T MATCH ; THEN THE CONTENTS OF THIS LOCATION  
TELL YOU WHICH TEST IT WAS DOING BEFORE IT HALTED.  
////////////////////////////////////

6.2 ERROR RECOVERY

ON TRAP ERRORS - RESTART AT STARTING ADDRESS

7. RESTRICTIONS  
7.1 STARTING RESTRICTION

NONE

7.2 OPERATIONAL RESTRICTION

NONE

8. MISCELLANEOUS

8.1 EXECUTION TIME

FOR ONE ITERATION ABOUT 5 SECONDS.  
IT TYPES "END OF DGKAB" APROXIMATELY EVERY MINUTE.

9. PROGRAM DESCRIPTION

THIS PROGRAM CHECKS THAT ON ALL TRAP OPERATIONS REGISTER  
6 IS DECREMENTED THE CORRECT AMOUNT, THAT THE CORRECT  
PC IS SAVED ON THE STACK, THAT THE OLD CONDITION CODES AND  
PRIORITY ARE PLACED ON THE STACK AND THAT THE NEW STATUS AND  
CONDITION CODES ARE CORRECT. BOTH THE "TRAP" AND "EMT"  
TRAP INSTRUCTIONS ARE TESTED TO SEE THAT ALL COMBINATIONS WILL  
TRAP. CHECKED ALSO IS THAT ALL RESERVED INSTRUCTIONS  
WILL TRAP. VERIFICATION OF THE "TRT" INSTRUCTION (DCJ03)  
WHICH IS USED FOR SOFTWARE DEBUG ROUTINES: ODT,DDT, IS DONE.  
ALSO, THE TRACE BIT IS CHECKED TO SEE IF IT CAUSES A TRAP.  
THE RTI AND RTT INSTRUCTIONS ARE CHECKED. STACK OVERFLOW IS  
ALSO CHECKED FOR ALL THE TRAP INSTRUCTIONS.  
SPECIAL CHECKS ARE MADE TO SEE IF BUS  
ERROR TRAPS OCCUR ON NON-EXISTENT MEMORY.  
.ENDR

?

:ALL INSTRUCTIONS THAT ARE RESERVED  
:SHOULD TRAP TO LOCATION 10, AND THE  
:PC THAT POINTS TO THE TRAPPING INSTRUCTION  
:SHOULD BE PLACED ON THE STACK





256 000300  
257 000300 000000  
258 000302 000000  
259 000304 000000  
260 000306 000000  
261 000310 000000  
262 000312 000000  
263 000314 000000  
264 000316 000000  
265 000320  
266 000320 000  
267 000321 000  
268 000322 000000  
269 000324 000000  
270 000326 000000  
271  
272  
273  
274  
275  
276  
277 000330 000  
278 000331 000  
279  
280  
281  
282  
283 000332 000000  
284  
285 000334 000  
286 000335 000  
287 000336 000000  
288 000340 000  
289 000341 000  
290 000342 000000  
291 000344 000  
292 000345 000  
293 000346 000000  
294 000350  
295  
296  
297  
298  
299  
300  
301 000350  
302 000024  
303 000024 000200  
304 000044 000044  
305 000044 000350  
306 000350  
307  
308  
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311 000350

```
$MAIL: ;: APT MAILBOX
$MSGTY: .WORD AMSGTY ;: MESSAGE TYPE CODE
$FATAL: .WORD AFATAL ;: FATAL ERROR NUMBER
$TESTN: .WORD ATESTN ;: TEST NUMBER
$PASS: .WORD APASS ;: PASS COUNT
$DEVCT: .WORD ADEVCT ;: DEVICE COUNT
$UNIT: .WORD AUNIT ;: I/O UNIT NUMBER
$MSGAD: .WORD AMSGAD ;: MESSAGE ADDRESS
$MSGLG: .WORD AMSGLG ;: MESSAGE LENGTH
$ETABLE: ;: APT ENVIRONMENT TABLE
$ENV: .BYTE AENV ;: ENVIRONMENT BYTE
$ENVM: .BYTE AENVM ;: ENVIRONMENT MODE BITS
$SWREG: .WORD ASWREG ;: APT SWITCH REGISTER
$USWR: .WORD AUSWR ;: USER SWITCHES
$CPUOP: .WORD ACPUOP ;: CPU TYPE, OPTIONS
;: BITS 15-11=CPU TYPE
;: 11/04=01, 11/05=02, 11/20=03, 11/40=04, 11/45=05
;: 11/70=06, PDQ=07, Q=10
;: BIT 10=REAL TIME CLOCK
;: BIT 9=FLOATING POINT PROCESSOR
;: BIT 8=MEMORY MANAGEMENT
$MAMS1: .BYTE AMAMS1 ;: HIGH ADDRESS, M.S. BYTE
$MTYP1: .BYTE AMTYP1 ;: MEM. TYPE, BLK#1
;: MEM. TYPE BYTE -- (HIGH BYTE)
;: 900 NSEC CORE=001
;: 300 NSEC BIPOLAR=002
;: 500 NSEC MOS=003
$MADR1: .WORD AMADR1 ;: HIGH ADDRESS, BLK#1
;: MEM. LAST ADDR.=3 BYTES, THIS WORD AND LOW OF "TYPE" ABOVE
$MAMS2: .BYTE AMAMS2 ;: HIGH ADDRESS, M.S. BYTE
$MTYP2: .BYTE AMTYP2 ;: MEM. TYPE, BLK#2
$MADR2: .WORD AMADR2 ;: MEM. LAST ADDRESS, BLK#2
$MAMS3: .BYTE AMAMS3 ;: HIGH ADDRESS, M.S. BYTE
$MTYP3: .BYTE AMTYP3 ;: MEM. TYPE, BLK#3
$MADR3: .WORD AMADR3 ;: MEM. LAST ADDRESS, BLK#3
$MAMS4: .BYTE AMAMS4 ;: HIGH ADDRESS, M.S. BYTE
$MTYP4: .BYTE AMTYP4 ;: MEM. TYPE, BLK#4
$MADR4: .WORD AMADR4 ;: MEM. LAST ADDRESS, BLK#4
$ETEND:
.MEXIT
.SBTTL APT PARAMETER BLOCK

;: *****
;: SET LOCATIONS 24 AND 44 AS REQUIRED FOR APT
;: *****
.$X= ;: SAVE CURRENT LOCATION
.=24 ;: SET POWER FAIL TO POINT TO START OF PROGRAM
200 ;: FOR APT START UP
.=44 ;: POINT TO APT INDIRECT ADDRESS PNTR.
$APTHDR ;: POINT TO APT HEADER BLOCK
.=.$X ;: RESET LOCATION COUNTER
;: *****
;: SETUP APT PARAMETER BLOCK AS DEFINED IN THE APT-PDP11 DIAGNOSTIC
;: INTERFACE SPEC.

$APTHD:
```

312 000350 000000  
 313 000352 000300  
 314 000354 000002  
 315 000356 000002  
 316 000360 000000  
 317 000362 000024  
 318 000304  
 319 000302

\$HIBTS: .WORD  
 \$MBADR: .WORD  
 \$TSTM: .WORD  
 \$PASTM: .WORD  
 \$UNITM: .WORD  
 .WORD  
 \$TSTNM=\$TSTN  
 \$ERROR=\$FATAL

0 :: TWO HIGH BITS OF 18 BIT MAILBOX ADDR.  
 \$MAIL :: ADDRESS OF APT MAILBOX (BITS 0-15)  
 2 :: RUN TIM OF LONGEST TEST  
 2 :: RUN TIME IN SECS. OF 1ST PASS ON 1 UNIT (QUICK VERIFY)  
 0 :: ADDITIONAL RUN TIME (SECS) OF A PASS FOR EACH ADDITIONAL UNIT  
 \$ETEND-\$MAIL/2 ;; LENGTH MAILBOX-ETABLE (WORDS)



```

000500 000500 000000 000000 000000 000000 000000 000000 000000 000000
000502 012737 177777 016102 000000 000000 000000 000000 000000 000000
000510 005067 177564 000000 000000 000000 000000 000000 000000 000000
000514 012767 016270 177302 000000 000000 000000 000000 000000 000000
000522 012767 000340 177276 000000 000000 000000 000000 000000 000000
000530 005067 177550 000000 000000 000000 000000 000000 000000 000000
000534 005067 177542 000000 000000 000000 000000 000000 000000 000000
000540 012702 000300 000000 000000 000000 000000 000000 000000 000000

;SPECIAL CASE OF ODD;.EVEN .BYTE AND REGISTER 6
HERE=0

000544 000167 000024 000000 000000 000000 000000 000000 000000 000000
000550 000000 000000 000000 000000 000000 000000 000000 000000 000000
000552 000000 000000 000000 000000 000000 000000 000000 000000 000000
000554 000000 000000 000000 000000 000000 000000 000000 000000 000000
000556 000000 000000 000000 000000 000000 000000 000000 000000 000000
000560 000000 000000 000000 000000 000000 000000 000000 000000 000000
000562 000000 000000 000000 000000 000000 000000 000000 000000 000000
000564 052525 000000 000000 000000 000000 000000 000000 000000 000000
000566 052400 000000 000000 000000 000000 000000 000000 000000 000000
000570 000000 000000 000000 000000 000000 000000 000000 000000 000000
000572 000000 000000 000000 000000 000000 000000 000000 000000 000000

K1: 0
K2: 0
K3: 0
K4: 0
K5: 0
K6: 0
K7: 052525
K10: 052400
K11: 0
K12: 0

;*****
;TEST 1 TEST AUTO INCREMENT AND DECREMENT OF R6 FOR .WORD AND .BYTES
;*****
TST1: INC R6,1 ;UPDATE TEST NUMBER
      CMP R6,#1 ;SEQUENCE ERROR
      BNE TST2-12 ;BR TO ERROR HALT ON SEQ ERROR
      CLR R6
      MOV R6,(R6)+,HERE ;SIX SHOULD INCREMENT BY TWO
      CMP R6,#2
      BEQ BR1
      MOV R6,#1 ;MOVE TO MAILBOX # ***** 1 *****
      INC R6 ;SET MSGTYP TO FATAL ERROR
      HALT ;R6 DID NOT AUTO INCREMENT BY TWO
           ; TO SCOPE REPLACE HALT W/ 240
           ; AND REPLACE NEXT INST W/ 764

BR1: MOV R6,#1000,R6
      MOV R6,-(R6),HERE ;SHOULD DECREMENT BY TWO
      CMP R6,#776
      BEQ BR2
      MOV R6,#2 ;MOVE TO MAILBOX # ***** 2 *****
      INC R6 ;SET MSGTYP TO FATAL ERROR
      HALT ;R6 DID NOT AUTO DECREMENT BY 2
           ; TO SCOPE REPLACE HALT W/ 240
           ; AND REPLACE NEXT INST W/ 750

BR2: CLR R6
      MOV R6,(R6)+,(R6)+ ;DOUBLES AUTO INCREMENT OF R6
      CMP R6,#4
      BEQ BR3
      MOV R6,#3 ;MOVE TO MAILBOX # ***** 3 *****

```

# K01

MAIN: MACY11 27(732)  
 DGMABO.P11 T1

09-DEC-76 09:40 PAGE 10  
 TEST AUTO INCREMENT AND DECREMENT OF R6 FOR .WORD AND .BYTES

```

377 000706 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
378 000710 000000          HALT                    ;WRONG AUTO INCREMENT OF R6
                                ; TO SCOPE REPLACE HALT W/ 240
                                ; AND REPLACE NEXT INST W/ 736

383 000712 005006          BR3:   CLR      %6
384 000714 005004          CLR      %4
385 000716 122624          CMPB    (6)+,(4)+        ;TEST INCREMENT OF R6
386 000720 020627 000002   CMP      %6,#2
387 000724 001405          BEQ     BR4
388 000726 012737 000004   MOV     #4,@#SFATAL      ;MOVE TO MAILBOX # ***** 4 *****
389 000734 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
390 000736 000000          HALT                    ;WRONG INCREMENT OF R6
                                ; TO SCOPE REPLACE HALT W/ 240
                                ; AND REPLACE NEXT INST W/ 723

393 000740 005006          BR4:   CLR      %6
394 000742 005004          CLR      %4
395 000744 122426          CMPB    (4)+,(6)+        ;TEST INCREMENT OF R6
396 000746 020627 000002   CMP      %6,#2
397 000752 001405          BEQ     BR5
398 000754 012737 000005   MOV     #5,@#SFATAL      ;MOVE TO MAILBOX # ***** 5 *****
399 000762 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
400 000764 000000          HALT                    ;WRONG INCREMENT OF R6
                                ; TO SCOPE REPLACE HALT W/ 240
                                ; AND REPLACE NEXT INST W/ 710

403 000766 005006          BR5:   CLR      %6
404 000770 005004          CLR      %4
405 000772 122624          CMPB    (6)+,(4)+        ;TEST INCREMENT OF R4
406 000774 020427 000001   CMP      %4,#1
407 001000 001405          BEQ     BR6
408 001002 012737 000006   MOV     #6,@#SFATAL      ;MOVE TO MAILBOX # ***** 6 *****
409 001010 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
410 001012 000000          HALT                    ;WRONG INCREMENT OF R4
                                ; TO SCOPE REPLACE HALT W/ 240
                                ; AND REPLACE NEXT INST W/ 675

414 001014 005006          BR6:   CLR      %6
415 001016 005004          CLR      %4
416 001020 122426          CMPB    (4)+,(6)+        ;TEST INCREMENT OF R6
417 001022 020627 000002   CMP      %6,#2
418 001026 001405          BEQ     BR7
419 001030 012737 000007   MOV     #7,@#SFATAL      ;MOVE TO MAILBOX # ***** 7 *****
420 001036 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
421 001040 000000          HALT                    ;WRONG INCREMENT OF R6
                                ; TO SCOPE REPLACE HALT W/ 240
                                ; AND REPLACE NEXT INST W/ 662

425 001042 005006          BR7:   CLR      %6
426 001044 005004          CLR      %4
427 001046 122426          CMPB    (4)+,(6)+        ;TEST INCREMENT OF R4
428 001050 020427 000001   CMP      %4,#1
429 001054 001405          BEQ     BR10
430 001056 012737 000010   MOV     #10,@#SFATAL     ;MOVE TO MAILBOX # ***** 10 *****
431 001064 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
432 001066 000000          HALT                    ;WRONG INCREMENT OF R4
  
```



# L01

MAIN MACY11 27(732)  
 DGRABC.P11 T1

09-DEC-76 09:40 PAGE 11  
 TEST AUTO INCREMENT AND DECREMENT OF R6 FOR .WORD AND .BYTES

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433
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435
436 001070 012706 001000 BR10: MOV #1000,%6
437 001074 124627 000000 CMPB -(6),#HERE ;TEST DECREMENT OF R6
438 001100 022706 000776 CMP #776,%6
439 001104 001405 BEQ TST2
440 001106 012737 000011 000302 MOV #11,@#$FATAL ;MOVE TO MAILBOX # ***** 11 *****
441 001114 005212 INC ;SET MSGTYP TO FATAL ERROR
442 001116 000000 HALT ;WRONG DECREMENT OF R6 OR WRONG $TSTNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 647
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448 001120 005237 000304 TST2: INC @#$TESTN ;UPDATE TEST NUMBER
449 001124 022737 000002 000304 CMP #2,@#$TESTN ;SEQUENCE ERROR
450 001132 001137 BNE TST3-12 ;BR TO ERROR HALT ON SEQ ERROR
451 001134 012767 123456 177416 MOV #123456,K5
452 001142 012767 050505 177400 MOV #050505,K1
453 001150 012705 000550 MOV #K1,%5 ;%5=(050505)K1
454 001154 012706 000560 MOV #K5,%6 ;%6=(123456)K5
455 001160 112625 MOVB (6)+,(5)+ ;LOW .BYTE OF R6 TO R5
456 001162 022767 050456 177360 CMP #050456,K1
457 001170 001405 BEQ BR11
458 001172 012737 000012 000302 MOV #12,@#$FATAL ;MOVE TO MAILBOX # ***** 12 *****
459 001200 005212 INC ;SET MSGTYP TO FATAL ERROR
460 001202 000000 HALT ;FALSE TRANSFER OF .BYTE
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 753
461
462
463
464 001204 012767 123456 177346 BR11: MOV #123456,K5
465 001212 012767 050505 177330 MOV #050505,K1
466 001220 012705 000550 MOV #K1,%5 ;%5(050505)K1
467 001224 012706 000562 MOV #K6,%6 ;%6(123456)K5
468 001230 114625 MOVB -(6),(5)+ ;LOW .BYTE OF R6 TO R5 (DECREMENT)
469 001232 026727 177312 050456 CMP K1,#050456
470 001240 001405 BEQ BR12
471 001242 012737 000013 000302 MOV #13,@#$FATAL ;MOVE TO MAILBOX # ***** 13 *****
472 001250 005212 INC ;SET MSGTYP TO FATAL ERROR
473 001252 000000 HALT ;FALSE R6 .BYTE TRANSFER
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 727
474
475
476
477 001254 012767 123456 177266 BR12: MOV #123456,K1
478 001262 012767 050505 177270 MOV #050505,K5
479 001270 012705 000550 MOV #K1,%5 ;(123456)
480 001274 012706 000560 MOV #K5,%6 ;(050505)
481 001300 112526 MOVB (5)+,(6)+ ;LOW OF R5 TO LOW OF R6
482 001302 022767 050456 177250 CMP #050456,K5
483 001310 001405 BEQ BR13
484 001312 012737 000014 000302 MOV #14,@#$FATAL ;MOVE TO MAILBOX # ***** 14 *****
485 001320 005212 INC ;SET MSGTYP TO FATAL ERROR
486 001322 000000 HALT ;FALSE R6 .BYTE TRANSFER
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 703
487
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490 001324 012767 123456 177216 BR13: MOV #123456,K1
491 001332 012767 050505 177220 MOV #050505,K5
492 001340 012705 000551 MOV #K1+1,%5 ;:123456
493 001344 012706 000560 MOV #K5,%6 ;:050505
494 001350 112526 MOV (5)+,(6)+ ;:HIGH OF R5 TO LOW OF R6
495 001352 026727 177202 050647 CMP K5,#050647
496 001360 001405 BEQ BR14
497 001362 012737 000015 000302 MOV #15,@#$FATAL ;:MOVE TO MAILBOX # ***** 15 *****
498 001370 005212 INC (R2) ;:SET MSGTYP TO FATAL ERROR
499 001372 000000 HALT ;:FALSE R6 .BYTE TRANSFER
;: TO SCOPE REPLACE HALT W/ 240
;: AND REPLACE NEXT INST W/ 657

500 001374 012767 123456 177146 BR14: MOV #123456,K1
501 001402 012767 050505 177150 MOV #050505,K5
502 001410 012705 000551 MOV #K1+1,%5 ;:R5-123456-ODD ADDRESS
503 001414 012706 000560 MOV #K5,%6 ;:R6-050505--.EVEN ADDRESS
504 001420 112625 MOV (6)+,(5)+ ;:LOW OF R6 TO HIGH OF R5
505 001422 022767 042456 177120 CMP #042456,K1
506 001430 001405 BEQ TST3
507 001432 012737 000016 000302 MOV #16,@#$FATAL ;:MOVE TO MAILBOX # ***** 16 *****
508 001440 005212 INC (R2) ;:SET MSGTYP TO FATAL ERROR
509 001442 000000 HALT ;:FAILED LOW OF 6 TO HIGH OF 5,OR WRONG $STNM
;: TO SCOPE REPLACE HALT W/ 240
;: AND REPLACE NEXT INST W/ 633

*****
;:TEST 3 TEST BYTE OPERATION WITH SEQUENTIAL ODD-EVEN ADDRESS
*****
118 001444 005237 000304 TST3: INC @#$TESTN ;:UPDATE TEST NUMBER
119 001450 022737 000003 000304 CMP #3,@#$TESTN ;:SEQUENCE ERROR
120 001456 001103 BNE TST4-12 ;BR TO ERROR HALT ON SEQ ERROR
121 001460 126767 177100 177077 CMPB K7,K7+1 ;:SAME .WORD LOW TO HIGH
122 001466 001405 BEQ BR15
123 001470 012737 000017 000302 MOV #17,@#$FATAL ;:MOVE TO MAILBOX # ***** 17 *****
124 001476 005212 INC (R2) ;:SET MSGTYP TO FATAL ERROR
125 001500 000000 HALT ;:SHOULD COMPARE LOW TO HIGH
;: TO SCOPE REPLACE HALT W/ 240
;: AND REPLACE NEXT INST W/ 766

001502 126767 177057 177054 BR15: CMPB K7+1,K7 ;:COMPARE ODD TO .EVEN SAME .WORD
001510 001405 BEQ BR16
001512 012737 000020 000302 MOV #20,@#$FATAL ;:MOVE TO MAILBOX # ***** 20 *****
001520 005212 INC (R2) ;:SET MSGTYP TO FATAL ERROR
001522 000000 HALT ;:ODD TO .EVEN .BYTE FAILURE
;: TO SCOPE REPLACE HALT W/ 240
;: AND REPLACE NEXT INST W/ 755

001524 126767 177037 177032 BR16: CMPB K10+1,K7 ;:SEQUENTIAL .BYTES
001532 001405 BEQ BR17
001534 012737 000021 000302 MOV #21,@#$FATAL ;:MOVE TO MAILBOX # ***** 21 *****
001542 005212 INC (R2) ;:SET MSGTYP TO FATAL ERROR
001544 000000 HALT ;:ODD TO .EVEN FAILED
;: TO SCOPE REPLACE HALT W/ 240
;: AND REPLACE NEXT INST W/ 744

```



NO1

45	001546	126767	177014	177006	BR17:	CMPB	K10,K6		
46	001554	001405				BEQ	BR20		
47	001556	012737	000022	000302		MOV	#22,@#SFATAL	:MOVE TO MAILBOX # ***** 22 *****	
48	001564	005212				INC	(R2)	:SET MSGTYP TO FATAL ERROR	
49	001566	000000				HALT		:EVEN TO EVEN FAILED	
50								: TO SCOPE REPLACE HALT W/ 240	
51								: AND REPLACE NEXT INST W/ 733	
52	001570	126767	176771	176771	BR20:	CMPB	K7+1,K10+1		
53	001576	001405				BEQ	BR21		
54	001600	012737	000023	000302		MOV	#23,@#SFATAL	:MOVE TO MAILBOX # ***** 23 *****	
55	001606	005212				INC	(R2)	:SET MSGTYP TO FATAL ERROR	
56	001610	000000				HALT		:ODD TO ODD FAILED	
57								: TO SCOPE REPLACE HALT W/ 240	
58								: AND REPLACE NEXT INST W/ 722	
59	001612	126767	176750	176747	BR21:	CMPB	K10,K10+1		
60	001620	001005				BNE	BR22		
61	001622	012737	000024	000302		MOV	#24,@#SFATAL	:MOVE TO MAILBOX # ***** 24 *****	
62	001630	005212				INC	(R2)	:SET MSGTYP TO FATAL ERROR	
63	001632	000000				HALT		:LOW TO HIGH IN SAME .WORD FAILED	
64								: TO SCOPE REPLACE HALT W/ 240	
65								: AND REPLACE NEXT INST W/ 711	
66	001634	126767	176727	176725	BR22:	CMPB	K10+1,K10+1		
67	001642	001405				BEQ	BR23		
68	001644	012737	000025	000302		MOV	#25,@#SFATAL	:MOVE TO MAILBOX # ***** 25 *****	
69	001652	005212				INC	(R2)	:SET MSGTYP TO FATAL ERROR	
70	001654	000000				HALT		:HIGH TO LOW IN SAME .WORD FAILED	
71								: TO SCOPE REPLACE HALT W/ 240	
72								: AND REPLACE NEXT INST W/ 700	
73	001656	126767	176704	176701	BR23:	CMPB	K10,K7+1		
74	001664	001005				BNE	TST4		
75	001666	012737	000026	000302		MOV	#26,@#SFATAL	:MOVE TO MAILBOX # ***** 26 *****	
76	001674	005212				INC	(R2)	:SET MSGTYP TO FATAL ERROR	
77	001676	000000				HALT		:EVEN TO ODD FAILED OR WRONG \$STNM	
78								: TO SCOPE REPLACE HALT W/ 240	
79								: AND REPLACE NEXT INST W/ 667	

\*\*\*\*\*  
:TEST 4 TEST SPECIAL CASE [R,(R)+]  
\*\*\*\*\*

87	001700	005237	000304		TST4:	INC	@#STESTN	:UPDATE TEST NUMBER	
88	001704	022737	000004	000304		CMP	#4,@#STESTN	:SEQUENCE ERROR	
89	001712	001117				BNE	TST5-12 ;BR TO ERROR	:BR TO ERROR HALT ON SEQ ERROR	
90									
91	001714	012700	000570			MOV	#K11,%0	:SOURCE AND DESTINATION BOTH R0	
92	001720	010020				MOV	%0,(0)+	:SOURCE NO MEMORY REFERENCE	
93	001722	026727	176642	000572		CMP	K11,#K11+2	:DESTINATION IS MEMORY REFERENCE	
94	001730	001005				BNE	BR24		
95	001732	012737	000027	000302		MOV	#27,@#SFATAL	:MOVE TO MAILBOX # ***** 27 *****	
96	001740	005212				INC	(R2)	:SET MSGTYP TO FATAL ERROR	
97	001742	000000				HALT		: TO SCOPE REPLACE HALT W/ 240	
98								: AND REPLACE NEXT INST W/ 763	
99	001744	012700	000570		BR24:	MOV	#K11,%0		

Z	601	001750	110020			MOVB	%0,(0)+		
	602	001752	026727	176612	000571	CMP	K11,#K11+1		
	603	001760	001005			BNE	BR25		
	604	001762	012737	000030	000302	MOV	#30,@#SFATAL	: MOVE TO MAILBOX # ***** 30 *****	
	605	001770	005212			INC	(R2)	: SET MSGTYP TO FATAL ERROR	
	606	001772	000000			HALT		: FAILED MOV %0,(0)+	
	607							: TO SCOPE REPLACE HALT W/ 240	
	608							: AND REPLACE NEXT INST W/ 747	
	609								
Z	610	001774	012706	000570		BR25:	MOV	#K11,%6	
	611	002000	110626				MOVB	%6,(6)+	
	612	002002	026727	176562	000572		CMP	K11,#K11+2	
	613	002010	001005				BNE	BR26	
	614	002012	012737	000031	000302		MOV	#31,@#SFATAL	: MOVE TO MAILBOX # ***** 31 *****
	615	002020	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
	616	002022	000000				HALT	: FAILED MOV %6,(6)+	
	617							: TO SCOPE REPLACE HALT W/ 240	
	618							: AND REPLACE NEXT INST W/ 733	
Z	619	002024	012706	000570		BR26:	MOV	#K11,%6	
	620	002030	010626				MOV	%6,(6)+	
	621	002032	026727	176532	000572		CMP	K11,#K11+2	
	622	002040	001005				BNE	BR27	
	623	002042	012737	000032	000302		MOV	#32,@#SFATAL	: MOVE TO MAILBOX # ***** 32 *****
	624	002050	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
	625	002052	000000				HALT	: FAILED MOV %6,(6)+	
	626							: TO SCOPE REPLACE HALT W/ 240	
	627							: AND REPLACE NEXT INST W/ 717	
	628								
Z	629	002054	012700	000570		BR27:	MOV	#K11,%0	: SOURCE AND DESTINATION BOTH RC
	630	002060	010020				MOV	%0,(0)+	: SOURCE NO MEMORY REFERENCE
	631	002062	026727	176502	000570		CMP	K11,#K11	: DESTINATION IS MEMORY REFERENCE
	632	002070	001405				BEG	BR30	
	633	002072	012737	000033	000302		MOV	#33,@#SFATAL	: MOVE TO MAILBOX # ***** 33 *****
	634	002100	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
	635	002102	000000				HALT	: FAILED %0,(0)+	
	636							: TO SCOPE REPLACE HALT W/ 240	
	637							: AND REPLACE NEXT INST W/ 703	
	638								
Z	639	002104	016700	176460		BR30:	MOV	K11,%0	
	640	002110	110020				MOVB	%0,(0)+	
	641	002112	026727	176452	000570		CMP	K11,#K11	
	642	002120	001405				BEG	BR31	
	643	002122	012737	000034	000302		MOV	#34,@#SFATAL	: MOVE TO MAILBOX # ***** 34 *****
	644	002130	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
	645	002132	000000				HALT	: FAILED MOV %0,(0)+	
	646							: TO SCOPE REPLACE HALT W/ 240	
	647							: AND REPLACE NEXT INST W/ 667	
Z	648	002134	012706	000570		BR31:	MOV	#K11,%6	
	649	002140	110626				MOVB	%6,(6)+	
	650	002142	026727	176422	000570		CMP	K11,#K11	
	651	002150	001405				BEG	TST5	
	652	002152	012737	000035	000302		MOV	#35,@#SFATAL	: MOVE TO MAILBOX # ***** 35 *****
	653	002160	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
	654	002162	000000				HALT	: FAILED MOV %6,(6)+	
	655							: TO SCOPE REPLACE HALT W/ 240	
	656							: AND REPLACE NEXT INST W/ 653	



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657
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662 002164 005237 000304
663 002170 022737 000005 000304
664 002176 001062
665 002200 000277
666 002202 005067 175570
667 002206 103005
668 002210 012737 000036 000302
669 002216 005212
670 002220 000000
671
672
673 002222 BR33:
674 002222 102005 BR34
675 002224 012737 000037 000302 BR34
676 002232 005212 BR34
677 002234 000000 BR34
678
679
680 002236 BR34:
681 002236 001005 BR35
682 002240 012737 000040 000302 BR35
683 002246 005212 BR35
684 002250 000000 BR35
685
686
687 002252 BR35:
688 002252 100005 BR36
689 002254 012737 000041 000302 BR36
690 002262 005212 BR36
691 002264 000000 BR36
692
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694 002266 000257 BR36:
695 002270 052767 000017 175500 BR36
696
697 002276 103405 BR37
698 002300 012737 000042 000302 BR37
699 002306 005212 BR37
700 002310 000000 BR37
701
702
703 002312 BR37:
704 002312 102405 BR40
705 002314 012737 000043 000302 BR40
706 002322 005212 BR40
707 002324 000000 BR40
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710 002326 BR40:
711 002326 001405 BR41
712 002330 012737 000044 000302 BR41

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:*****
:TEST 5 TEST THE CC BITS
:*****
TSTS: INC @#STESTN ;UPDATE TEST NUMBER
CMP #5,@#STESTN ;SEQUENCE ERROR
BNE TST6-12 ;BR TO ERROR HALT ON SEQ ERROR
SCC ;SET STATUS
CLR STATUS ;CLEAR STATUS
BCC BR33
MOV #36,@#SFATAL ;MOVE TO MAILBOX # ***** 36 *****
INC (R2) ;SET MSGTYP TO FATAL ERROR
HALT ;C NOT CLEAR
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 766

BR33: BVC BR34
MOV #37,@#SFATAL ;MOVE TO MAILBOX # ***** 37 *****
INC (R2) ;SET MSGTYP TO FATAL ERROR
HALT ;V NOT CLEAR
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 760

BR34: BNE BR35
MOV #40,@#SFATAL ;MOVE TO MAILBOX # ***** 40 *****
INC (R2) ;SET MSGTYP TO FATAL ERROR
HALT ;Z NOT CLEAR
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 752

BR35: BPL BR36
MOV #41,@#SFATAL ;MOVE TO MAILBOX # ***** 41 *****
INC (R2) ;SET MSGTYP TO FATAL ERROR
HALT ;N NOT CLEAR
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 744

BR36: CCC
BIS #17,STATUS ;CLEAR CONDITION CODES
;SET STATUS TO ONES

BR37: BCS BR37
MOV #42,@#SFATAL ;MOVE TO MAILBOX # ***** 42 *****
INC (R2) ;SET MSGTYP TO FATAL ERROR
HALT ;C NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 732

BR37: BVS BR40
MOV #43,@#SFATAL ;MOVE TO MAILBOX # ***** 43 *****
INC (R2) ;SET MSGTYP TO FATAL ERROR
HALT ;V NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 724

BR40: BEQ BR41
MOV #44,@#SFATAL ;MOVE TO MAILBOX # ***** 44 *****

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713 002336 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
714 002340 000000          HALT          ;Z NOT SET
715                                     ; TO SCOPE REPLACE HALT W/ 240
716                                     ; AND REPLACE NEXT INST W/ 716
717 002342          BR41:          BMI      TST6          ;MOVE TO MAILBOX # ***** 45 *****
718 002342 100405          MOV      #45, @#$FATAL ;SET MSGTYP TO FATAL ERROR
719 002344 012737 000045 000302  INC      (R2)          ;N NOT SET, OR WRONG $STNM
720 002352 005212          HALT          ; TO SCOPE REPLACE HALT W/ 240
721 002354 000000          ; AND REPLACE NEXT INST W/ 710
722
723
724 ;*****
725 ;TEST 6 TEST THAT A TRAP OCCURS ON A RESERVED INSTRUCTION
726 ;*****
727 002356 005237 000304 000304  TST6:  INC      @#$TESTN ;UPDATE TEST NUMBER
728 002362 022737 000006 000304  CMP      #6, @#$TESTN ;SEQUENCE ERROR
729 002370 001006          BNE      RETA          ;BR TO ERROR HALT ON SEQ ERROR
730 002372 012706 000500          MOV      #BUFF, SP    ;STACK POINTER SETUP
731 002376 012767 002420 175404  MOV      #RETA, RTRAP ;RETURN LOCATION
732 002404 000007          TRAPA         ;RESERVED INSTRUCTION, SHOULD TRAP
733 002406
734 002406 012737 000046 000302  RETA:  MOV      #46, @#$FATAL ;MOVE TO MAILBOX # ***** 46 *****
735 002414 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
736 002416 000000          HALT          ;RESERVE INSTRUCTION DIDN'T TRAP, OR WRONG $STNM
737                                     ; TO SCOPE REPLACE HALT W/ 240
738                                     ; AND REPLACE NEXT INST W/ 764
739 002420          RETAH:
740 ;*****
741 ;TEST 7 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
742 ;*****
743 002420 005237 000304 000304  TST7:  INC      @#$TESTN ;UPDATE TEST NUMBER
744 002424 022737 000007 000304  CMP      #7, @#$TESTN ;SEQUENCE ERROR
745 002432 001011          BNE      TST10-12    ;BR TO ERROR HALT ON SEQ ERROR
746 002434 012706 000500          MOV      #BUFF, SP    ;STACK POINTER SETUP
747 002440 012767 002450 175342  MOV      #RETB, RTRAP ;RETURN POINTER
748 002446 000007          TRAPA         ;RESERVED INSTRUCTION
749 002450 020627 000474          RETB:  CMP      SP, #BUFF-4 ;TEST DECREMENT OF SP
750 002454 001405          BEQ      TST10
751 002456 012737 000047 000302  MOV      #47, @#$FATAL ;MOVE TO MAILBOX # ***** 47 *****
752 002464 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
753 002466 000000          HALT          ;NOT DECREMENTED TWO WORDS, OR WRONG $STNM
754                                     ; TO SCOPE REPLACE HALT W/ 240
755                                     ; AND REPLACE NEXT INST W/ 761
756 ;*****
757 ;TEST 10 TEST THAT PROPER P.C. IS SAVED
758 ;*****
759 002470 005237 000304 000304  TST10: INC      @#$TESTN ;UPDATE TEST NUMBER
760 002474 022737 000010 000304  CMP      #10, @#$TESTN ;SEQUENCE ERROR
761 002502 001012          BNE      TST11-12    ;BR TO ERROR HALT ON SEQ ERROR
762 002504 012706 000500          MOV      #BUFF, SP    ;STACK POINTER SETUP
763 002510 012767 002520 175272  MOV      #RETC, RTRAP ;RETURN FROM TRAP POINTER
764 002516 000007          TRAPA         ;TRAP ON THIS INSTRUCTION
765 002520 022767 002520 175746  RETC:  CMP      #, BUFF-4 ;CHECK FOR INCREMENTED P.C.
766 002526 001405          BEQ      TST11
767 002530 012737 000050 000302  MOV      #50, @#$FATAL ;MOVE TO MAILBOX # ***** 50 *****
768 002536 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR

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F02

MAIN MACY11 27(732) 09-DEC-76 09:40 PAGE 18  
DGKABC.P11 T12 TEST THAT "NEW" STATUS IS CORRECT

; AND REPLACE NEXT INST W/ 753

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002754      2$:      BVC      3$
002754      102005      MOV      #55, @#$FATAL
002756      012737      000055 000302      INC      (R2)
002764      005212      HALT
002766      000000
; MOVE TO MAILBOX # ***** 55 *****
; SET MSGTYP TO FATAL ERROR
; V NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 745

002770      3$:      BCC      4$
002770      103005      MOV      #56, @#$FATAL
002772      012737      000056 000302      INC      (R2)
003000      005212      HALT
003002      000000
; MOVE TO MAILBOX # ***** 56 *****
; SET MSGTYP TO FATAL ERROR
; C NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 737
; TEST PRIORITY

003004      032767      000340 174764      4$:      BIT      #340, CC
003012      001405      BEQ      5$
003014      012737      000057 000302      MOV      #57, @#$FATAL
003022      005212      INC      (R2)
003024      000000      HALT
; MOVE TO MAILBOX # ***** 57 *****
; SET MSGTYP TO FATAL ERROR
; PRIORITY NOT ZERO
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 726

003026      012706      000500      5$:      MOV      #BUFF, SP
003032      012757      003050 174750      MOV      #RETG, RTRAP
003040      012767      000357 174744      MOV      #357, RTRAP+2
003046      000007      TRAPA
; SET NEW "CC" AND PRIORITY
; TRAP HERE

003050      RETG:
003050      100405      BMI      1$
003052      012737      000060 000302      MOV      #60, @#$FATAL
003060      005212      INC      (R2)
003062      000000      HALT
; MOVE TO MAILBOX # ***** 60 *****
; SET MSGTYP TO FATAL ERROR
; N NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 707

003064      1$:      BEQ      2$
003064      001405      BEQ      2$
003066      012737      000061 000302      MOV      #61, @#$FATAL
003074      005212      INC      (R2)
003076      000000      HALT
; MOVE TO MAILBOX # ***** 61 *****
; SET MSGTYP TO FATAL ERROR
; Z NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 701

003100      2$:      BVS      3$
003100      102405      MOV      #62, @#$FATAL
003102      012737      000062 000302      INC      (R2)
003110      005212      HALT
003112      000000
; MOVE TO MAILBOX # ***** 62 *****
; SET MSGTYP TO FATAL ERROR
; V NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 673

003114      3$:      BCS      4$
003114      103405      MOV      #63, @#$FATAL
003116      012737      000063 000302      INC      (R2)
003124      005212      HALT
003126      000000
; MOVE TO MAILBOX # ***** 63 *****
; SET MSGTYP TO FATAL ERROR
; C NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 665

003130      4$:      MOV      CC, SP
003134      042706      000017      BIC      #17, SP

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981 003140 022706 000340      CMP      #340,SP
982 003144 001405      BEQ      STPPA
983 003146          STPP:
984 003146 012737 000064 000302      MOV      #64,2#SFATAL ;MOVE TO MAILBOX # ***** 64 *****
985 003154 005212          INC      (R2) ;SET MSGTYP TO FATAL ERROR
986 003156 000000          HALT ;PRIORITY WAS CHANGED,OR WRONG $STNM
987 ; ; TO SCOPE REPLACE HALT W/ 240
988 ; ; AND REPLACE NEXT INST W/ 651
989 003160 012767 000012 174622 STPPA: MOV      #12,10
990 003166 005067 174620          CLR      12
991 ;*****
992 ;TEST 13 TEST THAT A TRAP OCCURS FOR A "TRAP" INSTRUCTION
993 ;*****
994 003172 005237 000304          †ST13: INC      2#STESTN ;UPDATE TEST NUMBER
995 003176 022737 000013 000304      CMP      #13,2#STESTN ;SEQUENCE ERROR
996 003204 001013          BNE      TST14-12 ;BR TO ERROR HALT ON SEQ ERROR
997 003206 012767 000012 174574      MOV      #12,10
998 003214 005067 174572          CLR      12
999 003220 012706 000500          MOV      #BUFF,SP ;STACK POINTER SETUP
1000 003224 012767 003246 174602      MOV      #RETA1,RTRAP1 ;RETURN LOCATION
1001 003232 104400          TRAP ;RESERVED INSTRUCTION, SHOULD TRAP
1002 003234 012737 000065 000302      MOV      #65,2#SFATAL ;MOVE TO MAILBOX # ***** 65 *****
1003 003242 005212          INC      (R2) ;SET MSGTYP TO FATAL ERROR
1004 003244 000000          HALT ;TRAP DIDN'T TRAP,OR WRONG $STNM
1005 ; ; TO SCOPE REPLACE HALT W/ 240
1006 ; ; AND REPLACE NEXT INST W/ 757
1007 003246          RETA1:
1008 ;*****
1009 ;TEST 14 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
1010 ;*****
1011 003246 005237 000304          †ST14: INC      2#STESTN ;UPDATE TEST NUMBER
1012 003252 022737 000014 000304      CMP      #14,2#STESTN ;SEQUENCE ERROR
1013 003260 001011          BNE      TST15-12 ;BR TO ERROR HALT ON SEQ ERROR
1014 003262 012706 000500          MOV      #BUFF,SP ;STACK POINTER SETUP
1015 003266 012767 003276 174540      MOV      #RETB1,RTRAP1 ;RETURN POINTER
1016 003274 104400          TRAP ;RESERVED INSTRUCTION
1017 003276 020627 000474          RETB1: CMP      SP,#BUFF-4 ;TEST DECREMENT OF SP
1018 003302 001405          BEQ      TST15
1019 003304 012737 000066 000302      MOV      #66,2#SFATAL ;MOVE TO MAILBOX # ***** 66 *****
1020 003312 005212          INC      (R2) ;SET MSGTYP TO FATAL ERROR
1021 003314 000000          HALT ;NOT DECREMENTED TWO WORDS,OR WRONG $STNM
1022 ; ; TO SCOPE REPLACE HALT W/ 240
1023 ; ; AND REPLACE NEXT INST W/ 761
1024 ;*****
1025 ;TEST 15 TEST THAT PROPER P.C. IS SAVED
1026 ;*****
1027 003316 005237 000304          †ST15: INC      2#STESTN ;UPDATE TEST NUMBER
1028 003322 022737 000015 000304      CMP      #15,2#STESTN ;SEQUENCE ERROR
1029 003330 001012          BNE      TST16-12 ;BR TO ERROR HALT ON SEQ ERROR
1030 003332 012706 000500          MOV      #BUFF,SP ;STACK POINTER SETUP
1031 003336 012767 003346 174470      MOV      #RETC1,RTRAP1 ;RETURN FROM TRAP POINTER
1032 003344 104400          TRAP ;TRAP ON THIS INSTRUCTION
1033 003346 022767 003346 175120 RETC1: CMP      #,BUFF-4 ;CHECK INCREMENTED P.C.
1034 003354 001405          BEQ      TST16
1035 003356 012737 000067 000302      MOV      #67,2#SFATAL ;MOVE TO MAILBOX # ***** 67 *****
1036 003364 005212          INC      (R2) ;SET MSGTYP TO FATAL ERROR
  
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937 003366 000000 HALT ; INCORRECT P.C. OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 760
;*****
;TEST 16 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK
;*****
943 003370 005237 000304 ST16: INC @#$TESTN ; UPDATE TEST NUMBER
944 003374 022737 000016 000304 CMP #16,@#$TESTN ; SEQUENCE ERROR
945 003402 001037 BNE TST17-12 ; BR TO ERROR HALT ON SEQ ERROR
946 003404 012706 000500 MOV #BUFF,SP ; SET UP
947 003410 012767 003426 174416 MOV #RETD1,RTRAP1 ; SET UP
948 003416 005067 174354 CLR CC ; CLEAR CC AND PRIORITY
949 003422 000257 CCC TRAP ; TRAP
950 003424 104400 TRAP ; TRAP
951 003426 026727 175044 000000 RETD1: CMP BUFF-2,#0 ; TEST THAT OLD STATUS WENT TO STACK
952 003434 001405 BEQ 1$ ;
953 003436 012737 000070 000302 MOV #70,@#$FATAL ; MOVE TO MAILBOX # ***** 70 *****
954 003444 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
955 003446 000000 HALT ; INCORRECT STATUS
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 755
958 003450 012706 000500 1$: MOV #BUFF,SP ; SET UP
959 003454 012767 003472 174352 MOV #RETE1,RTRAP1 ; SET UP
960 003462 012767 000357 174306 MOV #357,CC ; SET PRIORITY
961 003470 104400 TRAP ; SET CC
962 003472 026727 175000 000357 RETE1: CMP BUFF-2,#357 ; COMPARES STATUS ON STACK
963 003500 001405 BEQ TST17 ;
964 003502 012737 000071 000302 MOV #71,@#$FATAL ; MOVE TO MAILBOX # ***** 71 *****
965 003510 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
966 003512 000000 HALT ; INCORRECT STATUS ON STACK,OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 733
;*****
;TEST 17 TEST THAT "NEW" STATUS IS CORRECT
;*****
972 003514 005237 000304 ST17: INC @#$TESTN ; UPDATE TEST NUMBER
973 003520 022737 000017 000304 CMP #17,@#$TESTN ; SEQUENCE ERROR
974 003526 001121 BNE TST20-12 ; BR TO ERROR HALT ON SEQ ERROR
975 003530 012706 000500 MOV #BUFF,SP ;
976 003534 012767 003550 174272 MOV #RETF1,RTRAP1 ;
977 003542 005067 174270 CLR RTRAP1+2 ; CLEAR FUTURE PRIORITY AND CC
978 003546 104400 TRAP ;
979 003550 RETF1: ; TEST FOR "C" CLEARED
980 003550 100005 BPL 1$ ;
981 003552 012737 000072 000302 MOV #72,@#$FATAL ; MOVE TO MAILBOX # ***** 72 *****
982 003560 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
983 003562 000000 HALT ; C NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 761
986 003564 1$: BNE 2$ ;
987 003564 001005 MOV #73,@#$FATAL ; MOVE TO MAILBOX # ***** 73 *****
988 003566 012737 000073 000302 INC (R2) ; SET MSGTYP TO FATAL ERROR
989 003574 005212 HALT ; Z NOT CLEARED
990 003576 000000 ; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 753
991
992

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993	003600				2\$:						
994	003600	102005				BVC	3\$				
995	003602	012737	000074	000302		MOV	#74, @#\$FATAL		: MOVE TO MAILBOX # ***** 74 *****		
996	003610	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
997	003612	000000				HALT			: V NOT CLEARED		
998									: TO SCOPE REPLACE HALT W/ 240		
999									: AND REPLACE NEXT INST W/ 745		
1000	003614				3\$:						
1001	003614	103005				BCC	4\$				
1002	003616	012737	000075	000302		MOV	#75, @#\$FATAL		: MOVE TO MAILBOX # ***** 75 *****		
1003	003624	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
1004	003626	000000				HALT			: C NOT CLEARED		
1005									: TO SCOPE REPLACE HALT W/ 240		
1006									: AND REPLACE NEXT INST W/ 737		
1007	003630	032767	000340	174140	4\$:	BIT	#340, CC		: TEST PRIORITY		
1008	003636	001405				BEQ	5\$				
1009	003640	012737	000076	000302		MOV	#76, @#\$FATAL		: MOVE TO MAILBOX # ***** 76 *****		
1010	003646	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
1011	003650	000000				HALT			: PRIORITY NOT ZERO		
1012									: TO SCOPE REPLACE HALT W/ 240		
1013									: AND REPLACE NEXT INST W/ 726		
1014	003652	012706	000500		5\$:	MOV	#BUFF, SP				
1015	003656	012767	003674	174150		MOV	#RETG1, RTRAP1				
1016	003664	012767	000357	174144		MOV	#357, RTRAP1+2		: SET NEW "CC" AND PRIORITY		
1017	003672	104400				TRAP			: TRAP HERE		
1018	003674				RETG1:						
1019	003674	100405				BMI	1\$				
1020	003676	012737	000077	000302		MOV	#77, @#\$FATAL		: MOVE TO MAILBOX # ***** 77 *****		
1021	003704	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
1022	003706	000000				HALT			: N NOT SET		
1023									: TO SCOPE REPLACE HALT W/ 240		
1024									: AND REPLACE NEXT INST W/ 707		
1025	003710				1\$:						
1026	003710	001405				BEQ	2\$				
1027	003712	012737	000100	000302		MOV	#100, @#\$FATAL		: MOVE TO MAILBOX # ***** 100 *****		
1028	003720	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
1029	003722	000000				HALT			: Z NOT SET		
1030									: TO SCOPE REPLACE HALT W/ 240		
1031									: AND REPLACE NEXT INST W/ 701		
1032	003724				2\$:						
1033	003724	102405				BVS	3\$				
1034	003726	012737	000101	000302		MOV	#101, @#\$FATAL		: MOVE TO MAILBOX # ***** 101 *****		
1035	003734	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
1036	003736	000000				HALT			: V NOT SET		
1037									: TO SCOPE REPLACE HALT W/ 240		
1038									: AND REPLACE NEXT INST W/ 673		
1039	003740				3\$:						
1040	003740	103405				BCS	4\$				
1041	003742	012737	000102	000302		MOV	#102, @#\$FATAL		: MOVE TO MAILBOX # ***** 102 *****		
1042	003750	005212				INC	(R2)		: SET MSGTYP TO FATAL ERROR		
1043	003752	000000				HALT			: C NOT SET		
1044									: TO SCOPE REPLACE HALT W/ 240		
1045									: AND REPLACE NEXT INST W/ 665		
1046	003754	016706	174016		4\$:	MOV	CC, SP				
1047	003760	042706	000017			BIC	#17, SP				
1048	003764	022706	000340			CMP	#340, SP				



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1049 003770 001405          BEQ      TST20
1050 003772 012737 000103 000302  MOV      #103,0#$FATAL ;MOVE TO MAILBOX # ***** 103 *****
1051 004000 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1052 004002 000000          HALT                    ;PRIORITY WAS CHANGED,OR WRONG $STNM
1053                                     ; TO SCOPE REPLACE HALT W/ 240
1054                                     ; AND REPLACE NEXT INST W/ 651
1055                                     ;*****
1056                                     ;TEST 20          TEST THAT ALL COMBINATION OF "TRAP" WILL CAUSE A TRAP
1057                                     ;*****
1058 004004 005237 000304  TST20:  INC      0#$TESTN ;UPDATE TEST NUMBER
1059 004010 022737 000020 000304  CMP      #20,0#$TESTN ;SEQUENCE ERROR
1060 004016 001011          BNE     BR45           ;BR TO ERROR HALT ON SEQ ERROR
1061 004020 012767 104400 000012  MOV      #TRAP,RB1    ;INITIALIZE BASE TRAP INSTRUCTION
1062 004026 012767 004054 174000  MOV      #RA1,34      ;RETURN FROM TRAP TO RA1
1063 004034 012706 000500          RC1:    MOV      #BUFF,SP ;SET UP STACK POINTER
1064 004040 104400          RB1:    TRAP          ;TRAP INST WILL BE MODIFIED TO TRAP+377
1065 004042          BR45:
1066 004042 012737 000104 000302  MOV      #104,0#$FATAL ;MOVE TO MAILBOX # ***** 104 *****
1067 004050 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1068 004052 000000          HALT                    ;PREVIOUS INST FAILED TO TRAP,OR WRONG $STNM
1069                                     ; TO SCOPE REPLACE HALT W/ 240
1070                                     ; AND REPLACE NEXT INST W/ 761
1071 004054 005267 177760          RA1:    INC      RB1    ;INCREMENT TRAP INSTRUCTION
1072 004060 022767 104777 177752  CMP      #104777,RB1 ;TRAP+377 TO UPPER LIMIT
1073 004066 103362          BHS    RC1            ;HAVE WE TESTED ALL
1074 004070 012767 000036 173736  MOV      #36,34
1075 004076 005067 173734          CLR     36
1076                                     ;*****
1077                                     ;TEST 21          TEST THAT A TRAP OCCURES ON AN "IOT" INSTRUCTION
1078                                     ;*****
1079 004102 005237 000304  TST21:  INC      0#$TESTN ;UPDATE TEST NUMBER
1080 004106 022737 000021 000304  CMP      #21,0#$TESTN ;SEQUENCE ERROR
1081 004114 001006          BNE     TST22-12     ;BR TO ERROR HALT ON SEQ ERROR
1082 004116 012706 000500          MOV      #BUFF,SP    ;STACK POINTER SETUP
1083 004122 012767 004144 173670  MOV      #RETA2,RTRAP2 ;RETURN LOCATION
1084 004130 000004          IOT                    ;RESERVE INSTRUCTION, SHOULD TRAP
1085 004132 012737 000105 000302  MOV      #105,0#$FATAL ;MOVE TO MAILBOX # ***** 105 *****
1086 004140 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1087 004142 000000          HALT                    ;IOT DIDN'T TRAP,OR WRONG $STNM
1088                                     ; TO SCOPE REPLACE HALT W/ 240
1089                                     ; AND REPLACE NEXT INST W/ 754
1090 004144          RETA2:
1091                                     ;*****
1092                                     ;TEST 22          TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
1093                                     ;*****
1094 004144 005237 000304  TST22:  INC      0#$TESTN ;UPDATE TEST NUMBER
1095 004150 022737 000022 000304  CMP      #22,0#$TESTN ;SEQUENCE ERROR
1096 004156 001011          BNE     TST23-12     ;BR TO ERROR HALT ON SEQ ERROR
1097 004160 012706 000500          MOV      #BUFF,SP    ;STACK POINTER SETUP
1098 004164 012767 004174 173626  MOV      #RETB2,RTRAP2 ;RETURN POINTER
1099 004172 000004          IOT                    ;RESERVED INSTRUCTION
1100 004174 020627 000474          RETB2:  CMP      SP,#BUFF-4 ;TEST DECREMENT OF SP
1101 004200 001405          BEQ      TST23
1102 004202 012737 000106 000302  MOV      #106,0#$FATAL ;MOVE TO MAILBOX # ***** 106 *****
1103 004210 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1104 004212 000000          HALT                    ;NOT DECREMENTED TWO WORDS,OR WRONG $STNM

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1105 ; TO SCOPE REPLACE HALT W/ 240
1106 ; AND REPLACE NEXT INST W/ 761
1107 *****
1108 :TEST 23 TEST THAT PROPER P.C. IS SAVED
1109 *****
1110 †ST23: INC @#$TESTN ;UPDATE TEST NUMBER
1111 CMP #23,@#$TESTN ;SEQUENCE ERROR
1112 BNE TST24-12 ;BR TO ERROR HALT ON SEQ ERROR
1113 MOV #BUFF,SP ;STACK POINTER SETUP
1114 MOV #RETC2,RTRAP2 ;RETURN FROM TRAP POINTER
1115 IOT ;TRAP ON THIS INSTRUCTION
1116 RETC2: CMP #.BUFF-4 ;CHECK FOR INCREMENTED P.C.
1117 BEQ TST24
1118 MOV #107,@#$FATAL ;MOVE TO MAILBOX # ***** 107 *****
1119 INC (R2) ;SET MSGTYP TO FATAL ERROR
1120 HALT ;INCORRECT P.C. OR WRONG $STSTNM
1121 ; TO SCOPE REPLACE HALT W/ 240
1122 ; AND REPLACE NEXT INST W/ 760
1123 *****
1124 :TEST 24 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK
1125 *****
1126 †ST24: INC @#$TESTN ;UPDATE TEST NUMBER
1127 CMP #24,@#$TESTN ;SEQUENCE ERROR
1128 BNE TST25-12 ;BR TO ERROR HALT ON SEQ ERROR
1129 MOV #BUFF,SP ;SET UP
1130 MOV #RETD2,RTRAP2 ;SET UP
1131 CLR CC ;CLEAR CC AND PRIORITY
1132 CCC
1133 IOT ;TRAP
1134 RETD2: CMP BUFF-2,#0 ;TEST THAT OLD STATUS WENT TO STACK
1135 BEQ 1$
1136 MOV #110,@#$FATAL ;MOVE TO MAILBOX # ***** 110 *****
1137 INC (R2) ;SET MSGTYP TO FATAL ERROR
1138 HALT ;INCORRECT STATUS
1139 ; TO SCOPE REPLACE HALT W/ 240
1140 ; AND REPLACE NEXT INST W/ 755
1141 1$: MOV #BUFF,SP ;SET UP
1142 MOV #RETE2,RTRAP2 ;SET UP
1143 MOV #357,CC ;SET PRIORITY
1144 SCC ;SET CC
1145 IOT ;TRAP
1146 RETE2: CMP BUFF-2,#357 ;COMPARES STATUS ON STACK
1147 BEQ TST25
1148 MOV #111,@#$FATAL ;MOVE TO MAILBOX # ***** 111 *****
1149 INC (R2) ;SET MSGTYP TO FATAL ERROR
1150 HALT ;INCORRECT STATUS ON STACK, OR WRONG $STSTNM
1151 ; TO SCOPE REPLACE HALT W/ 240
1152 ; AND REPLACE NEXT INST W/ 732
1153 *****
1154 :TEST 25 TEST THAT "NEW" STATUS IS CORRECT
1155 *****
1156 †ST25: INC @#$TESTN ;UPDATE TEST NUMBER
1157 CMP #25,@#$TESTN ;SEQUENCE ERROR
1158 BNE BR46 ;BR TO ERROR HALT ON SEQ ERROR
1159 MOV #BUFF,SP
1160 MOV #RETF2,RTRAP2

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MAIN MACY11 27(732) 09-DEC-76 09:40 PAGE 24  
 DGKABC.P11 T25 TEST THAT "NEW" STATUS IS CORRECT

1161	004442	005067	173354		CLR	RTRAP2+2			;CLEAR FUTURE PRIORITY AND CC
1162	004446	000004			IOT				
1163	004450				RET2:				;TEST FOR "C" CLEARED
1164	004450	100005			BPL	1\$			
1165	004452	012737	000112	000302	MOV	#112, @#\$FATAL			;MOVE TO MAILBOX # ***** 112 *****
1166	004460	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1167	004462	000000			HALT				;N NOT CLEARED
1168									; TO SCOPE REPLACE HALT W/ 240
1169									; AND REPLACE NEXT INST W/ 761
1170	004464				1\$:				
1171	004464	001005			BNE	2\$			
1172	004466	012737	000113	000302	MOV	#113, @#\$FATAL			;MOVE TO MAILBOX # ***** 113 *****
1173	004474	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1174	004476	000000			HALT				;Z NOT CLEARED
1175									; TO SCOPE REPLACE HALT W/ 240
1176									; AND REPLACE NEXT INST W/ 753
1177	004500				2\$:				
1178	004500	102005			BVC	3\$			
1179	004502	012737	000114	000302	MOV	#114, @#\$FATAL			;MOVE TO MAILBOX # ***** 114 *****
1180	004510	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1181	004512	000000			HALT				;V NOT CLEARED
1182									; TO SCOPE REPLACE HALT W/ 240
1183									; AND REPLACE NEXT INST W/ 745
1184	004514				3\$:				
1185	004514	103005			BCC	4\$			
1186	004516	012737	000115	000302	MOV	#115, @#\$FATAL			;MOVE TO MAILBOX # ***** 115 *****
1187	004524	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1188	004526	000000			HALT				;C NOT CLEARED
1189									; TO SCOPE REPLACE HALT W/ 240
1190									; AND REPLACE NEXT INST W/ 737
1191	004530	032767	000340	173240	4\$:	#340, CC			;TEST PRIORITY
1192	004536	001405			BEQ	5\$			
1193	004540	012737	000116	000302	MOV	#116, @#\$FATAL			;MOVE TO MAILBOX # ***** 116 *****
1194	004546	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1195	004550	000000			HALT				;PRIORITY NOT ZERO
1196									; TO SCOPE REPLACE HALT W/ 240
1197									; AND REPLACE NEXT INST W/ 726
1198	004552	012706	000500		5\$:	#BUFF, SP			
1199	004556	012767	004574	173234	MOV	#RETG2, RTRAP2			;SET NEW "CC" AND PRIORITY
1200	004564	012767	000357	173230	MOV	#357, RTRAP2+2			;TRAP HERE
1201	004572	000004			IOT				
1202	004574				RET2:				
1203	004574	100405			BMI	1\$			
1204	004576	012737	000117	000302	MOV	#117, @#\$FATAL			;MOVE TO MAILBOX # ***** 117 *****
1205	004604	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1206	004606	000000			HALT				;N NOT SET
1207									; TO SCOPE REPLACE HALT W/ 240
1208									; AND REPLACE NEXT INST W/ 707
1209	004610				1\$:				
1210	004610	001405			BEQ	2\$			
1211	004612	012737	000120	000302	MOV	#120, @#\$FATAL			;MOVE TO MAILBOX # ***** 120 *****
1212	004620	005212			INC	(R2)			;SET MSGTYP TO FATAL ERROR
1213	004622	000000			HALT				;Z NOT SET
1214									; TO SCOPE REPLACE HALT W/ 240
1215									; AND REPLACE NEXT INST W/ 701
1216	004624				2\$:				



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1217 004624 102405      BVS      3$
1218 004626 012737      MOV      #121,0#$FATAL ;MOVE TO MAILBOX # ***** 121 *****
1219 004634 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
1220 004636 000000      HALT    ;V NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 673
1221
1222
1223 004640          3$:
1224 004640 103405      BCS      4$
1225 004642 012737      MOV      #122,0#$FATAL ;MOVE TO MAILBOX # ***** 122 *****
1226 004650 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
1227 004652 000000      HALT    ;C NOT SET
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 665
1228
1229
1230 004654 016706 173116      4$:      MOV      CC,SP
1231 004660 042706 000017      BIC      #17,SP
1232 004664 022706 000340      CMP      #340,SP
1233 004670 001405      BEQ      BR46A
1234 004672
1235 004672 012737 000123 000302      BR46:    MOV      #123,0#$FATAL ;MOVE TO MAILBOX # ***** 123 *****
1236 004700 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
1237 004702 000000      HALT    ;PRIORITY WAS CHANGED,OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 651
1238
1239
1240 004704 012767 000022 173106      BR46A:   MOV      #22,20
1241 004712 005067 173104      CLR      22 ;HALT
;*****
;TEST 26      TEST THAT A TRAP OCCURS ON AN EMT INSTRUCTION
;*****
1242
1243
1244
1245 004716 005237 000304      TST26:  INC      0#$TESTN ;UPDATE TEST NUMBER
1246 004722 022737 000026 000304      CMP      #26,0#$TESTN ;SEQUENCE ERROR
1247 004730 001006      BNE      TST27-12 ;BR TO ERROR HALT ON SEQ ERROR
1248 004732 012706 000500      MOV      #BUFF,SP ;STACK POINTER SETUP
1249 004736 012767 004760 173064      MOV      #RETA3,RTRAP3 ;RETURN LOCATION
1250 004744 104000      EMT      ;RESERVE INSTRUCTION, SHOULD TRAP
1251 004746 012737 000124 000302      MOV      #124,0#$FATAL ;MOVE TO MAILBOX # ***** 124 *****
1252 004754 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
1253 004756 000000      HALT    ;EMT DIDN'T TRAP,OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 764
1254
1255
1256 004760          RETA3:
1257
1258
1259
1260 004760 005237 000304      TST27:  INC      0#$TESTN ;UPDATE TEST NUMBER
1261 004764 022737 000027 000304      CMP      #27,0#$TESTN ;SEQUENCE ERROR
1262 004772 001011      BNE      TST30-12 ;BR TO ERROR HALT ON SEQ ERROR
1263 004774 012706 000500      MOV      #BUFF,SP ;STACK POINTER SETUP
1264 005000 012767 005010 173022      MOV      #RETB3,RTRAP3 ;RETURN POINTER
1265 005006 104000      EMT      ;RESERVED INSTRUCTION
1266 005010 020627 000474          RETB3:  CMP      SP,#BUFF-4 ;TEST DECREMENT OF SP
1267 005014 001405      BEQ      TST30
1268 005016 012737 000125 000302      MOV      #125,0#$FATAL ;MOVE TO MAILBOX # ***** 125 *****
1269 005024 005212      INC      (R2) ;SET MSGTYP TO FATAL ERROR
1270 005026 000000      HALT    ;NOT DECREMENTED TWO WORDS,OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 761
1271
1272

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*****
:TEST 30      TEST THAT PROPER P.C. IS SAVED
*****
1274:          TST30:  INC      @#$TESTN      ;UPDATE TEST NUMBER
1275:          CMP      #30,@#$TESTN      ;SEQUENCE ERROR
1276:          BNE     TST31-12          ;BR TO ERROR HALT ON SEQ ERROR
1277:          MOV     #BUFF,SP          ;STACK POINTER SETUP
1278:          MOV     #RETC3,RTRAP3     ;RETURN FROM TRAP POINTER
1279:          EMT     ;TRAP ON THIS INSTRUCTION
1280:          RETC3:  CMP      #.BUFF-4    ;CHECK FOR INCREMENTED P.C.
1281:          BEQ     TST31
1282:          MOV     #126,@#$FATAL      ;MOVE TO MAILBOX # ***** 126 *****
1283:          INC     (R2)                ;SET MSGTYP TO FATAL ERROR
1284:          HALT   ;INCORRECT P.C., OR WRONG $STNM
1285:          ; TO SCOPE REPLACE HALT W/ 240
1286:          ; AND REPLACE NEXT INST W/ 760
*****
:TEST 31      TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK
*****
1292:          TST31:  INC      @#$TESTN      ;UPDATE TEST NUMBER
1293:          CMP      #31,@#$TESTN      ;SEQUENCE ERROR
1294:          BNE     TST32-12          ;BR TO ERROR HALT ON SEQ ERROR
1295:          MOV     #BUFF,SP          ;SET UP
1296:          MOV     #RETD3,RTRAP3     ;SET UP
1297:          CLR     CC                  ;CLEAR CC AND PRIORITY
1298:          EMT     ;TRAP
1299:          RETD3:  CMP      BUFF-2,#0    ;TEST THAT OLD STATUS WENT TO STACK
1300:          BEQ     1$
1301:          MOV     #127,@#$FATAL      ;MOVE TO MAILBOX # ***** 127 *****
1302:          INC     (R2)                ;SET MSGTYP TO FATAL ERROR
1303:          HALT   ;INCORRECT STATUS
1304:          ; TO SCOPE REPLACE HALT W/ 240
1305:          ; AND REPLACE NEXT INST W/ 755
1306:          1$:     MOV     #BUFF,SP      ;SET UP
1307:          MOV     #RETE3,RTRAP3     ;SET UP
1308:          MOV     #357,CC           ;SET PRIORITY
1309:          SCC     ;SET CC
1310:          EMT     ;TRAP
1311:          RETE3:  CMP      BUFF-2,#357  ;COMPARES STATUS ON STACK
1312:          BEQ     TST32
1313:          MOV     #130,@#$FATAL      ;MOVE TO MAILBOX # ***** 130 *****
1314:          INC     (R2)                ;SET MSGTYP TO FATAL ERROR
1315:          HALT   ;INCORRECT STATUS ON STACK, OR WRONG $STNM
1316:          ; TO SCOPE REPLACE HALT W/ 240
1317:          ; AND REPLACE NEXT INST W/ 732
*****
:TEST 32      TEST THAT "NEW" STATUS IS CORRECT
*****
1322:          TST32:  INC      @#$TESTN      ;UPDATE TEST NUMBER
1323:          CMP      #32,@#$TESTN      ;SEQUENCE ERROR
1324:          BNE     TST33-12          ;BR TO ERROR HALT ON SEQ ERROR
1325:          MOV     #BUFF,SP          ;
1326:          MOV     #RETF3,RTRAP3+2    ;CLEAR FUTURE PRIORITY AND CC
1327:          CLR     RTRAP3+2
1328:          EMT
  
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MAIL: MACY11 27(732) 08-DEC-76 09:40 PAGE 27  
DGKABC.P11 T32 TEST THAT "NEW" STATUS IS CORRECT

1329	005264				RETf3:	BPL	1\$		;TEST FOR "C" CLEARED
1330	005264	100005				MOV	#131,@#SFATAL		; MOVE TO MAILBOX # ***** 131 *****
1331	005266	012737	000131	000302		INC	(R2)		; SET MSGTYP TO FATAL ERROR
1332	005274	005212				HALT			; C NOT CLEARED
1333	005276	000000							; TO SCOPE REPLACE HALT W/ 240
1334									; AND REPLACE NEXT INST W/ 761
1335									
1336	005300				1\$:	BNE	2\$		
1337	005300	001005				MOV	#132,@#SFATAL		; MOVE TO MAILBOX # ***** 132 *****
1338	005302	012737	000132	000302		INC	(R2)		; SET MSGTYP TO FATAL ERROR
1339	005310	005212				HALT			; Z NOT CLEARED
1340	005312	000000							; TO SCOPE REPLACE HALT W/ 240
1341									; AND REPLACE NEXT INST W/ 753
1342									
1343	005314				2\$:	BVC	3\$		
1344	005314	102005				MOV	#133,@#SFATAL		; MOVE TO MAILBOX # ***** 133 *****
1345	005316	012737	000133	000302		INC	(R2)		; SET MSGTYP TO FATAL ERROR
1346	005324	005212				HALT			; V NOT CLEARED
1347	005326	000000							; TO SCOPE REPLACE HALT W/ 240
1348									; AND REPLACE NEXT INST W/ 745
1349									
1350	005330				3\$:	BCC	4\$		
1351	005330	103005				MOV	#134,@#SFATAL		; MOVE TO MAILBOX # ***** 134 *****
1352	005332	012737	000134	000302		INC	(R2)		; SET MSGTYP TO FATAL ERROR
1353	005340	005212				HALT			; C NOT CLEARED
1354	005342	000000							; TO SCOPE REPLACE HALT W/ 240
1355									; AND REPLACE NEXT INST W/ 737
1356									; TEST PRIORITY
1357	005344	032767	000340	172424	4\$:	BIT	#340,CC		
1358	005352	001405				BEQ	5\$		
1359	005354	012737	000135	000302		MOV	#135,@#SFATAL		; MOVE TO MAILBOX # ***** 135 *****
1360	005362	005212				INC	(R2)		; SET MSGTYP TO FATAL ERROR
1361	005364	000000				HALT			; PRIORITY NOT ZERO
1362									; TO SCOPE REPLACE HALT W/ 240
1363									; AND REPLACE NEXT INST W/ 726
1364	005366	012706	000500		5\$:	MOV	#BUFF,SP		
1365	005372	012767	005410	172430		MOV	#RETG3,RTRAP3		
1366	005400	012767	000357	172424		MOV	#357,RTRAP3+2		; SET NEW "CC" AND PRIORITY
1367	005406	104000				EMT			; TRAP HERE
1368	005410				RETG3:				
1369	005410	100405				BMI	1\$		
1370	005412	012737	000136	000302		MOV	#136,@#SFATAL		; MOVE TO MAILBOX # ***** 136 *****
1371	005420	005212				INC	(R2)		; SET MSGTYP TO FATAL ERROR
1372	005422	000000				HALT			; N NOT SET
1373									; TO SCOPE REPLACE HALT W/ 240
1374									; AND REPLACE NEXT INST W/ 707
1375	005424				1\$:				
1376	005424	001405				BEQ	2\$		
1377	005426	012737	000137	000302		MOV	#137,@#SFATAL		; MOVE TO MAILBOX # ***** 137 *****
1378	005434	005212				INC	(R2)		; SET MSGTYP TO FATAL ERROR
1379	005436	000000				HALT			; Z NOT SET
1380									; TO SCOPE REPLACE HALT W/ 240
1381									; AND REPLACE NEXT INST W/ 701
1382	005440				2\$:				
1383	005440	102405				BVS	3\$		
1384	005442	012737	000140	000302		MOV	#140,@#SFATAL		; MOVE TO MAILBOX # ***** 140 *****

```

1385 005450 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1386 005452 000000          HALT          ;V NOT SET
1387                                     ; TO SCOPE REPLACE HALT W/ 240
1388                                     ; AND REPLACE NEXT INST W/ 673
1389 005454          3$:          BCS      4$
1390 005454 103405          MOV      #141,0#$FATAL ;MOVE TO MAILBOX # ***** 141 *****
1391 005456 012737 000141 000302  INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1392 005464 005212          HALT          ;C NOT SET
1393 005466 000000          ; TO SCOPE REPLACE HALT W/ 240
1394                                     ; AND REPLACE NEXT INST W/ 665
1395
1396 005470 000257          CCC
1397 005472 022767 000340 172276  CMP      #340,CC
1398 005500 001405          BEQ      TST33
1399 005502 012737 000142 000302  MOV      #142,0#$FATAL ;MOVE TO MAILBOX # ***** 142 *****
1400 005510 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1401 005512 000000          HALT          ;PRIORITY WAS CHANGED, OR WRONG $STNM
1402                                     ; TO SCOPE REPLACE HALT W/ 240
1403                                     ; AND REPLACE NEXT INST W/ 653
1404
1405 ;*****
1406 ;TEST 33          TEST THAT ALL COMBINATION OF EMT WILL CAUSE A TRAP
1407 ;*****
1407 005514 005237 000304          TST33:  INC      0#$TESTN ;UPDATE TEST NUMBER
1408 005520 022737 000033 000304  CMP      #33,0#$TESTN ;SEQUENCE ERROR
1409 005526 001011          BNE      BR47          ;BR TO ERROR HALT ON SEQ ERROR
1410 005530 012767 104000 000012  MOV      #EMT, RB      ;INITIALIZE BASE EMT INSTRUCTION
1411 005536 012767 005564 172264  MOV      #RA, 30       ;RETURN FROM TRAP TO RA
1412 005544 012706 000500          RC:      MOV      #BUFF, SP ;SET UP STACK POINTER
1413 005550 104000          RB:      EMT          ;TRAP INST. WILL BE MODIFIED TO EMT+377
1414 005552          BR47:
1415 005552 012737 000143 000302  MOV      #143,0#$FATAL ;MOVE TO MAILBOX # ***** 143 *****
1416 005560 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1417 005562 000000          HALT          ;PREVIOUS INST FAILED TO TRAP OR WRONG $STNM
1418                                     ; TO SCOPE REPLACE HALT W/ 240
1419                                     ; AND REPLACE NEXT INST W/ 761
1420 005564 005267 177760          RA:      INC      RB      ;INCREMENT TRAP INSTRUCTION
1421 005570 022767 104377 177752  CMP      #104377, RB   ;EMT+377 TO EMT
1422 005576 103362          BHS      RC          ;HAVE WE TESTED ALL
1423                                     ; YES
1424 005600 012767 000032 172222  MOV      #32, 30
1425 005606 005067 172220          CLR      32          ;HALT
1426 ;*****
1427 ;TEST 34          TEST THAT A TRAP OCCURES ON AN "TRACE-TRT" INSTRUCTION
1428 ;*****
1429 005612 005237 000304          TST34:  INC      0#$TESTN ;UPDATE TEST NUMBER
1430 005616 022737 000034 000304  CMP      #34,0#$TESTN ;SEQUENCE ERROR
1431 005624 001006          BNE      TST35-12     ;BR TO ERROR HALT ON SEQ ERROR
1432 005626 012706 000500          MOV      #BUFF, SP   ;STACK POINTER SETUP
1433 005632 012767 005654 172154  MOV      #RETA4, RTRAP4 ;RETURN LOCATION
1434 005640 000003          TRT          ;RESERVED INSTRUCTION, SHOULD TRAP
1435 005642 012737 000144 000302  MOV      #144,0#$FATAL ;MOVE TO MAILBOX # ***** 144 *****
1436 005650 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1437 005652 000000          HALT          ;TRT DIDN'T TRAP OR WRONG $STNM
1438                                     ; TO SCOPE REPLACE HALT W/ 240
1439                                     ; AND REPLACE NEXT INST W/ 764
1440 005654          RETA4:

```



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*****
:TEST 35      TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
*****
1441          :
1442          :
1443          :
1444 005654    005237    000304          :TST35:  INC      @#$TESTN      ;UPDATE TEST NUMBER
1445 005660    022737    000035    000304          :      CMP      #35,@#$TESTN  ;SEQUENCE ERROR
1446 005666    001011          :      BNE      TST36-12      ;BR TO ERROR HALT ON SEQ ERROR
1447 005670    012706    000500          :      MOV      #BUFF,SP      ;STACK POINTER SETUP
1448 005674    012767    005704    172112          :      MOV      #RETB4,RTRAP4 ;RETURN POINTER
1449 005702    000003          :      TRT                      ;RESERVED INSTRUCTION
1450 005704    020627    000474          :RETB4:  CMP      SP,#BUFF-4    ;TEST DECREMENT OF SP
1451 005710    001405          :      BEQ      TST36          :
1452 005712    012737    000145    000302          :      MOV      #145,@#$FATAL  ;MOVE TO MAILBOX # ***** 145 *****
1453 005720    005212          :      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
1454 005722    000000          :      HALT                    ;NOT DECREMENTED TWO WORDS,OR WRONG $STNM
1455          :                               ; TO SCOPE REPLACE HALT W/ 240
1456          :                               ; AND REPLACE NEXT INST W/ 761
1457          :
*****
:TEST 36      TEST THAT PROPER P.C. IS SAVED
*****
1458          :
1459          :
1460 005724    005237    000304          :TST36:  INC      @#$TESTN      ;UPDATE TEST NUMBER
1461 005730    022737    000036    000304          :      CMP      #36,@#$TESTN  ;SEQUENCE ERROR
1462 005736    001012          :      BNE      TST37-12      ;BR TO ERROR HALT ON SEQ ERROR
1463 005740    012706    000500          :      MOV      #BUFF,SP      ;STACK POINTER SETUP
1464 005744    012767    005754    172042          :      MOV      #RETC4,RTRAP4 ;RETURN FROM TRAP POINTER
1465 005752    000003          :      TRT                      ;TRAP ON THIS INSTRUCTION
1466 005754    022767    005754    172512          :RETC4:  CMP      #. BUFF-4    ;CHECK FOR INCREMENTED P.C.
1467 005762    001405          :      BEQ      TST37          :
1468 005764    012737    000146    000302          :      MOV      #146,@#$FATAL  ;MOVE TO MAILBOX # ***** 146 *****
1469 005772    005212          :      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
1470 005774    000000          :      HALT                    ;INCORRECT P.C. OR WRONG $STNM
1471          :                               ; TO SCOPE REPLACE HALT W/ 240
1472          :                               ; AND REPLACE NEXT INST W/ 760
1473          :
*****
:TEST 37      TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK
*****
1474          :
1475          :
1476 005776    005237    000304          :TST37:  INC      @#$TESTN      ;UPDATE TEST NUMBER
1477 006002    022737    000037    000304          :      CMP      #37,@#$TESTN  ;SEQUENCE ERROR
1478 006010    001040          :      BNE      TST40-12      ;BR TO ERROR HALT ON SEQ ERROR
1479 006012    012706    000500          :      MOV      #BUFF,SP      ;SET UP
1480 006016    012767    006034    171770          :      MOV      #RETD4,RTRAP4 ;SET UP
1481 006024    005067    171746          :      CLR      CC              ;CLEAR CC AND PRIORITY
1482 006030    000257          :      CCC                      :
1483 006032    000003          :      TRT                      ;TRAP
1484 006034    026727    172436    000000          :RETD4:  CMP      BUFF-2,#0    ;TEST THAT OLD STATUS WENT TO STACK
1485          :                               ;TEST FOR ALL ZEROS
1486 006042    001405          :      BEQ      1$             :
1487 006044    012737    000147    000302          :      MOV      #147,@#$FATAL  ;MOVE TO MAILBOX # ***** 147 *****
1488 006052    005212          :      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
1489 006054    000000          :      HALT                    ;INCORRECT STATUS
1490          :                               ; TO SCOPE REPLACE HALT W/ 240
1491          :                               ; AND REPLACE NEXT INST W/ 755
1492 006056    012706    000500          :1$:     MOV      #BUFF,SP      ;SET UP
1493 006062    012767    006102    171724          :      MOV      #RETE4,RTRAP4 ;SET UP
1494 006070    012767    000357    171700          :      MOV      #357,CC        ;SET PRIORITY
1495 006076    000277          :      SCC                      ;SET-SET CC
1496 006100    000003          :      TRT                      ;TRAP

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# E03

MAIN MACY11 27(732) 09-DEC-76 09:40 PAGE 30  
 CGKABC.P11 T37 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK

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1497 006102 026727 172370 000357 RETE4: CMP      BUFF-2,#357      ;COMPARES STATUS ON STACK
1498 006110 001405          BEQ      TST40
1499 006112 012737 000150 000302          MOV      #150,#$FATAL ;MOVE TO MAILBOX # ***** 150 *****
1500 006120 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1501 006122 000000          HALT                    ;INCORRECT STATUS ON STACK,OR WRONG $TSTNM
1502                                     ; TO SCOPE REPLACE HALT W/ 240
1503                                     ; AND REPLACE NEXT INST W/ 732
1504                                     ;*****
1505                                     ;TEST 40          TEST THAT "NEW" STATUS IS CORRECT
1506                                     ;*****
1507 006124 005237 000304          ST40: INC      @#$TESTN ;UPDATE TEST NUMBER
1508 006130 022737 000040 000304          CMP      #40,@#$TESTN ;SEQUENCE ERROR
1509 006136 001121          BNE     BR51          ;BR TO ERROR HALT ON SEQ ERROR
1510 006140 012706 000500          MOV      #BUFF,SP
1511 006144 012767 006160 171642          MOV      #RETF4,RTRAP4
1512 006152 005067 171640          CLR     RTRAP4+2      ;CLEAR FUTURE PRIORITY AND CC
1513 006156 000003          TRT
1514                                     ;TEST FOR "C" CLEARED
1515 006160 100005          RETF4: BPL      1$
1516 006162 012737 000151 000302          MOV      #151,@#$FATAL ;MOVE TO MAILBOX # ***** 151 *****
1517 006170 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1518 006172 000000          HALT                    ;C NOT CLEARED
1519                                     ; TO SCOPE REPLACE HALT W/ 240
1520                                     ; AND REPLACE NEXT INST W/ 761
1521 006174          1$:
1522 006174 001005          BNE     2$
1523 006176 012737 000152 000302          MOV      #152,@#$FATAL ;MOVE TO MAILBOX # ***** 152 *****
1524 006204 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1525 006206 000000          HALT                    ;Z NOT CLEARED
1526                                     ; TO SCOPE REPLACE HALT W/ 240
1527                                     ; AND REPLACE NEXT INST W/ 753
1528 006210          2$:
1529 006210 102005          BVC     3$
1530 006212 012737 000153 000302          MOV      #153,@#$FATAL ;MOVE TO MAILBOX # ***** 153 *****
1531 006220 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1532 006222 000000          HALT                    ;V NOT CLEARED
1533                                     ; TO SCOPE REPLACE HALT W/ 240
1534                                     ; AND REPLACE NEXT INST W/ 745
1535 006224          3$:
1536 006224 103005          BCC     4$
1537 006226 012737 000154 000302          MOV      #154,@#$FATAL ;MOVE TO MAILBOX # ***** 154 *****
1538 006234 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1539 006236 000000          HALT                    ;C NOT CLEARED
1540                                     ; TO SCOPE REPLACE HALT W/ 240
1541                                     ; AND REPLACE NEXT INST W/ 737
1542 006240 032767 000340 171530 4$:          BIT      #340,CC      ;TEST PRIORITY
1543 006246 001405          BEQ     5$
1544 006250 012737 000155 000302          MOV      #155,@#$FATAL ;MOVE TO MAILBOX # ***** 155 *****
1545 006256 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
1546 006260 000000          HALT                    ;PRIORITY NOT ZERO
1547                                     ; TO SCOPE REPLACE HALT W/ 240
1548                                     ; AND REPLACE NEXT INST W/ 726
1549 006262 012706 000500          5$:          MOV      #BUFF,SP
1550 006266 012767 006304 171520          MOV      #RETF4,RTRAP4
1551 006274 012767 000357 171514          MOV      #357,RTRAP4+2 ;SET NEW "CC" AND PRIORITY
1552 006302 000003          TRT                    ;TRAP HERE
  
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1553 006304          RETG4:
1554 006304 100405      BMI      1$
1555 006306 012737 000156 000302  MOV     #156, @#$FATAL ; MOVE TO MAILBOX # ***** 156 *****
1556 006314 005212      INC     (R2)           ; SET MSGTYP TO FATAL ERROR
1557 006316 000000      HALT                    ; N NOT SET
1558                                     ; TO SCOPE REPLACE HALT W/ 240
1559                                     ; AND REPLACE NEXT INST W/ 707
1560 006320          1$:
1561 006320 001405      BEQ     2$
1562 006322 012737 000157 000302  MOV     #157, @#$FATAL ; MOVE TO MAILBOX # ***** 157 *****
1563 006330 005212      INC     (R2)           ; SET MSGTYP TO FATAL ERROR
1564 006332 000000      HALT                    ; Z NOT SET
1565                                     ; TO SCOPE REPLACE HALT W/ 240
1566                                     ; AND REPLACE NEXT INST W/ 701
1567 006334          2$:
1568 006334 102405      BVS     3$
1569 006336 012737 000160 000302  MOV     #160, @#$FATAL ; MOVE TO MAILBOX # ***** 160 *****
1570 006344 005212      INC     (R2)           ; SET MSGTYP TO FATAL ERROR
1571 006346 000000      HALT                    ; V NOT SET
1572                                     ; TO SCOPE REPLACE HALT W/ 240
1573                                     ; AND REPLACE NEXT INST W/ 673
1574 006350          3$:
1575 006350 103405      BCS     4$
1576 006352 012737 000161 000302  MOV     #161, @#$FATAL ; MOVE TO MAILBOX # ***** 161 *****
1577 006360 005212      INC     (R2)           ; SET MSGTYP TO FATAL ERROR
1578 006362 000000      HALT                    ; C NOT SET
1579                                     ; TO SCOPE REPLACE HALT W/ 240
1580                                     ; AND REPLACE NEXT INST W/ 665
1581 006364 016706 171406 4$:      MOV     CC, SP
1582 006370 042706 000017      BIC     #17, SP
1583 006374 022706 000340      CMP     #340, SP
1584 006400 001405      BEQ     BR51A
1585 006402          BR51:
1586 006402 012737 000162 000302  MOV     #162, @#$FATAL ; MOVE TO MAILBOX # ***** 162 *****
1587 006410 005212      INC     (R2)           ; SET MSGTYP TO FATAL ERROR
1588 006412 000000      HALT                    ; PRIORITY WAS CHANGED, OR WRONG $STNM
1589                                     ; TO SCOPE REPLACE HALT W/ 240
1590                                     ; AND REPLACE NEXT INST W/ 651
1591 006414 012767 000016 171372 BR51A: MOV     #16, 14
1592 006422 005067 171370      CLR     16
1593
1594 ; PDP-11 ILLEGAL AND ADDRESS INSTRUCTION TEST
1595 ; ALL INSTRUCTIONS THAT ARE RESERVED
1596 ; SHOULD TRAP TO LOCATION 4, AND THE
1597 ; PC THAT POINTS TO THE TRAPPING INSTRUCTION
1598 ; SHOULD BE PLACED ON THE STACK
1599
1600 ; *****
1601 ; TEST 41      TEST THAT A TRAP OCCURS ON AN ILLEGAL INSTRUCTION
1602 ; *****
1603 006426 005237 000304 TST41: INC     @#$TESTN ; UPDATE TEST NUMBER
1604 006432 022737 000041 000304  CMP     #41, @#$TESTN ; SEQUENCE ERROR
1605 006440 001006      BNE     TST42-12 ; BR TO ERROR HALT ON SEQ ERROR
1606 006442 012706 000500      MOV     #BUFF, SP ; STACK POINTER SETUP
1607 006446 012767 006470 171330  MOV     #RETA5, RTRAP5 ; RETURN LOCATION
1608 006454 000100      JMP     %0 ; ILLEGAL INSTRUCTION, SHOULD TRAP

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# H03

MAIN MACY11 27(732) 09-DEC-76 09:40 PAGE 33  
 DGKABC.P11 T44 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK

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1665 006672 012706 000500 1$: MOV #BUFF,SP ;SET UP
1666 006676 012767 006716 171100 MOV #RETES,RTRAP5 ;SET UP
1667 006704 012767 000357 171064 MOV #357,CC ;SET PRIORITY
1668 006712 000277 SCC ;SET CC
Z 1669 006714 000100 JMP %0 ;TRAP
1670 006716 026727 171554 000357 RETES: CMP BUFF-2,#357 ;COMPARES STATUS ON STACK
1671 006724 001405 BEQ TST45
1672 006726 012737 000167 000302 MOV #167,@#$FATAL ;MOVE TO MAILBOX # ***** 167 *****
1673 006734 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
1674 006736 000000 HALT ;INCORRECT STATUS ON STACK, OF WRONG $TSTNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 732
;*****
;TEST 45 TEST THAT "NEW" STATUS IS CORRECT
;*****
1680 006740 005237 000304 TST45: INC @#$TESTN ;UPDATE TEST NUMBER
1691 006744 022737 000045 000304 CMP #45,@#$TESTN ;SEQUENCE ERROR
1682 006752 001117 BNE TST46-12 ;BR TO ERROR HALT ON SEQ ERROR
1683 006754 012706 000500 MOV #BUFF,SP
1684 006760 012767 006774 171016 MOV #RETF5,RTRAP5
1685 006766 005067 171014 CLR RTRAP5+2 ;CLEAR FUTURE PRIORITY AND CC
Z 1686 006772 000100 JMP %0 ;TEST FOR "C" CLEARED
1687 006774 RETF5:
1688 006774 100005 BPL 1$
1689 006776 012737 000170 000302 MOV #170,@#$FATAL ;MOVE TO MAILBOX # ***** 170 *****
1690 007004 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
1691 007006 000000 HALT ;C NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 761
1692
1693
1694 007010 1$:
1695 007010 001005 BNE 2$
1696 007012 012737 000171 000302 MOV #171,@#$FATAL ;MOVE TO MAILBOX # ***** 171 *****
1697 007020 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
1698 007022 000000 HALT ;Z NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 753
1699
1700
1701 007024 2$:
1702 007024 102005 BVC 3$
1703 007026 012737 000172 000302 MOV #172,@#$FATAL ;MOVE TO MAILBOX # ***** 172 *****
1704 007034 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
1705 007036 000000 HALT ;V NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 745
1706
1707
1708 007040 3$:
1709 007040 103005 BCC 4$
1710 007042 012737 000173 000302 MOV #173,@#$FATAL ;MOVE TO MAILBOX # ***** 173 *****
1711 007050 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
1712 007052 000000 HALT ;C NOT CLEARED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 737
1713
1714
1715 007054 4$: BIT #357,CC ;TEST PRIORITY
1716 007062 001405 BEQ 5$
1717 007064 012737 000174 000302 MOV #174,@#$FATAL ;MOVE TO MAILBOX # ***** 174 *****
1718 007072 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
1719 007074 000000 HALT ;PRIORITY NOT ZERO
; TO SCOPE REPLACE HALT W/ 240
1720

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1721 ; AND REPLACE NEXT INST W/ 726
1722 007076 012706 000500 5$: MOV #BUFF, SP
1723 007102 012767 007120 170674 MOV #RETC5, RTRAP5
1724 007110 012767 000357 170670 MOV #357, RTRAP5+2
Z 1725 007116 000100 JMP %0 ; SET NEW "CC" AND PRIORITY
1726 007120 RETGS: ; TRAP HERE
1727 007120 100405 BMI 1$
1728 007122 012737 000175 000302 MOV #175, @#$FATAL ; MOVE TO MAILBOX # ***** 175 *****
1729 007130 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
1730 007132 000000 HALT ; N NOT SET
1731 ; TO SCOPE REPLACE HALT W/ 240
1732 ; AND REPLACE NEXT INST W/ 707
1733 007134 1$:
1734 007134 001405 BEQ 2$
1735 007136 012737 000176 000302 MOV #176, @#$FATAL ; MOVE TO MAILBOX # ***** 176 *****
1736 007144 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
1737 007146 000000 HALT ; Z NOT SET
1738 ; TO SCOPE REPLACE HALT W/ 240
1739 ; AND REPLACE NEXT INST W/ 701
1740 007150 2$:
1741 007150 102405 BVS 3$
1742 007152 012737 000177 000302 MOV #177, @#$FATAL ; MOVE TO MAILBOX # ***** 177 *****
1743 007160 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
1744 007162 000000 HALT ; V NOT SET
1745 ; TO SCOPE REPLACE HALT W/ 240
1746 ; AND REPLACE NEXT INST W/ 673
1747 007164 3$:
1748 007164 103405 BCS 4$
1749 007166 012737 000200 000302 MOV #200, @#$FATAL ; MOVE TO MAILBOX # ***** 200 *****
1750 007174 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
1751 007176 000000 HALT ; C NOT SET
1752 ; TO SCOPE REPLACE HALT W/ 240
1753 ; AND REPLACE NEXT INST W/ 665
1754 007200 016706 170572 4$: MOV CC, SP
1755 007204 022706 000357 CMP #357, SP
1756 007210 001405 BEQ TST46
1757 007212 012737 000201 000302 MOV #201, @#$FATAL ; MOVE TO MAILBOX # ***** 201 *****
1758 007220 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
1759 007222 000000 HALT ; PRIORITY WAS CHANGED, OR WRONG $STNM
1760 ; TO SCOPE REPLACE HALT W/ 240
1761 ; AND REPLACE NEXT INST W/ 653
1762 ; *****
1763 ; TEST 46 TEST THAT A TRAP OCCURES ON ALL ILLEGAL INSTRUCTION
1764 ; *****
1765 007224 005237 000304 TST46: INC @#$TESTN ; UPDATE TEST NUMBER
1766 007230 022737 000046 000304 CMP #46, @#$TESTN ; SEQUENCE ERROR
1767 007236 001006 BNE TST47-12 ; BR TO ERROR HALT ON SEQ ERROR
1768 007240 012706 000500 MOV #BUFF, SP ; STACK POINTER SETUP
1769 007244 012767 007266 170532 MOV #RETH5, RTRAP5 ; RETURN LOCATION
Z 1770 007252 004000 JSR %0, %0 ; RESERVED INSTRUCTION, SHOULD TRAP
1771 007254 012737 000202 000302 MOV #202, @#$FATAL ; MOVE TO MAILBOX # ***** 202 *****
1772 007262 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
1773 007264 000000 HALT ; DIDN'T TRAP, OR WRONG $STNM
1774 ; TO SCOPE REPLACE HALT W/ 240
1775 ; AND REPLACE NEXT INST W/ 764
1776 007266 RETHS:

```



```

1777
1778
1779
1780 007266 005237 000304
1781 007272 022737 000047 000304
1782 007300 001011
1783 007302 012706 000500
1784 007306 012767 007316 170470
Z 1785 007314 004000
1786 007316 020627 000474 RETJ:
1787 007322 001405
1788 007324 012737 000203 000302
1789 007332 005212
1790 007334 000000
1791
1792
1793
1794
1795
1796 007336 005237 000304
1797 007342 022737 000050 000304
1798 007350 001012
1799 007352 012706 000500
Z 1800 007356 012767 007366 170420
1801 007364 004000 INSTK:
1802 007366 022767 007366 171100 RETK:
1803 007374 001405
1804 007376 012737 000204 000302
1805 007404 005212
1806 007406 000000
1807
1808
1809
1810
1811
1812
1813 007410 005237 000304
1814 007414 022737 000051 000304
1815 007422 001040
1816 007424 012706 000500
1817 007430 012767 007446 170346
1818 007436 005067 170334
1819 007442 000257
Z 1820 007444 004000
1821 007446 026727 171024 000000 RETL:
1822 007454 001405
1823 007456 012737 000205 000302
1824 007464 005212
1825 007466 000000
1826
1827
1828 007470 012706 000500 1$:
1829 007474 012767 007514 170302
1830 007502 012767 000357 170266
Z 1831 007510 000277
1832 007512 004000

```

```

*****
:TEST 47 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
*****
TST47: INC @#STESTN ;UPDATE TEST NUMBER
        CMP #47,@#STESTN ;SEQUENCE ERROR
        BNE TST50-12 ;BR TO ERROR HALT ON SEQ ERROR
        MOV #BUFF,SP ;STACK POINTER SETUP
        MOV #RETJ,RTRAPS ;RETURN POINTER
        JSR %0,%0 ;RESERVED INSTRUCTION
RETJ: CMP SP,#BUFF-4 ;TEST DECREMENT OF SP
        BEQ TST50
        MOV #203,@#SFATAL ;MOVE TO MAILBOX # ***** 203 *****
        INC (R2) ;SET MSGTYP TO FATAL ERROR
        HALT ;NOT DECREMENTED TWO WORDS,OR WRONG $STNM
        ; TO SCOPE REPLACE HALT W/ 240
        ; AND REPLACE NEXT INST W/ 761
*****
:TEST 50 TEST THAT PROPER P.C. IS SAVED
*****
TST50: INC @#STESTN ;UPDATE TEST NUMBER
        CMP #50,@#STESTN ;SEQUENCE ERROR
        BNE TST51-12 ;BR TO ERROR HALT ON SEQ ERROR
        MOV #BUFF,SP ;STACK POINTER SETUP
        MOV #RETK,RTRAPS ;RETURN FROM TRAP POINTER
INSTK: JSR %0,%0 ;TRAP ON THIS INSTRUCTION
RETK: CMP #INSTK+2,BUFF-4 ;CHECK FOR INCREMEND P.C.
        BEQ TST51
        MOV #204,@#SFATAL ;MOVE TO MAILBOX # ***** 204 *****
        INC (R2) ;SET MSGTYP TO FATAL ERROR
        HALT ;INCORRECT P.C.,OR WRONG $STNM
        ; TO SCOPE REPLACE HALT W/ 240
        ; AND REPLACE NEXT INST W/ 760
*****
:TEST 51 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK
*****
TST51: INC @#STESTN ;UPDATE TEST NUMBER
        CMP #51,@#STESTN ;SEQUENCE ERROR
        BNE TST52-12 ;BR TO ERROR HALT ON SEQ ERROR
        MOV #BUFF,SP ;SET UP
        MOV #RETL,RTRAPS ;SET UP
        CLR CC ;CLEAR CC AND PRIORITY
        CCC
        JSR %0,%0 ;TRAP
Z 1820 RETL: CMP BUFF-2,#0 ;TEST THAT OLD STATUS WENT TO STACK
        BEQ 1$
        MOV #205,@#SFATAL ;MOVE TO MAILBOX # ***** 205 *****
        INC (R2) ;SET MSGTYP TO FATAL ERROR
        HALT ;INCORRECT STATUS
        ; TO SCOPE REPLACE HALT W/ 240
        ; AND REPLACE NEXT INST W/ 755
        ; SET UP
        ; SET UP
        ; SET PRIORITY
        ; SET CC
        ; TRAP

```

# K03

MAIN. MACY11 27(732) 08-DEC-76 09:40 PAGE 36  
 DGKABC.P11 T51 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK

1833	007514	026727	170756	000357	RETN:	CMP	BUFF-2, #357	; COMPARES STATUS ON STACK
1834	007522	001405				BEQ	TST52	
1835	007524	012737	000206	000302		MOV	#206, @#\$FATAL	; MOVE TO MAILBOX # ***** 206 *****
1836	007532	005212				INC	(R2)	; SET MSGTYP TO FATAL ERROR
1837	007534	000000				HALT		; INCORRECT STATUS ON STACK, OR WRONG \$STNM
1838								; TO SCOPE REPLACE HALT W/ 240
1839								; AND REPLACE NEXT INST W/ 732
1840								*****
1841								; TEST 52 TEST THAT "NEW" STATUS IS CORRECT
1842								*****
1843	007536	005237	000304		TST52:	INC	@#\$TESTN	; UPDATE TEST NUMBER
1844	007542	022737	000052	000304		CMP	#52, @#\$TESTN	; SEQUENCE ERROR
1845	007550	001116				BNE	TST53-12	; BR TO ERROR HALT ON SEQ ERROR
1846	007552	012706	000500			MOV	#BUFF, SP	
1847	007556	012767	007572	170220		MOV	#RETN, RTRAPS	
1848	007564	005067	170216			CLR	RTRAPS+2	; CLEAR FUTURE PRIORITY AND CC
1849	007570	004000				JSR	%0, %0	; TEST FOR "C" CLEARED
1850	007572				RETN:			
1851	007572	100005				BPL	1\$	
1852	007574	012737	000207	000302		MOV	#207, @#\$FATAL	; MOVE TO MAILBOX # ***** 207 *****
1853	007602	005212				INC	(R2)	; SET MSGTYP TO FATAL ERROR
1854	007604	000000				HALT		; C NOT CLEARED
1855								; TO SCOPE REPLACE HALT W/ 240
1856								; AND REPLACE NEXT INST W/ 761
1857	007606				1\$:			
1858	007606	001005				BNE	2\$	
1859	007610	012737	000210	000302		MOV	#210, @#\$FATAL	; MOVE TO MAILBOX # ***** 210 *****
1860	007616	005212				INC	(R2)	; SET MSGTYP TO FATAL ERROR
1861	007620	000000				HALT		; Z NOT CLEARED
1862								; TO SCOPE REPLACE HALT W/ 240
1863								; AND REPLACE NEXT INST W/ 753
1864	007622				2\$:			
1865	007622	102005				BVC	3\$	
1866	007624	012737	000211	000302		MOV	#211, @#\$FATAL	; MOVE TO MAILBOX # ***** 211 *****
1867	007632	005212				INC	(R2)	; SET MSGTYP TO FATAL ERROR
1868	007634	000000				HALT		; V NOT CLEARED
1869								; TO SCOPE REPLACE HALT W/ 240
1870								; AND REPLACE NEXT INST W/ 745
1871	007636				3\$:			
1872	007636	103005				BCC	4\$	
1873	007640	012737	000212	000302		MOV	#212, @#\$FATAL	; MOVE TO MAILBOX # ***** 212 *****
1874	007646	005212				INC	(R2)	; SET MSGTYP TO FATAL ERROR
1875	007650	000000				HALT		; C NOT CLEARED
1876								; TO SCOPE REPLACE HALT W/ 240
1877								; AND REPLACE NEXT INST W/ 737
1878	007652	016700	170120		4\$:	MOV	CC, %0	; TEMP STORAGE
1879	007656	001405				BEQ	5\$	
1880	007660	012737	000213	000302		MOV	#213, @#\$FATAL	; MOVE TO MAILBOX # ***** 213 *****
1881	007666	005212				INC	(R2)	; SET MSGTYP TO FATAL ERROR
1882	007670	000000				HALT		; PRIORITY NOT ZERO
1883								; TO SCOPE REPLACE HALT W/ 240
1884								; AND REPLACE NEXT INST W/ 727
1885	007672	012706	000500		5\$:	MOV	#BUFF, SP	
1886	007676	012767	007714	170100		MOV	#RETO, RTRAPS	
1887	007704	012767	000357	170074		MOV	#357, RTRAPS+2	; SET NEW "CC" AND PRIORITY
1888	007712	004000				JSR	%0, %0	; TRAP HERE



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1889 007714          RETO:
1890 007714 100405   BMI      1$
1891 007716 012737   000214 000302  MOV     #214,@#$FATAL ;MOVE TO MAILBOX # ***** 214 *****
1892 007724 005212   INC     (R2)          ;SET MSGTYP TO FATAL ERROR
1893 007726 000000   HALT                    ;N NOT SET
1894                                     ; TO SCOPE REPLACE HALT W/ 240
1895                                     ; AND REPLACE NEXT INST W/ 710
1896 007730          1$:
1897 007730 001405   BEQ     2$
1898 007732 012737   000215 000302  MOV     #215,@#$FATAL ;MOVE TO MAILBOX # ***** 215 *****
1899 007740 005212   INC     (R2)          ;SE MSGTYP TO FATAL ERROR
1900 007742 000000   HALT                    ;Z NOT SET
1901                                     ; TO SCOPE REPLACE HALT W/ 240
1902                                     ; AND REPLACE NEXT INST W/ 702
1903 007744          2$:
1904 007744 102405   BVS     3$
1905 007746 012737   000216 000302  MOV     #216,@#$FATAL ;MOVE TO MAILBOX # ***** 216 *****
1906 007754 005212   INC     (R2)          ;SET MSGTYP TO FATAL ERROR
1907 007756 000000   HALT                    ;V NOT SET
1908                                     ; TO SCOPE REPLACE HALT W/ 240
1909                                     ; AND REPLACE NEXT INST W/ 674
1910 007760          3$:
1911 007760 103405   BCS     4$
1912 007762 012737   000217 000302  MOV     #217,@#$FATAL ;MOVE TO MAILBOX # ***** 217 *****
1913 007770 005212   INC     (R2)          ;SET MSGTYP TO FATAL ERROR
1914 007772 000000   HALT                    ;C NOT SET
1915                                     ; TO SCOPE REPLACE HALT W/ 240
1916                                     ; AND REPLACE NEXT INST W/ 666
1917 007774 016700 167776 4$:  MOV     CC,%0
1918 010000 022700 000357  CMP     #357,%0
1919 010004 001405   BEQ     TST53
1920 010006 012737   000220 000302  MOV     #220,@#$FATAL ;MOVE TO MAILBOX # ***** 220 *****
1921 010014 005212   INC     (R2)          ;SET MSGTYP TO FATAL ERROR
1922 010016 000000   HALT                    ;PRIORITY WAS CHANGED,OR WRONG $STNM
1923                                     ; TO SCOPE REPLACE HALT W/ 240
1924                                     ; AND REPLACE NEXT INST W/ 654

```

```

1925 ;*****
1926 ;TEST 53 TEST THAT A TRAP OCCURES ON AN ILLEGAL ADDRESS
1927 ;*****
1928 TST53: INC @#$TESTN ;UPDATE TEST NUMBER
1929 010020 005237 000304 000304  CMP     #53,@#$TESTN ;SEQUENCE ERROR
1930 010024 022737 000053 000304  BNE     TST54-12 ;BR TO ERROR HALT ON SEQ ERROR
1931 010032 001007 000500  MOV     #BUFF,SP ;STACK POINTER SETUP
1932 010034 012706 000500  MOV     #RETP,RTRAPS ;RETURN LOCATION
1933 010040 012767 010064 167736  TST 1 ;ILLEGAL ADDRESS INSTRUCTION, SHOULD TRAP
1934 010046 005767 167727  MOV     #221,@#$FATAL ;MOVE TO MAILBOX # ***** 221 *****
1935 010052 012737 000221 000302  INC     (R2)          ;SET MSGTYP TO FATAL ERROR
1936 010060 005212  HALT                    ;ILLEGAL ADDRESS DID NOT TRAP,OR WRONG $STNM
1937 010062 000000  ; TO SCOPE REPLACE HALT W/ 240
1938 ; AND REPLACE NEXT INST W/ 763

```

```

1939 RETP:
1940 010064 ;*****
1941 ;TEST 54 TEST DECREMENT OF STACK POINTER ON A TRAP OPERATION
1942 ;*****
1943 TST54: INC @#$TESTN ;UPDATE TEST NUMBER
1944 010064 005237 000304

```

M03

1945	010070	022737	000054	000304	CMP	#54, @#STESTN	: SEQUENCE ERROR
1946	010076	001012			BNE	TST55-12	: BR TO ERROR HALT ON SEQ ERROR.
1947	010100	012706	000500		MOV	#BUFF, SP	: STACK POINTER SETUP
1948	010104	012767	010116	167672	MOV	#RETR, RTRAPS	: RETURN POINTER
1949	010112	005767	167663		TST 1		: RESERVED INSTRUCTION
1950	010116	020627	000474		RETR: CMP	SP, #BUFF-4	: TEST DECREMENT OF SP
1951	010122	001405			BEQ	TST55	
1952	010124	012737	000222	000302	MOV	#222, @#SFATAL	: MOVE TO MAILBOX # ***** 222 *****
1953	010132	005212			INC	(R2)	: SET MSGTYP TO FATAL ERROR
1954	010134	000000			HALT		: NOT DECREMENTED TWO WORDS, OR WRONG \$TSTNM
1955							: TO SCOPE REPLACE HALT W/ 240
1956							: AND REPLACE NEXT INST W/ 760

\*\*\*\*\*  
 : TEST 55 TEST THAT PROPER P.C. IS SAVED  
 \*\*\*\*\*

1960	010136	005237	000304		TST55: INC	@#STESTN	: UPDATE TEST NUMBER
1961	010142	022737	000055	000304	CMP	#55, @#STESTN	: SEQUENCE ERROR
1962	010150	001013			BNE	TST56-12	: BR TO ERROR HALT ON SEQ ERROR
1963	010152	012706	000500		MOV	#BUFF, SP	: STACK POINTER SETUP
1964	010156	012767	010170	167620	MOV	#RETR, RTRAPS	: RETURN FROM TRAP POINTER
1965	010164	005767	167611		TST 1		: TRAP ON THIS INSTRUCTION
1966	010170	022767	010170	170276	RETR: CMP	#, BUFF-4	: CHECK FOR INCREMENTED P.C.
1967	010176	001405			BEQ	TST56	
1968	010200	012737	000223	000302	MOV	#223, @#SFATAL	: MOVE TO MAILBOX # ***** 223 *****
1969	010206	005212			INC	(R2)	: SET MSGTYP TO FATAL ERROR
1970	010210	000000			HALT		: INCORRECT P.C. OR WRONG \$TSTNM
1971							: TO SCOPE REPLACE HALT W/ 240
1972							: AND REPLACE NEXT INST W/ 757

\*\*\*\*\*  
 : TEST 56 TEST THAT "OLD" CC AND PRIORITY ARE PLACED ON STACK  
 \*\*\*\*\*

1976	010212	005237	000304		TST56: INC	@#STESTN	: UPDATE TEST NUMBER
1977	010216	022737	000056	000304	CMP	#56, @#STESTN	: SEQUENCE ERROR
1978	010224	001042			BNE	TST57-12	: BR TO ERROR HALT ON SEQ ERROR
1979	010226	012706	000500		MOV	#BUFF, SP	: SET UP
1980	010232	012767	010252	167544	MOV	#RETS, RTRAPS	: SET UP
1981	010240	005067	167532		CLR	CC	: CLEAR CC AND PRIORITY
1982	010244	000257			CCC		
1983	010246	005767	167527		TST 1		: TRAP
1984	010252	026727	170220	000000	RETS: CMP	BUFF-2, #0	: TEST THAT OLD STATUS WENT TO STACK
1985	010260	001405			BEQ	1\$	
1986	010262	012737	000224	000302	MOV	#224, @#SFATAL	: MOVE TO MAILBOX # ***** 224 *****
1987	010270	005212			INC	(R2)	: SET MSGTYP TO FATAL ERROR
1988	010272	000000			HALT		: INCORRECT STATUS
1989							: TO SCOPE REPLACE HALT W/ 240
1990							: AND REPLACE NEXT INST W/ 754

1991	010274	012706	000500		1\$: MOV	#BUFF, SP	: SET UP
1992	010300	012767	010322	167476	MOV	#RETT, RTRAPS	: SET UP
1993	010306	012767	000357	167462	MOV	#357, CC	: SET PRIORITY
1994	010314	000277			SCC		: SET CC
1995	010316	005767	167457		TST 1		: TRAP
1996	010322	026727	170150	000357	RETT: CMP	BUFF-2, #357	: COMPARES STATUS ON STACK
1997	010330	001405			BEQ	TST57	
1998	010332	012737	000225	000302	MOV	#225, @#SFATAL	: MOVE TO MAILBOX # ***** 225 *****
1999	010340	005212			INC	(R2)	: SET MSGTYP TO FATAL ERROR
2000	010342	000000			HALT		: INCORRECT STATUS ON STACK, OR WRONG \$TSTNM



```

2001                                     ; TO SCOPE REPLACE HALT W/ 240
2002                                     ; AND REPLACE NEXT INST W/ 73C
2003                                     ;*****
2004 :TEST 57 TEST THAT "NEW" STATUS IS CORRECT
2005                                     ;*****
2006 010344 005237 000304 TST57: INC @#STESTN ;UPDATE TEST NUMBER
2007 010350 022737 000057 000304 CMP #57,@#STESTN ;SEQUENCE ERROR
2008 010356 001121 BNE TST60-12 ;BR TO ERROR HALT ON SEQ ERROR
2009 010360 012706 000500 MOV #BUFF,SP
2010 010364 012767 010402 167412 MOV #RETU,RTRAP5
2011 010372 005067 167410 CLR RTRAP5+2 ;CLEAR FUTURE PRIORITY AND CC
2012 010376 005767 167377 TST 1 ;TRAP HERE
2013 010402 RETU: ;TEST FOR "C" CLEARED
2014 010402 100005 BPL 1$
2015 010404 012737 000226 000302 MOV #226,@#SFATAL ;MOVE TO MAILBOX # ***** 226 *****
2016 010412 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2017 010414 000000 HALT ;C NOT CLEARED
2018 ; TO SCOPE REPLACE HALT W/ 240
2019 ; AND REPLACE NEXT INST W/ 760
2020 010416 1$: BNE 2$
2021 010416 001005 2$
2022 010420 012737 000227 000302 MOV #227,@#SFATAL ;MOVE TO MAILBOX # ***** 227 *****
2023 010426 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2024 010430 000000 HALT ;Z NOT CLEARED
2025 ; TO SCOPE REPLACE HALT W/ 240
2026 ; AND REPLACE NEXT INST W/ 752
2027 010432 2$: BVC 3$
2028 010432 102005 3$
2029 010434 012737 000230 000302 MOV #230,@#SFATAL ;MOVE TO MAILBOX # ***** 230 *****
2030 010442 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2031 010444 000000 HALT ;V NOT CLEARED
2032 ; TO SCOPE REPLACE HALT W/ 240
2033 ; AND REPLACE NEXT INST W/ 744
2034 010446 3$: BCC 4$
2035 010446 103005 4$
2036 010450 012737 000231 000302 MOV #231,@#SFATAL ;MOVE TO MAILBOX # ***** 231 *****
2037 010456 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2038 010460 000000 HALT ;C NOT CLEARED
2039 ; TO SCOPE REPLACE HALT W/ 240
2040 ; AND REPLACE NEXT INST W/ 73E
2041 010462 032767 000357 167306 4$: BIT #357,CC ;TEST PRIORITY FOR ZERO
2042 010470 001405 5$
2043 010472 012737 000232 000302 MOV #232,@#SFATAL ;MOVE TO MAILBOX # ***** 232 *****
2044 010500 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2045 010502 000000 HALT ;PRIORITY NOT ZERO
2046 ; TO SCOPE REPLACE HALT W/ 240
2047 ; AND REPLACE NEXT INST W/ 725
2048 010504 012706 000500 5$: MOV #BUFF,SP
2049 010510 012767 010530 167266 MOV #RETU,RTRAP5
2050 010516 012767 000357 167262 MOV #357,RTRAP5+2 ;SET NEW "CC" AND PRIORITY
2051 010524 005767 167251 TST 1 ;TRACE HERE
2052 010530 RETV:
2053 010530 100405 1$
2054 010532 012737 000233 000302 MOV #233,@#SFATAL ;MOVE TO MAILBOX # ***** 233 *****
2055 010540 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2056 010542 000000 HALT ;N NOT SET

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MAIN. MACY11 27(732) 08-DEC-76 09:40 PAGE 41  
CGKABC.P11 T61 TEST FOR DECREMENT OF R6 ON OVERFLOW TRAP

2113	010726	020627	000142	TDEC2:	CMP	%R6,#142	;DID R6 DECREMENT
2114	010732	001405			BEQ	TST62	
2115	010734	012737	000241 000302		MOV	#241,0#SFATAL	:MOVE TO MAILBOX # ***** 241 *****
2116	010742	005212			INC	(R2)	:SET MSGTYP TO FATAL ERROR
2117	010744	000000			HALT		:R6 NOT = 142 OR WRONG \$STNM
2118							: TO SCOPE REPLACE HALT W/ 240
2119							: AND REPLACE NEXT INST W/ 761
2120							

```

*****
:TEST 62      TEST DIFFERENT TYPES OF OVERFLOW
*****
2121          :TST62:  INC      @#STESTN      ;UPDATE TEST NUMBER
2122          :      CMP      #62,@#STESTN  ;SEQUENCE ERROR
2123          :      BNE      TST63-12     ;BR TO ERROR HALT ON SEQ ERROR
2124 010746    005237 000304          :      MOV      #150,%6
2125 010752    022737 000062 000304 :      CLR      146          ;STATUS WORD OF LOC 10
2126 010760    001043          :      MOV      #TDEC3,4     ;RETURN TO LOC 4
2127 010762    012706 000150          :      INC      -(6)
2128 010766    005067 167154          :      TST      146
2129 010772    012767 011002 167004 :      BNE      1$
2130 011000    005246          :      MOV      #242,@#SFATAL ;MOVE TO MAILBOX # ***** 242 *****
2131 011002    005767 167140          :      INC      (R2)         ;SET MSGTYP TO FATAL ERROR
2132 011006    001005          :      HALT                ;INCREMENT OPERATION NOT INHIBITED
2133 011010    012737 000242 000302 :      ; TO SCOPE REPLACE HALT W/ 240
2134 011016    005212          :      ; AND REPLACE NEXT INST W/ 757
2135 011020    000000
2136
2137
2138 011022    012705 001000          1$:  MOV      #1000,%5
2139 011026    012706 000400          :      MOV      #400,%6
2140 011032    012767 011054 166744 :      MOV      #TDEC4,4
2141 011040    124645          :      CMPB     -(6),-(5)
2142 011042    012737 000243 000302 :      MOV      #243,@#SFATAL ;MOVE TO MAILBOX # ***** 243 *****
2143 011050    005212          :      INC      (R2)         ;SET MSGTYP TO FATAL ERROR
2144 011052    000000          :      HALT                ;STACK = 400 AND DECREMENTED, SHOULD TRAP
2145
2146
2147 011054    012706 000400          TDEC4: MOV     #400,%6
2148 011060    012767 011102 166716 :      MOV      #TDEC7,4
2149 011066    134546          :      BITB     -(5),-(6)
2150
2151 011070    012737 000244 000302 :      MOV      #244,@#SFATAL ;MOVE TO MAILBOX # ***** 244 *****
2152 011076    005212          :      INC      (R2)         ;SET MSGTYP TO FATAL ERROR
2153 011100    000000          :      HALT                ;NO STACK OVERFLOW,OR WRONG $TSTNM
2154
2155
2156 011102          TDEC6: MOV     #244,@#SFATAL ;MOVE TO MAILBOX # ***** 244 *****
2157
2158
2159
2160
2161          :TST63:  INC      @#STESTN      ;UPDATE TEST NUMBER
2162          :      CMP      #63,@#STESTN  ;SEQUENCE ERROR
2163          :      BNE      VDEC2         ;BR TO ERROR HALT ON SEQ ERROR
2164 011102    005237 000304          :      MOV      #400,%6     ;SET UP STACK TO OVERFLOW
2165 011106    022737 000063 000304 :      MOV      #VDEC2,10    ;SET UP 7 VECTOR
2166 011114    001011          :      MOV      #VDEC1,4    ;SET UP OVERFLOW VECTOR
2167 011116    012706 000400          :      MOV      7          ;THIS TRAP SHOULD CAUSE OVERFLOW
2168 011122    012767 011140 166660 :      ;
2169 011130    012767 011152 166646 :      ;
2170 011136    000007          :      ;
2171 011140          VDEC2:  MOV     #245,@#SFATAL ;MOVE TO MAILBOX # ***** 245 *****
2172 011144    012737 000245 000302 :      INC      (R2)         ;SET MSGTYP TO FATAL ERROR
2173 011146    005212          :      HALT                ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $TSTNM
2174 011150    000000          :      ; TO SCOPE REPLACE HALT W/ 240
2175
2176
2177 011152    012767 000012 166630 :      MOV      #10+2,10
2178
2179
2180          :*****
:TEST 64      TEST THAT AN IOT CAUSES AN OVERFLOW TRAP
:*****

```



```

2177
2178 011160 005237 000304          ;*****
2179 011164 022737 000064 000304 †ST64: INC      @#$TESTN      ;UPDATE TEST NUMBER
2180 011172 001011                CMP      #64,@#$TESTN    ;SEQUENCE ERROR
2181 011174 012706 000400                BNE     VDEC4           ;BR TO ERROR HALT ON SEQ ERROR
2182 011200 012767 011216 166612          MOV     #400,%6        ;SET UP STACK TO OVERFLOW
2183 011206 012767 011230 166570          MOV     #VDEC4,20      ;SET UP IOT VECTOR
2184 011214 000004                MOV     #VDEC3,4       ;SET UP OVERFLOW VECTOR
2185 011216                IOT                    ;THIS TRAP SHOULD CAUSE OVERFLOW
2186 011216 012737 000246 000302          VDEC4: MOV     #246,@#$FATAL ;MOVE TO MAILBOX # ***** 246 *****
2187 011224 005212                INC     (R2)           ;SET MSGTYP TO FATAL ERROR
2188 011226 000000                HALT                   ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $STSTNM
2189
2190
2191 011230 012767 000022 166562          VDEC3: MOV     #20+2,20 ;
2192
2193 ;*****
2194 ;TEST 65 TEST THAT AN EMT CAUSES AN OVERFLOW TRAP
2195 ;*****
2196 011236 005237 000304          †ST65: INC      @#$TESTN      ;UPDATE TEST NUMBER
2197 011242 022737 000065 000304          CMP     #65,@#$TESTN    ;SEQUENCE ERROR
2198 011250 001011                BNE     VDEC6           ;BR TO ERROR HALT ON SEQ ERROR
2199 011252 012706 000400                MOV     #400,%6        ;SET UP STACK TO OVERFLOW
2200 011256 012767 011274 166544          MOV     #VDEC6,30      ;SET UP EMT VECTOR
2201 011264 012767 011306 166512          MOV     #VDEC5,4       ;SET UP OVERFLOW VECTOR
2202 011272 104000                EMT                    ;THIS TRAP SHOULD CAUSE OVERFLOW
2203 011274 012737 000247 000302          VDEC6: MOV     #247,@#$FATAL ;MOVE TO MAILBOX # ***** 247 *****
2204 011302 005212                INC     (R2)           ;SET MSGTYP TO FATAL ERROR
2205 011304 000000                HALT                   ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $STSTNM
2206
2207
2208 011306 012767 000032 166514          VDEC5: MOV     #30+2,30 ;
2209
2210 ;*****
2211 ;TEST 66 TEST THAT AN TRAP CAUSES AN OVERFLOW TRAP
2212 ;*****
2213 011314 005237 000304          †ST66: INC      @#$TESTN      ;UPDATE TEST NUMBER
2214 011320 022737 000066 000304          CMP     #66,@#$TESTN    ;SEQUENCE ERROR
2215 011326 001011                BNE     VDEC8           ;BR TO ERROR HALT ON SEQ ERROR
2216 011330 012706 000400                MOV     #400,%6        ;SET UP STACK TO OVERFLOW
2217 011334 012767 011352 166472          MOV     #VDEC8,34      ;SET UP TRAP VECTOR
2218 011342 012767 011364 166434          MOV     #VDEC7,4       ;SET UP OVERFLOW VECTOR
2219 011350 104400                TRAP                   ;THIS TRAP SHOULD CAUSE OVERFLOW
2220 011352 012737 000250 000302          VDEC8: MOV     #250,@#$FATAL ;MOVE TO MAILBOX # ***** 250 *****
2221 011360 005212                INC     (R2)           ;SET MSGTYP TO FATAL ERROR
2222 011362 000000                HALT                   ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $STSTNM
2223
2224
2225 011364 012767 000036 166442          VDEC7: MOV     #34+2,34 ;
2226
2227 ;*****
2228 ;TEST 67 TEST THAT AN TRT CAUSES AN OVERFLOW TRAP
2229 ;*****
2230 011372 005237 000304          †ST67: INC      @#$TESTN      ;UPDATE TEST NUMBER
2231 011376 022737 000067 000304          CMP     #67,@#$TESTN    ;SEQUENCE ERROR
2232 011404 001011                BNE     VDEC10          ;BR TO ERROR HALT ON SEQ ERROR
2233 011406 012706 000400                MOV     #400,%6        ;SET UP STACK TO C :RFLOW

```

```

2233 011412 012767 011430 166374      MOV      #VDEC10,14      ;SET UP TRT VECTOR
2234 011420 012767 011442 166356      MOV      #VDEC9,4       ;SET UP OVERFLOW VECTOR
2235 011426 000003                    TRT                               ;THIS TRAP SHOULD CAUSE OVERFLOW
2236 011430                    VDEC10:
2237 011430 012737 000251 000302      MOV      #251,0#$FATAL  ;MOVE TO MAILBOX # ***** 251 *****
2238 011436 005212                    INC      (R2)            ;SET MSGTYP TO FATAL ERROR
2239 011440 000000                    HALT                       ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $STNM
2240                                ; TO SCOPE REPLACE HALT W/ 240
2241                                ; AND REPLACE NEXT INST W/ 761
2242 011442 012767 000016 166344      VDEC9: MOV      #14+2,14
2243                                ;*****
2244                                ;TEST 70      TEST THAT AN ILLA CAUSES AN OVERFLOW TRAP
2245                                ;*****
2246 011450 005237 000304                    †ST70: INC      0#$TESTN    ;UPDATE TEST NUMBER
2247 011454 022737 000070 000304      CMP      #70,0#$TESTN   ;SEQUENCE ERROR
2248 011462 001011                    BNE     VDEC11          ;BR TO ERROR HALT ON SEQ ERROR
2249 011464 012706 000400                    MOV     #400,%6        ;SET UP STACK TO OVERFLOW
2250 011470 012767 011506 166306      MOV     #VDEC11,4       ;SET UP ILLA VECTOR
2251 011476 012767 011520 166300      MOV     #VDEC12,4       ;SET UP OVERFLOW VECTOR
2252 011504 004700                    ILLA                       ;THIS TRAP SHOULD CAUSE OVERFLOW
2253 011506                    VDEC11:
2254 011506 012737 000252 000302      MOV     #252,0#$FATAL  ;MOVE TO MAILBOX # ***** 252 *****
2255 011514 005212                    INC     (R2)            ;SET MSGTYP TO FATAL ERROR
2256 011516 000000                    HALT                       ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $STNM
2257                                ; TO SCOPE REPLACE HALT W/ 240
2258                                ; AND REPLACE NEXT INST W/ 761
2259 011520 012767 000006 166256      VDEC12: MOV     #4+2,4
2260 011526 020627 000370                    CMP     %6,#370        ;STACK PUSHED FOUR WORDS?
2261 011532 001405                    BEQ     TST71
2262 011534 012737 000253 000302      MOV     #253,0#$FATAL  ;MOVE TO MAILBOX # ***** 253 *****
2263 011542 005212                    INC     (R2)            ;SET MSGTYP TO FATAL ERROR
2264 011544 000000                    HALT                       ;TRAP OVERFLOW DID NOT OCCUR
2265                                ; TO SCOPE REPLACE HALT W/ 240
2266                                ; AND REPLACE NEXT INST W/ 746
2267                                ;*****
2268                                ;TEST 71      TEST THAT AN ILLB CAUSES AN OVERFLOW TRAP
2269                                ;*****
2270 011546 005237 000304                    †ST71: INC     0#$TESTN    ;UPDATE TEST NUMBER
2271 011552 022737 000071 000304      CMP     #71,0#$TESTN   ;SEQUENCE ERROR
2272 011560 001011                    BNE     VDEC13          ;BR TO ERROR HALT ON SEQ ERROR
2273 011562 012706 000400                    MOV     #400,%6        ;SET UP STACK TO OVERFLOW
2274 011566 012767 011604 166210      MOV     #VDEC13,4       ;SET UP ILLB VECTOR
2275 011574 012767 011616 166202      MOV     #VDEC14,4       ;SET UP OVERFLOW VECTOR
2276 011602 000100                    ILLB                       ;THIS TRAP SHOULD CAUSE OVERFLOW
2277 011604                    VDEC13:
2278 011604 012737 000254 000302      MOV     #254,0#$FATAL  ;MOVE TO MAILBOX # ***** 254 *****
2279 011612 005212                    INC     (R2)            ;SET MSGTYP TO FATAL ERROR
2280 011614 000000                    HALT                       ;TRAP FLAG OVERFLOW DID NOT OCCUR,OR WRONG $STNM
2281                                ; TO SCOPE REPLACE HALT W/ 240
2282                                ; AND REPLACE NEXT INST W/ 761
2283 011616 012767 000006 166160      VDEC14: MOV     #4+2,4
2284                                ;*****
2285                                ;TEST 72      TEST FOR FALSE OVERFLOW TRAP
2286                                ;*****
2287                                ;*****
2288 011624 005237 000304                    †ST72: INC     0#$TESTN    ;UPDATE TEST NUMBER

```



```

2289 011630 022737 000072 000304      CMP      #72,2#STESTN      ;SEQUENCE ERROR
2290 011636 001023      BNE      FOVER          ;BR TO ERROR HALT ON SEQ ERROR
2291
2292 011640 012767 011706 166136      MOV      #FOVER,4        ;SET UP OVERFLOW POINTER
2293 011646 012706 001002      MOV      #1002,%6
2294 011652 005746      TST      -(6)           ;SHOULD NOT OVERFLOW
2295 011654 012706 002002      MOV      #2002,%6
2296 011660 005746      TST      -(6)           ;SHOULD NOT OVERFLOW
2297 011662 012706 004002      MOV      #4002,%6
2298 011666 005746      TST      -(6)           ;SHOULD NOT OVERFLOW
2299 011670 012706 010002      MOV      #10002,%6
2300 011674 005746      TST      -(6)
2301 011676 012706 020000      MOV      #20000,%6      ;SHOULD NOT OVERFLOW
2302 011702 005746      TST      -(6)
2303 011704 000405      BR
2304 011706
2305 011706 012737 000255 000302      FOVER:  MOV      #255,2#SFATAL ;MOVE TO MAILBOX # ***** 255 *****
2306 011714 005212      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
2307 011716 000000      HALT                    ;IT OVERFLOWED,OR WRONG STSTNM
2308                                     ; TO SCOPE REPLACE HALT W/ 240
2309                                     ; AND REPLACE NEXT INST W/ 747
2310 011720 012767 000006 166056      STP:    MOV      #6,4
2311 011726 005067 166054      CLR      6
2312                                     ;*****
2313                                     ;TEST 73 TEST THAT BIT 4 PSW WILL CAUSE A TRAP TO 14
2314                                     ;*****
2315 011732 005237 000304      TST73: INC      2#STESTN      ;UPDATE TEST NUMBER
2316 011736 022737 000073 000304      CMP      #73,2#STESTN      ;SEQUENCE ERROR
2317 011744 001100      BNE      STP1           ;BR TO ERROR HALT ON SEQ ERROR
2318 011746 005067 166044      CLR      16
2319 011752 012706 000500      MOV      #BUFF,SP
2320 011756 012767 012006 166030      MOV      #RETGT,RTRAP4
2321 011764 012767 000020 166004      MOV      #20,STATUS
2322 011772 000240      NOP
2323 011774
2324 011774 012737 000256 000302      RETBT:  MOV      #256,2#SFATAL ;MOVE TO MAILBOX # ***** 256 *****
2325 012002 005212      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
2326 012004 000000      HALT                    ;TRACE BIT DID NOT TRAP
2327                                     ; TO SCOPE REPLACE HALT W/ 240
2328                                     ; AND REPLACE NEXT INST W/ 757
2329 012006 026727 165764 000000      RETGT:  CMP      STATUS,#0
2330 012014 001405      BEQ      RETAT
2331 012016 012737 000257 000302      MOV      #257,2#SFATAL ;MOVE TO MAILBOX # ***** 257 *****
2332 012024 005212      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
2333 012026 000000      HALT                    ;NEW STATUS IS INCORRECT
2334                                     ; TO SCOPE REPLACE HALT W/ 240
2335                                     ; AND REPLACE NEXT INST W/ 746
2336 012030 020627 000474      RETAT:  CMP      SP,#BUFF-4
2337 012034 001405      BEQ      RETCT
2338 012036 012737 000260 000302      MOV      #260,2#SFATAL ;MOVE TO MAILBOX # ***** 260 *****
2339 012044 005212      INC      (R2)           ;SET MSGTYP TO FATAL ERROR
2340 012046 000000      HALT                    ;STACK POINTER DID NOT DECREMENT
2341                                     ; TO SCOPE REPLACE HALT W/ 240
2342                                     ; AND REPLACE NEXT INST W/ 736
2343 012050 022767 011774 166416      RETCT:  CMP      #RETBT,BUFF-4
2344 012056 001405      BEQ      RETDT
  
```

```

2345 012060 012737 000261 000302      MOV    #261,0#SFATAL      ;MOVE TO MAILBOX # ***** 261 *****
2346 012066 005212      INC    (R2)                ;SET MSGTYP TO FATAL ERROR
2347 012070 000000      HALT                       ;CORRECT PC WAS NOT SAVED
2348                                     ; TO SCOPE REPLACE HALT W/ 240
2349                                     ; AND REPLACE NEXT INST W/ 725
2350 012072 022767 000020 166376  RETDT:  CMP    #20,BUFF-2
2351 012100 001405      BEQ    RETET
2352 012102 012737 000262 000302      MOV    #262,0#SFATAL      ;MOVE TO MAILBOX # ***** 262 *****
2353 012110 005212      INC    (R2)                ;SET MSGTYP TO FATAL ERROR
2354 012112 000000      HALT                       ;OLD CC AND PRIORITY WAS NOT SAVED
2355                                     ; TO SCOPE REPLACE HALT W/ 240
2356                                     ; AND REPLACE NEXT INST W/ 714
2357 012114 012706 000500      RETET: MOV    #BUFF,SP
2358 012120 012767 012136 165666      MOV    #RETFT,RTRAP4
2359 012126 012767 000377 165642      MOV    #377,STATUS        ;SET THE PSW AND THE T BIT
2360 012134 000240      NOP
2361 012136 022767 000377 166332  RETFT:  CMP    #377,BUFF-2
2362 012144 001405      BEQ    STP1B
2363 012146      STP1:
2364 012146 012737 000263 000302      MOV    #263,0#SFATAL      ;MOVE TO MAILBOX # ***** 263 *****
2365 012154 005212      INC    (R2)                ;SET MSGTYP TO FATAL ERROR
2366 012156 000000      HALT                       ;OLD CC AND PRIORITY WERE NOT SAVED
2367                                     ; TO SCOPE REPLACE HALT W/ 240
2368                                     ; AND REPLACE NEXT INST W/ 672
2369 012160 012767 000016 165626  STP1B:  MOV    #16,14
2370 012166 005067 165624      CLR    16
2371
2372      ;////////////////////
2373      ;T BIT CLEARED
2374      ;////////////////////
2375      ;*****
2376      ;TEST 74      TEST THE RTI INSTRUCTION WITHOUT SETTING THE T BIT
2377      ;*****
2378 012172 005237 000304      TST74: INC    0#STESTN      ;UPDATE TEST NUMBER
2379 012176 022737 000074 000304      CMP    #74,0#STESTN      ;SEQUENCE ERROR
2380 012204 001037      BNE    TST75-12          ;BR TO ERROR HALT ON SEQ ERROR
2381 012206 012706 000500      MOV    #BUFF,SP
2382 012212 005046      CLR    -(SP)
2383 012214 012746 012234      MOV    #RTIA,-(SP)
2384 012220 000002      RTI
2385 012222 012737 000264 000302      MOV    #264,0#SFATAL      ;MOVE TO MAILBOX # ***** 264 *****
2386 012230 005212      INC    (R2)                ;SET MSGTYP TO FATAL ERROR
2387 012232 000000      HALT                       ;RTI DIDN'T TRAP
2388                                     ; TO SCOPE REPLACE HALT W/ 240
2389                                     ; AND REPLACE NEXT INST W/ 764
2390 012234 022767 000000 165534  RTIA:  CMP    #0,STATUS
2391 012242 001405      BEQ    1$
2392 012244 012737 000265 000302      MOV    #265,0#SFATAL      ;MOVE TO MAILBOX # ***** 265 *****
2393 012252 005212      INC    (R2)                ;SET MSGTYP TO FATAL ERROR
2394 012254 000000      HALT                       ;NEW STATUS IS NOT CORRECT
2395                                     ; TO SCOPE REPLACE HALT W/ 240
2396                                     ; AND REPLACE NEXT INST W/ 753
2397 012256 012706 000500      1$:   MOV    #BUFF,SP
2398 012262 012746 000357      MOV    #357,-(SP)
2399 012266 012746 012274      MOV    #RTIB,-(SP)
2400 012272 000002      RTI

```



MAIN MACY11 27(732)  
DGRABC.P11 T74

09-DEC-76 09:40 PAGE 47  
TEST THE RTI INSTRUCTION WITHOUT SETTING THE T BIT

```

2401 012274 022767 000357 165474 RTIB:  CMP      #357,STATUS
2402 012302 001405          BEQ      TST75
2403 012304 012737 000266 000302          MOV      #266,@#$FATAL ;MOVE TO MAILBOX # ***** 266 *****
2404 012312 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2405 012314 000000          HALT          ;STATUS SHOULD HAVE BEEN 357,OR WRONG $STNM
                ; TO SCOPE REPLACE HALT W/ 240
                ; AND REPLACE NEXT INST W/ 733

```

////////////////////////////////////  
: T BIT CLEARED  
////////////////////////////////////

\*\*\*\*\*  
: TEST 75 TEST THE RTI INSTRUCTION WITHOUT SETTING THE T BIT  
\*\*\*\*\*

```

2415 012316 005237 000304          TST75:  INC      @#$TESTN ;UPDATE TEST NUMBER
2416 012322 022737 000075 000304          CMP      #75,@#$TESTN ;SEQUENCE ERROR
2417 012330 001017          BNE     TST76-12 ;BR TO ERROR HALT ON SEQ ERROR
2418 012332 012706 000500          MOV      #BUFF,SP
2419 012336 005046          CLR     -(SP)
2420 012340 012746 012360          MOV      #RTTA,-(SP)
2421 012344 000006          RTT
2422 012346 012737 000267 000302          MOV      #267,@#$FATAL ;MOVE TO MAILBOX # ***** 267 *****
2423 012354 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2424 012356 000000          HALT          ;RTT DIDN'T TRAP
                ; TO SCOPE REPLACE HALT W/ 240
                ; AND REPLACE NEXT INST W/ 764

```

```

2427 012360 022767 000000 165410 RTTA:  CMP      #0,STATUS
2428 012366 001405          BEQ      TST76
2429 012370 012737 000270 000302          MOV      #270,@#$FATAL ;MOVE TO MAILBOX # ***** 270 *****
2430 012376 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2431 012400 000000          HALT          ;NEW STATUS IS NOT CORRECT,OR WRONG $STNM
                ; TO SCOPE REPLACE HALT W/ 240
                ; AND REPLACE NEXT INST W/ 753

```

////////////////////////////////////  
: T BIT CLEARED  
////////////////////////////////////

\*\*\*\*\*  
: TEST 76 TEST THE RTI INSTRUCTION SETTING THE T BIT  
\*\*\*\*\*

```

2441 012402 005237 000304          TST76:  INC      @#$TESTN ;UPDATE TEST NUMBER
2442 012406 022737 000076 000304          CMP      #76,@#$TESTN ;SEQUENCE ERROR
2443 012414 001055          BNE     TST77-12 ;BR TO ERROR HALT ON SEQ ERROR
2444 012416 012706 000500          MOV      #BUFF,SP
2445 012422 012767 012456 165364          MOV      #RTIC,RTRAP4
2446 012430 012746 000020          MOV      #20,-(SP)
2447 012434 012746 012442          MOV      #RTID,-(SP)
2448 012440 000002          RTI
2449 012442 000240          RTID:  NOP
2450 012444 012737 000271 000302          MOV      #271,@#$FATAL ;MOVE TO MAILBOX # ***** 271 *****
2451 012452 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2452 012454 000000          HALT          ;T BIT SHOULDN'T ALLOW PC TO COME HERE
                ; TO SCOPE REPLACE HALT W/ 240
                ; AND REPLACE NEXT INST W/ 757

```

```

2453 012456 005767 165314          RTIC:  TST      STATUS
2454 012462 001405          BEQ      1$

```

```

2457 012464 012737 000272 000302      MOV    #272, @#$FATAL      ; MOVE TO MAILBOX # ***** 272 *****
2458 012472 005212      INC    (R2)                ; SET MSGTYP TO FATAL ERROR
2459 012474 000000      HALT                       ; NEW STATUS IS INCORRECT
2460                                     ; TO SCOPE REPLACE HALT W/ 240
2461                                     ; AND REPLACE NEXT INST W/ 747
2462 012476 020627 000474      1$:  CMP    SP, #BUFF-4
2463 012502 001405      BEQ    2$
2464 012504 012737 000273 000302      MOV    #273, @#$FATAL      ; MOVE TO MAILBOX # ***** 273 *****
2465 012512 005212      INC    (R2)                ; SET MSGTYP TO FATAL ERROR
2466 012514 000000      HALT                       ; STACK POINTER DID NOT DECREMENT
2467                                     ; TO SCOPE REPLACE HALT W/ 240
2468                                     ; AND REPLACE NEXT INST W/ 737
2469 012516 022767 012444 165750 2$:  CMP    #RTID+2, BUFF-4
2470 012524 001405      BEQ    3$
2471 012526 012737 000274 000302      MOV    #274, @#$FATAL      ; MOVE TO MAILBOX # ***** 274 *****
2472 012534 005212      INC    (R2)                ; SET MSGTYP TO FATAL ERROR
2473 012536 000000      HALT                       ; CORRECT PC WAS NOT SAVED
2474                                     ; TO SCOPE REPLACE HALT W/ 240
2475                                     ; AND REPLACE NEXT INST W/ 726
2476 012540 022767 000020 165730 3$:  CMP    #20, BUFF-2
2477 012546 001405      BEQ    TST77
2478 012550 012737 000275 000302      MOV    #275, @#$FATAL      ; MOVE TO MAILBOX # ***** 275 *****
2479 012556 005212      INC    (R2)                ; SET MSGTYP TO FATAL ERROR
2480 012560 000000      HALT                       ; CORRECT PSW WAS NOT SAVED, OR ERONG $STNM
2481                                     ; TO SCOPE REPLACE HALT W/ 240
2482                                     ; AND REPLACE NEXT INST W/ 715

```

```

////////////////////
; T BIT CLEARED
////////////////////

```

```

*****
; TEST 77      TEST THE RTI INSTRUCTION SETTING THE T BIT
*****

```

```

2490 012562 005237 000304      †ST77: INC    @#$TESTN      ; UPDATE TEST NUMBER
2491 012566 022737 000077 000304      CMP    #77, @#$TESTN      ; SEQUENCE ERROR
2492 012574 001061      BNE    TST100-12          ; BR TO ERROR HALT ON SEQ ERROR
2493 012576 012767 000357 165212      MOV    #357, 16
2494 012604 012706 000500      MOV    #BUFF, SP
2495 012610 012767 012644 165176      MOV    #RTTC, RTRAP4
2496 012616 012746 000020      MOV    #20, -(SP)
2497 012622 012746 012630      MOV    #RTTD, -(SP)
2498 012626 000006      RTT
2499 012630 000240      RTTD: NOP
2500 012632 012737 000276 000302      MOV    #276, @#$FATAL      ; MOVE TO MAILBOX # ***** 276 *****
2501 012640 005212      INC    (R2)                ; SET MSGTYP TO FATAL ERROR
2502 012642 000000      HALT                       ; T BIT SHOULDN'T ALLOW PC TO COME HERE
2503                                     ; TO SCOPE REPLACE HALT W/ 240
2504                                     ; AND REPLACE NEXT INST W/ 754
2505 012644 026727 165126 000357 RTTC:  CMP    STATUS, #357
2506 012652 001405      BEQ    1$
2507 012654 012737 000277 000302      MOV    #277, @#$FATAL      ; MOVE TO MAILBOX # ***** 277 *****
2508 012662 005212      INC    (R2)                ; SET MSGTYP TO FATAL ERROR
2509 012664 000000      HALT                       ; NEW STATUS IS INCORRECT
2510                                     ; TO SCOPE REPLACE HALT W/ 240
2511                                     ; AND REPLACE NEXT INST W/ 743
2512 012666 020627 000474      1$:  CMP    SP, #BUFF-4

```



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MAIN MACY11 27(732)  
DGKABC.P11 T77

08-DEC-76 09:40 PAGE 49  
TEST THE RTI INSTRUCTION SETTING THE T BIT

```

2513 012672 001405          BEQ      2$
2514 012674 012737 000300 000302  MOV     #300,2#$FATAL ;MOVE TO MAILBOX # ***** 300 *****
2515 012702 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
2516 012704 000000          HALT                ;STACK POINTER DID NOT DECREMENT
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 733
2517
2518
2519 012706 022767 012632 165560 2$:  CMP     #RTTD+2,BUFF-4
2520 012714 001405          BEQ     3$
2521 012716 012737 000301 000302  MOV     #301,2#$FATAL ;MOVE TO MAILBOX # ***** 301 *****
2522 012724 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
2523 012726 000000          HALT                ;CORRECT PC WAS NOT SAVED
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 722
2524
2525
2526 012730 022767 000020 165540 3$:  CMP     #20,BUFF-2
2527 012736 001405          BEQ     TST100
2528 012740 012737 000302 000302  MOV     #302,2#$FATAL ;MOVE TO MAILBOX # ***** 302 *****
2529 012746 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
2530 012750 000000          HALT                ;CORRECT PSW WAS NOT SAVED, OR WRONG $TSTNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 711
2531
2532
2533
2534
2535
2536
2537
2538
2539
2540 012752 005237 000304          TST100: INC    2#$TESTN ;UPDATE TEST NUMBER
2541 012756 022737 000100 000304  CMP     #100,2#$TESTN ;SEQUENCE ERROR
2542 012764 001050          BNE    TST101-12    ;BR TO ERROR HALT ON SEQ ERROR
2543 012766 005067 165024          CLR     16
2544 012772 012706 000500          MOV     #BUFF,SP
2545 012776 012767 013036 165010  MOV     #RTIE,RTRAP4
2546 013004 005046          CLR     -(SP)
2547 013006 012746 013022          MOV     #RTIF,-(SP)
2548 013012 052767 000020 164756  BIS     #20,STATUS
2549 013020 000002          RTI
2550 013022 000240          NOP
2551 013024 012737 000303 000302  RTIF:  MOV     #303,2#$FATAL ;MOVE TO MAILBOX # ***** 303 *****
2552 013032 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
2553 013034 000000          HALT                ;T BIT SHOULDN'T ALLOW THE PC TO COME HERE
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 753
2554
2555
2556 013036 005767 164734          RTIE:  TST     STATUS
2557 013042 001405          BEQ     1$
2558 013044 012737 000304 000302  MOV     #304,2#$FATAL ;MOVE TO MAILBOX # ***** 304 *****
2559 013052 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
2560 013054 000000          HALT                ;NEW STATUS IS INCORRECT
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 743
2561
2562
2563 013056 020627 000474          1$:  CMP     SP,#BUFF-4
2564 013062 001405          BEQ     2$
2565 013064 012737 000305 000302  MOV     #305,2#$FATAL ;MOVE TO MAILBOX # ***** 305 *****
2566 013072 005212          INC     (R2)          ;SET MSGTYP TO FATAL ERROR
2567 013074 000000          HALT                ;STACK POINTER DID NOT DECREMENT
; TO SCOPE REPLACE HALT W/ 240
2568

```

:/:/:/:/:/:/:/:/

T BIT SET

:/:/:/:/:/:/:/:/

\*\*\*\*\*  
TEST 100 TEST THE RTI INSTRUCTION WITHOUT SETTING THE T BIT  
\*\*\*\*\*

TST100: INC 2#\$TESTN ;UPDATE TEST NUMBER  
CMP #100,2#\$TESTN ;SEQUENCE ERROR  
BNE TST101-12 ;BR TO ERROR HALT ON SEQ ERROR

CLR 16  
MOV #BUFF,SP  
MOV #RTIE,RTRAP4  
CLR -(SP)  
MOV #RTIF,-(SP)  
BIS #20,STATUS

RTIF: NOP  
MOV #303,2#\$FATAL ;MOVE TO MAILBOX # \*\*\*\*\* 303 \*\*\*\*\*  
INC (R2) ;SET MSGTYP TO FATAL ERROR  
HALT ;T BIT SHOULDN'T ALLOW THE PC TO COME HERE  
; TO SCOPE REPLACE HALT W/ 240  
; AND REPLACE NEXT INST W/ 753

RTIE: TST STATUS  
BEQ 1\$  
MOV #304,2#\$FATAL ;MOVE TO MAILBOX # \*\*\*\*\* 304 \*\*\*\*\*  
INC (R2) ;SET MSGTYP TO FATAL ERROR  
HALT ;NEW STATUS IS INCORRECT  
; TO SCOPE REPLACE HALT W/ 240  
; AND REPLACE NEXT INST W/ 743

1\$: CMP SP,#BUFF-4  
BEQ 2\$  
MOV #305,2#\$FATAL ;MOVE TO MAILBOX # \*\*\*\*\* 305 \*\*\*\*\*  
INC (R2) ;SET MSGTYP TO FATAL ERROR  
HALT ;STACK POINTER DID NOT DECREMENT  
; TO SCOPE REPLACE HALT W/ 240

```

2569 ; AND REPLACE NEXT INST W/ 733
2570 013076 022767 013022 165370 2$: CMP #RTIF,BUFF-4
2571 013104 001405 BEQ TST101
2572 013106 012737 000306 000302 MOV #306,@#$FATAL ; MOVE TO MAILBOX # ***** 306 *****
2573 013114 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2574 013116 000000 HALT ; CORRECT PC WAS NOT SAVED,OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 722

```

////////////////////////////////////  
T BIT SET  
////////////////////////////////////

\*\*\*\*\*  
TEST 101 TEST THE RTI INSTRUCTION WITHOUT SETTING THE T BIT  
\*\*\*\*\*

```

2584 013120 005237 000304 TST101: INC @#$TESTN ; UPDATE TEST NUMBER
2585 013124 022737 000101 000304 CMP #101,@#$TESTN ; SEQUENCE ERROR
2586 013132 001035 BNE TST102-12 ; BR TO ERROR HALT ON SEQ ERROR
2587 013134 012706 000500 MOV #BUFF,SP
2588 013140 012767 013164 164646 MOV #RTTM,RTRAP4
2589 013146 005046 CLR -(SP)
2590 013150 012746 013200 MOV #RTTL, -(SP)
2591 013154 052767 000020 164614 BIS #20,STATUS
2592 013162 000006 RTT ; THIS RTT SHOULD CLEAR THE T BIT
2593 013164 000240 RTTM: NOP
2594 013166 012737 000307 000302 MOV #307,@#$FATAL ; MOVE TO MAILBOX # ***** 307 *****
2595 013174 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2596 013176 000000 HALT ; RTT SHOULDN'T ALLOW THE PC TO COME HERE
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 755

```

```

2599 013200 005767 164572 RTTL: TST STATUS
2600 013204 001405 BEQ 1$
2601 013206 012737 000310 000302 MOV #310,@#$FATAL ; MOVE TO MAILBOX # ***** 310 *****
2602 013214 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2603 013216 000000 HALT ; NEW STATUS IS INCORRECT
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 745

```

```

2606 013220 020627 000500 1$: CMP SP,#BUFF
2607 013224 001405 BEQ TST102
2608 013226 012737 000311 000302 MOV #311,@#$FATAL ; MOVE TO MAILBOX # ***** 311 *****
2609 013234 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2610 013236 000000 HALT ; STACK POINTER DID NOT DECREMENT,OR WRONG $STNM
; TO SCOPE REPLACE HALT W/ 240
; AND REPLACE NEXT INST W/ 735

```

////////////////////////////////////  
T BIT SET  
////////////////////////////////////

\*\*\*\*\*  
TEST 102 TEST THE RTI INSTRUCTION SETTING THE T BIT  
\*\*\*\*\*

```

2620 013240 005237 000304 TST102: INC @#$TESTN ; UPDATE TEST NUMBER
2621 013244 022737 000102 000304 CMP #102,@#$TESTN ; SEQUENCE ERROR
2622 013252 001042 BNE TST103-12 ; BR TO ERROR HALT ON SEQ ERROR
2623 013254 005067 164536 CLR 1$
2624 013260 012706 000500 MOV #BUFF,SP

```



2625	013264	012767	013326	164522		MOV	#RTIH,RTRAP4	
2626	013272	012746	000020			MOV	#20,-(SP)	
2627	013276	012746	013312			MOV	#RTII,-(SP)	
2628	013302	052767	000020	164466		BIS	#20,STATUS	
2629	013310	000002				RTI		
2630	013312	000240			RTII:	NOP		
2631	013314	012737	000312	000302		MOV	#312,@#\$FATAL	: MOVE TO MAILBOX # ***** 312 *****
2632	013322	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
2633	013324	000000				HALT		: T BIT SHOULDN'T ALLOW THE PC TO COME HERE
2634								: TO SCOPE REPLACE HALT W/ 240
2635								: AND REPLACE NEXT INST W/ 752
2636	013326	000240			RTIH:	NOP		
2637	013330	020627	000474		IS:	CMP	SP,#BUFF-4	
2638	013334	001405				BEQ	2\$	
2639	013336	012737	000313	000302		MOV	#313,@#\$FATAL	: MOVE TO MAILBOX # ***** 313 *****
2640	013344	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
2641	013346	000000				HALT		: STACK POINTER DID NOT DECREMENT CORRECTLY
2642								: TO SCOPE REPLACE HALT W/ 240
2643								: AND REPLACE NEXT INST W/ 741
2644	013350	022767	013312	165116	2\$:	CMP	#RTII,BUFF-4	
2645	013356	001405				BEQ	TST103	
2646	013360	012737	000314	000302		MOV	#314,@#\$FATAL	: MOVE TO MAILBOX # ***** 314 *****
2647	013366	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
2648	013370	000000				HALT		: CORRECT PC WAS NOT SAVED, OR WRONG \$TSTNM
2649								: TO SCOPE REPLACE HALT W/ 240
2650								: AND REPLACE NEXT INST W/ 730
2651								
2652								
2653								
2654								
2655								
2656								
2657								
2658	013372	005237	000304	000304		TST103: INC	@#\$TESTN	: UPDATE TEST NUMBER
2659	013376	022737	000103	000304		CMP	#103,@#\$TESTN	: SEQUENCE ERROR
2660	013404	001051				BNE	STP2	: BR TO ERROR HALT ON SEG ERROR
2661	013406	005000				CLR	%0	
2662	013410	012706	000500			MOV	#BUFF,SP	
2663	013414	012767	013456	164372		MOV	#RTTH,RTRAP4	
2664	013422	012746	000020			MOV	#20,-(SP)	
2665	013426	012746	013442			MOV	#RTTI,-(SP)	
2666	013432	052767	000020	164336		BIS	#20,STATUS	
2667	013440	000006				RTT		
2668	013442	005200			RTTI:	INC	%0	
2669	013444	012737	000315	000302		MOV	#315,@#\$FATAL	: MOVE TO MAILBOX # ***** 315 *****
2670	013452	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
2671	013454	000000				HALT		: T BIT SHOULDN'T ALLOW THE PC TO COME HERE
2672								: TO SCOPE REPLACE HALT W/ 240
2673								: AND REPLACE NEXT INST W/ 753
2674	013456	000240			RTTH:	NOP		
2675	013460	020627	000474		IS:	CMP	SP,#BUFF-4	
2676	013464	001405				BEQ	2\$	
2677	013466	012737	000316	000302		MOV	#316,@#\$FATAL	: MOVE TO MAILBOX # ***** 316 *****
2678	013474	005212				INC	(R2)	: SET MSGTYP TO FATAL ERROR
2679	013476	000000				HALT		: STACK POINTER DID NOT DECREMENT CORRECTLY
2680								: TO SCOPE REPLACE HALT W/ 240

:/://////  
 : T BIT SET  
 ://////

\*\*\*\*\*  
 : TEST 103 TEST THE RTT INSTRUCTION SETTING THE T BIT  
 \*\*\*\*\*

TST103: INC @#\$TESTN : UPDATE TEST NUMBER  
 CMP #103,@#\$TESTN : SEQUENCE ERROR  
 BNE STP2 : BR TO ERROR HALT ON SEG ERROR

RTTI: INC %0  
 MOV #315,@#\$FATAL : MOVE TO MAILBOX # \*\*\*\*\* 315 \*\*\*\*\*  
 INC (R2) : SET MSGTYP TO FATAL ERROR  
 HALT : T BIT SHOULDN'T ALLOW THE PC TO COME HERE  
 : TO SCOPE REPLACE HALT W/ 240  
 : AND REPLACE NEXT INST W/ 753

RTTH: NOP  
 IS: CMP SP,#BUFF-4  
 BEQ 2\$  
 MOV #316,@#\$FATAL : MOVE TO MAILBOX # \*\*\*\*\* 316 \*\*\*\*\*  
 INC (R2) : SET MSGTYP TO FATAL ERROR  
 HALT : STACK POINTER DID NOT DECREMENT CORRECTLY  
 : TO SCOPE REPLACE HALT W/ 240

```

2681 ; AND REPLACE NEXT INST W/ 742
2682 013500 022767 013444 164766 2$: CMP #RTTI+2,BUFF-4
2683 013506 001405 3$ BEQ 3$
2684 013510 012737 000317 000302 MOV #317,@#$FATAL ; MOVE TO MAILBOX # ***** 317 *****
2685 013516 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2686 013520 000000 HALT ; CORRECT PC WAS NOT SAVED
2687 ; TO SCOPE REPLACE HALT W/ 240
2688 ; AND REPLACE NEXT INST W/ 731
2689 013522 020027 000001 3$: CMP %0,#1
2690 013526 001405 BEQ STP2C STP2C
2691 013530
2692 013530 012737 000320 000302 MOV #320,@#$FATAL ; MOVE TO MAILBOX # ***** 320 *****
2693 013536 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2694 013540 000000 HALT ; 0 SHOULD HAVE BEEN INCREMENTED OR WRONG $TSNM
2695 ; TO SCOPE REPLACE HALT W/ 240
2696 ; AND REPLACE NEXT INST W/ 721
2697 013542 012767 000016 164244 STP2C: MOV #16,14
2698 013550 005067 164242 CLR 16
2699
2700 ;*****
2701 ;TEST 104 DOES THE PROCESSOR TRAP WHEN %7 IS ODD?
2702 ;*****
2703 013554 005237 000304 ST104: INC @#$TESTN ; UPDATE TEST NUMBER
2704 013560 022737 000104 000304 CMP #104,@#$TESTN ; SEQUENCE ERROR
2705 013566 001120 BNE TST105-12 ; BR TO ERROR HALT ON SEQ ERROR
2706 013570 012706 000500 MOV #BUFF,%6 ; SET UP STACK POINTER
2707 013574 012767 013620 164202 MOV #R7TR1,4 ; RETURN FROM TRAP
2708 013602 012707 000001 MOV #1,%7 ; PC EQUALS ONE
2709 013606 012737 000321 000302 MOV #321,@#$FATAL ; MOVE TO MAILBOX # ***** 321 *****
2710 013614 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2711 013616 000000 HALT ; ODD ADDRESS SHOULD HAVE TRAPPED
2712 ; TO SCOPE REPLACE HALT W/ 240
2713 ; AND REPLACE NEXT INST W/ 763
2714 013620 022767 000001 164646 R7TR1: CMP #1,BUFF-4
2715 013626 001405 BEQ 1$
2716 013630 012737 000322 000302 MOV #322,@#$FATAL ; MOVE TO MAILBOX # ***** 322 *****
2717 013636 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2718 013640 000000 HALT ; CORRECT PC WAS NOT SAVED ON STACK
2719 ; TO SCOPE REPLACE HALT W/ 240
2720 ; AND REPLACE NEXT INST W/ 752
2721
2722 013642 012706 000500 1$: MOV #BUFF,%6 ; STACK POINTER
2723 013646 012767 013670 164130 MOV #R7TR2,4 ; PC BECOMES ODD
2724 013654 005207 INC %7
2725 013656
2726 013656 012737 000323 000302 R7TR2A: MOV #323,@#$FATAL ; MOVE TO MAILBOX # ***** 323 *****
2727 013664 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2728 013666 000000 HALT ;
2729 ; TO SCOPE REPLACE HALT W/ 240
2730 ; AND REPLACE NEXT INST W/ 737
2731 013670 022767 013657 164576 R7TR2: CMP #R7TR2A+1,BUFF-4
2732 013676 001405 BEQ 1$
2733 013700 012737 000324 000302 MOV #324,@#$FATAL ; MOVE TO MAILBOX # ***** 324 *****
2734 013706 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2735 013710 000000 HALT ; CORRECT PC NOT ON STACK
2736 ; TO SCOPE REPLACE HALT W/ 240

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2737 ; AND REPLACE NEXT INST W/ 726
2738 013712 012706 000500 1S: MOV #BUFF,%6
2739 013716 012767 013740 164060 BR60: MOV #R7TR3,4
2740 013724 005307 DEC %7 ; MAKE PC ODD
2741 013726 012737 000325 000302 MOV #325,@#$FATAL ; MOVE TO MAILBOX # ***** 325 *****
2742 013734 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2743 013736 000000 HALT ; SHOULD TRAP
2744 ; TO SCOPE REPLACE HALT W/ 240
2745 ; AND REPLACE NEXT INST W/ 713
2746 013740 022767 013725 164526 R7TR3: CMP #BR60+1,BUFF-4 ; CHECK VALUE OF PC ON STACK
2747 013746 001405 BEQ 1$
2748 013750 012737 000326 000302 MOV #326,@#$FATAL ; MOVE TO MAILBOX # ***** 326 *****
2749 013756 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2750 013760 000000 HALT ; WRONG VALUE ON STACK
2751 ; TO SCOPE REPLACE HALT W/ 240
2752 ; AND REPLACE NEXT INST W/ 702
2753
2754 013762 012706 000500 1S: MOV #BUFF,%6
2755 013766 012767 014012 164010 BR60: MOV #R7TR3,4
2756 013774 000261 SEC ; CARRY EQUALS A 1
2757 013776 006107 ROL %7 ; PC BECOMES ODD
2758 014000 TR4A:
2759 014000 012737 000327 000302 MOV #327,@#$FATAL ; MOVE TO MAILBOX # ***** 327 *****
2760 014006 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2761 014010 000000 HALT ; ODD ADDRESS DIDN'T TRAP
2762 ; TO SCOPE REPLACE HALT W/ 240
2763 ; AND REPLACE NEXT INST W/ 666
2764 014012 012767 000006 163764 R7TR4: MOV #6,4 ; RESET UP A HALT FOR TRAP
2765 014020 022767 030001 164446 CMP #(<2*TR4A+1>),BUFF-4 ; CHECK FOR VALUE ON STACK
2766 014026 001405 BEQ TST105
2767 014030 012737 000330 000302 MOV #330,@#$FATAL ; MOVE TO MAILBOX # ***** 330 *****
2768 014036 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2769 014040 000000 HALT ; WRONG VALUE ON STACK, OR WRONG $STNM
2770 ; TO SCOPE REPLACE HALT W/ 240
2771 ; AND REPLACE NEXT INST W/ 652
2772 ;*****
2773 ;TEST 105 TEST TRAP ON TRAP THAT TRACE BIT TRAPS ARE INHIBITED ON TRAP INST
2774 ;*****
2775 014042 005237 000304 TST105: INC @#$TESTN ; UPDATE TEST NUMBER
2776 014046 022737 000105 000304 CMP #105,@#$TESTN ; SEQUENCE ERROR
2777 014054 001027 BNE BR70 ; BR TO ERROR HALT ON SEQ ERROR
2778
2779 014056 012706 000500 MOV #BUFF,%6
2780 014062 012767 014122 163724 MOV #TRACE,14 ; TRACE TRAP
2781 014070 005027 000016 CLR #16
2782 014074 005027 000022 CLR #22
2783 014100 012767 014146 163712 MOV #TONT1,20 ; IOT TRAP
2784 014106 012746 000020 MOV #20,-(SP) ; PUSH T BIT
2785 014112 012746 014120 MOV #.+6,-(SP) ; PUSH PC
2786 014116 000006 RTT
2787 014120 000004 IOT ; TRAP, NEW CC HAVE TRACE RESET
2788 014122 TRACE:
2789 014122 012737 000331 000302 MOV #331,@#$FATAL ; MOVE TO MAILBOX # ***** 331 *****
2790 014130 005212 INC (R2) ; SET MSGTYP TO FATAL ERROR
2791 014132 000000 HALT ; TRACE TRAP WAS NOT INHIBITED
2792 ; TO SCOPE REPLACE HALT W/ 240
  
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2793                                     ; AND REPLACE NEXT INST W/ 750
2794 014134 BR70: MOV #332,2#SFATAL ;MOVE TO MAILBOX # ***** 332 *****
2795 014134 012737 000332 000302 INC (R2) ;SET MSGTYP TO FATAL ERROR
2796 014142 005212 HALT ;WRONG TSTNM,OR WRONG $TSTNM
2797 014144 000000 ; TO SCOPE REPLACE HALT W/ 240
2798 ; AND REPLACE NEXT INST W/ 743
2799
2800 014146 012767 000016 163640 TONT1: MOV #16,14
2801 014154 012767 000022 163636 MOV #22,20
2802 ;*****
2803 ;TEST 106 TEST THAT THE TRACE BIT IS SAVED IN THE STACK
2804 ;*****
2805 014162 005237 000304 ST106: INC 2#TESTN ;UPDATE TEST NUMBER
2806 014166 022737 000106 000304 CMP #106,2#TESTN ;SEQUENCE ERROR
2807 014174 001016 BNE STP3 ;BR TO ERROR HALT ON SEQ ERROR
2808 014176 012706 000500 MOV #BUFF,%6 ;SET UP STACK POINTER
2809 014202 012767 014222 163604 MOV #TRC1,14 ;TRACE TRAP RETURN
2810 014210 005067 163602 CLR 16
2811 014214 012767 000020 163554 MOV #20,CC ;SET THE T BIT
2812 014222 036727 164250 000020 TRC1: BIT BUFF-2,#20 ;CHECK FOR T BIT ON STACK
2813 014230 001005 BNE STP3D
2814 014232
2815 014232 012737 000333 000302 STP3: MOV #333,2#SFATAL ;MOVE TO MAILBOX # ***** 333 *****
2816 014240 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2817 014242 000000 HALT ;T BIT NOT SAVED ON THE STACK,OR WRONG $TSTNM
2818 ; TO SCOPE REPLACE HALT W/ 240
2819 ; AND REPLACE NEXT INST W/ 754
2820 014244 012767 000016 163542 STP3D: MOV #16,14
2821
2822
2823 ;THIS ROUTINE TEST THAT NO LEGAL ADDRESS TRAPS.
2824 ;AND THAT AN ILLEGAL ADDRESS TRAPS TO LOCATION 4
2825 ;*****
2826 ;TEST 107 TEST NON-EXISTENT ADDRESS TRAPS
2827 ;*****
2828 014252 005237 000304 ST107: INC 2#TESTN ;UPDATE TEST NUMBER
2829 014256 022737 000107 000304 CMP #107,2#TESTN ;SEQUENCE ERROR
2830 014264 001063 BNE AUTO1 ;BR TO ERROR HALT ON SEQ ERROR
2831
2832 ;THIS ROUTINE TESTS MEMORY UNTIL IT DOES A NXM TRAP
2833 014266 000402 BR ADALL
2834 014270 000000 TSL: 0
2835 014272 000000 CORH: 0
2836 014274 005000 ADALL: CLR %0
2837 014276 005067 163504 CLR 6
2838 014302 012767 014336 163474 MOV #ATRAP,4 ;SET UP ADDRESS TRAP ENTRANCE
2839 014310 012706 000500 NOR: MOV #BUFF,$P
2840 014314 105720 TSTB (0)+ ;IF OUTSIDE OF CORE, TRAP TO 4
2841 014316 020027 160000 CMP %0,#160000 ; IS POINTER IN SIDE CORE
2842 014322 101772 BLOS NOR ;TEST THE REST OF CORE
2843 014324
2844 014324 012737 000334 000302 AUTO: MOV #334,2#SFATAL ;MOVE TO MAILBOX # ***** 334 *****
2845 014332 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
2846 014334 000000 HALT ;SHOULD HAVE TRAPED
2847 ; TO SCOPE REPLACE HALT W/ 240
2848 ; AND REPLACE NEXT INST W/ 753

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2849          :RETURN HERE ON AN ADDRESS TRAP
2850 014336 010067 177730   ATRAP: MOV      RD,CORH      ;MOVE THE FIRST NXM LOCATION IN CORH
2851          :THIS ROUTINE DOES NXM TRAPS UNTIL IT FINDS AN EXISTANT MEMORY LOCATION
2852 014342 012700 160001   MOV      #160001,RD      ;SET UP THE HIGHEST MEM LOCATION
2853 014346 012767 014404 163430 CTRAP: MOV      #BTRAP,4    ;SET UP THE VECTOR
2854 014354 012706 000500   MOV      #BUFF,SP
2855 014360 105740          TSTB     -(RD)          ;DOES IT EXIST?
2856 014362 005200          DTRAP: INC      RD        ;IF YES INCREMENT IT
2857 014364 020067 177702   CMP      RD,CORH        ;IS IT THE SAME LOCATION?
2858 014370 001426          BEQ      TRAPB
2859 014372 012737 000335 000302 MOV      #335,2#SFATAL  ;MOVE TO MAILBOX # ***** 335 *****
2860 014400 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2861 014402 000000          HALT                    ;CONTENTS OF RD AND CORH SHOULD HAVE BEEN EQUAL
2862          ; TO SCOPE REPLACE HALT W/ 240
2863          ; AND REPLACE NEXT INST W/ 730
2864          ; IF THIS COMPARISON FAILS IT MEANS
2865          ; THAT SOME LEGAL ADDRESS TRAPPED OR
2866          ; THAT AN ILLEGAL ADDRESS DID NOT TRAP
2867 014404 005767 163366   BTRAP: TST      STATUS
2868 014410 001405          BEQ      1$
2869 014412 012737 000336 000302 MOV      #336,2#SFATAL  ;MOVE TO MAILBOX # ***** 336 *****
2870 014420 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2871 014422 000000          HALT                    ;NEW PSW SHOULD HAVE BEEN ZERO
2872          ; TO SCOPE REPLACE HALT W/ 240
2873          ; AND REPLACE NEXT INST W/ 720
2874 014424 026727 164044 014362 1$: CMP      BUFF-4,#DTRAP
2875 014432 001745          BEQ      CTRAP
2876 014434          AUTO1:
2877 014434 012737 000337 000302 MOV      #337,2#SFATAL  ;MOVE TO MAILBOX # ***** 337 *****
2878 014442 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2879 014444 000000          HALT                    ;OLD PC WAS NOT SAVED OR WRONG $TESTN
2880          ; TO SCOPE REPLACE HALT W/ 240
2881          ; AND REPLACE NEXT INST W/ 707
2882 014446 012767 000006 163330 TRAPB: MOV      #6,4
2883 014454 005067 163326   CLR      6
2884
2885          ;*****
2886          ;TEST 110 TEST THAT A TTY INTERRUPT CAUSES AN OVERFLOW TRAP
2887          ;*****
2888 014460 005237 000304          †ST110: INC      2#STESTN  ;UPDATE TEST NUMBER
2889 014464 022737 000110 000304 CMP      #110,2#STESTN ;SEQUENCE ERROR
2890 014472 001032          BNE      TDEC8        ;BR TO ERROR HALT ON SEQ ERROR
2891 014474 032767 000001 163620 BIT      #1,$SWREG
2892 014502 001042          BNE      R7TRX
2893 014504 000005          RESET
2894 014506 012767 000340 163262 MOV      #340,STATUS   ;LOCK OUT INTERRUPT
2895 014514 012706 000400          MOV      #400,%6      ;SET UP STACK TO OVERFLOW
2896 014520 012767 014572 163256 MOV      #TDEC77,4     ;SET UP OVERFLOW TRAP
2897 014526 012767 014560 163330 MOV      #TDEC8,64     ;SET UP INTERRUPT VECTOR
2898 014534 012767 000100 163022 MOV      #100,TCSR     ;SET INTERRUPT ENABLE
2899 014542 005067 163230          CLR      STATUS       ;ALLOW INTERRUPT TO OCCUR
2900 014546 012737 000340 000302 MOV      #340,2#SFATAL ;MOVE TO MAILBOX # ***** 340 *****
2901 014554 005212          INC      (R2)          ;SET MSGTYP TO FATAL ERROR
2902 014556 000000          HALT                    ;NO INTERRUPT OCCURRED
2903          ; TO SCOPE REPLACE HALT W/ 240
2904          ; AND REPLACE NEXT INST W/ 745

```

# E05

MAIN MACY11 27(732) 08-DEC-76 09:40 PAGE 56  
 DGKABC.P11 T110 TEST THAT A TTY INTERRUPT CAUSES AN OVERFLOW TRAP

2905	014560				TDEC8:			
2906	014560	012737	000341	000302	MOV	#341, @#\$FATAL		; MOVE TO MAILBOX # ***** 341 *****
2907	014565	005212			INC	(R2)		; SET MSGTYP TO FATAL ERROR
2908	014570	000000			HALT			; OVERFLOW TRAP DID NOT OCCUR OR WRONG \$STNM
2909								; TO SCOPE REPLACE HALT W/ 240
2910								; AND REPLACE NEXT INST W/ 740
2911	014572	005067	162766		TDEC77:	CLR	TTCSR	; CLEAR INTERRUPT ENABLE
2912	014576	012767	000006	163200	MOV	#6, 4		
2913	014604	005067	163176		CLR	6		

2914	014610				R7TRX:			
2915								*****
2916					TEST 111			TEST THAT A PENDING INTERRUPT OCCURS BEFORE TRAP
2917								*****

2918	014610	005237	000304		TST111:	INC	@#\$TESTN	; UPDATE TEST NUMBER
2919	014614	022737	000111	000304	CMP	#111, @#\$TESTN		; SEQUENCE ERROR
2920	014622	001040			BNE	BR71		; BR TO ERROR HALT ON SEQ ERROR
2921	014624	032767	000001	163470	BIT	#1, \$SWREG		
2922	014632	001046			BNE	NODL		
2923	014634	012706	000500		MOV	#BUFF, %6		
2924	014640	012767	000340	163130	MOV	#340, STATUS		; SET TO A HIGH PRIORITY LEVEL
2925	014646	012767	014712	163210	MOV	#TR0, 64		
2926	014654	012767	000100	162702	MOV	#100, TTCSR		; INTERRUPT FOR TTY PUNCH/PRINTER
2927	014662	012767	014724	163144	MOV	#BR71, 34		; TRAP VECTOR
2928	014670	012767	014736	163166	MOV	#TR2, 64		; TTY VECTOR
2929	014676	012767	000340	163132	MOV	#340, 36		; IF TRAP TRAPS, MOVE 340 TO PRIORITY
2930	014704	005067	163066		CLR	STATUS		; SHOULD INTERRUPT AT END OF CLR INST
2931	014710	104400			TRAP			; TTY INTERRUPT SHOULD OVERRIDE TRAP

2932	014712				TR0:			
2933	014712	012737	000342	000302	MOV	#342, @#\$FATAL		; MOVE TO MAILBOX # ***** 342 *****
2934	014720	005212			INC	(R2)		; SET MSGTYP TO FATAL ERROR
2935	014722	000000			HALT			; TTY SHOULDN'T HAVE INTERRUPTED
2936								; TO SCOPE REPLACE HALT W/ 240
2937								; AND REPLACE NEXT INST W/ 737

2938	014724				BR71:			
2939	014724	012737	000343	000302	MOV	#343, @#\$FATAL		; MOVE TO MAILBOX # ***** 343 *****
2940	014732	005212			INC	(R2)		; SET MSGTYP TO FATAL ERROR
2941	014734	000000			HALT			; TRAP OCCURRED FIRST, OR WRONG \$STNM
2942								; TO SCOPE REPLACE HALT W/ 240
2943								; AND REPLACE NEXT INST W/ 732

2944	014736	005067	163074		TR2:	CLR	36	
2945	014742	042767	000100	162614	BIC	#100, TTCSR		

2946	014750				NODL:			
2947								*****
2948					TEST 112			TEST THAT A PENDING INTERRUPT, INTERRUPTS BETWEEN TRAPS
2949								*****

2950	014750	005237	000304		TST112:	INC	@#\$TESTN	; UPDATE TEST NUMBER
2951	014754	022737	000112	000304	CMP	#112, @#\$TESTN		; SEQUENCE ERROR
2952	014762	001032			BNE	TR5		; BR TO ERROR HALT ON SEQ ERROR
2953	014764	032767	000001	163330	BIT	#1, \$SWREG		
2954	014772	001046			BNE	NODL1		
2955	014774	012706	000500		MOV	#BUFF, %6		
2956	015000	012767	000340	162770	MOV	#340, STATUS		
2957	015006	012767	000100	162550	MOV	#100, TTCSR		
2958	015014	012767	015046	163012	MOV	#TR3, 34		; TRAP
2959	015022	012767	015062	163034	MOV	#TR4, 64		; TTY OUTPUT
2960	015030	012767	015050	162762	MOV	#TR5, 20		; IOT



# F05

MAIN. MACY11 27(732) 08-DEC-76 09:40 PAGE 57  
 DGKABC.P11 T112 TEST THAT A PENDING INTERRUPT, INTERRUPTS BETWEEN TRAPS

```

2961 015036 012767 000340 162756      MOV      #340,22      ; IOT PRIORITY
2962 015044 104400      TRAP                                ; THE ACT OF TRAPPING LOWER PRIORITY
2963 015046 000004      TR3:   IOT                                ; INTERRUPT SHOULD OCCUR IN PLACE OF IOT TRAP
2964 015050      TR5:
2965 015050 012737 000344 000302      MOV      #344,2#FATAL ; MOVE TO MAILBOX # ***** 344 *****
2966 015056 005212      INC      (R2)          ; SET MSGTYP TO FATAL ERROR
2967 015060 000000      HALT                                ; NO INTERRUPT BETWEEN TRAPS, OR WRONG $STNM
2968                                     ; TO SCOPE REPLACE HALT W/ 240
2969                                     ; AND REPLACE NEXT INST W/ 740
2970 015062 005067 162734      TR4:   CLR      22      ; CLR IOT PRIORITY
2971 015066 012767 000036 162740      MOV      #36,34
2972 015074 012767 000066 162762      MOV      #66,64
2973 015102 012767 000022 162710      MOV      #22,20
2974 015110      NODL1:
  
```

```

*****
;TEST 113      TEST THAT "RESET" GOES TO OUTSIDE WORLD
*****
  
```

```

2975
2976
2977
2978
2979 015110 005237 000304      †ST113: INC      2#STESTN ; UPDATE TEST NUMBER
2980 015114 022737 000113 000304      CMP      #113,2#STESTN ; SEQUENCE ERROR
2981 015122 001030      BNE     TST114-12 ; BR TO ERROR HALT ON SEQ ERROR
2982 015124 032767 000001 163170      BIT      #1,$SWREG
2983 015132 001031      BNE     NODL2
2984 015134 012767 000100 162422      MOV      #100,TTCSR ; SET INTERRUPT ENABLE
2985 015142 012767 000100 162410      MOV      #100,TRCSR ; SET INTERRUPT ENABLE
2986 015150 000005      RESET ; SHOULD CLEAR INTERRUPT ENABLE
2987 015152 032767 000100 162404      BIT      #100,TTCSR ; TEST FOR CLEAR
2988 015160 001405      BEQ
2989 015162 012737 000345 000302      MOV      #345,2#FATAL ; MOVE TO MAILBOX # ***** 345 *****
2990 015170 005212      INC      (R2)          ; SET MSGTYP TO FATAL ERROR
2991 015172 000000      HALT                                ; RESET FAILED TO CLEAR TTCSR
2992                                     ; TO SCOPE REPLACE HALT W/ 240
2993                                     ; AND REPLACE NEXT INST W/ 753
2994 015174 032767 000100 162356      1$:   BIT      #100,TRCSR ; TEST FOR CLEAR
2995 015202 001405      BEQ     TST114
2996 015204 012737 000346 000302      MOV      #346,2#FATAL ; MOVE TO MAILBOX # ***** 346 *****
2997 015212 005212      INC      (R2)          ; SET MSGTYP TO FATAL ERROR
2998 015214 000000      HALT                                ; RESET FAILED TO CLEAR TRCSR, OR WRONG $STNM
2999                                     ; TO SCOPE REPLACE HALT W/ 240
3000                                     ; AND REPLACE NEXT INST W/ 742
  
```

```

3001 015216      NODL2:
*****
;TEST 114      TEST THAT RESET HAS NO EFFECT ON THE TRACE TRAP
*****
  
```

```

3002
3003
3004
3005 015216 005237 000304      †ST114: INC      2#STESTN ; UPDATE TEST NUMBER
3006 015222 022737 000114 000304      CMP      #114,2#STESTN ; SEQUENCE ERROR
3007 015230 001012      BNE     RESET3 ; BR TO ERROR HALT ON SEQ ERROR
3008 015232 012706 000500      MOV      #BUFF,%6 ; SET STACK
3009 015236 012767 015270 162550      MOV      #RESET,14 ; SET UP TRACE VECTOR
3010 015244 052767 000020 162524      BIS     #20,STATUS ; SET THE T BIT
3011 015252 000005      RESET ; SHOULD HAVE NO EFFECT
3012 015254 000005      RESET ; NO EFFECT
3013 015256
3014 015256 012737 000347 000302      RESET3: MOV      #347,2#FATAL ; MOVE TO MAILBOX # ***** 347 *****
3015 015264 005212      INC      (R2)          ; SET MSGTYP TO FATAL ERROR
3016 015266 000000      HALT                                ; TRACE TRAP FAILED, OR WRONG $STNM
  
```

```

3017                                     ; TO SCOPE REPLACE HALT W/ 240
3018                                     ; AND REPLACE NEXT INST W/ 76C
3019 015270 005067 162502 RESET2: CLR STATUS
3020 015274 005067 162516 CLR 16
3021 015300 012767 000016 162506 MOV #16,14
3022                                     ; CLEAR TRACK
3023                                     ; TRACE STATUS
3024                                     ;*****
3025 :TEST 115 TEST THAT WHEN TTY INTERRUPTS IT POPS NEW STATUS
3026 :*****
3027 †ST115: INC @#STESTN ;UPDATE TEST NUMBER
3028 CMP #115,@#STESTN ;SEQUENCE ERROR
3029 BNE TTY11 ;BR TO ERROR HALT ON SEQ ERROR
3030 015320 001052 000001 162772 BIT #1,$SWREG
3031 015330 001055 000000 BNE NODL3
3032 015332 000005 RESET
3033 015334 012706 000500 MOV #BUFF,%6 ;SET UP STACK
3034 015340 012767 015364 162516 MOV #TTY3,%6 ;INTERRUPT VECTOR
3035 015346 005067 162424 CLR STATUS ;DROP PROCESSOR PRIORITY
3036 015352 012767 000357 162506 MOV #357,%6 ;HIGH PRIORITY ON INTERRUPT
3037 015360 005167 162200 COM TTCSR ;SHOULD SET INTERRUPT ENABLE & INTERRUPT
3038 015364 026727 162406 000357 TTY3: CMP STATUS,#357
3039 015372 001405 BEQ 1$
3040 015374 012737 000350 000302 MOV #350,@#SFATAL ;MOVE TO MAILBOX # ***** 350 *****
3041 015402 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
3042 015404 000000 HALT ;INTERRUPT DID NOT POP CORRECT STATUS
3043                                     ; TO SCOPE REPLACE HALT W/ 240
3044                                     ; AND REPLACE NEXT INST W/ 745
3045 015406 000005 1$: RESET ;CLR INTERRUPT ENABLE
3046 015410 012706 000500 MOV #BUFF,%6 ;STACK SET UP
3047 015414 012767 015440 162442 MOV #TTY4,%6 ;INTERRUPT VECTOR
3048 015422 005067 162440 CLR 66 ;CLR NEW STATUS
3049 015426 012767 000157 162342 MOV #157,STATUS ;PROCESSOR STATUS
3050 015434 005167 162124 COM TTCSR ;SET INTERRUPT ENABLE
3051 015440 005767 162332 TTY4: TST STATUS
3052 015444 001405 BEQ TTT37
3053 015446 012737 000351 000302 TTY11: MOV #351,@#SFATAL ;MOVE TO MAILBOX # ***** 351 *****
3054 015454 005212 INC (R2) ;SET MSGTYP TO FATAL ERROR
3055 015456 000000 HALT ;INCORRECT STATUS, OR WRONG $STSTN
3056                                     ; TO SCOPE REPLACE HALT W/ 240
3057                                     ; AND REPLACE NEXT INST W/ 720
3058 015460 005067 162100 TTT37: CLR TTCSR
3059 015464 NODL3:
3060                                     ;*****
3061 :TEST 116 TEST THE 'WAIT' INSTRUCTION
3062 :*****
3063 †ST116: INC @#STESTN ;UPDATE TEST NUMBER
3064 015464 005237 000304 000304 CMP #116,@#STESTN ;SEQUENCE ERROR
3065 015470 022737 000116 000304 BNE STP4 ;BR TO ERROR HALT ON SEQ ERROR
3066 015476 001061 000100 162056 BIC #100,TPS ;CLEAR INTERRUPT ENABLE
3067 015500 042767 000500 MOV #BUFF,SP ;SET UP THE STACK
3068 015506 012706 000500 MOV #WATE,%6 ;SET UP THE INTERRUPT VECTOR
3069 015512 012767 015602 162344 CLR 66
3070 015520 005067 162342 WATE1: TSTB TPS ;WAIT FOR READY
3071 015524 105767 162034 BPL WATE1 ;TO BE UP
3072 015530 100375

```



# H05

MAIN: MACY11 27(732) 08-DEC-76 09:40 PAGE 59  
 DGKABC.P11 T116 TEST THE 'WAIT' INSTRUCTION

```

3073 015532 012767 000015 162026      WATE2: MOV    #15,TPB      ;DO A CARRIAGE RETURN
3074 015540 105767 162020      WATE2: TSTB   TPS        ;WAIT FOR READY TO COME UP
3075 015544 100375                BPL    WATE2
3076 015546 012767 000015 162012      MOV    #15,TPB      ;DO ANOTHER CARRIAGE RETURN
3077 015554 052767 000100 162002      BIS    #100,TPS     ;SET THE INTERRUPT ENABLE
3078 015562 005067 162210      CLR    STATUS       ;CLEAR THE PSW
3079 015566 000001                WATE3: WAIT          ;WAIT FOR THE INTERRUPT
3080 015570 012737 000352 000302      MOV    #352,@#$FATAL ;MOVE TO MAILBOX # ***** 352 *****
3081 015576 005212                INC    (R2)         ;SET MSGTYP TO FATAL ERROR
3082 015600 000000                HALT              ;WAIT INSTRUCTION DID NOT LOOP
3083                                ; TO SCOPE REPLACE HALT W/ 240
3084                                ; AND REPLACE NEXT INST W/ 736
3085 015602 005767 162170      WATE:  TST    STATUS ;IS THE PSW CORRECT?
3086 015606 001405                BEQ    1$
3087 015610 012737 000353 000302      MOV    #353,@#$FATAL ;MOVE TO MAILBOX # ***** 353 *****
3088 015616 005212                INC    (R2)         ;SET MSGTYP TO FATAL ERROR
3089 015620 000000                HALT              ;NEW PSW SHOULD HAVE BEEN ZERO
3090                                ; TO SCOPE REPLACE HALT W/ 240
3091                                ; AND REPLACE NEXT INST W/ 726
3092 015622 026727 162646 015566 1$:    CMP    BUFF-4,#WATE3
3093 015630 001411                BEQ    STP4E
3094 015632 026727 162636 015570      CMP    BUFF-4,#WATE3+2 ;IS THE OLD PC SAVED
3095 015640 001405                BEQ    STP4E
3096 015642                STP4:
3097 015642 012737 000354 000302      MOV    #354,@#$FATAL ;MOVE TO MAILBOX # ***** 354 *****
3098 015650 005212                INC    (R2)         ;SET MSGTYP TO FATAL ERROR
3099 015652 000000                HALT              ;OLD PC WAS NOT SAVED OR WRONG $TESTN
3100                                ; TO SCOPE REPLACE HALT W/ 240
3101                                ; AND REPLACE NEXT INST W/ 711
3102 015654 012767 000066 162202      STP4E: MOV    #66,64
3103
3104                                ;*****
3105                                ;TEST 117 TEST THAT ALL RESERVED INSTRUCTIONS TRAP
3106                                ;*****
3107 015662 005237 000304                TST117: INC    @#$TESTN ;UPDATE TEST NUMBER
3108 015666 022737 000117 000304      CMP    #117,@#$TESTN ;SEQUENCE ERROR
3109 015674 001137                BNE    RET4         ;BR TO ERROR HALT ON SEQ ERROR
3110 015676 042767 000100 161660      BIC    #100,TPS
3111 015704 012703 016220      MOV    #TABLE,TAB  ;TABLE POINTER
3112 015710 012305      GIN1:  MOV    (TAB)+,FIRST ;FIRST OR CURRENT INSTRUCTION
3113 015712 012301      MOV    (TAB)+,LAST  ;LAST INSTRUCTION OR GROUP
3114 015714 020567 000334      CMP    FIRST,FINISH ;TESTED ALL
3115 015720 001415      BEQ    GIN3         ;YES BRANCH
3116 015722 010567 000330      MOV    FIRST,INST  ;SET UP INST
3117 015726 005267 000324      GIN2:  INC    INST
3118 015732 012767 016124 162050      MOV    #RET,10     ;SET UP RETURN FROM TRAP
3119 015740 012706 000500      MOV    #BUFF,SP    ;SET UP STACK POINTER
3120 015744 005067 162026      CLR    CC          ;CLEAR PRIORITY
3121 015750 000167 000302      JMP    INST        ;EXECUTE RESERVED INSTRUCTION
3122 015754 005237 000306      GIN3:  INC    @#$PASS
3123 015760 105267 000116      INCB   PASSPT      ;SHOULD PRINT THIS PASS?
3124 015764 001027                BNE    ACT         ;NO
3125 015766 132767 000040 162325      BITB   #40,$ENVM   ;WILL APT ALLOW PRINTING?
3126 015774 001023                BNE    ACT         ;NO
3127 015776 023727 000042 016054      CMP    @#42,$SENDAD
3128 016004 001417                BEQ    ACT

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MAIN MACY11 27(732) 08-DEC-76 09:40 PAGE 60  
 DGKABC.P11 T117 TEST THAT ALL RESERVED INSTRUCTIONS TRAP

3129	016006	012700	016104			MOV	#MSG,RO		;GET MSG ADDR.
3130	016012	105737	177564			WAIT:	TSTB	Q#TPS	;TTY READY
3131	016016	100375					BPL	WAIT	;NO WAIT
3132	016020	112037	177566				MOVB	(RO)+,Q#TPB	;PRINT CHARACTER
3133	016024	001372					BNE	WAIT	;NEXT IF NOT DONE.
3134	016026	105737	177564			WAIT1:	TSTB	Q#TPS	
3135	016032	100375					BPL	WAIT1	
3136	016034	000005					RESET		
3137	016036	012767	177761	000036		ACT:	MOV	#177761,PASSPT	;DO IT ABOUT 15 DECIMAL TIMES
3138	016044	013700	000042				MOV	Q#42,RO	;CHECK ACT
3139	016050	001405					BEQ	GOAGIN	;KEEP GOING
3140	016052	000005					RESET		
3141	016054	004710				SENDAD:	JSR	PC,(RO)	;ACT HOOKS
3142	016056	000240					NOP		
3143	016060	000240					NOP		
3144	016062	000240					NOP		
3145	016064	012767	000012	161716		GOAGIN:	MOV	#12,10	
3146	016072	005067	161714				CLR	12	
3147	016076	000167	162406				JMP	RESTRT	;DO NEXT PASS
3148	016102	177777				PASSPT:	-1		
3149	016104	005015	047105	020104		MSG:	.ASCIZ	<15><12>.END OF DGKAB .	
3150	016112	043117	042040	045507					
3151	016120	041101	000040						
3152									
3153									
3154	016124	020627	000474			RET:	CMP	SP,#BUFF-4	;TEST DECREMENT OF SP
3155	016130	001405					BEQ	RET1	
3156	016132	012737	000355	000302			MOV	#355,Q#\$FATAL	;MOVE TO MAILBOX # ***** 355 *****
3157	016140	005212					INC	(R2)	;SET MSGTYP TO FATAL ERROR
3158	016142	000000					HALT		;WRONG DECREMENT
3159									; TO SCOPE REPLACE HALT W/ 240
3160									; AND REPLACE NEXT INST W/ 654
3161	016144	026727	162324	016260		RET1:	CMP	BUFF-4,#INST+2	;LOC OF INST UNINCREMENTED
3162	016152	001405					BEQ	RET2	
3163	016154	012737	000356	000302			MOV	#356,Q#\$FATAL	;MOVE TO MAILBOX # ***** 356 *****
3164	016162	005212					INC	(R2)	;SET MSGTYP TO FATAL ERROR
3165	016164	000000					HALT		;INST INC ON TRAP
3166									; TO SCOPE REPLACE HALT W/ 240
3167									; AND REPLACE NEXT INST W/ 643
3168	016166	005767	162304			RET2:	TST	BUFF-2	
3169	016172	001405					BEQ	RET3	
3170	016174					RET4:			
3171	016174	012737	000357	000302			MOV	#357,Q#\$FATAL	;MOVE TO MAILBOX # ***** 357 *****
3172	016202	005212					INC	(R2)	;SET MSGTYP TO FATAL ERROR
3173	016204	000000					HALT		;CONDITION CODES SET ON TRAP OR WRONG \$STNM
3174									; TO SCOPE REPLACE HALT W/ 240
3175									; AND REPLACE NEXT INST W/ 633
3176	016206	026701	000044			RET3:	CMP	INST, LAST	
3177	016212	001636					BEQ	GIN1	;SET UP NEW GROUP
3178	016214	000167	177506				JMP	GIN2	;FINISH OLD GROUP
3179									;END OF INSTRUCTION GROUP
3180	016220	000006				TABLE:	6		;END OF OPERATE
3181	016222	000077					77		
3182	016224	000207					207		;RTS,RT1,JMP
3183	016226	000227					227		
3184	016230	006777					6777		



MAIN. MACY11 27(732) 08-DEC-76 09:40 PAGE 61  
 DGKABC.P11 T117 TEST THAT ALL RESERVED INSTRUCTIONS TRAP

3185	016232	007777				7777		
3186	016234	075037				075037		
3187	016236	076777				76777		
3188	016240	106377				106377		
3189	016242	106477				106477		
3190	016244	106677				106677		
3191	016246	107777				107777		
3192	016250	167777				167777		
3193	016252	177777				177777		
3194	016254	016254			FINISH:			:END FLAG
3195	016256	000000			INST:	HALT		:WILL CONTINUE RESERVED INST
3196	016260	000000				HALT		:SHOULD TRAP TO LOC 10
3197	016262	000000				HALT		:LOC 10 SHOULD SEND YOU TO
3198	016264	000000				HALT		:RET
3199	016266	000000				HALT		
3200	016270	012767	016300	161526	PWRDWN:	MOV	#PWRUP,24	
3201	016276	000000				HALT		
3202								
3203	016300	012767	016270	161516	PWRUP:	MOV	#PWRDWN,24	
3204	016306	012706	000500			MOV	#BUFF,SP	
3205	016312	132767	000040	162001		BITB	#40,\$ENVM	:WILL APT ALLOW PRINTING?
3206	016320	001013				BNE	PFRES	:NO
3207	016322	012700	016354			MOV	#MSGPWF,RO	:GET MSG ADDR.
3208	016326	105737	177564		PWAIT:	TSTB	@TPS	:TTY READY
3209	016332	100375				BPL	PWAIT	:NO WAIT
3210	016334	112037	177566			MOVB	(RO)+,@TPB	:PRINT CHARACTER
3211	016340	001372				BNE	PWAIT	:NEXT IF NOT DONE.
3212	016342	105737	177564		PWAIT1:	TSTB	@TPS	
3213	016346	100375				BPL	PWAIT1	
3214	016350	000167	162134		PFRES:	JMP	RESTR	
3215	016354	005015	047520	042527	MSGPWF:	.ASCIZ	<15><12>.POWER FAILED!.	
3216	016362	020122	040506	046111				
3217	016370	042105	000041					
3218		000001						

.END

ABASE = 000000	255			
ACDW1 = 000000	255			
ACDW2 = 000000	255			
ACPUOP = 000000	255	270		
ACT = 016044	3124	3126	3128	3138#
ADALL = 014274	2833	2836#		
ADDW0 = 000000	255			
ADDW1 = 000000	255			
ADDW10 = 000000	255			
ADDW11 = 000000	255			
ADDW12 = 000000	255			
ADDW13 = 000000	255			
ADDW14 = 000000	255			
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ADDW5 = 000000	255			
ADDW6 = 000000	255			
ADDW7 = 000000	255			
ADDW8 = 000000	255			
ADDW9 = 000000	255			
ADEVCT = 000000	255	261		
ADEVM = 000000	255			
RENV = 000000	255	266		
RENVN = 000000	255	267		
AFATAL = 000000	255	258		
AMADR1 = 000000	255	283		
AMADR2 = 000000	255	287		
AMADR3 = 000000	255	290		
AMADR4 = 000000	255	293		
AMAMS1 = 000000	255	277		
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AMAMS3 = 000000	255	288		
AMAMS4 = 000000	255	291		
AMSGAD = 000000	255	263		
AMSGLG = 000000	255	264		
AMSGTY = 000000	255	257		
AMTYP1 = 000000	255	278		
AMTYP2 = 000000	255	286		
AMTYP3 = 000000	255	289		
AMTYP4 = 000000	255	292		
APASS = 000000	255	260		
APRIOR = 000000	255			
ASWREG = 000000	255	268		
ATESTN = 000000	255	259		
ATRAP = 014336	2838	2850#		
AUNIT = 000000	255	262		
AUSWR = 000000	255	269		
AUTO = 014324	2843#			
AUTO1 = 014434	2830	2876#		
AVECT1 = 000000	255			
AVECT2 = 000000	255			
BEGIN = 000502	237	240	324#	
BELL = 000240	225#			
BR1 = 000636	355	362#		









RETA	002406	729	733#
RETAH	002420	731	739#
RETAT	012030	2330	2336#
RETA1	003246	900	907#
RETA2	004144	1083	1090#
RETA3	004760	1249	1256#
RETA4	005654	1433	1440#
RETA5	006470	1607	1614#
RETB	002450	747	749#
RETB1	011774	2323#	2343
RETB2	003276	915	917#
RETB3	004174	1098	1100#
RETB4	005010	1264	1266#
RETB5	005704	1448	1450#
RETB6	006520	1622	1624#
RETC	002520	763	765#
RETC1	012050	2337	2343#
RETC2	003346	931	933#
RETC3	004244	1114	1116#
RETC4	005060	1280	1282#
RETC5	005754	1464	1466#
RETC6	006570	1638	1640#
RETD	002600	779	783#
RETD1	012072	2344	2350#
RETD2	003426	947	951#
RETD3	004324	1130	1134#
RETD4	005140	1296	1300#
RETD5	006034	1480	1484#
RETD6	006650	1654	1658#
RETE	002646	791	795#
RETE1	012114	2351	2357#
RETE2	003472	959	962#
RETE3	004372	1142	1146#
RETE4	005206	1308	1312#
RETE5	006102	1493	1497#
RETE6	006716	1666	1670#
RETF	002724	809	812#
RETF1	012136	2358	2361#
RETF2	003550	976	979#
RETF3	004450	1160	1163#
RETF4	005264	1326	1329#
RETF5	006160	1511	1514#
RETF6	006774	1684	1687#
RETG	003050	848	851#
RETG1	012006	2320	2329#
RETG2	003674	1015	1018#
RETG3	004574	1199	1202#
RETG4	005410	1365	1368#
RETG5	006304	1550	1553#
RETH	007120	1723	1726#
RETH1	007266	1769	1776#
RETH2	007316	1784	1786#
RETK	007366	1800	1802#
RETL	007446	1817	1821#
RETM	007514	1829	1833#
RETN	007572	1847	1850#







TST1	000574	335	349#	
TST10	002470	745	750	759#
TST100	012752	2492	2527	2540#
TST101	013120	2542	2571	2584#
TST102	013240	2586	2607	2620#
TST103	013372	2622	2645	2658#
TST104	013554	2703#		
TST105	014042	2705	2766	2775#
TST106	014162	2805#		
TST107	014252	2828#		
TST11	002542	761	766	775#
TST110	014460	2888#		
TST111	014610	2918#		
TST112	014750	2950#		
TST113	015110	2979#		
TST114	015216	2981	2995	3005#
TST115	015306	3026#		
TST116	015464	3064#		
TST117	015662	3107#		
TST12	002670	777	796	805#
TST13	003172	894#		
TST14	003246	896	911#	
TST15	003316	913	918	927#
TST16	003370	929	934	943#
TST17	003514	945	963	972#
TST2	001120	351	439	448#
TST20	004004	974	1049	1058#
TST21	004102	1079#		
TST22	004144	1081	1094#	
TST23	004214	1096	1101	1110#
TST24	004266	1112	1117	1126#
TST25	004414	1128	1147	1156#
TST26	004716	1245#		
TST27	004760	1247	1260#	
TST3	001444	450	509	518#
TST30	005030	1262	1267	1276#
TST31	005102	1278	1283	1292#
TST32	005230	1294	1313	1322#
TST33	005514	1324	1398	1407#
TST34	005612	1429#		
TST35	005654	1431	1444#	
TST36	005724	1446	1451	1460#
TST37	005776	1462	1467	1476#
TST4	001700	520	577	587#
TST40	006124	1478	1498	1507#
TST41	006426	1603#		
TST42	006470	1605	1618#	
TST43	006540	1620	1625	1634#
TST44	006612	1636	1641	1650#
TST45	006740	1652	1671	1680#
TST46	007224	1682	1756	1765#
TST47	007266	1767	1780#	
TST5	002164	589	651	662#
TST50	007336	1782	1787	1796#
TST51	007410	1798	1803	1813#
TST52	007536	1815	1834	1843#



TST53	010020	1845	1919	1929#																	
TST54	010064	1931	1944#																		
TST55	010136	1946	1951	1960#																	
TST56	010212	1962	1967	1976#																	
TST57	010344	1978	1997	2006#																	
TST6	002356	664	718	727#																	
TST60	010634	2008	2082	2091#																	
TST61	010676	2093	2107#																		
TST62	010746	2109	2114	2124#																	
TST63	011102	2126	2161#																		
TST64	011160	2178#																			
TST65	011236	2195#																			
TST66	011314	2212#																			
TST67	011372	2229#																			
TST7	002420	743#																			
TST70	011450	2246#																			
TST71	011546	2261	2270#																		
TST72	011624	2288#																			
TST73	011732	2315#																			
TST74	012172	2378#																			
TST75	012316	2380	2402	2415#																	
TST76	012402	2417	2428	2441#																	
TST77	012562	2443	2477	2490#																	
TTCSR =	177564	221#	2898#	2911*	2926*	2945*	2957*	2984*	2987	3036*	3049*	3058*									
TTT37	015460	3051	3058#																		
TTY11	015446	3028	3052#																		
TTY3	015364	3033	3037#																		
TTY4	015440	3046	3050#																		
VDEC1	011152	2166	2174#																		
VDEC10	011430	2231	2233	2236#																	
VDEC11	011506	2248	2250	2253#																	
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VDEC13	011604	2272	2274	2277#																	
VDEC14	011616	2275	2283#																		
VDEC2	011140	2163	2165	2168#																	
VDEC3	011230	2183	2191#																		
VDEC4	011216	2180	2182	2185#																	
VDEC5	011306	2200	2208#																		
VDEC6	011274	2197	2199	2202#																	
VDEC7	011364	2217	2225#																		
VDEC8	011352	2214	2216	2219#																	
VDEC9	011442	2234	2242#																		
WAIT	016012	3130#	3131	3133																	
WAIT1	016026	3134#	3135																		
WATE	015602	3069	3085#																		
WATE1	015524	3071#	3072																		
WATE2	015540	3074#	3075																		
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\$APTHD	000350	305	311#																		
\$CPUOP	000326	270#																			
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\$ENV	000320	266#																			
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		419	420#	430	431#	440	441#	458	459#	471	472#	484	485#	497							

498#	510	511#	523	524#	531	532#	539	540#	547	548#	554	555#
562	563#	570	571#	578	579#	595	596#	604	605#	614	615#	623#
624#	633	634#	643	644#	652	653#	668	669#	675	676#	682	683#
689	690#	698	699#	705	706#	712	713#	719	720#	734	735#	751
752#	767	768#	785	786#	797	798#	814	815#	821	822#	828	829#
835	836#	842	843#	853	854#	860	861#	867	868#	874	875#	884
885#	902	903#	919	920#	935	936#	953	954#	964	965#	981	982#
988	989#	995	996#	1002	1003#	1009	1010#	1020	1021#	1027	1028#	1034
1035#	1041	1042#	1050	1051#	1066	1067#	1085	1086#	1102	1103#	1118	1119#
1136	1137#	1148	1149#	1165	1166#	1172	1173#	1179	1180#	1186	1187#	1193
1194#	1204	1205#	1211	1212#	1218	1219#	1225	1226#	1235	1236#	1251	1252#
1268	1269#	1284	1285#	1302	1303#	1314	1315#	1331	1332#	1338	1339#	1345
1346#	1352	1353#	1359	1360#	1370	1371#	1377	1378#	1384	1385#	1391	1392#
1399	1400#	1415	1416#	1435	1436#	1452	1453#	1468	1469#	1487	1488#	1499
1500#	1516	1517#	1523	1524#	1530	1531#	1537	1538#	1544	1545#	1555	1556#
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1772#	1788	1789#	1804	1805#	1823	1824#	1835	1836#	1852	1853#	1859	1860#
1866	1867#	1873	1874#	1880	1881#	1891	1892#	1898	1899#	1905	1906#	1912
1913#	1920	1921#	1935	1936#	1952	1953#	1968	1969#	1986	1987#	1998	1999#
2015	2016#	2022	2023#	2029	2030#	2036	2037#	2043	2044#	2054	2055#	2061
2062#	2068	2069#	2075	2076#	2083	2084#	2097	2098#	2115	2116#	2133	2134#
2142	2143#	2151	2152#	2169	2170#	2186	2187#	2203	2204#	2220	2221#	2237
2238#	2254	2255#	2262	2263#	2278	2279#	2305	2306#	2324	2325#	2331	2332#
2338	2339#	2345	2346#	2352	2353#	2364	2365#	2385	2386#	2392	2393#	2403
2404#	2422	2423#	2429	2430#	2450	2451#	2457	2458#	2464	2465#	2471	2472#
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2552#	2558	2559#	2565	2566#	2572	2573#	2594	2595#	2601	2602#	2608	2609#
2631	2632#	2639	2640#	2646	2647#	2669	2670#	2677	2678#	2684	2685#	2692
2693#	2709	2710#	2716	2717#	2726	2727#	2733	2734#	2741	2742#	2748	2749#
2759	2760#	2767	2768#	2789	2790#	2795	2796#	2815	2816#	2844	2845#	2859
2860#	2869	2870#	2877	2878#	2900	2901#	2906	2907#	2933	2934#	2939	2940#
2965	2966#	2989	2990#	2996	2997#	3014	3015#	3039	3040#	3053	3054#	3080
3081#	3087	3088#	3097	3098#	3156	3157#	3163	3164#	3171	3172#		
319#	329#											
265#												
294#	317											
258#	319	356*	366*	376*	387*	398*	409*	419*	430*	440*	458*	471*
484#	497*	510*	523*	531*	539*	547*	554*	562*	570*	578*	595*	604*
614#	623*	633*	643*	652*	668*	675*	682*	689*	698*	705*	712*	719*
734#	751*	767*	785*	797*	814*	821*	828*	835*	842*	853*	860*	867*
874#	884*	902*	919*	935*	953*	964*	981*	988*	995*	1002*	1009*	1020*
1027#	1034*	1041*	1050*	1066*	1085*	1102*	1118*	1136*	1148*	1165*	1172*	1179*
1186#	1193*	1204*	1211*	1218*	1225*	1235*	1251*	1268*	1284*	1302*	1314*	1331*
1338#	1345*	1352*	1359*	1370*	1377*	1384*	1391*	1399*	1415*	1435*	1452*	1469*
1487#	1499*	1516*	1523*	1530*	1537*	1544*	1555*	1562*	1569*	1576*	1586*	1609*
1626#	1642*	1660*	1672*	1689*	1696*	1703*	1710*	1717*	1728*	1735*	1742*	1749*
1757#	1771*	1788*	1804*	1823*	1835*	1852*	1859*	1866*	1873*	1880*	1891*	1898*
1905#	1912*	1920*	1935*	1952*	1968*	1986*	1998*	2015*	2022*	2029*	2036*	2043*
2054#	2061*	2068*	2075*	2083*	2097*	2115*	2133*	2142*	2151*	2169*	2186*	2203*
2220#	2237*	2254*	2262*	2278*	2305*	2324*	2331*	2338*	2345*	2352*	2364*	2385*
2392#	2403*	2422*	2429*	2450*	2457*	2464*	2471*	2478*	2500*	2507*	2514*	2521*
2528#	2551*	2558*	2565*	2572*	2594*	2601*	2608*	2631*	2639*	2646*	2669*	2677*
2684#	2692*	2709*	2716*	2726*	2733*	2741*	2748*	2759*	2767*	2789*	2795*	2815*
2844#	2859*	2869*	2877*	2900*	2906*	2933*	2939*	2965*	2989*	2996*	3014*	3039*

\$ERROR= 000302  
\$ETABL 000320  
\$ETEND 000350  
\$FATAL 000302





\$UNITM 000360  
\$USWR 000324  
\$X = 015676

316#													
269#													
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598	607	617	626	636	646	655	665#	671	678	685	692	701	
708	715	722	730#	737	746#	754	762#	770	778#	788	800	808#	
817	824	831	838	845	856	863	870	877	887	897#	905	914#	
922	930#	938	946#	956	967	975#	984	991	998	1005	1012	1023	
1030	1037	1044	1053	1061#	1069	1082#	1088	1097#	1105	1113#	1121	1129#	
1139	1151	1159#	1168	1175	1182	1189	1196	1207	1214	1221	1228	1238	
1248#	1254	1263#	1271	1279#	1287	1295#	1305	1317	1325#	1334	1341	1348	
1355	1362	1373	1380	1387	1394	1402	1410#	1418	1432#	1438	1447#	1455	
1463#	1471	1479#	1490	1502	1510#	1519	1526	1533	1540	1547	1558	1565	
1572	1579	1589	1606#	1612	1621#	1629	1637#	1645	1653#	1663	1675	1683#	
1692	1699	1706	1713	1720	1731	1738	1745	1752	1760	1768#	1774	1783#	
1791	1799#	1807	1816#	1826	1838	1846#	1855	1862	1869	1876	1883	1894	
1901	1908	1915	1923	1932#	1938	1947#	1955	1963#	1971	1979#	1989	2001	
2009#	2018	2025	2032	2039	2046	2057	2064	2071	2078	2086	2094#	2100	
2110#	2118	2127#	2136	2145	2154	2164#	2172	2181#	2189	2198#	2206	2215#	
2223	2232#	2240	2249#	2257	2265	2273#	2281	2291#	2308	2318#	2327	2334	
2341	2348	2355	2367	2381#	2388	2395#	2406	2418#	2425	2432	2444#	2453	
2460	2467	2474	2481	2493#	2503	2510	2517	2524	2531	2543#	2554	2561	
2568	2575	2587#	2597	2604	2611	2623#	2634	2642	2649	2661#	2672	2680	
2687	2695	2706#	2712	2719	2729	2736	2744	2751	2762	2770	2778#	2792	
2798	2808#	2818	2831#	2847	2862	2872	2880	2891#	2903	2909	2921#	2936	
2942	2953#	2968	2982#	2992	2999	3008#	3017	3029#	3042	3056	3067#	3083	
3090	3100	3110#	3159	3166	3174								

\$XX = 177634

359#	369#	379#	390#	401#	412#	422#	433#	443#	461#	474#	487#	500#	
513#	526#	534#	542#	550#	557#	565#	573#	581#	598#	607#	617#	626#	
636#	646#	655#	671#	678#	685#	692#	701#	708#	715#	722#	737#	754#	
770#	788#	800#	817#	824#	831#	838#	845#	856#	863#	870#	877#	887#	
905#	922#	938#	956#	967#	984#	991#	998#	1005#	1012#	1023#	1030#	1037#	
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1207#	1214#	1221#	1228#	1238#	1254#	1271#	1287#	1305#	1317#	1334#	1341#	1348#	
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1923#	1938#	1955#	1971#	1989#	2001#	2018#	2025#	2032#	2039#	2046#	2057#	2064#	
2071#	2078#	2086#	2100#	2118#	2136#	2145#	2154#	2172#	2189#	2206#	2223#	2240#	
2257#	2265#	2281#	2308#	2327#	2334#	2341#	2348#	2355#	2367#	2388#	2395#	2406#	
2425#	2432#	2453#	2460#	2467#	2474#	2481#	2503#	2510#	2517#	2524#	2531#	2554#	
2561#	2568#	2575#	2597#	2604#	2611#	2634#	2642#	2649#	2672#	2680#	2687#	2695#	
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3090#	3100#	3159#	3166#	3174#									

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636#	646#	655#	671#	678#	685#	692#	701#	708#	715#	722#	737#	754#	
770#	788#	800#	817#	824#	831#	838#	845#	856#	863#	870#	877#	887#	
905#	922#	938#	956#	967#	984#	991#	998#	1005#	1012#	1023#	1030#	1037#	
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1519#	1526#	1533#	1540#	1547#	1558#	1565#	1572#	1579#	1589#	1612#	1629#	1645#	
1663#	1675#	1692#	1699#	1706#	1713#	1720#	1731#	1738#	1745#	1752#	1760#	1774#	



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1923#	1938#	1955#	1971#	1989#	2001#	2018#	2025#	2032#	2039#	2046#	2057#	2064#
2071#	2078#	2086#	2100#	2118#	2136#	2145#	2154#	2172#	2189#	2206#	2223#	2240#
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715	722	730	737	746	754	762	765	770	778	788	800	808
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3194												
301#	306											

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ENDCOM	1#														
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	1688	1694	1701	1708	1716	1727	1733	1740	1747	1756	1771	1787	1803	1822	1834
	1851	1857	1864	1871	1879	1890	1896	1903	1910	1919	1935	1951	1967	1985	1997
	2014	2020	2027	2034	2042	2053	2059	2066	2073	2082	2097	2114	2132	2142	2150
	2168	2185	2202	2219	2236	2253	2261	2277	2303	2324	2330	2337	2344	2351	2362
	2385	2391	2402	2422	2428	2450	2456	2463	2470	2477	2500	2506	2513	2520	2527
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GETPRI	1#														
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PUSH	1#														
REPORT	1#														
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SETUP	1#														
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M06

MAIN MACY11 27(732) 08-DEC-76 09:40 PAGE 79  
DGRABC.P11 CROSS REFERENCE TABLE -- MACRO NAMES

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SEC	2756														
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TSTB	2455	2556	2599	2867	3050	3085	3168								
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.ENABL	1														
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EVEN	3092	3102	3161	3168	3176									
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	718	733	750	766	784	790	796	813	819	820	826	827	833	834
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607	615	617	624	626	634	636	644	646	653	655	662	665	669	671
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