

MADE IN USA

IDENTIFICATION

PRODUCT CODE: MAINDEC-11-DCKTF-C-D
PRODUCT NAME: MEMORY MANAGEMENT ABORT TESTS
DATE CREATED: 16 MAY 1973
MAINTAINER: DIAGNOSTIC GROUP
AUTHOR: JOHN ADAMS
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1.0 ABSTRACT

PROGRAM DCKTF TESTS THE MEMORY MANAGEMENT ABORT LOGIC. THE PROGRAM IS WRITTEN TO CAUSE A MEMORY MANAGEMENT ABORT AT EVERY PDP11/45 MICRO STATE WHERE A MEMORY REFERENCE (BUST) IS INITIATED. THE PROGRAM ALSO TESTS MEMORY MANAGEMENT ABORTS USING FLOATING POINT INSTRUCTIONS. ABORTS ARE IN ALL CASES TRAPPED TO THE KERNEL, HOWEVER, THE INSTRUCTIONS CAUSING THE ABORT ARE EXECUTED IN ALL MODES (KERNEL, SUPERVISOR, AND USER).

2.0 REQUIREMENTS

2.1 EQUIPMENT

PDP-11/45 WITH KT11-C (MEM. MGMT) INSTALLED
OPTIONAL FP11-A (FLOATING POINT PROCESSOR)

2.2 STORAGE

PROGRAM STORAGE - THE ROUTINE USES MEMORY 0-17777

2.3 PRELIMINARY PROGRAMS

TESTS DCKTA-DCKTE

3.0 LOADING AND STARTING PROCEDURE

LOAD PROGRAM INTO MEMORY USING ABS LOADER
LOAD ADDRESS 200
PRESS START.
THE PROGRAM WILL LOOP AND RING BELL ON COMPLETION.
PASS COUNT MAY BE MONITORED IN THE DISPLAY REGISTER.

4.0 SWITCH SETTINGS

SW8 = 1 OR UP LOAD PDP11/45 MICRO BREAK REGISTER
SW7-SW0..... VALUE TO BE LOADED

5.0 SUBROUTINE ABSTRACTS

5.1 HLT

THE HLT (HALT) INSTRUCTION IS EXECUTED WHEN AN ERROR IS DETECTED. NOTE THAT THE HLT (HALT) INSTRUCTION TRAPS TO LOC 4 IN SUPERVISORY/USER MODE. IF A HLT (HALT) INSTRUCTION IS EXECUTED IN THESE MODES THE TRAP IS TAKEN AND THE PROGRAM HALTS AT LOCATION 176 IN KERNEL MODE. PRESSING CONTINUE RESTARTS THE TEST. NOTE: THE SUPERVISORY/USER STACK POINTERS ARE NOT AFFECTED. TO DETERMINE WHICH TEST THE PROGRAM WAS EXECUTING WHEN THE HLT OCCURRED REFER TO R1 WHOSE CONTENTS ARE THE LAST TEST SUCCESSFULLY EXECUTED AND ALSO THE KERNEL STACK THE TOP WORD OF WHICH IS THE VIRTUAL PC OF THE HLT INSTRUCTION +2.

5.2 SCOPE

THE SCOPE (ENT) SERVICE ROUTINE STORES IN R1 THE PC OF THE LAST TEST SUCCESSFULLY EXECUTED AND MAY BE USED AS AN AID IN DEBUGGING IF THE PROGRAM 'BOMBS' BECAUSE OF A HARDWARE FAILURE. A BRANCH INSTRUCTION MAY BE INSERTED AT THE SCOPE LOCATION TO THE PREVIOUS SCOPE (ENT) INSTRUCTION TO CONTINUOUSLY LOOP A TEST. ADDITIONALLY THE SCOPE ROUTINE SETS ALL STACK POINTERS TO THEIR INITIAL SETTINGS (SEE SEC 8.2) AND ENTERS EACH TEST IN KERNEL MODE, PREVIOUS KERNEL MODE. THE SCOPE ROUTINE ALSO CONTAINS INSTRUCTIONS TO LOAD THE MICRO BREAK REGISTER (SEE SEC 4.0 FOR SWITCH SETTINGS). ALL TESTS MAY BE RESTARTED AT THE PREVIOUS SCOPE.

6.0 ERRORS

THE TEST HALTS WHEN AN ERROR IS DETECTED AND DISPLAYS THE PC+2 OF THE HLT (HALT) INSTRUCTION IN THE ADDRESS LIGHTS.

6.1 ERROR RECOVERY

PRESS CONTINUE OR RESTART AT 200 OR PREVIOUS SCOPE.

6.2 ERROR LOOPING

TO LOOP ON AN ERROR REPLACE THE HLT INSTRUCTION WITH A BRANCH BACK TO THE PREVIOUS SCOPE. NOTE: IF THE ERROR IS INTERMITTENT THE TEST WILL DROP THROUGH THE HLT AND CONTINUE TO THE NEXT TEST. TO CONTINUOUSLY LOOP THE TEST REPLACE THE BEQ .+4 PRECEEDING THE HLT WITH THE BRANCH.

7.0 .BLANK 1
RESTRICTIONS

7.1 STARTING RESTRICTION

NONE

7.2 OPERATIONAL RESTRICTION

NONE

8.C MISCELLANEOUS

IF THE PROGRAM HALTS IN THE TRAP INTERRUPT VECTOR AREA (0-1000) EXAMINE REGISTER 6 (THE KERNEL STACK PTR). REGISTER 6 CONTAINS THE ADDRESS WHERE THE PC OF THE INSTRUCTION THAT CAUSED THE TRAP IS STORED. EXAMINE ALSO R1 (R1 SPECIFIES THE LAST TEST SUCCESSFULLY COMPLETED)

8.2 STACK POINTER

THE STACK POINTERS ARE INITIALLY SET TO THE FOLLOWING VALUES

KERNEL = 1060
SUPERVISOR = 700
USER = 600

AND ARE RESET TO THESE VALUES AT THE START OF EACH SUBTEST (BY SCOPE).

8.3 PASS COUNT

1000(8) PASSES ARE REQUIRED FOR COMPLETION OF THIS PROGRAM. AT WHICH TIME THE BELL WILL RING AT THE TTY. THE PASS COUNT MAY BE OBSERVED BY TURNING THE SWITCH TO THE DISPLAY POSITION. AND IS STORED IN LOC 1000 THE PASS THE COUNT SHOULD BE MONITORED IN THE EVENT THAT THE PROGRAM ENTERS AN UNDEFINED LOOP.

8.4 DEBUGGING TIPS

WHEN THE FAILING SUBTEST HAS BEEN ISOLATED, REPLACE THE FIRST WORD OF THE INSTRUCTION PRECEEDING THE INSTRUCTION THAT CAUSES THE ABORT WITH A BR SELF (000777), AND RESTART THE PROGRAM. WHEN THE PROGRAM EXECUTES THE BR SELF STOP THE PROGRAM USING SINGLE INSTRUCTION, RESTORE THE INSTRUCTION, AND USING THE MAINTENANCE CARD SINGLE STEP THE PROGRAM THROUGH EACH MICRO STATE OBSERVING THE FLOW IN THE DATA/ADDRESS LIGHTS. THIS PRACTICE HAS BEEN FOUND TO BE SUCCESSFUL IN FINDING MOST MEMORY MANAGEMENT ERRORS. C MEMORY MGMT ABORT TRAPS MACY11 27(732) 14-SEP-76 10:28 PAGE 6

8.5 MEMORY MANAGEMENT MEMORY MAP

THE MAPPING OF THE MEM MGMT REGISTERS IS DONE AT THE BEGINNING OF THE PROGRAM BEFORE ANY TESTING IS STARTED. MAP BEFORE USING THIS PROGRAM.

•
•
•

•
•
•

201

```

%
.NLIST SEQ
.LIST ME
.ABS

```

```

.TITLE TEST DCKTF-C MEMORY MGMT ABORT TRAPS
;THIS TEST CHECKS MEMORY MANAGEMENT ABORTS AT ALL 'BUST' MICRO STATES.
;MEMORY MANAGEMENT ABORT TEST. THIS PROGRAM TESTS MEMORY MGMT ABORT ERRORS

```

;GENERAL REGISTER ASSIGNMENTS

```

000000 R0=%0
000001 R1=%1
000002 R2=%2
000003 R3=%3
000004 R4=%4
000005 R5=%5
000006 SP=%6
000007 PC=%7
000000 R10=%0
000001 R11=%1
000002 R12=%2
000003 R13=%3
000004 R14=%4
000005 R15=%5

```

;FLOATING POINT REGISTERS

```

000000 AC0=%0
000001 AC1=%1
000002 AC2=%2
000003 AC3=%3
000004 AC4=%4
000005 AC5=%5

```

;STACK POINTER REGISTERS

```

000006 KSP=%6 ;KERNEL STACK POINTER
000006 SSP=%6 ;SUPERVISOR STACK POINTER
000006 USP=%6 ;USER STACK POINTER

```

;STATUS REGISTER BIT ASSIGNMENTS

```

000001 C=1
000002 V=2
000004 Z=4
000010 N=10
000020 T=20
000340 PRTY7=340
000200 PRTY4=200
004000 REG=4000
000000 KM=000000
040000 SM=040000
140000 UM=140000
000000 PKM=000000
010000 PSM=010000
030000 PUM=030000
004000 REG=004000

; 'T' BIT
;PRIORITY LEVEL 7
;PRIORITY LEVEL 4
;SELECTS R10-R15
;KERNEL MODE
;SUPERVISORY MODE
;USER MODE
;PREVIOUS KERNEL MODE
;PREVIOUS SUPERVISORY MODE
;PREVIOUS USER MODE
;SELECT R10-R15

```

;VECTOR ADDRESSES
ERRVEC=4

000004

;ADDRESS OF ERROR VECTOR

H01

TEST DCKTF-C MEMORY MGMT ABORT TRAPS
DCKTFC.P11

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000010	RESVEC=10	; ADDRESS OF RESERVED INST. TRAP VECTOR
000014	TBITVEC=14	; ADDRESS OF 'T' BIT TRAP VECTOR
000020	IOTVEC=20	; ADDRESS OF IOT TRAP VECTOR
000024	PFVEC=24	; ADDRESS OF POWER FAIL TRAP VECTOR
000030	EMTVEC=30	; ADDRESS OF EMT VECTOR
000034	TRAPVEC=34	; ADDRESS OF TRAP VECTOR
000064	TPVEC=64	; ADDRESS OF TTY PRINTER INTERRUPT VECTOR
000240	PIRVEC=240	; ADDRESS OF PIRQ VECTOR
000244	FPVEC=244	; ADDRESS OF FLOATING POINT INT. VECTOR
000250	MMVEC=250	; ADDRESS OF MEMORY MGMT ERROR TRAP VECTOR

; REGISTER ADDRESSES		
177776	PSW=177776	; ADDRESS OF STATUS REGISTER
177774	SLR=177774	; ADDRESS OF STACK LIMIT REGISTER
177772	PIRQ=177772	; ADDRESS OF PROGRAM INTERRUPT REQUEST
177770	UBREAK=177770	; ADDRESS OF MICRO BREAK REGISTER
177560	TKS=177560	; ADDRESS OF KEYBOARD CSR
177562	TKB=177562	; ADDRESS OF KEYBOARD BUFFER
177564	TPS=177564	; ADDRESS OF TELEPRINTER CSR
177566	TPB=177566	; ADDRESS OF TELEPRINTER BUFFER
177570	SWR=177570	; ADDRESS OF CONSOL SWITCH REGISTER
177570	DISPLAY=177570	; ADDRESS OF CONSOL DISPLAY REGISTER

; INITIAL STACK POINTER SETTINGS		
001060	KPTR=1060	; BOTTOM OF KERNEL STACK
000700	SPTR=700	; SUPERVISORY STACK SETTING
000600	UPTR=600	; USER STACK SETTING
000740	REDPTR=740	; RED STACK PTR

; MISCELLANEOUS BIT ASSIGNMENTS		
100000	BIT15=100000	
040000	BIT14=40000	
020000	BIT13=20000	
000400	BIT8=400	
000100	BIT6=100	
010000	PIR4=10000	; LEVEL 4 PROGRAM INT. RQST.

; MEMORY MANAGEMENT REGISTER SRO BIT ASSIGNMENTS		
000001	ENMM=1	; ENABLE MEMORY MANAGEMENT
000000	VS0=0	
000002	VS1=2	
000004	VS2=4	
000006	VS3=6	
000010	VS4=10	
000012	VS5=12	
000014	VS6=14	
000016	VS7=16	
000020	DS=20	
000000	IS=00	
000140	UPG=140	
000040	SPG=40	
000000	KPG=000	
000200	IC=200	; INSTRUCTION COMPLETE
000400	DM=400	; DESTINATION MODE
001000	TE=1000	; TRAP ENABLE
004000	OST=4000	; OST ABORT FLAG

010000
020000
040000
100000MMT=10000
AVA=20000
PLA=40000
NRA=100000;MEMORY MANAGEMENT TRAP
;ACCESS VIOLATION ABORT
;PAGE LENGTH ABORT
;NON-RESIDENT ABORT000010
000000
000010
000200
000100;PAGE DESCRIPTOR REGISTER (PDR) BIT ASSIGNMENTS
ED=10 ;EXPANSION DIRECTION BIT IN PDR
UP=0 ;EXPAND UP
DWN=10 ;EXPAND DOWN
A=200 ;'A' BIT IN PDR
W=100 ;'W' BIT IN PDR000010
000020
000040
000060
000100
000370
000360
000340
000320
000300
000000
004000
010000
174000
170000
000000
000400
001000
001400
002000
002400
003000
003400;SR1 BIT ASSIGNMENTS
S1=10
S2=20
S4=40
S6=60
S8=100
SM1=370
SM2=360
SM4=340
SM6=320
SM8=300
D0=0
D1=4000
D2=10000
DM1=174000
DM2=170000
DR0=000
DR1=400
DR2=1000
DR3=1400
DR4=2000
DR5=2400
DR6=3000
DR7=3400000001
000002
000004;SR3 BIT ASSIGNMENTS
UDE=1 ;USER 'D' SPACE ENABLE
SOE=2 ;SUPERVISOR 'D' SPACE ENABLE
KDE=4 ;KERNEL 'D' SPACE ENABLE177572
177574
177576
172516;MEMORY MANAGEMENT REGISTER ADDRESS ASSIGNMENTS
SR0=177572 ;ADDRESS OF MEMORY MGMT REGISTER SR0
SR1=177574 ;SR1
SR2=177576 ;SR2
SR3=172516 ;ADDRESS OF MEMORY MGMT REGISTER SR3177600
177602
177604
177606
177610
177612
177614
177616UIPDR0=177600 ;ADDRESS OF USER 'I' PDR'S
UIPDR1=177602
UIPDR2=177604
UIPDR3=177606
UIPDR4=177610
UIPDR5=177612
UIPDR6=177614
UIPDR7=177616

; ADDRESS 00 USER 'D' PDR'S

177620	UDPDR0=177620
177622	UDPDR1=177622
177624	UDPDR2=177624
177626	UDPDR3=177626
177630	UDPDR4=177630
177632	UDPDR5=177632
177634	UDPDR6=177634
177636	UDPDR7=177636

177640	UIPAR0=177640
177642	UIPAR1=177642
177644	UIPAR2=177644
177646	UIPAR3=177646
177650	UIPAR4=177650
177652	UIPAR5=177652
177654	UIPAR6=177654
177656	UIPAR7=177656

177660	UDPAR0=177660
177662	UDPAR1=177662
177664	UDPAR2=177664
177666	UDPAR3=177666
177670	UDPAR4=177670
177672	UDPAR5=177672
177674	UDPAR6=177674
177676	UDPAR7=177676

172200	SIPDR0=172200
172202	SIPDR1=172202
172204	SIPDR2=172204
172206	SIPDR3=172206
172210	SIPDR4=172210
172212	SIPDR5=172212
172214	SIPDR6=172214
172216	SIPDR7=172216

172220	SDPDR0=172220
172222	SDPDR1=172222
172224	SDPDR2=172224
172226	SDPDR3=172226
172230	SDPDR4=172230
172232	SDPDR5=172232
172234	SDPDR6=172234
172236	SDPDR7=172236

172240	SIPAR0=172240
172242	SIPAR1=172242
172244	SIPAR2=172244
172246	SIPAR3=172246
172250	SIPAR4=172250
172252	SIPAR5=172252
172254	SIPAR6=172254
172256	SIPAR7=172256

172260	SDPAR0=172260
--------	---------------

172262	SUPAR1=172262
172264	SDPAR2=172264
172266	SDPAR3=172266
172270	SDPAR4=172270
172272	SDPAR5=172272
172274	SDPAR6=172274
172276	SDPAR7=172276

172300	KIPDR0=172300
172302	KIPDR1=172302
172304	KIPDR2=172304
172306	KIPDR3=172306
172310	KIPDR4=172310
172312	KIPDR5=172312
172314	KIPDR6=172314
172316	KIPDR7=172316

172320	KDPDR0=172320
172322	KDPDR1=172322
172324	KDPDR2=172324
172326	KDPDR3=172326
172330	KDPDR4=172330
172332	KDPDR5=172332
172334	KDPDR6=172334
172336	KDPDR7=172336

172340	KIPAR0=172340
172342	KIPAR1=172342
172344	KIPAR2=172344
172346	KIPAR3=172346
172350	KIPAR4=172350
172352	KIPAR5=172352
172354	KIPAR6=172354
172356	KIPAR7=172356

172360	KDPAR0=172360
172362	KDPAR1=172362
172364	KDPAR2=172364
172366	KDPAR3=172366
172370	KDPAR4=172370
172372	KDPAR5=172372
172374	KDPAR6=172374
172376	KDPAR7=172376

000000
000001
000002
000003
000004
000005
000006
000007

;ACCESS CONTROL FIELD DEFINITIONS (IN PDR)

NR0=0	;NON-RESIDENT ABORT ALL REFS.
RDR0=1	;TRAP ON READ, ABORT ON WRITE
RDR0=2	;READ, ABORT ON WRITE
NR3=3	;UNUSED ABORT ALL
RWT=4	;TRAP ON READ & WRITE
RWT=5	;READ, TRAP ON WRITE
RW=6	;READ & WRITE
NR7=7	;ABORT ALL

000000

;INSTRUCTION EQUATES
HLT=HALT

104000

SCOPE=EMT

```

;SCOPE IS AN EMT TRAP

```

;VIRTUAL ADDRESSES

001100
016700
140000
040000
020000
120000
100000

KD0=1100
K10=16700
KD6=140000
SI2=40000
SD1=20000
UI5=120000
UD4=100000

:CORRESPONDING PHYSICAL ADDRESSES

016600
016700
017000
017100
017200
017300

PK10=16600
PKD6=16700
PSI2=17000
PSD1=17100
PUI5=17200
PUD4=17300

```
.LIST      ME
.NLIST    MC,MD,SEQ
```

```

;FILL TRAP AND INTERRUPT VECTOR AREA WITH

```

```

; +2
; HALT

```

```

;UNEXPECTED TRAPS/INTERRUPTS WILL HALT AT VECTOR ADDRESS +2
;AND DISPLAY VECTOR ADDRESS+4 NOTE: LISTING DOES NOT SHOW LOADING THE
;VECTOR AREA.

```

```
.NLIST MC,SEQ
```

000004	000004
000030	000400
000046	000030
000052	000434
	000046
	016442
	000052
	040000

```

.=ERRVEC
.WORD SHLT
.=EMTVEC
.WORD SCOPEA
.=46
LOGICAL
.=52
40000

```

000176 000176
000000

. = 176
HALT

```

:HALT                                :ERROR! TO IDENTIFY WHICH TEST FAILED
:EXAMINE R1(R11), THE CONTENTS OF WHICH IS THE PC OF THE LAST TEST SUC-
:CESSFULLY COMPLETED. THE TOP WORD ON THE KERNEL STACK CONTAINS THE VIRTUAL
:ADDRESS OF THE HLT INSTRUCTION IN THE TEST THAT FAILED.

```

000200 000200 000704
000200 000167

JMP

START

;GO START TEST

000400

. = 400

:SUPERVISOR/USER HLT (HALT) TRAP SERVICE ROUTINE

000400	042737	000001
000406	162716	000002
000412	005776	000000
000416	001404	
000420	062716	000002
000424	000137	000006
000430	000137	000176

```

SUPERVISOR/USER HLT (HALT) TRAP SERVICE ROUTINE
SHLT:   BIC      #1,2*SR0      ;TURN MEM MGMT OFF
        SUB      #2,(KSP)      ;POINT PC TO TRAPPING INST.
        TST      2(KSP)        ;WAS IT A HLT (HALT)
        BEQ      SHLTA
        ADD      #2,(KSP)      ;RESTORE PC TO TRAPPING INST.
        JMP      2*ERRVEC+2    ;GO HALT AT 6
SHLTA:  JMP      2*176         ;GO HALT AT ADDRESS 176

```

MO1

TEST DCKTF-C MEMORY MGMT ABORT TRAPS
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:SCOPE (EMT) SERVICE ROUTINE
SCOPEA:
000434 005037 177572 CLR 2#SRO ;DISABLE MEMORY MGMT
000434 011601 MOV (KSP),R1 ;SAVE PC IN R1
000440 012706 001060 MOV #KPTR,KSP ;SET KERNEL STACK PTR
000446 005046 CLR -(KSP) ;SET UP FOR KERNEL MODE ON RETURN
000450 010146 MOV R1,-(KSP) ;RETURN IN LINE
000452 012746 000700 MOV #SPTR,-(KSP) ;SUPER STACK PTR ON KERNEL STACK
000456 012746 000600 MOV #UPTR,-(KSP) ;USER STACK PTR ON KERNEL STACK
000462 012737 030000 177776 MOV #PUM,2#PSW ;PREVIOUS USER MODE
000470 106606 MTPD USP ;SET USER STACK PTR
000472 006237 177776 ASR 2#PSW ;PREV SUPER MODE
000476 106606 MTPD SSP ;SET SUPER STACK PTR
000500 032737 000400 177570 BIT #BIT8,2#SWR ;LOAD MICRO BREAK REG?
000506 001403 BEQ SCOPEX ;LOAD SRO-7 INTO MICRO BREAK REG.
000510 113737 177570 177770 MOV8 2#SWR,2#UBREAK ;RETURN TO NEXT TEST IN KERNEL MODE
000516 000006 SCOPEX: RTT ;WITH ALL STACK PTRS SET UP

001000 001000 . =1000
:TAGS
ICNT: 0 ;CONTAINS PASS COUNT
SROT: 0 ;CONTAINS SRO CONTENTS ON ERROR
001002 000000
001004 001004 TEMP=.
001012 001012 . =.+6

001110 001110 . =1110
:START MEMORY MANAGEMENT TEST.
START: NOP
001110 000240 START: CLR ICNT ;CLEAR PASS COUNT
001112 005067 177662 BEGIN: MOV ICNT,2#DISPLAY ;DISPLAY PASS COUNT
001116 016737 177656 177570 MOV #KPTR,KSP ;SET KERNEL STACK PTR
001124 012706 001060 MOV SCOPE ;SCOPE SETS ALL STACK PTRS
001130 104000 MOV #400,2#SLR ;SET STACK LIMIT = 1000
001132 012737 000400 177774 CLR 2#MMVEC+2 ;KERNEL MODE ON ABORT
001140 005037 000252 MOV #KDE+SDE+UDE,2#SR3
001144 012737 000007 172516

```

;ROUTINE TO CLEAR MEMORY MANAGEMENT REGISTERS.

001152 000240
 001154 005067 176412
 001160 012702 177600
 001164 012703 000040
 001170 005022
 001172 077302
 001174 012702 172200
 001200 012703 000100
 001204 005022
 001206 077302

MMO: NOP
 CLR SRO
 MOV #UIPDR0,R2
 MOV #40,R3
 CLR (R2)+
 SOB R3,.-2
 MOV #SIPDR0,R2
 MOV #100,R3
 CLR (R2)+
 SOB R3,.-2

001210
 001210 012737 073006 172300
 001216 012737 004006 172320
 001224 012737 000006 172334
 001232 012737 077406 172336
 001240 012737 073006 172200
 001246 012737 004006 172220
 001254 012737 000006 172222
 001262 012737 000006 172204
 001270 012737 073006 177600
 001276 012737 004006 177620
 001304 012737 000006 177630
 001312 012737 000006 177612

MMK: MOV #167*256.-400+UP+RW,2#KIPDR0 ;SET KIPDR0=RW UP 167 BLOCKS
 MOV #11*256.-400+UP+RW,2#KDPDR0 ;SET KDPDR0=RW UP 11 BLOCKS
 MOV #1*256.-400+UP+RW,2#KDPDR6 ;SET KDPDR6=RW UP 1 BLOCKS
 MOV #200*256.-400+UP+RW,2#KDPDR7 ;SET KDPDR7=RW UP 200 BLOCKS
 MOV #167*256.-400+UP+RW,2#SIPDR0 ;SET SIPDR0=RW UP 167 BLOCKS
 MOV #11*256.-400+UP+RW,2#SDPDR0 ;SET SDPDR0=RW UP 11 BLOCKS
 MOV #1*256.-400+UP+RW,2#SDPDR1 ;SET SDPDR1=RW UP 1 BLOCKS
 MOV #1*256.-400+UP+RW,2#SIPDR2 ;SET SIPDR2=RW UP 1 BLOCKS
 MOV #167*256.-400+UP+RW,2#UIPDR0 ;SET UIPDR0=RW UP 167 BLOCKS
 MOV #11*256.-400+UP+RW,2#UDPDR0 ;SET UDPDR0=RW UP 11 BLOCKS
 MOV #1*256.-400+UP+RW,2#UDPDR4 ;SET UDPDR4=RW UP 1 BLOCKS
 MOV #1*256.-400+UP+RW,2#UIPDR5 ;SET UIPDR5=RW UP 1 BLOCKS

001320 005067 171014
 001324 005067 171030
 001330 012767 000167 171036
 001336 012767 007600 171032

CLR KIPAR0 ;VA=PA=0000-16677
 CLR KDPAR0 ;VA=PA=0-1077
 MOV #167,KDPAR6 ;VA=140000-140077;PA=16700-16777
 MOV #7600,KDPAR7 ;VA=160000-177776,PA=760000-777776
 ;(I/O PAGE)

001344 005067 170670
 001350 005067 170704
 001354 012767 000170 170662
 001362 012767 000171 170672

CLR SIPAR0 ;VA=PA=0-16677
 CLR SDPAR0 ;VA=PA=0-1077
 MOV #170,SIPAR2 ;VA=40000-40077/PA=17000-17077 (SUPER I SPACE)
 MOV #171,SDPAR1 ;VA=20000-20077/PA=17100-17177 (SUPER D SPACE)

001370 005067 176244
 001374 005067 176260
 001400 012767 000172 176244
 001406 012767 000173 176254

CLR UIPAR0 ;VA=PA=0-16677
 CLR UDPAR0 ;VA=PA=0000-1077
 MOV #172,UIPAR5 ;VA=120000-120077/PA=17200-17277 (USER I SPACE)
 MOV #173,UDPAR4 ;VA=100000-100077/PA=17300-17377 (USER D SPACE)

;CHECK ABORT AT S13.00
;ABORTS WHEN SOURCE OPERAND IS FETCHED

;SOURCE MODE=1

001414				TO:	MOV	#TOC, 2*MMVEC	;LOAD MEM MGMT ERROR VECTOR
001414	012737	001450	000250		CLR	MMVEC+2	
001422	005067	176624			MOV	#K10-2, R3	
001426	012703	016676			MOV	R3, R2	
001432	010302				CLR	(R3)	
001434	005013				INC	2*SR0	;ENABLE MEMORY MGMT
001436	005237	177572			SCC		
001442	000277			TOA:	MOV	(R3), R2	;MEM MGMT LENGTH ABORT AT S13.10
001444	011302			TOB:	HLT		;ERROR! DID NOT ABORT
001446	000000						
001450				TOC:			
001450	022706	001054			CMP	#KPTR-4, KSP	;CHECK STACK PTR
001454	001401				BEQ	.+4	;AFTER ABORT
001456	000000				HLT		;ERROR! INCORRECT STACK PTR
001460	022766	000017	000002		CMP	#17, 2(KSP)	;CHECK THAT CORRECT STATUS
001466	001401				BEQ	.+4	;WAS SAVED ON THE STACK
001470	000000				HLT		;ERROR! INCORRECT STATUS
001472	022767	040021	176072		CMP	#PLA+DS+VSO+1, SR0	;CHECK SR0 (ABORT CONDITIONS
001500	001401				BEQ	.+4	; & FAILING PAGE #)
001502	000000				HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
001504	022767	000000	176062		CMP	#0, SR1 ;CHECK SR1 (REGISTER CHANGES)	
001512	001401				BEQ	.+4	
001514	000000				HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
001516	022767	001444	176052		CMP	#TOA, SR2	;CHECK CONTENTS OF SR2
001524	001401				EEQ	.+4	; (PC OF ABORTED INSTRUCTION)
001526	000000				HLT		;ERROR! INCORRECT PC IN SR2
001530	020203				CMP	R2, R3	;CHECK THAT INSTRUCTIONS AS ABORTED
001532	001401				BEQ	.+4	
001534	000000				HLT		;ERROR!
001536	104000				SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;ABORTS WHEN SOURCE OPERAND IS FETCHED

;SOURCE MODE=2, BYTE INSTRUCTION

001540	012737	001566	000250		MOV	#TIC, 2*MMVEC	;LOAD MEM MGMT ERROR VECTOR
001546	012702	016700			MOV	#K10, R2	
001552	010204				MOV	R2, R4	
001554	005012				CLR	(R2)	
001556	005237	177572			INC	2*SR0	;ENABLE MEMORY MGMT
001562	122202			T1A:	CMPB	(R2)+, R2	;SEG LENGTH ABORT AT S13.10
001564	000000			T1B:	HLT		;ERROR! DID NOT ABORT

T1C:

001566							
001566	022706	001054			CMP	#KPTR-4, KSP	;CHECK STACK PTR
001572	001401				BEQ	.+4	;AFTER ABORT
001574	000000				HLT		;ERROR! INCORRECT STACK PTR
001576	022767	040021	175766		CMP	#PLA+DS+VSO+1, SR0	;CHECK SR0 (ABORT CONDITIONS
001604	001401				BEQ	.+4	; & FAILING PAGE #)
001606	000000				HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
001610	022767	000012	175756		CMP	#S1+R2, SR1	;CHECK SR1 (REGISTER CHANGES)
001616	001401				BEQ	.+4	

001620	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
001622	022767	001562	175746	CMP	#T1A,SR2	;CHECK CONTENTS OF SR2
001630	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
001632	000000			HLT		;ERROR! INCORRECT PC IN SR2
				;CHECK THAT REGISTER INCREMENTED PROPERLY		
001634	022702	016701		CMP	#K10+1,R2	
001640	001401			BEQ	.+4	
001642	000000			HLT		;ERROR!
001644	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
				;ABORTS WHEN ADDRESS OF SOURCE OPERAND IS FETCHED		
				;SOURCE MODE=3		
001646	012767	004000	176122	MOV	#REG,PSW	;KERNEL MODE!!!,PREV KERNEL MODE!!
001654	012737	001702	000250	MOV	#T2C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
001662	012705	016700		MOV	#K10,R15	
001666	010504			MOV	R15,R14	
001670	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
001674	000277			SCC		;PRESET CC'S
001676	153504			T2A: BISB	2(R15)+,R14	;NON-RES ABORT AT 513.10
001700	000000			T2B: HLT		;ERROR! FAILED TO ABORT
				T2C:		
001702				CMP	#REG+17,2(KSP)	;CHECK THAT CORRECT STATUS
001702	022766	004017	000002	BEQ	.+4	;WAS SAVED ON THE STACK
001710	001401			HLT		;ERROR! INCORRECT STATUS
001712	000000			CMP	#PLA+DS+VSO+1,SR0	;CHECK SR0 (ABORT CONDITIONS
001714	022767	040021	175650	BEQ	.+4	; & FAILING PAGE #)
001722	001401			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
001724	000000			CMP	#S2+R5,SR1	;CHECK SR1 (REGISTER CHANGES)
001726	022767	000025	175640	BEQ	.+4	
001734	001401			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
001736	000000			CMP	#T2A,SR2	;CHECK CONTENTS OF SR2
001740	022767	001676	175630	BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
001746	001401			HLT		;ERROR! INCORRECT PC IN SR2
001750	000000			BIS	#REG,PSW	
001752	052767	004000	176016	CMP	#K10+2,R15	
001760	022705	016702		BEQ	.+4	
001764	001401			HLT		;ERROR! R15 DID NOT AUTO-INCREMENT
001766	000000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
001770	104000					
				;CHECK ABORT AT 545.10		
				;ABORTS WHEN SOURCE OPERAND IS FETCHED		
				;SOURCE MODE=4, SUPERVISORY MODE		
001772	012737	002026	000250	MOV	#T3C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
002000	012767	050000	175770	MOV	#SM+PSW,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
002006	012702	040002		MOV	#SI2+2,R2	
002012	010203			MOV	R2,R3	
002014	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
002020	000277			SCC		;PRESET CC'S
002022	064203			T3A: ADD	-(R2),R3	;NON-RESIDENT ABORT AT 545.10
002024	000000			T3B: HLT		;ERROR! FAILED TO ABORT
				T3C:		
002026				CMP	#KPTR-4,KSP	;CHECK STACK PTR
002026	022706	001054		BEQ	.+4	;AFTER ABORT
002032	001401			HLT		;ERROR! INCORRECT STACK PTR
002034	000000					

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002036 022766 050017 000002      CMP      #SM+PSM+17,2(KSP)      ;CHECK THAT CORRECT STATUS
002044 001401                      BEQ      .+4                      ;WAS SAVED ON THE STACK
002046 000000                      HLT      ;ERROR: INCORRECT STATUS
002050 022767 100065 175514      CMP      #NRA+SPG+DS+VS2+1 SR0      ;CHECK SR0 (ABORT CONDITIONS
002056 001401                      BEQ      .+4                      ;& FAILING PAGE #)
002060 000000                      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002062 022767 000362 175504      CMP      #SM2+R2,SR1      ;CHECK SR1 (REGISTER CHANGES)
002070 001401                      BEQ      .+4
002072 000000                      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002074 022767 002022 175474      CMP      #T3A,SR2      ;CHECK CONTENTS OF SR2
002102 001401                      BEQ      .+4                      ;(PC OF ABORTED INSTRUCTION)
002104 000000                      HLT      ;ERROR! INCORRECT PC IN SR2
                                ;CHECK CONTENTS OF REFERENCED PAGE DESCRIPTOR REGISTER (SDPDR2)
002106 032767 000300 170110      BIT      #A+W,SDPDR2      ;CHECK CONTENTS OF REFERENCED PDR
002114 001401                      BEQ      .+4
002116 000000                      HLT      ;ERROR!
002120 042767 000300 170076      BIC      #A+W,SDPDR2
002126 022702 040000      CMP      #SI2,R2 ;CHECK THAT AUTO- DECREMENT TOOK PLACE
002132 001401                      BEQ      .+4
002134 000000                      HLT      ;ERROR! R2 FAILED TO AUTO-DECREMENT
002136 022703 040002      CMP      #SI2+2,R3      ;CHECK THAT R3 WAS NOT CHANGED
002142 001401                      BEQ      .+4
002144 000000                      HLT      ;ERROR!
002146 104000                      SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

                                ;ABORTS WHEN ADDRESS OF SOURCE OPERAND IS FETCHED
                                ;SOURCE MODE=5, USER MODE
002150 012737 002210 000250      MOV      #T4C,2#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
002156 012767 170000 175612      MOV      #UM+PUM,PSW      ;USER MODE!!!,PREV USER MODE!!
002164 012704 120002                      MOV      #UIS+2,R4
002170 010405                      MOV      R4,R5
002172 012737 177777 017200      MOV      #-1,2#PUIS
002200 005237 177572                      INC      2#SR0
002204 145405      T4A:      BICB      2-(R4),R5      ;ENABLE MEMORY MGMT
002206 000000      T4B:      HLT      ;NON-RESIDENT ABORT AT 545.10
                                ;ERROR! FAILED TO ABORT

                                T4C:
002210 022706 001054                      CMP      #KPTR-4,KSP      ;CHECK STACK PTR
002214 001401                      BEQ      .+4                      ;AFTER ABORT
002216 000000                      HLT      ;ERROR! INCORRECT STACK PTR
002220 022767 100173 175344      CMP      #NRA+UPG+DS+VS5+1 SR0      ;CHECK SR0 (ABORT CONDITIONS
002226 001401                      BEQ      .+4                      ;& FAILING PAGE #)
002230 000000                      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002232 022767 000364 175334      CMP      #SM2+R4,SR1      ;CHECK SR1 (REGISTER CHANGES)
002240 001401                      BEQ      .+4
002242 000000                      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002244 022767 002204 175324      CMP      #T4A,SR2      ;CHECK CONTENTS OF SR2
002252 001401                      BEQ      .+4                      ;(PC OF ABORTED INSTRUCTION)
002254 000000                      HLT      ;ERROR! INCORRECT PC IN SR2
                                ;CHECK CONTENTS OF REFERENCED PAGE DESCRIPTOR REGISTER (UDPDR5)
002256 032767 000300 175246      BIT      #A+W,UDPDR5      ;CHECK CONTENTS OF REFERENCED PDR
002264 001401                      BEQ      .+4
002266 000000                      HLT      ;ERROR!
002270 042767 000300 175334      BIC      #A+W,UDPDR5
002276 022704 120000      CMP      #UIS,R4 ;CHECK AUTO-DECREMENT
002302 001401                      BEQ      .+4

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002304 000000          HLT          ;ERROR! FAILED TO AUTO-DECREMENT R4
002306 022705 120002   CMP          #UIS+2,R5 ;CHECK THAT R5 WAS UNCHANGED
002312 001401          BEQ          .+4
002314 000000          HLT          ;ERROR!
002316 104000          SCOPE        ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT MTU.10
;ABORTS WHEN DATA IS POPPED OFF THE SUPER STACK
002320 012767 050000 175450   MOV      #SM+PSM,PSW ;SUPER MODE!!!,PREV SUPER MODE!!
002326 012737 002360 000250   MOV      #TSC,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
002334 012706 040000          MOV      #SI2,SSP ;SUPER STACK PTR IS NON-RESIDENT
002340 012737 177777 017000   MOV      #-1,2#PSI2
002346 005002          CLR      R2
002350 005237 177572          INC      2#SR0 ;ENABLE MEMORY MGMT
002354 106602          T5A: MTPD    R2 ;NON-RES ABORT AT MTU.10
002356 000000          T5B: HLT      ;ERROR! FAILED TO ABORT

002360          T5C:
002360 022706 001054          CMP      #KPTR-4,KSP ;CHECK STACK PTR
002364 001401          BEQ      .+4 ;AFTER ABORT
002366 000000          HLT      ;ERROR! INCORRECT STACK PTR
002370 022767 100065 175174   CMP      #NRA+SPG+DS+VS2+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
002376 001401          BEQ      .+4 ;& FAILING PAGE #)
002400 000000          HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002402 022767 000026 175164   CMP      #S2+SP,SR1 ;CHECK SR1 (REGISTER CHANGES)
002410 001401          BEQ      .+4
002412 000000          HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002414 022767 002354 175154   CMP      #T5A,SR2 ;CHECK CONTENTS OF SR2
002422 001401          BEQ      .+4 ; (PC OF ABORTED INSTRUCTION)
002424 000000          HLT      ;ERROR! INCORRECT PC IN SR2
002426 005702          TST      R2 ;CHECK THAT R2 WAS NOT CHANGED
002430 001401          BEQ      .+4
002432 000000          HLT      ;ERROR!
002434 106506          MFPD    SSP ;PUSH SSP ONTO KERNEL STACK
002436 022716 040002          CMP      #SI2+2,(KSP) ;CHECK THAT SUPER STACK PTR POPPED
002442 001401          BEQ      .+4
002444 000000          HLT
002446 104000          SCOPE        ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT S67.20
;ABORTS WHEN SOURCE OPERAND IS FETCHED
;SOURCE MODE = 6
002450 012737 002474 000250   MOV      #T6C,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
002456 012702 177777          MOV      #-1,R2
002462 005237 177572          INC      2#SR0 ;ENABLE MEMORY MGMT
002466 016702 014206          T6A: MOV      K10,R2 ;SEG LENGTH ABORT AT S67.20
002472 000000          T6B: HLT      ;ERROR! FAILED TO ABORT

002474          T6C:
002474 022767 040021 175070   CMP      #PLA+DS+VS0+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
002502 001401          BEQ      .+4 ;& FAILING PAGE #)
002504 000000          HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002506 022767 000000 175060   CMP      #0,SR1 ;CHECK SR1 (REGISTER CHANGES)
002514 001401          BEQ      .+4
002516 000000          HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002520 022767 002466 175050   CMP      #T6A,SR2 ;CHECK CONTENTS OF SR2

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002526 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
002530 000000      HLT              ;ERROR! INCORRECT PC IN SR2
002532 005202      INC      R2      ;CHECK THAT R2 WAS NOT CHANGED
002534 001401      BEQ      .+4
002536 000000      HLT              ;ERROR!
002540 104000      SCOPE            ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;ABORTS WHEN ADDRESS OF SOURCE OPERAND IS FETCHED
;SOURCE MODE = 7, PC
002542 012737 002564 000250      MOV      #T7C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
002550 005004      CLR      R4
002552 005237 177572      INC      @SR0      ;ENABLE MEMORY MGMT
002556 067404 016700      T7A: ADD      @KIO(R4), R4      ;SEG LEN ABORT AT 567.20
002562 000000      T7B: HLT              ;ERROR! FAILED TO ABORT

002564      T7C:
002564 022767 040021 175000      CMP      #PLA+DS+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
002572 001401      BEQ      .+4      ;& FAILING PAGE #)
002574 000000      HLT              ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002576 022767 000000 174770      CMP      #0, SR1      ;CHECK SR1 (REGISTER CHANGES)
002604 001401      BEQ      .+4
002606 000000      HLT              ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002610 022767 002556 174760      CMP      #17A, SR2      ;CHECK CONTENTS OF SR2
002616 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
002620 000000      HLT              ;ERROR! INCORRECT PC IN SR2
002622 005704      TST      R4
002624 001401      BEQ      .+4
002626 000000      HLT
002630 104000      SCOPE            ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT 513.30
;ABORTS WHEN SOURCE OPERAND IS FETCHED
;SOURCE MODE = 3, PC
002632 012737 002654 000250      MOV      #T10C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
002640 005003      CLR      R3
002642 005237 177572      INC      @SR0      ;ENABLE MEMORY MGMT
002646 013703 016700      T10A: MOV      @KIO, R3      ;SEG LEN ABORT AT 513.30
002652 000000      T10B: HLT              ;ERROR! FAILED TO ABORT

002654      T10C:
002654 022767 040021 174710      CMP      #PLA+DS+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
002662 001401      BEQ      .+4      ;& FAILING PAGE #)
002664 000000      HLT              ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002666 022767 000027 174700      CMP      #S2+PC, SR1      ;CHECK SR1 (REGISTER CHANGES)
002674 001401      BEQ      .+4
002676 000000      HLT              ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002700 022767 002646 174670      CMP      #T10A, SR2      ;CHECK CONTENTS OF SR2
002706 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
002710 000000      HLT              ;ERROR! INCORRECT PC IN SR2
002712 005703      TST      R3
002714 001401      BEQ      .+4
002716 000000      HLT              ;ERROR!
002720 104000      SCOPE            ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

; ABORTS WHEN SOURCE OPERAND IS FETCHED
;SOURCE MODE = 5

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002722 012737 002752 000250      MOV      #T11C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
002730 012703 140002              MOV      #KD6+2, R3
002734 012737 016700 01670C      MOV      #K10, @PKD6
002742 005237 177572              INC      @SR0              ;ENABLE MEMORY MGMT
002746 155303                    T11A:  BISB      @-(R3), R3      ;SEG LENGTH ABORT AT 513.30
002750 000000                    T11B:  HLT              ;ERROR! FAILED TO ABORT

002752                                T11C:
002752 022767 040021 174612      CMP      #PLA+DS+VS0+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
002760 001401                    BEQ      .+4              ;& FAILING PAGE #)
002762 000000                    HLT              ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
002764 022767 000363 174602      CMP      #SM2+R3, SR1      ;CHECK SR1 (REGISTER CHANGES)
002772 001401                    BEQ      .+4
002774 000000                    HLT              ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
002776 022767 002746 174572      CMP      #T11A, SR2      ;CHECK CONTENTS OF SR2
003004 001401                    BEQ      .+4              ; (PC OF ABORTED INSTRUCTION)
003006 000000                    HLT              ;ERROR! INCORRECT PC IN SR2
003010 022703 140000              CMP      #KD6, R3
003014 001401                    BEQ      .+4
003016 000000                    HLT
003020 104000                    SCOPE              ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;ABORTS WHEN SOURCE OPERAND IS FETCHED
;SOURCE MODE=7, PC
003022 012737 003062 000250      MOV      #T12C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
003030 012767 050000 174740      MOV      #SM+PSM, PSW      ;SUPER MODE!!!, PREV SUPER MODE!!
003036 012737 040000 017100      MOV      #SI2, @PSD1
003044 005237 177572              INC      @SR0              ;ENABLE MEMORY MGMT
003050 000277                    SCC
003052 167737 014722 017100      T12A:  SUB      @SD1, @PSD1      ;PRESET CC'S
003060 000000                    T12B:  HLT              ;NON-RES ABORT
;ERROR! FAILED TO ABORT

003062                                T12C:
003062 022766 050017 000002      CMP      #SM+PSM+17, 2(KSP)      ;CHECK THAT CORRECT STATUS
003070 001401                    BEQ      .+4              ;WAS SAVED ON THE STACK
003072 000000                    HLT              ;ERROR! INCORRECT STATUS
003074 022767 100065 174470      CMP      #NRA+SPG+DS+VS2+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
003102 001401                    BEQ      .+4              ;& FAILING PAGE #)
003104 000000                    HLT              ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
003106 022767 000000 174460      CMP      #0, SR1      ;CHECK SR1 (REGISTER CHANGES)
003114 001401                    BEQ      .+4
003116 000000                    HLT              ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
003120 022767 003052 174450      CMP      #T12A, SR2      ;CHECK CONTENTS OF SR2
003126 001401                    BEQ      .+4              ; (PC OF ABORTED INSTRUCTION)
003130 000000                    HLT              ;ERROR! INCORRECT PC IN SR2
003132 005037 177572              CLR      @SR0              ;DISABLE MEMORY MGMT
003136 022737 040000 017100      CMP      #SI2, @PSD1
003144 001401                    BEQ      .+4
003146 000000                    HLT
003150 104000                    SCOPE              ;ERROR!
;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT RTI.10
;ABORT WHEN TOP WORD OFF STACK (PC) IS FETCHED
003152 012737 003214 000250      MOV      #T13C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
003160 012767 050000 174610      MOV      #SM+PSM, PSW      ;SUPER MODE!!!, PREV SUPER MODE!!
003166 012706 040000              MOV      #SI2, SSP      ;SUPER STACK PTR IS NON-RES

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003172 012737 003212 017000      MOV      #T13D,2#PSI2      ;LOAD 'NEW' PC
003200 005237 177572              INC      2#SRO          ;ENABLE MEMORY MGMT
003204 000277                      SCC
003206 000002      T13A:      RTI          ;NON-RES ABORT AT RTI.10
003210 000000      T13B:      HLT          ;ERROR! FAILED TO ABORT
003212 000000      T13D:      HLT          ;ERROR! RTI FAILED & DID NOT ABORT

003214 022706 001054      T13C:      CMP      #KPTR-4,KSP      ;CHECK STACK PTR
003214 001401              BEQ      .+4          ;AFTER ABORT
003220 000000              HLT          ;ERROR! INCORRECT STACK PTR
003222 000000                      ;CHECK THAT CORRECT STATUS
003224 022766 050017 000002      CMP      #SM+PSM+17,2(KSP)
003232 001401              BEQ      .+4          ;WAS SAVED ON THE STACK
003234 000000              HLT          ;ERROR! INCORRECT STATUS
003236 022767 100065 174326      CMP      #NRA+SPG+DS+VS2+1,SRO ;CHECK SRO (ABORT CONDITIONS
003244 001401              BEQ      .+4          ;& FAILING PAGE #)
003246 000000              HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
003250 022767 000026 174316      CMP      #S2+SP,SR1          ;CHECK SR1 (REGISTER CHANGES)
003256 001401              BEQ      .+4
003260 000000              HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
003262 022767 003206 174306      CMP      #T13A,SR2          ;CHECK CONTENTS OF SR2
003270 001401              BEQ      .+4          ; (PC OF ABORTED INSTRUCTION)
003272 000000              HLT          ;ERROR! INCORRECT PC IN SR2
003274 106506      MFPD      SSP          ;PUSH SUPER STACK PTR ONTO KERNEL STACK
003276 022716 040002      CMP      #SI2+2,(KSP) ;CHECK THAT SUPER STACK PTR WAS POPPED
003302 001401              BEQ      .+4
003304 000000              HLT          ;ERROR!
003306 104000              SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT RTI.30
;ABORTS WHEN SECOND WORD ON STACK (STATUS) IS FETCHED
003310 012737 003354 000250      MOV      #T14C,2#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
003316 012767 170000 174452      MOV      #UM+PUM,PSW      ;USER MODE!!!,PREV USER MODE!!
003324 012706 100076      MOV      #UD4+76,USP
003330 012737 003352 017376      MOV      #T14D,2#PU04+76 ;LOAD USER STACK (PHYS ADRS.)
003336 005137 017400      CLR      2#PU04+100 ;AND 'NEW' STATUS
003342 005237 177572      INC      2#SRO          ;ENABLE MEMORY MGMT
003346 000006      T14A:      RTI          ;SEG LEN ABORT AFTER FIRST POP RTI.30
003350 000200      T14B:      HLT          ;ERROR! FAILED TO ABORT
003352 000000      T14D:      HLT          ;ERROR!

003354 022767 040171 174210      T14C:      CMP      #PLA+UPG+DS+VS4+1,SRO ;CHECK SRO (ABORT CONDITIONS
003354 001401              BEQ      .+4          ;& FAILING PAGE #)
003362 000000              HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
003364 022767 013026 174200      CMP      #D2+DR6+S2+SP,SR1 ;CHECK SR1 (REGISTER CHANGES)
003374 001401              BEQ      .+4
003376 000000              HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
003400 022767 003346 174170      CMP      #T14A,SR2          ;CHECK CONTENTS OF SR2
003406 001401              BEQ      .+4          ; (PC OF ABORTED INSTRUCTION)
003410 000000              HLT          ;ERROR! INCORRECT PC IN SR2
003412 106506      MFPD      USP          ;PUSH USER STACK PTR ONTO KERNEL STACK
003414 022716 100102      CMP      #UD4+102,(KSP) ;CHECK THAT USER STACK PTR POPPED TWICE
003420 001401              BEQ      .+4
003422 000000              HLT
003424 104000              SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

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;CHECK ABORT AT RTS.10
;ABORTS WHEN TOP WORD ON SUPER STACK (RETURN PC) IS FETCHED
003426 012767 050000 174342      MOV      #SM+PSM,PSW      ;SUPER MODE!!!,PREV SUPER MODE!!
003434 012706 040000              MOV      #SI2,SSP
003440 012737 003464 000250      MOV      #T16C,2#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
003446 012705 003462              MOV      #T16D,R5
003452 005237 177572              INC      2#SRO
003456 000205              T16A:  RTS      5      ;ENABLE MEMORY MGMT
003460 000000              T16B:  HLT
003462 000000              T16D:  HLT      ;ABORTS AT RTS.10 (STACK IS NON-RES)
                                           ;ERROR! RTS& ABORT FAILED
                                           ;ERROR! ABORT FAILED

003464 022706 001054              T16C:  CMP      #KPTR-4,KSP      ;CHECK STACK PTR
003464 001401              BEQ      .+4      ;AFTER ABORT
003470 000000              HLT      ;ERROR! INCORRECT STACK PTR
003472 022767 100065 174070      CMP      #NRA+SPG+DS+VS2+1,SRO      ;CHECK SRO (ABORT CONDITIONS
003474 001401              BEQ      .+4      ;& FAILING PAGE #)
003502 000000              HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
003504 022767 000026 174060      CMP      #S2+SP,SR1      ;CHECK SR1 (REGISTER CHANGES)
003506 001401              BEQ      .+4
003514 000000              HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
003516 022767 003456 174050      CMP      #T16A,SR2      ;CHECK CONTENTS OF SR2
003520 001401              BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
003526 000000              HLT      ;ERROR! INCORRECT PC IN SR2
003530 022705 003462              CMP      #T16D,R5      ;CHECK THAT R5 DID NOT CHANGE
003532 001401              BEQ      .+4
003536 000000              HLT      ;ERROR!
003540 106506              MFPD      SSP      ;PUSH SUPER STACK PTR ONTO KERNEL STACK
003542 022716 040002              CMP      #SI2+2,(KSP)      ;CHECK THAT SUPER STACK WAS POPPED
003544 001401              BEQ      .+4
003550 000000              HLT      ;ERROR! INCORRECT SUPER STACK PTR
003552 104000              SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT MRK.10
;ABORTS WHEN TOP WORD ON STACK IS FETCHED
003556 012737 003614 000250      MOV      #T17C,2#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
003564 012737 006400 016676      MOV      #6400,2#KIO-2      ;6400 IS A MARK 0 INST.
003572 012705 003612              MOV      #T17D,R5      ;PRESET R5
003576 005037 016700              CLR      2#KIO
003602 005237 177572              INC      2#SRO
003606 000137 016676              JMP      2#KIO-2      ;ENABLE MEMORY MGMT
                                           ;GO TO MARK INSTRUCTION
                                           ;***** NOTE PC CHANGE *****
                                           ;*****
                                           ;*****
003612 016676              .=KIO-2
003614 006400              T17A:  MARK      0      ;SEG LEN ABORT AT MRK.10
003616 000000              T17B:  HLT      ;ERROR! DID NOT ABORT
                                           ;***** RETURN PC*****
                                           ;*****
003612 003612              .=RETURN
003614 000000              T17D:  HLT      ;ERROR! FAILED TO ABORT
003616 022706 001054              T17C:  CMP      #KPTR-4,KSP      ;CHECK STACK PTR
003620 001401              BEQ      .+4      ;AFTER ABORT
003622 000000              HLT      ;ERROR! INCORRECT STACK PTR
003624 022767 040021 173740      CMP      #PLA+DS+VSO+1,SRO      ;CHECK SRO (ABORT CONDITIONS
003632 001401              BEQ      .+4      ;& FAILING PAGE #)

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003634	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
003636	022767	000000	173730	CMP	#0,SR1 ;CHECK SR1 (REGISTER CHANGES)	
003644	001401			BEQ	.+4	
003646	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
003650	022767	016676	173720	CMP	#T17A,SR2	;CHECK CONTENTS OF SR2
003656	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
003660	000000			HLT		;ERROR! INCORRECT PC IN SR2
003662	022705	003612		CMP	#T17D,R5	;CHECK THAT R5 IS UNCHANGED
003666	001401			BEQ	.+4	
003670	000000			HLT		;ERROR!
003672	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT IRD.00
;ABORTS WHEN SOURCE INDEX IS FETCHED
;SOURCE MODE = 6, PC

003674	012737	003736	000250	MOV	#T20C, #MMVEC	;LOAD MEM MGMT ERROR VECTOR
003702	012702	177777		MOV	#-1,R2	;PRESET DEST REG
003706	012737	016702	016676	MOV	#16702, #KIO-2	;16702,000000 IS A MOV .+4,R2
003714	005037	016700		CLR	#KIO	;INSTRUCTION
003720	005037	016702		CLR	#KIO+2	
003724	005237	177572		INC	#SR0	;ENABLE MEMORY MGMT
003730	000277			SCC		;PRESET CC'S
003732	000137	016676		JMP	#KIO-2	;GO TO MOV INST.
	003736			RETURN=.		

;***** NOTE PC CHANGE *****

016676	016676	000000		MOV	.+4,R2	;SEG LEN ABORT WHEN INDEX VALUE IS FETCHED
016702	000000			HLT		;ERROR! FAILED TO ABORT
	003736					
				RETURN		

;***** RETURN PC *****

003736	022705	001054		CMP	#KPTR-4,KSP	;CHECK STACK PTR
003742	001401			BEQ	.+4	;AFTER ABORT
003744	000000			HLT		;ERROR! INCORRECT STACK PTR
003746	022766	000017	000002	CMP	#17,2(KSP)	;CHECK THAT CORRECT STATUS
003754	001401			BEQ	.+4	;WAS SAVED ON THE STACK
003756	000000			HLT		;ERROR! INCORRECT STATUS
003760	022767	040001	173604	CMP	#PLA+IS+VSO+1,SR0	;CHECK SR0 (ABORT CONDITIONS
003766	001401			BEQ	.+4	; & FAILING PAGE #)
003770	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
003772	022767	000000	173574	CMP	#0,SR1 ;CHECK SR1 (REGISTER CHANGES)	
004000	001401			BEQ	.+4	
004002	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
004004	022767	016676	173564	CMP	#T20A,SR2	;CHECK CONTENTS OF SR2
004012	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
004014	000000			HLT		;ERROR! INCORRECT PC IN SR2
004016	005202			INC	R2	
004020	001401			BEQ	.+4	
004022	000000			HLT		
004024	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;ABORTS WHEN SOURCE INDEX IS FETCHED
;SOURCE MODE = 7

004026	012737	004070	000250	MOV	#T21C, #MMVEC	;LOAD MEM MGMT ERROR VECTOR
004034	012737	177777	016700	MOV	#-1, #PKD6	
004042	012702	140000		MOV	#KD6,R2	;LOAD INDEX REGISTER

K02

TEST DCKTF-C MEMORY MGMT ABORT TRAPS
DCKTFC.P11

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004046	012737	017202	016676	MOV	#017202,2#K10-2	:017202,000000 IS A MOV 20(R2),R2
004054	005037	016700		CLR	2#K10	:INSTRUCTION
004060	005237	177572		INC	2#SRO	:ENABLE MEMORY MGMT
004064	000137	016676		JMP	2#K10-2	
	004070			RETURN=.		
;***** NOTE PC CHANGE *****						
	016676	000000		.=K10-2		
016676	017202			T21A: MOV	20(R2),R2	:SEG LEN ABORT AT 567.20
016702	000000			T21B: HLT		:ERROR! FAILED TO ABORT
	004070			.=RETURN		
;***** RETURN PC *****						
004070				T21C:		
004070	022767	040001	173474	CMP	#PLA+IS+VSO+1,SRO	:CHECK SRO (ABORT CONDITIONS
004076	001401			BEQ	.+4	:& FAILING PAGE #)
004100	000000			HLT		:ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
004102	022767	000000	173464	CMP	#0,SRI	:CHECK SRI (REGISTER CHANGES)
004110	001401			BEQ	.+4	
004112	000000			HLT		:ERROR! INCORRECT REGISTER CHANGES RECORDED IN SRI
004114	022767	016676	173454	CMP	#T21A,SR2	:CHECK CONTENTS OF SR2
004122	001401			BEQ	.+4	: (PC OF ABORTED INSTRUCTION)
004124	000000			HLT		:ERROR! INCORRECT PC IN SR2
004126	022702	140000		CMP	#KD6,R2	:CHECK THAT R2 IS UNCHANGED
004132	001401			BEQ	.+4	
004134	000000			HLT		:ERROR!
004136	104000			SCOPE		:SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT 508.20						
;ABORTS WHEN INST FOLLOWING SOB IS FETCHED						
004140	012703	000001		MOV	#1,%3	
004144	012737	077302	016676	MOV	#077302,2#K10-2	:077302=SOB R3,-2
004152	005037	016674		CLR	2#K10-4	:CLEAR INST. PRECEDING SOB (-2)
004156	005037	016700		CLR	2#K10	:PUT HLT FOLLOWING SOB
004162	012737	004202	000250	MOV	#T22C,2#MMVEC	:LOAD MEM MGMT ERROR VECTOR
004170	005237	177572		INC	2#SRO	:ENABLE MEMORY MGMT
004174	000277			SCC		:PRESET CC'S
004176	000137	016676		JMP	2#K10-2	:GO TO SOB INST.
	004202			RETURN=.		
	016674			.=K10-4		
016674	000000			T22:		
016676	077302			T22A: SOB	R3,-2	:ERROR! SOB BRANCHED & FAILED TO ABORT
016700	000000			T22AA: HLT		:ABORTS WHEN NEXT INST. IS FETCHED
016702	000000			T22B: 0		:ERROR! FAILED TO ABORT
	004202			.=RETURN		
004202				T22C:		
004202	022706	001054		CMP	#KPTR-4,KSP	:CHECK STACK PTR
004206	001401			BEQ	.+4	:AFTER ABORT
004210	000000			HLT		:ERROR! INCORRECT STACK PTR
004212	022766	000017	000002	CMP	#17,2(KSP)	:CHECK THAT CORRECT STATUS
004220	001401			BEQ	.+4	:WAS SAVED ON THE STACK
004222	000000			HLT		:ERROR! INCORRECT STATUS
004224	022767	040001	173340	CMP	#PLA+IS+VSO+1,SRO	:CHECK SRO (ABORT CONDITIONS
004232	001401			BEQ	.+4	:& FAILING PAGE #)
004234	000000			HLT		:ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT

004236	022767	000000	173330	CMP	#0,SR1 ;CHECK SR1 (REGISTER CHANGES)	
004244	001401			BEQ	.+4	
004246	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
004250	022767	016700	173320	CMP	#T22AA,SR2	;CHECK CONTENTS OF SR2
004256	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
004260	000000			HLT		;ERROR! INCORRECT PC IN SR2
004262	005703			TST	R3	;CHECK THAT R3 DECREMENTD
004264	001401			BEQ	.+4	
004266	000000			HLT		;ERROR! R3 WAS NOT DECREMENTED BY SOB
004270	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

				;CHECK ABORT AT SPL.10		
				;ABORTS WHEN INST FOLLOWING SPL IS FETCHED		
004272	012767	000340	173476	MOV	#PRTY7,PSW	;KERNEL MODE!!!,PREV KERNEL MODE!!
004300	012737	004334	000250	MOV	#T23C,@#MMVEC	;LOAD MEM MGMT ERROR VECTOR
004306	012737	000230	016676	MOV	#230,@#KIO-2	;230=SPL 0
004314	005037	016700		CLR	@#KIO	
004320	005237	177572		INC	@#SRO	;ENABLE MEMORY MGMT
004324	000237			SPL	7	
004326	000277			SCC		
004330	000137	016676		JMP	@#KIO-2	
	004334			RETURN=.		
	016676			.=KIO-2		
016676	000230			SPL	0	;SEG LEN ABORT WHEN NEXT INST IS FETCHED
016700	000000			HLT		;ERROR! FAILED TO ABORT AT SPL.10
016702	000000			T23B:	0	
	004334			.=RETURN		

				T23C:		
004334	022706	001054		CMP	#KPTR-4,KSP	;CHECK STACK PTR
004340	001401			BEQ	.+4	;AFTER ABORT
004342	000000			HLT		;ERROR! INCORRECT STACK PTR
004344	022766	000017	000002	CMP	#17,2(KSP)	;CHECK THAT CORRECT STATUS
004352	001401			BEQ	.+4	;WAS SAVED ON THE STACK
004354	000000			HLT		;ERROR! INCORRECT STATUS
004356	022767	040001	173206	CMP	#PLA+1,SRO	;CHECK SRO (ABORT CONDITIONS
004364	001401			BEQ	.+4	; & FAILING PAGE #)
004366	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
004370	022767	000000	173176	CMP	#0,SR1 ;CHECK SR1 (REGISTER CHANGES)	
004376	001401			BEQ	.+4	
004400	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
004402	022767	016700	173166	CMP	#T23AA,SR2	;CHECK CONTENTS OF SR2
004410	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
004412	000000			HLT		;ERROR! INCORRECT PC IN SR2
004414	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

				;CHECK ABORT AT D12.01		
				;ABORTS WHEN DEST OPERAND IS FETCHED		
004416	012737	010000	177776	MOV	#KM+PSM,@#PSW	;KERNEL MODE!!!,PREV SUPER MODE!!
004424	012737	004446	000250	MOV	#T24C,@#MMVEC	;LOAD MEM MGMT ERROR VECTOR
004432	012702	040000		MOV	#SI2,R2	
004436	005237	177572		INC	@#SRO	;ENABLE MEMORY MGMT
004442	106522			MFPD	(R2)+	;NON-RESIDENT ABORT AT D12.01
004444	000000			HLT		
004446				T24C:		

004446	022706	001054		CMP	#KPTR-4,KSP	;CHECK STACK PTR
004452	001401			BEQ	.+4	;AFTER ABORT
004454	000000			HLT		;ERROR! INCORRECT STACK PTR
004456	022767	100065	173106	CMP	#NRA+SPG+DS+VS2+1	;SRJ ;CHECK SRO (ABORT CONDITIONS
004464	001401			BEQ	.+4	; & FAILING PAGE #)
004466	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
004470	022767	000022	173076	CMP	#S2+R2,SR1	;CHECK SR1 (REGISTER CHANGES)
004476	001401			BEQ	.+4	
004500	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
004502	022767	004442	173066	CMP	#T24A,SR2	;CHECK CONTENTS OF SR2
004510	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
004512	000000			HLT		;ERROR! INCORRECT PC IN SR2
004514	022702	040002		CMP	#SI2+2,R2	;CHECK THAT R2 AUTO-INCREMENTED
004520	001401			BEQ	.+4	
004522	000000			HLT		;ERROR! R2 DID NOT AUTO-INCREMENT
004524	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D12.00

;ABORTS WHEN DEST OPERAND IS FETCHED

004526	012737	004556	000250	MOV	#T25C,@MMVEC	;LOAD MEM MGMT ERROR VECTOR
004534	012702	177572		MOV	#SRO,R2	
004540	012767	050000	173230	MOV	#SM+PSM,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
004546	005237	177572		INC	@#SRO	;ENABLE MEMORY MGMT
004552	005012			CLR	(R2)	;ABORT AT D12.00
004554	000000			HLT		;ERROR! FAILED TO ABORT

T25C:

004556	022706	001054		CMP	#KPTR-4,KSP	;CHECK STACK PTR
004562	001401			BEQ	.+4	;AFTER ABORT
004564	000000			HLT		;ERROR! INCORRECT STACK PTR
004566	022767	140077	172776	CMP	#NRA+PLA+SPG+DS+VS7+1	;SRJ ;CHECK SRO (ABORT CONDITIONS
004574	001401			BEQ	.+4	; & FAILING PAGE #)
004576	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
004600	022767	000000	172766	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
004606	001401			BEQ	.+4	
004610	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
004612	022767	004552	172756	CMP	#T25A,SR2	;CHECK CONTENTS OF SR2
004620	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
004622	000000			HLT		;ERROR! INCORRECT PC IN SR2
004624	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D12.20

;ABORTS WHEN INST FOLLOWING INST AT T26A IS FETCHED

004626	012737	004676	000250	MOV	#T26C,@MMVEC	;LOAD MEM MGMT ERROR VECTOR
004634	005002			CLR	R2	
004636	012703	140000		MOV	#KD6,R3	
004642	012737	177777	016700	MOV	#-1,@PKD6	
004650	012737	010223	016676	MOV	#010223,@KIO-2	;010223=MOV R2,(R3)+
004656	005037	016700		CLR	@#KIO	
004662	005237	177572		INC	@#SRO	;ENABLE MEMORY MGMT
004666	000237			SPL	7	;PRESET PRIORITY
004670	000257			CCC		
004672	000137	016676		JMP	@#KIO-2	
	004676			RETURN=.		
	016676			.=KIO-2		
016676	010223			T26A: MOV	R2,(R3)+	;ABORTS WHEN NEXT INST. IS FETCHED

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016700 000000      T26AA: HLT                      ;ERROR! FAILED TO ABORT AT D12.20
016702 000000      T26B: 0
      004676      . =RETURN

004676
004676 022766 000344 000002      T26C:  CMP      #PRTY7+Z,2(KSP) ;CHECK THAT CORRECT STATUS
004704 001401      BEQ      .+4                      ;WAS SAVED ON THE STACK
004706 000000      HLT                      ;ERROR! INCORRECT STATUS
004710 022767 040001 172654      CMP      #PLA+1,SR0      ;CHECK SR0 (ABORT CONDITIONS
004716 001401      BEQ      .+4                      ; & FAILING PAGE #)
004720 000000      HLT                      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
004722 022767 000000 172644      CMP      #0,SR1      ;CHECK SR1 (REGISTER CHANGES)
004730 001401      BEQ      .+4
004732 000000      HLT                      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
004734 022767 016700 172634      CMP      #T26AA,SR2      ;CHECK CONTENTS OF SR2
004742 001401      BEQ      .+4                      ; (PC OF ABORTED INSTRUCTION)
004744 000000      HLT                      ;ERROR! INCORRECT PC IN SR2
004746 005037 177572      CLR      @#SR0      ;DISABLE MEMORY MGMT
004752 005737 016700      TST      @#PKD6      ;CHECK THAT MOV INST COMPLETED
004756 001401      BEQ      .+4
004760 000000      HLT                      ;ERROR!
004762 022703 140002      CMP      #KD6+2,R3      ;CHECK AUTO-INCREMENT
004766 001401      BEQ      .+4
004770 000000      HLT                      ;ERROR!
004772 104000      SCOPE                      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D12.80
;ABORTS WHEN DEST OPERAND IS FETCHED
;DM=2
004774 012737 005032 000250      MOV      #T27C,@#MMVEC ;LOAD MEM MGMT ERROR VECTOR
005002 012704 100000      MOV      #UD4,R4
005006 012767 070000 172762      MOV      #SM+PUM,PSW ;SUPER MODE!!!,PREV USER MODE!!
005014 012706 000700      MOV      #SPTR,SSP ;SET SUPER STACK PTR
005020 005016      CLR      (SSP)
005022 005237 177572      INC      @#SR0
005026 006624      T27A: MTPI      (R4)+ ;ENABLE MEMORY MGMT
005030 000000      T27B: HLT ;NON-RESIDENT ABORT AT D12.80
      ;ERROR! FAILED TO ABORT

005032
005032 022767 100151 172532      T27C:  CMP      #NRA+UPG+IS+VS4+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
005040 001401      BEQ      .+4                      ; & FAILING PAGE #)
005042 000000      HLT                      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
005044 022767 012026 172522      CMP      #D2+DR4+S2+SP,SR1 ;CHECK SR1 (REGISTER CHANGES)
005052 001401      BEQ      .+4
005054 000000      HLT                      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
005056 022767 005026 172512      CMP      #T27A,SR2      ;CHECK CONTENTS OF SR2
005064 001401      BEQ      .+4                      ; (PC OF ABORTED INSTRUCTION)
005066 000000      HLT                      ;ERROR! INCORRECT PC IN SR2
005070 106506      MFPD      SSP ;PUSH SUPER STACK PTR ONTO KERNEL STACK
005072 022716 000702      CMP      #SPTR+2,(KSP) ;CHECK THAT SUPER STACK PTR POPPED
005076 001401      BEQ      .+4
005100 000000      HLT                      ;ERROR! SUPER STACK PTR FAILED TO POP
005102 022704 100002      CMP      #UD4+2,R4 ;CHECK AUTO-INC OF R4
005106 001401      BEQ      .+4
005110 000000      HLT                      ;ERROR! AUTO-INC FAILED
005112 104000      SCOPE                      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

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;CHECK ABORT AT D12.90
;ABORTS WHEN DEST OPERAND IS FETCHED
005114 012737 005144 000250      MOV      #T30C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
005122 012703 001077      MOV      #KDO-1, R3
005126 012737 177777 001100      MOV      #-1, @KDO
005134 005237 177572      INC      @SRO
005140 142323      T30A:  BICB      (R3)+, (R3)+      ;ENABLE MEMORY MGMT
005142 000000      HLT                      ;SEG LENGTH ABORT AT D12.90
                                           ;ERROR! FAILED TO ABORT

005144      T30C:
005144 022767 040021 172420      CMP      #PLA+DS+1, SRO      ;CHECK SRO (ABORT CONDITIONS
005152 001401      BEQ      .+4      ;& FAILING PAGE #)
005154 000000      HLT                      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
005156 022767 005413 172410      CMP      #D1+DR3+S1+R3, SR1      ;CHECK SR1 (REGISTER CHANGES)
005164 001401      BEQ      .+4
005166 000000      HLT                      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
005170 022767 005140 172400      CMP      #T30A, SR2      ;CHECK CONTENTS OF SR2
005176 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
005200 000000      HLT                      ;ERROR! INCORRECT PC IN SR2
005202 005037 177572      CLR      @SRO      ;DISABLE MEMORY MGMT
005206 022703 001101      CMP      #KDO+1, R3      ;CHECK AUTO-INC TWICE
005212 001401      BEQ      .+4
005214 000000      HLT                      ;ERROR!
005216 005237 001100      INC      @KDO
005222 001401      BEQ      .+4
005224 000000      HLT                      ;ERROR!
005226 104000      SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D30.90
;ABORTS WHEN ADDRESS OF DEST OPERAND IS FETCHED
005230 012737 005300 000250      MOV      #T31C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
005236 012702 040000      MOV      #SI2, R2
005242 012703 017100      MOV      #PSD1, R3
005246 012713 177777      MOV      #-1, (R3)
005252 011337 017000      MOV      (R3), @PSI2
005256 012703 020002      MOV      #SD1+2, R3
005262 012767 050000 172506      MOV      #SM+PSM, PSW
005270 005237 177572      INC      @SRO
005274 114332      T31A:  MOVB      -(R3), @R2+
005276 000000      T31B:  HLT                      ;NON-RESIDENT ABORT AT D30.90
                                           ;ERROR! FAILED TO ABORT

005300      T31C:
005300 022767 100065 172264      CMP      #NRA+SPG+DS+VS2+1, SRO      ;CHECK SRO (ABORT CONDITIONS
005306 001401      BEQ      .+4      ;& FAILING PAGE #)
005310 000000      HLT                      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
005312 022767 011373 172254      CMP      #D2+DR2+SM1+R3, SR1      ;CHECK SR1 (REGISTER CHANGES)
005320 001401      BEQ      .+4
005322 000000      HLT                      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
005324 022767 005274 172244      CMP      #T31A, SR2      ;CHECK CONTENTS OF SR2
005332 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
005334 000000      HLT                      ;ERROR! INCORRECT PC IN SR2
005336 022702 040002      CMP      #SI2+2, R2      ;CHECK AUTO-INC
005342 001401      BEQ      .+4
005344 000000      HLT                      ;ERROR!
005346 022703 020001      CMP      #SD1+1, R3      ;CHECK AUTO DECREMENT OF R3

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005352 001401      BEQ      .+4
005354 000000      HLT
005356 104000      SCOPE      ;ERROR! R3 NOT AUTO-DECREMENTED
                                ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

                                ;CHECK ABORT AT D10.50
005360 012737 005422 000250      MOV      #T32C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
005366 012767 050000 172402      MOV      #SM+PSM, PSW      ;SUPER MODE!!!, PREV SUPER MODE!!
005374 012706 000700      MOV      #SPTR, SSP      ;SET SUPER STACK PTR
005400 005316      CLR      (SSP)
005402 012702 020000      MOV      #SD1, R2
005406 010237 017100      MOV      R2, @PSD1
005412 005237 177572      INC      @SR0
005416 005632      T32A: MTP1    @R2)+      ;ENABLE MEMORY MGMT
005420 000C00      T32B: HLT      ;NON-RESIDENT ABORT AT D10.50
                                ;ERROR! FAILED TO ABORT

005422      T32C:
005422 022767 100043 172142      CMP      #NRA+SPG+IS+VS1+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
005430 001401      BEQ      .+4      ;& FAILING PAGE #)
005432 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
005434 022767 011026 172132      CMP      #D2+DR2+S2+SP, SR1      ;CHECK SR1 (REGISTER CHANGES)
005442 001401      BEQ      .+4
005444 000000      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
005446 022767 005416 172122      CMP      #T32A, SR2      ;CHECK CONTENTS OF SR2
005454 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
005456 001400      HLT      ;ERROR! INCORRECT PC IN SR2
005460 106506      MFPD      SSP      ;PUSH SUPER STACK PTR ONTO KERNEL STACK
005462 022716 000702      CMP      #SPTR+2, (KSP)      ;CHECK THAT SUPER STACK PTR POPPED
005466 001401      BEQ      .+4
005470 000000      HLT      ;ERROR!
005472 022702 020002      CMP      #SD1+2, R2      ;CHECK AUTO-INC
005476 001401      BEQ      .+4
005500 000000      HLT      ;ERROR!
005502 104000      SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

                                ;CHECK ABORT AT D30.80
                                ;ABORTS WHEN ADDRESS OF DEST OPERAND IS FETCHED
005504 012737 005544 000250      MOV      #T33C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
005512 012767 070000 172256      MOV      #SM+PUM, PSW      ;SUPER MODE!!!, PREV USER MODE!!
005520 012716 120000      MOV      #UIS, (SSP)      ;PUSH DEST ADDR ON SUPER STACK
005524 005046      CLR      -(SSP)      ;PUSH DATA ON SUPER STACK
005526 012737 177777 017200      MOV      #-1, @PUI5
005534 005237 177572      INC      @SR0
005540 106636      T33A: MTPD    @SSP)+      ;ENABLE MEMORY MGMT
                                ;NON-RESIDENT ABORT AT D10.50 WHEN MTPD
                                ;ADDRESSES FINAL ADDRESS
                                ;ERROR! FAILED TO ABORT

005542 000000      T33B: HLT

005544      T33C:
005544 022767 100173 172020      CMP      #NRA+UPG+DS+VS5+1, SR0      ;CHECK SR0 (ABORT CONDITIONS
005552 001401      BEQ      .+4      ;& FAILING PAGE #)
005554 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
005556 022767 013026 172010      CMP      #D2+DR6+S2+SP, SR1      ;CHECK SR1 (REGISTER CHANGES)
005564 001401      BEQ      .+4
005566 000000      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
005570 022767 005540 172000      CMP      #T33A, SR2      ;CHECK CONTENTS OF SR2
005576 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
005600 000000      HLT      ;ERROR! INCORRECT PC IN SR2

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005602	106506			M:PD	SSP	;GET SUPER STACK PTR
005604	022716	000702		CMP	#SPTR+2,(KSP)	;CHECK THAT SUPER STACK PTR POPPED TWICE
005610	001401			BEQ	.+4	
005612	000000			HLT		;ERROR!
005614	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT D30.00						
;ABORTS WHEN ADDRESS OF SHIFT COUNT IS FETCHED						
005616	012737	005645	000250	MOV	#T34C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
005624	012703	016700		MOV	#K10,R3	
005630	010304			MOV	R3,R4	
005632	012713	177777		MOV	#-1,(R3)	;FINAL ADDRESS IS 000
005636	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
005642	072433			ASH	2(R3)+,R4	;SEG LENGTH ERROR AT D30.00
005644	000000			HLT		;ERROR! FAILED TO ABORT
T34A:						
T34B:						
T34C:						
005646				CMP	#PLA+DS+1,SR0	;CHECK SR0 (ABORT CONDITIONS
005646	022767	040021	171716	BEQ	.+4	; & FAILING PAGE #)
005654	001401			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
005656	000000					;CHECK SR1 (REGISTER CHANGES)
005660	022767	000023	171706	CMP	#S2+R3,SR1	
005666	001401			BEQ	.+4	
005670	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
005672	022767	005642	171676	CMP	#T34A,SR2	;CHECK CONTENTS OF SR2
005700	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
005702	000000			HLT		;ERROR! INCORRECT PC IN SR2
005704	022704	016700		CMP	#K10,R4	
005710	001401			BEQ	.+4	
005712	000000			HLT		;ERROR!
005714	022703	016702		CMP	#K10+2,R3	;CHECK AUTO-INC
005720	001401			BEQ	.+4	
005722	000000			HLT		;ERROR!
005724	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT D50.20						
;ABORTS WHEN ADDRESS OF DEST OPERAND IS FETCHED						
;DM=5						
005726	012737	005760	000250	MOV	#T35C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
005734	012704	016700		MOV	#K10,R4	
005740	012714	177777		MOV	#-1,(R4)	
005744	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
005750	000277			SCC		
005752	112754	177777		MOV	#-1,2-(R4)	;SEG LENGTH ABORT AT D50.20
005756	000000			HLT		;ERROR! FAILED TO ABORT
T35A:						
T35B:						
T35C:						
005760				CMP	#17,2(KSP)	;CHECK THAT CORRECT STATUS
005760	022766	000017	000002	BEQ	.+4	; WAS SAVED ON THE STACK
005766	001401			HLT		;ERROR! INCORRECT STATUS
005770	000000					;CHECK SR0 (ABORT CONDITIONS
005772	022767	040021	171572	CMP	#PLA+DS+1,SR0	; & FAILING PAGE #)
006000	001401			BEQ	.+4	;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006002	000000			HLT		;CHECK SR1 (REGISTER CHANGES)
006004	022767	172027	171562	CMP	#DM2+DR4+S2+PC,SR1	
006012	001401			BEQ	.+4	
006014	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006016	022767	005752	171552	CMP	#T35A,SR2	;CHECK CONTENTS OF SR2

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006024 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
006026 000000      HLT      ;ERROR! INCORRECT PC IN SR2
006030 022704 016676  CMP      #KIO-2,R4
006034 001401      BEQ      .+4
006036 000000      HLT      ;ERROR!
006040 104000      SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D40.30
;ABORTS WHEN DEST OPERAND IS FETCHED
;DM=4
006042 012737 006074 000250  MOV      #T36C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
006050 012704 140002      MOV      #KD6+2,R4
006054 012703 016702      MOV      #KIO+2,R3
006060 012713 177777      MOV      #-1,(R3)
006064 005237 177572      INC      @SR0 ;ENABLE MEMORY MGMT
006070 154443 T36A: BISR      -(R4),-(R3) ;SEG LENGTH ABORT AT 40.30
006072 000000 T36B: HLT      ;ERROR! FAILED TO ABORT

006074 T36C:
006074 022767 040021 171470  CMP      #PLA+DS+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
006102 001401      BEQ      .+4      ;& FAILING PAGE #)
006104 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006106 022767 175774 171460  CMP      #DM1+DR3+SM1+R4,SR1 ;CHECK SR1 (REGISTER CHANGES)
006114 001401      BEQ      .+4
006116 000000      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006120 022767 006070 171450  CMP      #T36A,SR2 ;CHECK CONTENTS OF SR2
006126 001401      BEQ      .+4      ;(PC OF ABORTED INSTRUCTION)
006130 000000      HLT      ;ERROR! INCORRECT PC IN SR2
006132 022703 016701      CMP      #KIO+1,R3 ;CHECK AUTO-DEC
006136 001401      BEQ      .+4
006140 000000      HLT      ;ERROR!
006142 022704 140001      CMP      #KD6+1,R4 ;CHECK AUTO-DEC
006146 001401      BEQ      .+4
006150 000000      HLT      ;ERROR! AUTO-DEC FAILED
006152 104000      SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D67.80
;ABORTS WHEN INST FETCHES DEST INDEX
;DM=6
006154 012737 006220 000250  MOV      #T37C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
006162 012767 070000 171606  MOV      #SM+PUM,PSW ;SUPER MODE!!!, PREV USER MODE!!
006170 012706 000700      MOV      #SPTR,SSP ;SET SUPER STACK PTR
006174 005016      CLR      (SSP)
006176 012737 106667 017076  MOV      #106667, @PSI2+76 ;106667, 000000 = MTPD .+4
006204 005037 017100      CLR      @PSI2+100 ;INSTRUCTION
006210 005237 177572      INC      @SR0 ;ENABLE MEMORY MGMT
006214 000137 040076      JMP      @SI2+76
006220      RETURN=
017076 106667 000000 T37A: MTPD      .+4 ;SEG LENGTH ABORT WHEN INDEX WORD
017102 000000 T37B: HLT      ;IS FETCHED AT D67.80
;ERROR! FAILED TO ABORT
006220      .=RETURN

006220 T37C:

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006220	022767	040045	171344	CMP	#PLA+SPG+VS2+1,SR0	;CHECK SR0 (ABORT CONDITIONS
006226	001401			BEQ	.+4	; & FAILING PAGE #)
006230	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006232	022767	000026	171334	CMP	#S2+SP,SR1	;CHECK SR1 (REGISTER CHANGES)
006240	001401			BEQ	.+4	
006242	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006244	022767	040076	171324	CMP	#SI2+76,SR2	;CHECK CONTENTS OF SR2
006252	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
006254	000000			HLT		;ERROR! INCORRECT PC IN SR2
006256	106506			MFPD	SSP	;GET SUPER STACK PTR
006260	022716	000702		CMP	#SPTR+2,(KSP)	
006264	001401			BEQ	.+4	
006266	000000			HLT		;ERROR!
006270	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D67.90

;WHEN INSTRUCTION FETCHES DESTINATION INDEX VALUE

006272	012737	006340	000250	MOV	#T40C,@MMVEC	;LOAD MEM MGMT ERROR VECTOR
006300	012767	050000	171470	MOV	#SM+PSM,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
006306	012737	113767	017074	MOV	#113767,@PSI2+74	;113767,020001,177776
006314	012737	020001	017076	MOV	#20001,@PSI2+76	;IS A MOVB @#20001,+.4
006322	012737	177776	017100	MOV	#177776,@PSI2+100	;INSTRUCTION
006330	005237	177572		INC	@SR0	;ENABLE MEMORY MGMT
006334	000137	040074		JMP	@SI2+74	
	006340			RETURN=.		
	017074			.=PSI2+74		
017074	113767	020001	177776	T40A: MOVB	@#20001,+.4	;SEG LENGTH ABORT WHEN INST. FETCHES
						;DEST INDEX WORD AT D67.90
017102	000000			T40B: HLT		;ERROR! FAILED TO ABORT
	006340			.=RETURN		

T40C:

006340						
006340	022767	040045	171224	CMP	#PLA+SPG+VS2+1,SR0	;CHECK SR0 (ABORT CONDITIONS
006346	001401			BEQ	.+4	; & FAILING PAGE #)
006350	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006352	022767	000027	171214	CMP	#S2+PC,SR1	;CHECK SR1 (REGISTER CHANGES)
006360	001401			BEQ	.+4	
006362	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006364	022767	040074	171204	CMP	#SI2+74,SR2	;CHECK CONTENTS OF SR2
006372	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
006374	000000			HLT		;ERROR! INCORRECT PC IN SR2
006376	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D40.20

;WHEN INSTRUCTION FETCHES DESTINATION OPERAND

006400	012737	006446	000250	MOV	#T41C,@MMVEC	;LOAD MEM MGMT ERROR VECTOR
006406	012767	170000	171362	MOV	#UM+PUM,PSW	;USER MODE!!!,PREV USER MODE!!
006414	012703	100000		MOV	#UD4,R3	
006420	012704	100102		MOV	#UD4+102,R4	
006424	012737	012344	017200	MOV	#012344,@PUI5	;012344 = MOV (R3)+,-(R4)
006432	005037	017202		CLR	@PUI5+2	
006436	005237	177572		INC	@SR0	;ENABLE MEMORY MGMT
006442	000137	120000		JMP	@PUI5	
	006446			RETURN=.		
	017200			.=PUI5		
017200	012344			T41A: MOV	(R3)+,-(R4)	;ABORT AT D40.20

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017202 000000          T41B:  HLT          ;ERROR! FAILED TO ABORT
      006446          .=RETURN

006446 022767 040171 171116 T41C:  CMP      #PLA+UPG+DS+VS4+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
006446 001401          BEQ      .+4          ;& FAILING PAGE #)
006456 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006460 022767 172023 171106 CMP      #DM2+DR4+S2+R3,SR1 ;CHECK SR1 (REGISTER CHANGES)
006466 001401          BEQ      .+4
006470 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006472 022767 120000 171076 CMP      #UI5,SR2 ;CHECK CONTENTS OF SR2
006500 001401          BEQ      .+4          ; (PC OF ABORTED INSTRUCTION)
006502 000000          HLT          ;ERROR! INCORRECT PC IN SR2
006504 022704 100100      CMP      #UD4+100,R4
006510 001401          BEQ      .+4
006512 000000          HLT
006514 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D50.30
; (WHEN INSTRUCTION FETCHES ADDRESS OF DESTINATION OPERAND)
006516 012737 006554 000250 MOV      #T42C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
006524 012737 010000 177776 MOV      #KM+PSM, @PSW ;KERNEL MODE!!!, PREV SUPER MODE!!
006532 012703 140102      MOV      #KD6+102, R3
006536 012737 177777 017000 MOV      #-1, @PKD6+100
006544 005237 177572      INC      @SR0 ;ENABLE MEMORY MGMT
006550 106653 T42A:  MTPD      @-(R3) ;SEG LENGTH ABORT AT D50.30
006552 000000 T42B:  HLT          ;ERROR! FAILED TO ABORT

006554 022706 001056      T42C:  CMP      #KPTR-2, KSP ;CHECK STACK PTR ( 1 POP, 2 PUSHES)
006560 001401          BEQ      .+4
006562 000000          HLT          ;ERROR! INCORRECT STACK PTR
006564 022767 040035 171000 CMP      #PLA+DS+VS6+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
006572 001401          BEQ      .+4          ;& FAILING PAGE #)
006574 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006576 022767 171426 170770 CMP      #DM2+DR3+S2+SP,SR1 ;CHECK SR1 (REGISTER CHANGES)
006604 001401          BEQ      .+4
006606 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006610 022767 006550 170760 CMP      #T42A,SR2 ;CHECK CONTENTS OF SR2
006616 001401          BEQ      .+4          ; (PC OF ABORTED INSTRUCTION)
006620 000000          HLT          ;ERROR! INCORRECT PC IN SR2
006622 022703 140100      CMP      #KD6+100, R3 ;CHECK AUTO-DECREMENT
006626 001401          BEQ      .+4
006630 000000          HLT          ;ERROR! DID NOT AUTO-DEC
006632 104000          SCOPE          ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D30.00
;ABORTS WHEN ADDRESS TO JUMP TO IS FETCHED
006634 012737 006702 000250 MOV      #T43C, @MMVEC ;LOAD MEM MGMT ERROR VECTOR
006642 012737 000137 017076 MOV      #137, @PSI2+76 ;000137, T43D =JMP @#T43D
006650 012737 006700 017100 MOV      #T43D, @PSI2+100
006656 005037 017102      CLR      @PSI2+102
006662 012767 070000 171106 MOV      #SM+PUM, PSW ;SUPER MODE!!!, PREV USER MODE!!
006670 005237 177572      INC      @SR0 ;ENABLE MEMORY MGMT
006674 000137 040076      JMP      @SI2+76 ;GO DO INSTRUCTION
      006700      RETURN=.
      017076      .=PSI2+76

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017076	000137	006700	T43A:	JMP	2#T43D	
017102	000000		T43B:	HLT		;ERROR! JMP FAILED
	006700			.=RETURN		
006700	000000		T43D:	HLT		;ERROR! FAILED TO ABORT
006702			T43C:			
006702	022767	040045		CMP	#PLA+SPG+VS2+1,SR0	;CHECK SR0 (ABORT CONDITIONS
006710	001401			BEQ	+.4	& FAILING PAGE #)
006712	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
006714	022767	000027		CMP	#S2+PC,SR1	;CHECK SR1 (REGISTER CHANGES)
006722	001401			BEQ	+.4	
006724	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
006726	022767	040076		CMP	#SI2+76,SR2	;CHECK CONTENTS OF SR2
006734	001401			BEQ	+.4	(PC OF ABORTED INSTRUCTION)
006736	000000			HLT		;ERROR! INCORRECT PC IN SR2
006740	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT D10.00						
;WHEN INSTRUCTION FETCHES ADDRESS OF DEST. OPERAND. (UI5+4)						
006742	012737	007012	000250	MOV	#T44C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
006750	012767	170000	171020	MOV	#UM+PUM,PSW	;USER MODE!!! PREV USER MODE!!
006756	012706	000600		MOV	#UPTR,USP	;SET USER STACK PTR
006762	012703	120006		MOV	#UI5+6,R3	
006766	012737	177777	017204	MOV	#-1,2#PUI5+4	
006774	012737	004753	017200	MOV	#4753,2#PUI5	;004753 = JSR 7,2-(R3)
007002	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
007006	000137	120000		JMP	2#UI5	;GO DO INST.
	007012			RETURN=.		
	017200			.=PUI5		
017200	004753		T44A:	JSR	7,2-(R3)	
017202	000000		T44B:	HLT		;ERROR!
	007012			.=RETURN		
;CHECK ABORT AT D10.30						
;WHEN INSTRUCTION FETCHES DESTINATION OPERAND (UIPDR5)						
007012			T44C:			
007012	022706	001054		CMP	#KPTR-4,KSP	;CHECK STACK PTR
007016	001401			BEQ	+.4	;AFTER ABORT
007020	000000			HLT		;ERROR! INCORRECT STACK PTR
007022	022767	100173	170542	CMP	#NRA+UPG+DS+VSS+1,SR0	;CHECK SR0 (ABORT CONDITIONS
007030	001401			BEQ	+.4	& FAILING PAGE #)
007032	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
007034	022767	000363	170532	CMP	#SM2+R3,SR1	;CHECK SR1 (REGISTER CHANGES)
007042	001401			BEQ	+.4	
007044	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
007046	022767	120000	170522	CMP	#UI5,SR2	;CHECK CONTENTS OF SR2
007054	001401			BEQ	+.4	(PC OF ABORTED INSTRUCTION)
007056	000000			HLT		;ERROR! INCORRECT PC IN SR2
007060	106506			MFPD	USP	;GET USER STACK PTR (ON KERNEL STACK)
007062	022716	000600		CMP	#UPTR,(KSP)	;CHECK THAT USER STACK DID NOT
007066	001401			BEQ	+.4	;GET PUSHED
007070	000000			HLT		;ERROR!
007072	022703	120004		CMP	#UI5+4,R3	;CHECK AUTO-DEC
007076	001401			BEQ	+.4	
007100	000000			HLT		;ERROR!
007102	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D10.30
;WHEN INSTRUCTION FETCHES DESTINATION OPERAND (UIPDR5)

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007104 012737 007156 000250      MOV      #T45C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
007112 012767 170000 170656      MOV      @UM+PUM, PSW      ;USER MODE!!!, PREV USER MODE!!
007120 012706 000600              MOV      @UPTR, USP      ;SET USER STACK PTR
007124 005016              CLR      (USP)
007126 012737 012667 017200      MOV      #012667, @PUIS      ;012667, 057606 = MOV (USP)+, UIPDR5
007134 012737 057606 017202      MOV      #57606, @PUIS+2    ;INSTRUCTION
007142 005037 017204              CLR      @PUIS+4
007146 005237 177572              INC      @SRO      ;ENABLE MEMORY MGMT
007152 000137 120000              JMP      @UI5
007156 017200              RETURN=.
017200 012667 057606              .=PUIS
017204 000000              T45A: MOV      (USP)+, UIPDR5-UI5+PUIS
007156 007156              T45B: HLT      ;ERROR! FAILED TO ABORT
                        .=RETURN

007156 022767 140177 170406      T45C: CMP      #NRA+PLA+UPG+DS+VS7+1, SRO      ;CHECK SRO (ABORT CONDITIONS
007164 001401              BEQ      .+4      ;& FAILING PAGE #)
007166 000000              HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
007170 022767 000026 170376      CMP      #S2+SP, SR1      ;CHECK SR1 (REGISTER CHANGES)
007176 001401              BEQ      .+4
007200 000000              HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
007202 022767 120000 170366      CMP      #UI5, SR2      ;CHECK CONTENTS OF SR2
007210 001401              BEQ      .+4      ;PC OF ABORTED INSTRUCTION)
007212 000000              HLT      ;ERROR! INCORRECT PC IN SR2
007214 005037 177572              CLR      @SRO      ;DISABLE MEMORY MGMT
007220 005737 177612              TST      @UIPDR5
007224 001001              BNE      .+4
007226 000000              HLT
007230 104000              SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT ASC.60
;ABORTS WHEN INSTRUCTION FOLLOWING ASH IS FETCHED
007232 012737 007302 000250      MOV      #T46C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
007240 012737 073204 017276      MOV      #073204, @PUIS+76    ;073204 IS AN ASHC R4, R2 INST.
007246 005037 017300              CLR      @PUIS+100
007252 012767 170000 170516      MOV      @UM+PUM, PSW      ;USER MODE!!!, PREV USER MODE!!
007260 012704 000001              MOV      #1, R4      ;SHIFT COUNT = +1 (1 PLACE LEFT)
007264 012702 100000              MOV      #100000, R2
007270 005003              CLR      R3
007272 005237 177572              INC      @SRO      ;ENABLE MEMORY MGMT
007276 000137 120076              JMP      @UI5+76
007302 017276              RETURN=.
017276 000257              .=PUIS+76
017300 073204              T46A: CCC      ;PRESET CC'S
017302 000000              T46B: ASHC     R4, R2      ;SEG LEN ABORT WHEN NEXT INST. IS FETCHED
                        HLT
                        .=RETURN

007302 007302              T46C:
007302 022706 001054              CMP      #KPTR-4, KSP      ;CHECK STACK PTR
007306 001401              BEQ      .+4      ;AFTER ABORT
007310 000000              HLT      ;ERROR! INCORRECT STACK PTR
007312 122767 000007 171536      CMPB     #Z+V+C, KPTR-2    ;CHECK THAT 'C', 'V', & 'Z' BITS SET ON SHIFT
007320 001401              BEQ      .+4
007322 000000              HLT      ;ERROR! INCORRECT STATUS SAVED ON ABORT

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007324	022767	040153	170240	CMP	#PLA+UPG+IS+VSS+1,SR0	;CHECK SR0 (ABORT CONDITIONS
007332	001401			BEQ	.+4	; & FAILING PAGE #)
007334	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
007336	022767	000000	170230	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
007344	001401			BEQ	.+4	
007346	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
007350	022767	120100	170220	CMP	#UI5+100,SR2	;CHECK CONTENTS OF SR2
007356	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
007360	000000			HLT		;ERROR! INCORRECT PC IN SR2
007362	005702			TST	R2	;CHECK THAT SHIFT COMPLETED
007364	001401			BEQ	.+4	
007366	000000			HLT		
007370	005703			TST	R3	
007372	001401			BEQ	.+4	
007374	000000			HLT		
007376	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

				;CHECK ABORT AT ASC.80		
				;ABORTS WHEN INST FOLLOWING ASHC IS FETCHED		
007400	012737	007454	000250	MOV	#T47C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
007406	012767	050000	170362	MOV	#SM+PSM,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
007414	012737	073422	017076	MOV	#073422, @PSI2+76	;073422 IS AN ASHC (R2)+,R4 INST
007422	012702	001004		MOV	#TEMP,R2	;LOAD R2 = ADRS OF SHIFT COUNT
007426	005012			CLR	(R2)	;SHIFT COUNT = 0
007430	012705	000001		MOV	#1,R5	;LOAD CONSTANTS
007434	010504			MOV	R5,R4	
007436	005037	017100		CLR	@PSI2+100	;HALT AFTER INST.
007442	005237	177572		INC	@SR0	;ENABLE MEMORY MGMT
007446	000277			SCC		
007450	000137	040076		JMP	@SI2+76	;GO TO ASHC INST.
	007454			RETURN=.		
	017076			.=PSI2+76		
017076	073422			ASHC	(R2)+,R4	
017100	000000			HLT		;SEG LENGTH ABORT WHEN THIS INST IS FETCHED
	007454			.=RETURN		
007454	105737	001056		T47A: TSTB	@KPTR-2	;CHECK STATUS ON STACK
007460	001401			BEQ	.+4	
007462	000000			HLT		;ERROR! INCORRECT STATUS ON STACK
007464	022767	040045	170100	CMP	#PLA+SPG+IS+VS2+1,SR0	;CHECK SR0 (ABORT CONDITIONS
007472	001401			BEQ	.+4	; & FAILING PAGE #)
007474	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
007476	022767	000000	170070	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
007504	001401			BEQ	.+4	
007506	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
007510	022767	040100	170060	CMP	#SI2+100,SR2	;CHECK CONTENTS OF SR2
007516	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
007520	000000			HLT		;ERROR! INCORRECT PC IN SR2
007522	022702	001006		CMP	#TEMP+2,R2	
007526	001401			BEQ	.+4	
007530	000000			HLT		
007532	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

				;CHECK ABORT AT JSR.30		
				;ABORTS WHEN REGISTER (R5) IS PUSHED ON USER STACK		
007534	012737	007604	000250	MOV	#T50C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
007542	012767	170000	170226	MOV	#UM+PUM,PSW	;USER MODE!!!,PREV USER MODE!!

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007550 012706 100000      MOV      #UD4,USP      ;SET USER STACK PTR
007554 005037 017276      CLR      @#PUD4-2
007560 005005      CLR      R5
007562 012767 007602 171214  MOV      #T500,TEMP
007570 005237 177572      INC      @#SRO      ;ENABLE MEMORY MGMT
007574 004577 171204      JSR      5,@TEMP      ;NON-RES ABORT AT JSR.30
007600 000000      T50A:  HLT      ;JSR FAILED & DID NOT ABORT
007602 000000      T50B:  HLT      ;ERROR! FAILED TO ABORT
                                T50D:  HLT

007604      T50C:
007604 022767 140167 167760  CMP      #NRA+PLA+UPG+DS+VS3+1,SRO      ;CHECK SRO (ABORT CONDITIONS
007612 001401      BEQ      .+4      ;& FAILING PAGE #)
007614 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
007616 022767 000366 167750  CMP      #SM2+SP,SR1      ;CHECK SR1 (REGISTER CHANGES)
007624 001401      BEQ      .+4
007626 000000      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
007630 022767 007574 167740  CMP      #T50A,SR2      ;CHECK CONTENTS OF SR2
007636 001401      BEQ      .+4      ; (PC OF ABORTED INSTRUCTION)
007640 000000      HLT      ;ERROR! INCORRECT PC IN SR2
007642 106506      MFPD     USP      ;PUSH USER STACK PTR ONTO KERNEL STACK
007644 022716 077776      CMP      #UD4-2,(KSP)      ;CHECK THAT USER STACK PTR DEC-
007650 001401      BEQ      .+4      ;REMENTED
007652 000000      HLT      ;ERROR!
007654 005705      TST      R5
007656 001401      BEQ      .+4
007660 000000      HLT
007662 104000      SCOPE      ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

                                ;CHECK ABORT AT SVC.80 (MFPI)
                                ;ABORTS WHEN DATA IS PUSHED ONTO SUPER STACK
007664 012737 007724 000250  MOV      #T51C,@#MMVEC      ;LOAD MEM MGMT ERROR VECTOR
007672 012767 070000 170076  MOV      #SM+PUM,PSW      ;SUPER MODE!!!,PREV USER MODE!!
007700 005006      CLR      SSP      ;SET SUPERVISOR STACK PTR
007702 012737 120000 000000  MOV      #UI5,@#0      ;LOAD STACK
007710 005237 177572      INC      @#SRO      ;ENABLE MEMORY MGMT
007714 000240      NOP
007716 006576 000000      T51A:  MFPI     @ (SSP)      ;SEG LENGTH ABORT AT SVC.80
007722 000000      T51B:  HLT      ;ERROR! FAILED TO ABORT

                                T51C:
007724 022706 001054      CMP      #KPTR-4,KSP      ;CHECK STACK PTR
007724 001401      BEQ      .+4      ;AFTER ABORT
007732 000000      HLT      ;ERROR! INCORRECT STACK PTR
007734 022767 140077 167630  CMP      #NRA+PLA+SPG+DS+VS7+1,SRO      ;CHECK SRO (ABORT CONDITIONS
007742 001401      BEQ      .+4      ;& FAILING PAGE #)
007744 000000      HLT      ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
007746 022767 000366 167620  CMP      #SM2+SP,SR1      ;CHECK SR1 (REGISTER CHANGES)
007754 001401      BEQ      .+4
007756 000000      HLT      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
007760 022767 007716 167610  CMP      #T51A,SR2      ;CHECK CONTENTS OF SR2
007766 001401      BEQ      .+4      ; (PC OF ABORTED INSTRUCTION)
007770 000000      HLT      ;ERROR! INCORRECT PC IN SR2
007772 106506      MFPD     SSP
007774 022716 177776      CMP      #0-2,(KSP)
010000 001401      BEQ      .+4
010002 000000      HLT

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010004 104000                                SCOPE                                ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT SVC.60 (SUPERVISORY MODE)
;ABORTS WHEN STATUS IS PUSHED ONTO SUPER STACK
010006 012737 010060 000250                MOV      #T52C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
010014 012767 040000 170000                MOV      #SM, IOTVEC+2
010022 012767 010056 167770                MOV      #T52D, IOTVEC
010030 012767 050000 167740                MOV      #SM+PSM, PSW      ;SUPER MODE!!!, PREV SUPER MODE!!
010036 005006                                CLR      SSP              ;SET SUPER STACK PTR
010040 012767 170000 167730                MOV      #UM+PUM, PSW      ;USER MODE!!!, PREV USER MODE!!
010046 005237 177572                        INC      @SRO          ;ENABLE MEMORY MGMT
010052 000004                                T52A:    IOT              ;NON-RESIDENT ABORT AT SVC.60
010054 000000                                T52B:    HLT              ;ERROR! IOT & ABORT FAILED
010056 000000                                T52D:    HLT              ;ERROR! ABORT FAILED

010060                                T52C:
010060 022706 001054                        CMP      #KPTR-4, KSP      ;CHECK STACK PTR
010064 001401                                BEQ      .+4              ;AFTER ABORT
010066 000000                                HLT
010070 022766 170000 000002                CMP      #UM+PUM, 2(KSP)  ;CHECK THAT CORRECT STATUS
010076 001401                                BEQ      .+4              ;WAS SAVED ON THE STACK
010100 000000                                HLT
010102 022767 140077 167462                CMP      #NRA+PLA+SPG+DS+V57+1, SRO ;CHECK SRO (ABORT CONDITIONS
010110 001401                                BEQ      .+4              ;& FAILING PAGE #)
010112 000000                                HLT
010114 022767 173366 167452                CMP      #DM2+DR6+SM2+SP, SR1 ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
010122 001401                                BEQ      .+4              ;CHECK SR1 (REGISTER CHANGES)
010124 000000                                HLT
010126 022767 010052 167442                CMP      #T52A, SR2      ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
010134 001401                                BEQ      .+4              ;CHECK CONTENTS OF SR2
010136 000000                                HLT
010140 122737 000060 177777                CMPB     #60, @PSW+1      ;(PC OF ABORTED INSTRUCTION)
010146 001401                                BEQ      .+4              ;ERROR! INCORRECT PC IN SR2
010150 000000                                HLT
010152 012737 010000 177776                MOV      #KM+PSM, @PSW   ;CHECK FOR CORRECT PSW ON ABORT
010160 106506                                MFPD     SSP              ;(KM+PUM IN HIGH BYTE)
010162 022716 177774                        CMP      #0-4, (KSP)     ;ERROR! INCORRECT PSW AFTER ABORT
010166 001401                                BEQ      .+4              ;KERNEL MODE!!!, PREV SUPER MODE!!
010170 000000                                HLT
010172 104000                                SCOPE                    ;PUSH SUPER STACK PTR ONTO KERNEL STACK
;CHECK ABORT AT SVC.80
;ABORTS WHEN RETURN PC IS PUSHED ONTO SUPERVISOR STACK
010174 012737 010250 000250                MOV      #T53C, @MMVEC   ;LOAD MEM MGMT ERROR VECTOR
010202 012767 050000 167566                MOV      #SM+PSM, PSW    ;SUPER MODE!!!, PREV SUPER MODE!!
010210 012706 020002                        MOV      #SD1+2, SSP      ;SET SUPER STACK PTR
010214 012767 010246 167576                MOV      #T53D, IOTVEC
010222 012767 040340 167572                MOV      #SM+PRTY7, IOTVEC+2
010230 012767 170000 167540                MOV      #UM+PUM, PSW    ;USER MODE!!!, PREV USER MODE!!
010236 005237 177572                        INC      @SRO          ;ENABLE MEMORY MGMT
010242 000004                                T53A:    IOT              ;NON-RESIDENT ABORT AT SVC.80
010244 000000                                T53B:    HLT              ;ERROR! IOT & ABORT FAILED
010246 000000                                T53D:    HLT              ;ERROR! ABORT FAILED

010250                                T53C:
010250 022706 001054                        CMP      #KPTR-4, KSP      ;CHECK STACK PTR

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010254 001401      BEQ      .+4      ; AFTER ABORT
010256 000000      HLT              ; ERROR! INCORRECT STACK PTR
010260 022716 010244  CMP      #T53B,(KSP) ; CHECK RETURN PC ON THE STACK
010264 001401      BEQ      .+4
010266 000000      HLT              ; ERROR! INCORRECT PC ON THE STACK
010270 022766 170000 000002  CMP      #UM+PUM,2(KSP) ; CHECK THAT CORRECT STATUS
010276 001401      BEQ      .+4      ; WAS SAVED ON THE STACK
010300 000000      HLT              ; ERROR! INCORRECT STATUS
010302 022767 040061 167262  CMP      #PLA+SPG+DS+VSO+1 SR0 ; CHECK SR0 (ABORT CONDITIONS
010310 001401      BEQ      .+4      ; & FAILING PAGE #)
010312 000000      HLT              ; ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
010314 022767 173366 167252  CMP      #DM2+DR6+SM2+SP,SR1 ; CHECK SR1 (REGISTER CHANGES)
010322 001401      BEQ      .+4
010324 000000      HLT              ; ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
010326 022767 010242 167242  CMP      #T53A,SR2 ; CHECK CONTENTS OF SR2
010334 001401      BEQ      .+4      ; (PC OF ABORTED INSTRUCTION)
010336 000000      HLT              ; ERROR! INCORRECT PC IN SR2
010340 012737 010000 177776  MOV      #KM+PSM,2#PSW ; KERNEL MODE!!!, PREV SUPER MODE!!
010346 106506      MFPD      SSP      ; PUSH SUPER STACK PTR ONTO KERNEL STACK
010350 022716 017776      CMP      #SD1-2,(KSP) ; CHECK THAT SUPER STACK PTR WAS
010354 001401      BEQ      .+4      ; DECREMENTED BY 4
010356 000000      HLT              ; ERROR!
010360 005067 167436      CLR      IOTVEC+2
010364 012767 000022 167426  MOV      #IOTVEC+2,IOTVEC
010372 104000      SCOPE              ; SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

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; CHECK ABORT AT TRP.10
; WHEN VECTOR AT 20 IS FETCHED
010374 012737 010452 000250  MOV      #T54C,2#MMVEC ; LOAD MEM MGMT ERROR VECTOR
010402 012737 010450 000020  MOV      #T54B,2#IOTVEC ; SET IOT TRAP VECTOR
010410 012737 040340 000022  MOV      #SM+PRTY7,2#IOTVEC+2 ; SUPER MODE ON IOT
010416 013737 172320 001004  MOV      2#KDPDR0,2#TEMP ; SAVE KDPDR0
010424 012737 000416 172320  MOV      #2*256.-400+DWN+RW,2#KDPDR0 ; SET KDPDR0=RW DWN 2 BLOCKS
; ALL BUT 0-76 IS ENABLED IN KERNEL 'D' SPACE
010432 012767 170000 167336  MOV      #UM+PUM,PSW ; USER MODE!!!, PREV USER MODE!!
010440 005237 177572      INC      2#SR0 ; ENABLE MEMORY MGMT
010444 000004      T54A: IOT ; IOT WILL ABORT WHEN ADDRESS VECTOR IS
; FETCHED FROM KERNEL 'D' SPACE
010446 000000      HLT              ; ERROR! IOT FAILED TO TRAP
010450 000000      T54B: HLT ; ERROR! IOT FAILED TO ABORT
010452      T54C:
010452 022706 001054      CMP      #KPTR-4,KSP ; CHECK STACK PTR
010456 001401      BEQ      .+4      ; AFTER ABORT
010458 000000      HLT              ; ERROR! INCORRECT STACK PTR
010462 022766 170000 000002  CMP      #UM+PUM,2(KSP) ; CHECK THAT CORRECT STATUS
010470 001401      BEQ      .+4      ; WAS SAVED ON THE STACK
010472 000000      HLT              ; ERROR! INCORRECT STATUS
010474 022767 040021 167070  CMP      #PLA+DS+KPG+VSO+1 SR0 ; CHECK SR0 (ABORT CONDITIONS
010502 001401      BEQ      .+4      ; & FAILING PAGE #)
010504 000000      HLT              ; ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
010506 022767 000000 167060  CMP      #0,SR1 ; CHECK SR1 (REGISTER CHANGES)
010514 001401      BEQ      .+4
010516 000000      HLT              ; ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
010520 022767 010444 167050  CMP      #T54A,SR2 ; CHECK CONTENTS OF SR2
010526 001401      BEQ      .+4      ; (PC OF ABORTED INSTRUCTION)
010530 000000      HLT              ; ERROR! INCORRECT PC IN SR2

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010532	005037	177572		CLR	2#SRO	;DISABLE MEMORY MGMT
010536	000257			CCC		
010540	022737	030000	177776	CMP	#KM+PUM,2#PSW	;CHECK STATUS
010546	001401			BEQ	.+4	
010550	000000			HLT		;ERROR! INCORRECT STATUS AFTER ABORT
010552	012737	000022	000020	MOV	#IOTVEC+2,2#IOTVEC	
010560	016737	170220	172320	MOV	TEMP,2#KDPDRO	;RESTORE KDPDRO
010566	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT BRK.30						
;WHEN VECTOR AT 4 IS FETCHED						
010570	012737	010646	000250	MOV	#T55C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
010576	012737	010644	000010	MOV	#T55B,2#RESVEC	
010604	012702	000001		MOV	#1,R2	;R2 CONTAINS AN ODD ADDRESS
010610	013737	172320	001004	MOV	2#KDPDRO,2#TEMP	
010616	012737	000416	172320	MOV	#2*256.-400+DWN+RW,2#KDPDRO	;SET KDPDRO=RW DWN 2 BLOCKS
;ALL BUT 0-76 IS ENABLED IN KERNEL 'D' SPACE						
010624	012767	170000	167144	MOV	#UM+PUM,PSW	;USER MODE!!!,PREV USER MODE!!
010632	005237	177572		INC	2#SRO	;ENABLE MEMORY MGMT
010636	000277			SCC		;PRESET CC'S
010640	106622			T55A: MTPD	(R2)+	;ODD ADDRESS TRAP ALSO ABORTS WHEN VECTOR
;AT 4 IS FETCHED						
010642	000000			HLT		;ERROR! FAILED TO TRAP/ABORT
010644	000000			HLT		;ERROR! FAILED TO ABORT
010646	013700	177776		T55B: MOV	2#PSW,R0	;GET NEW STATUS
010652	022700	030000		T55C: CMP	#KM+PUM,R0	;CHECK NEW STATUS
010656	001401			BEQ	.+4	
010660	000000			HLT		;ERROR! INCORRECT STATUS AFTER ABORT
010662	022706	001054		CMP	#KPTR-4,KSP	;CHECK STACK PTR
010666	001401			BEQ	.+4	;AFTER ABORT
010670	000000			HLT		;ERROR! INCORRECT STACK PTR
010672	022766	170017	000002	CMP	#UM+PUM+17,2(KSP)	;CHECK THAT CORRECT STATUS
010700	001401			BEQ	.+4	;WAS SAVED ON THE STACK
010702	000000			HLT		;ERROR! INCORRECT STATUS
010704	022767	040221	166660	CMP	#PLA+IC+DS+KPG+VSO+1,SRO	;CHECK SRO (ABORT CONDITIONS
010712	001401			BEQ	.+4	; & FAILING PAGE #)
010714	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
010716	022767	000000	166650	CMP	#0,SRI	;CHECK SRI (REGISTER CHANGES)
010724	001401			BEQ	.+4	
010726	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SRI
010730	022767	000004	166640	CMP	#ERRVEC,SR2	;CHECK CONTENTS OF SR2
010736	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
010740	000000			HLT		;ERROR! INCORRECT PC IN SR2
010742	005037	177572		CLR	2#SRO	;DISABLE MEMORY MGMT
010746	106506			MFPD	USP	;GET USER STACK PTR
010750	022716	000602		CMP	#UPTR+2,(KSP)	;CHECK THAT MTPD POPPED USER STACK
010754	001401			BEQ	.+4	
010756	000000			HLT		;ERROR! INCORRECT USER STACK PTR
010760	022702	000003		CMP	#3,R2	;CHECK AUTO-INC OF R2
010764	001401			BEQ	.+4	
010766	000000			HLT		;ERROR! R2 DID NOT AUTO-INC
010770	016737	170010	172320	MOV	TEMP,2#KDPDRO	;RESTORE KDPDRO
010776	012737	000012	000010	MOV	#RESVEC+2,2#RESVEC	
011004	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT FET.00

011006	012737	011050	000250	MOV	#T56C, 2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
011014	012767	050000	166754	MOV	#SM+PSM, PSW	;SUPER MODE!!!, PREV SUPER MODE!!
011022	012706	000700		MOV	#SPTR, SSP	;SET SUPER STACK PTR
011026	012746	040000		MOV	#SM, -(SSP)	
011032	012746	040100		MOV	#SI2+100, -(SSP)	
011036	005037	017100		CLR	2#PSI2+100	
011042	005237	177572		INC	2#SRO	;ENABLE MEMORY MGMT
011046	000002			RTI		
	011050			RETURN=.		
	017100			.=PSI2+100		
017100	000000			HLT		;ERROR! FAILED TO ABORT AT FET.00
	011050			.=RETURN		
011050				T56C:		
011050	022706	001054		CMP	#KPTR-4, KSP	;CHECK STACK PTR
011054	001401			BEQ	+.4	;AFTER ABORT
011056	000000			HLT		;ERROR! INCORRECT STACK PTR
011060	022767	040045	166504	CMP	#PLA+SPG+VS2+1, SRO	;CHECK SRO (ABORT CONDITIONS
011066	001401			BEQ	+.4	; & FAILING PAGE #)
011070	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011072	022767	000000	166474	CMP	#0, SR1 ;CHECK SR1 (REGISTER CHANGES)	
011100	001401			BEQ	+.4	
011102	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
011104	022767	040100	166464	CMP	#SI2+100, SR2	;CHECK CONTENTS OF SR2
011112	001401			BEQ	+.4	; (PC OF ABORTED INSTRUCTION)
011114	000000			HLT		;ERROR! INCORRECT PC IN SR2
011116	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
011120	012737	011156	000250	;CHECK ABORT AT FET.01 (VIA D10.40)		
011126	012767	170000	166642	MOV	#T57C, 2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
011134	012737	012646	017276	MOV	#UM+PUM, PSW	;USER MODE!!!, PREV USER MODE!!
011142	005037	017300		MOV	#012646, 2#PUI5+76	;012646=MOV (6)+, -(6)
011146	005237	177572		CLR	2#PUI5+100	;INSTRUCTION
011152	000137	120076		INC	2#SRO	;ENABLE MEMORY MGMT
	011156			JMP	2#UI5+76	
	017276			RETURN=.		
	017300			.=PUI5+76		
017276	012646			MOV	(6)+, -(6)	
017300	000000			T57A:		;ABORTS AT FET.01
	011156			HLT		
				.=RETURN		
011156				T57C:		
011156	022767	040153	166406	CMP	#PLA+UPG+VS5+1, SRO	;CHECK SRO (ABORT CONDITIONS
011164	001401			BEQ	+.4	; & FAILING PAGE #)
011166	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011170	022767	000000	166376	CMP	#0, SR1 ;CHECK SR1 (REGISTER CHANGES)	
011176	001401			BEQ	+.4	
011200	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
011202	022767	120100	166366	CMP	#UI5+100, SR2	;CHECK CONTENTS OF SR2
011210	001401			BEQ	+.4	; (PC OF ABORTED INSTRUCTION)
011212	000000			HLT		;ERROR! INCORRECT PC IN SR2
011214	106506			MFPD	USP	;GET USER STACK PTR
011216	022716	000600		CMP	#UPTR, (KSP)	;CHECK USER STACK PTR
011222	001401			BEQ	+.4	
011224	000000			HLT		;ERROR! INCORRECT USER STACK PTR
011226	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

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011230 012767 050000 166540 ;CHECK ABORT AT FET.03
011236 012737 011270 000250 MOV #SM+PSM,PSW ;SUPER MODE!!!,PREV SUPER MODE!!
011244 012737 000005 017076 MOV #T60C,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
011252 005037 017100 CLR 2#PSI2+76 ;5 IS A RESET INSTRUCTION
011256 005005 CLR R5
011260 005237 177572 INC 2#SR0 ;ENABLE MEMORY MGMT
011264 000137 040076 JMP 2#SI2+76 ;GO EXECUTE RESET
017076 000005 T60A: RESET ;ABORTS WHEN NEXT INST. FETCHED
017100 000000 HLT ;ERROR! FAILED TO ABORT
011270 011270 .=PSETURN

011270 022767 040045 166274 T60C: CMP #PLA+SPG+VS2+1,SR0 ;CHECK SR0 (ABORT CONDITIONS)
011276 001401 BEQ .+4 ;& FAILING PAGE #)
011300 000000 HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011302 022767 000000 166264 CMP #0,SR1 ;CHECK SR1 (REGISTER CHANGES)
011310 001401 BEQ .+4
011312 000000 HLT ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
011314 022767 040100 166254 CMP #SI2+100,SR2 ;CHECK CONTENTS OF SR2
011322 001401 BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
011324 000000 HLT ;ERROR! INCORRECT PC IN SR2
011326 104000 SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT FET.06
011330 012767 170000 166440 MOV #UM+PSM,PSW ;USER MODE!!!,PREV USER MODE!!
011336 012737 011400 000250 MOV #T61C,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
011344 012704 000001 MOV #1,R4
011350 012702 100000 MOV #100000,R2
011354 005003 CLR R3
011356 012737 071204 017276 MOV #071204,2#PUI5+76 ;071204 = DIV R4,R2 INST.
011364 005037 017300 CLR 2#PUI5+100 ;HALT FOLLOWS DIV INST.
011370 005237 177572 INC 2#SR0 ;ENABLE MEMORY MGMT
011374 000137 120076 JMP 2#UI5+76 ;GO DO DIVIDE
011400 011400 RETURN=.
017276 071204 DIV R4,R2
017300 000000 T61A: HLT ;SEG LEN ABORT WHEN THIS INST FETCHED
011400 011400 .=RETURN

011400 022767 040153 166164 T61C: CMP #PLA+UPG+VS5+1,SR0 ;CHECK SR0 (ABORT CONDITIONS)
011406 001401 BEQ .+4 ;& FAILING PAGE #)
011410 000000 HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011412 022767 000000 166154 CMP #0,SR1 ;CHECK SR1 (REGISTER CHANGES)
011420 001401 BEQ .+4
011422 000000 HLT ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
011424 022767 120100 166144 CMP #UI5+100,SR2 ;CHECK CONTENTS OF SR2
011432 001401 BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
011434 000000 HLT ;ERROR! INCORRECT PC IN SR2
011436 104000 SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT MUL.50
011440 012767 050000 166330 ;ABORTS WHEN INST FOLLOWING MUL IS FETCHED
MOV #SM+PSM,PSW ;SUPER MODE!!!,PREV SUPER MODE!!

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011446	012737	011510	000250	MOV	#T62C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
011454	012703	000002		MOV	#2, R3	
011460	012704	000001		MOV	#1, R4	
011464	005005			CLR	R5	
011466	012737	070403	017076	MOV	#070403, @PSI2+76	;070403 = MUL R3,R4 INST.
011474	005037	017100		CLR	@PSI2+100	;HALT FOLLOWS INST.
011500	005237	177572		INC	@SR0	;ENABLE MEMORY MGMT
011504	000137	040076		JMP	@SI2+76	;GO DO MUL INST
	011510			RETURN=.		
	017076			.=PSI2+76		
017076	070403			MUL	R3,R4	
017100	000000			HLT		;ABORT WHEN THIS INST FETCHED AT MUL.50
	011510			.=RETURN		
011510				T62C:		
011510	022767	040045	166054	CMP	#PLA+SPG+VS2+1, SR0	;CHECK SR0 (ABORT CONDITIONS
011516	001401			BEQ	+.4	; & FAILING PAGE #)
011520	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011522	022767	000000	166044	CMP	#0, SR1	;CHECK SR1 (REGISTER CHANGES)
011530	001401			BEQ	+.4	
011532	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
011534	022767	040100	166034	CMP	#SI2+100, SR2	;CHECK CONTENTS OF SR2
011542	001401			BEQ	+.4	; (PC OF ABORTED INSTRUCTION)
011544	000000			HLT		;ERROR! INCORRECT PC IN SR2
011546	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
						;CHECK ABORT AT MRK.30
						;ABORTS WHEN INST FOLLOWING MARK IS FETCHED
011550	012767	050000	166220	MOV	#SM+PSM, PSM	;SUPER MODE!!!, PREV SUPER MODE!!
011556	012737	011606	000250	MOV	#T63C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
011564	012746			MOV	(PC)+, -(SSP)	;PUSH MARK INST ON SUPER STACK
011566	006401			MARK	1	;PUSH THIS INST ON SUPER STACK
011570	012705	040100		MOV	#SI2+100, R5	;AFTER MARK EXECUTE INST AT T63A
011574	005037	017100		CLR	@T63A	;WHICH IS A HALT
011600	005237	177572		INC	@SR0	;ENABLE MEMORY MGMT
011604	000116			JMP	(SSP)	;GO EXECUTE MARK AT SPTR-2
	011606			RETURN=.		
	017100			.=PSI2+100		
017100	000000			HLT		;SEG ABORT WHEN THIS INST. FETCHED AT MRK.30
	011606			.=RETURN		
011606				T63C:		
011606	022706	001054		CMP	#KPTR-4, KSP	;CHECK STACK PTR
011612	001401			BEQ	+.4	;AFTER ABORT
011614	000000			HLT		;ERROR! INCORRECT STACK PTR
011616	022767	040045	165746	CMP	#PLA+SPG+VS2+1, SR0	;CHECK SR0 (ABORT CONDITIONS
011624	001401			BEQ	+.4	; & FAILING PAGE #)
011626	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011630	022767	000000	165736	CMP	#0, SR1	;CHECK SR1 (REGISTER CHANGES)
011636	001401			BEQ	+.4	
011640	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
011642	022767	040100	165726	CMP	#SI2+100, SR2	;CHECK CONTENTS OF SR2
011650	001401			BEQ	+.4	; (PC OF ABORTED INSTRUCTION)
011652	000000			HLT		;ERROR! INCORRECT PC IN SR2
011654	106506			MFPD	SSP	;PUSH SUPER STACK PTR ONTO KERNEL STACK
011656	022716	000704		CMP	#SPTR+4, (KSP)	;CHECK SUPER STACK PTR
011662	001401			BEQ	+.4	

011664	000000			HLT		;ERROR! INCORRECT SUPER STACK PTR
011666	023705	000702		CMP	2*SPTR+2,R5	;CHECK CONTENTS OF R5
011672	001401			BEQ	.+4	
011674	000000			HLT		;ERROR!
011676	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT TST.10						
;ABORTS WHEN INST FOLLOWING TST IS FETCHED						
011700	012737	011734	000250	MOV	2T64C,2*MMVEC	;LOAD MEM MGMT ERROR VECTOR
011706	012702	177777		MOV	2-1,R2	;R2=STATUS WORD ADDRESS (ODD BYTE)
011712	012737	105722	016676	MOV	2105722,2*K10-2	;105722=TSTB (R2)+
011720	005037	016700		CLR	2*K10	
011724	005237	177572		INC	2*SRO	;ENABLE MEMORY MGMT
011730	000137	016676		JMP	2*K10-2	;GO EXECUTE INSTRUCTION
	011734			RETURN=.		
	016676			.=K10-2		
016676	105722			T64A: TSTB	(R2)+	;ABORTS WHEN NEXT INST. IS FETCHED
016700	000000			T64B: HLT		;ERROR! FAILED TO ABORT
	011734			.=RETURN		
011734				T64C:		
011734	022767	040001	165630	CMP	2PLA+KPG+IS+VSO+1,SRO	;CHECK SRO (ABORT CONDITIONS
011742	001401			BEQ	.+4	; & FAILING PAGE #)
011744	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
011746	022767	000000	165620	CMP	20,SRI	;CHECK SRI (REGISTER CHANGES)
011754	001401			BEQ	.+4	
011756	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SRI
011760	022767	016700	165610	CMP	2T64B,SRI	;CHECK CONTENTS OF SRI
011766	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
011770	000000			HLT		;ERROR! INCORRECT PC IN SRI
011772	005702			TST	R2	;CHECK AUTO-INC
011774	001401			BEQ	.+4	
011776	000000			HLT		;ERROR! AUTO-INC FAILED
012000	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT ASC.61						
;ABORTS WHEN INSTRUCTION FOLLOWING ASC IS FETCHED						
012002	012737	012054	000250	MOV	2T65C,2*MMVEC	;LOAD MEM MGMT ERROR VECTOR
012010	012700	017102		MOV	2PSI2+102,R0	
012014	005040			CLR	-(R0)	;SET UP CODE (HALT)
012016	012740			MOV	(7)+,-(R0)	
012020	073205			ASHC	R5,R2	;ASC R5,R2
012022	012705	177777		MOV	2-1,R5	;SHIFT COUNT = -1 (1 PLACE RIGHT)
012026	005002			CLR	R2	
012030	012703	100001		MOV	2100001,R3	
012034	012767	050000	165734	MOV	2SM+PSM,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
012042	005237	177572		INC	2*SRO	;ENABLE MEMORY MGMT
012046	000261			SEC		
012050	000137	040076		JMP	2*SI2+76	;GO EXECUTE ASC INSTRUCTION
	012054			RETURN=.		
	017076			.=PSI2+76		
017076	073205			T65A: ASHC	R5,R2	;SEG LENGTH ABORT WHEN NEXT INST
017100	000000			HLT		;ERROR! FAILED TO ABORT HERE
	012054			.=RETURN		
012054				T65C:		
012054	022706	001054		CMP	2KPTR-4,KSP	;CHECK STACK PTR
012060	001401			BEQ	.+4	;AFTER ABORT

012062	000000			HLT		;ERROR! INCORRECT STACK PTR
012064	122767	000001	166764	CMPB	#C,KPTR-2	;CHECK STATUS ON STACK
012072	001401			BEQ	.+4	
012074	000000			HLT		;ERROR! INCORRECT STATUS ON STACK
012076	022767	040045	165466	CMP	#PLA+SPG+IS+VS2+1,SRO	;CHECK SRO (ABORT CONDITIONS
012104	001401			BEQ	.+4	; & FAILING PAGE #)
012106	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
012110	022767	000000	165456	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
012116	001401			BEQ	.+4	
012120	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
012122	022767	040100	165446	CMP	#SI2+100,SR2	;CHECK CONTENTS OF SR2
012130	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
012132	000000			HLT		;ERROR! INCORRECT PC IN SR2
012134	005702			TST	R2	;CHECK RESULT
012136	001401			BEQ	.+4	
012140	000000			HLT		;ERROR! INCORRECT RESULT IN R2
012142	022703	040000		CMP	#040000,R3	;CHECK RESULT
012146	001401			BEQ	.+4	
012150	000000			HLT		;ERROR! INCORRECT RESULT IN R3
012152	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT DOO.90

;ABORTS WHEN INSTRUCTION FOLLOWING MOV B IS FETCHED

012154	012737	012212	000250	MOV	#T66C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
012162	012703	016700		MOV	#KIO,R3	
012166	005013			CLR	(3)	;SET UP CODE (HALT)
012170	012743			MOV	(7)+, -(R3)	
012172	114203			MOV B	-(R2),R3	;THIS INSTRUCTION IS NOT EXECUTED
012174	012702	001004		MOV	#TEMP,R2	
012200	012722	100000		MOV	#100000, (R2)+	
012204	005237	177572		INC	@SRO	;ENABLE MEMORY MGMT
012210	000113			JMP	(R3)	;GO EXECUTE MOV B INSTRUCTION
	012212			RETURN=.		
	016676			.=KIO-2		

016676	114203			T66A: MOV B	-(R2),R3	;ABORTS WHEN THE NEXT INST IS FETCHED
016700	000000			T66B: HLT		;ERROR! FAILED TO ABORT HERE
	012212				.=RETURN	

012212				T66C:		
012212	022767	040001	165352	CMP	#PLA+KPG+IS+VS0+1,SRO	;CHECK SRO (ABORT CONDITIONS
012220	001401			BEQ	.+4	; & FAILING PAGE #)
012222	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
012224	022767	000000	165342	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
012232	001401			BEQ	.+4	
012234	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
012236	022767	016700	165332	CMP	#T66B,SR2	;CHECK CONTENTS OF SR2
012244	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
012246	000000			HLT		;ERROR! INCORRECT PC IN SR2
012250	022703	177600		CMP	#177600,R3	;MOV B TO A REGISTER EXTENDS
012254	001401			BEQ	.+4	;THE SIGN
012256	000000			HLT		;ERROR! INCORRECT RESULT IN R3
012260	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT FET07 (VIA ASH.30)

;ABORTS WHEN INSTRUCTION FOLLOWING ASH IS FETCHED

012262	012737	012320	000250	MOV	#T67C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
012270	012702	016700		MOV	#KIO,R2	

012274	005012			CLR	(R2)	
012276	012742			MOV	(7)+,-(R2)	
012300	072403			ASH	R3,R4	
012302	012703	177777		MOV	#-1,R3	;SHIFT COUNT=-1=1 PLACE RIGHT
012306	012704	100001		MOV	#100001,R4	;R4=DATA TO BE SHIFTED
012312	005237	177572		INC	@#SRO	;ENABLE MEMORY MGMT
012316	000112			JMP	(R2)	
	012320			RETURN=.		
	016676			. =KIO-2		
016676	072403		T67A:	ASH	R3,R4	;ABORTS WHEN NEXT INSTRUCTION IS FETCHED
016700	000000		T67B:	HLT		
	012320			. =RETURN		
012320	122766	000011	000002	T67C:	CMPB	#N+C,2(6) ;CHECK STATUS ON THE STACK
012326	001401			BEQ	.+4	
012330	000000			HLT		
012332	022767	040001	165232	CMP	#PLA+KPG+IS+VSO+1,SRO	;CHECK SRO (ABORT CONDITIONS
012340	001401			BEQ	.+4	; & FAILING PAGE #)
012342	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
012344	022767	000000	165222	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
012352	001401			BEQ	.+4	
012354	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
012356	022767	016700	165212	CMP	#T67B,SR2	;CHECK CONTENTS OF SR2
012364	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
012366	000000			HLT		;ERROR! INCORRECT PC IN SR2
012370	022704	140000		CMP	#140000,R4	
012374	001401			BEQ	.+4	
012376	000000			HLT		
012400	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
						;CHECK ABORT AT FET.05 (VIA ASH.40)
						;ABORTS WHEN INSTRUCTION FOLLOWING ASH IS FETCHED
012402	012737	012446	000250	MOV	#T70C,@MMVEC	;LOAD MEM MGMT ERROR VECTOR
012410	012705	016700		MOV	#KIO,R5	
012414	005015			CLR	(R5)	
012416	012745			MOV	(7)+,-(R5)	
012420	072223			ASH	(3)+,R2	
012422	012703	001004		MOV	#TEMP,R3	
012426	012713	000001		MOV	#1,(R3)	;SHIFT COUNT =1=1 PLACE LEFT
012432	012702	100000		MOV	#100000,R2	
012436	005237	177572		INC	@#SRO	;ENABLE MEMORY MGMT
012442	000261			SEC		
012444	000115			JMP	(R5)	
	012446			RETURN=.		
	016676			. =KIO-2		
016676	072223		T70A:	ASH	(R3)+,R2	
016700	000000		T70B:	HLT		
	012446			. =RETURN		
012446			T70C:			
012446	022767	040001	165116	CMP	#PLA+KPG+IS+VSO+1,SRO	;CHECK SRO (ABORT CONDITIONS
012454	001401			BEQ	.+4	; & FAILING PAGE #)
012456	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
012460	022767	000000	165106	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
012466	001401			BEQ	.+4	
012470	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
012472	022767	016700	165076	CMP	#T70B,SR2	;CHECK CONTENTS OF SR2
012500	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)

PC	Inst	Op	Op2	Op3	Op4	Op5	Op6	Op7	Op8	Op9	Op10	Op11	Op12	Op13	Op14	Op15	Op16	Op17	Op18	Op19	Op20	Op21	Op22	Op23	Op24	Op25	Op26	Op27	Op28	Op29	Op30	Op31	Op32	Op33	Op34	Op35	Op36	Op37	Op38	Op39	Op40	Op41	Op42	Op43	Op44	Op45	Op46	Op47	Op48	Op49	Op50	Op51	Op52	Op53	Op54	Op55	Op56	Op57	Op58	Op59	Op60	Op61	Op62	Op63	Op64	Op65	Op66	Op67	Op68	Op69	Op70	Op71	Op72	Op73	Op74	Op75	Op76	Op77	Op78	Op79	Op80	Op81	Op82	Op83	Op84	Op85	Op86	Op87	Op88	Op89	Op90	Op91	Op92	Op93	Op94	Op95	Op96	Op97	Op98	Op99	Op100	Op101	Op102	Op103	Op104	Op105	Op106	Op107	Op108	Op109	Op110	Op111	Op112	Op113	Op114	Op115	Op116	Op117	Op118	Op119	Op120	Op121	Op122	Op123	Op124	Op125	Op126	Op127	Op128	Op129	Op130	Op131	Op132	Op133	Op134	Op135	Op136	Op137	Op138	Op139	Op140	Op141	Op142	Op143	Op144	Op145	Op146	Op147	Op148	Op149	Op150	Op151	Op152	Op153	Op154	Op155	Op156	Op157	Op158	Op159	Op160	Op161	Op162	Op163	Op164	Op165	Op166	Op167	Op168	Op169	Op170	Op171	Op172	Op173	Op174	Op175	Op176	Op177	Op178	Op179	Op180	Op181	Op182	Op183	Op184	Op185	Op186	Op187	Op188	Op189	Op190	Op191	Op192	Op193	Op194	Op195	Op196	Op197	Op198	Op199	Op200	Op201	Op202	Op203	Op204	Op205	Op206	Op207	Op208	Op209	Op210	Op211	Op212	Op213	Op214	Op215	Op216	Op217	Op218	Op219	Op220	Op221	Op222	Op223	Op224	Op225	Op226	Op227	Op228	Op229	Op230	Op231	Op232	Op233	Op234	Op235	Op236	Op237	Op238	Op239	Op240	Op241	Op242	Op243	Op244	Op245	Op246	Op247	Op248	Op249	Op250	Op251	Op252	Op253	Op254	Op255	Op256	Op257	Op258	Op259	Op260	Op261	Op262	Op263	Op264	Op265	Op266	Op267	Op268	Op269	Op270	Op271	Op272	Op273	Op274	Op275	Op276	Op277	Op278	Op279	Op280	Op281	Op282	Op283	Op284	Op285	Op286	Op287	Op288	Op289	Op290	Op291	Op292	Op293	Op294	Op295	Op296	Op297	Op298	Op299	Op300	Op301	Op302	Op303	Op304	Op305	Op306	Op307	Op308	Op309	Op310	Op311	Op312	Op313	Op314	Op315	Op316	Op317	Op318	Op319	Op320	Op321	Op322	Op323	Op324	Op325	Op326	Op327	Op328	Op329	Op330	Op331	Op332	Op333	Op334	Op335	Op336	Op337	Op338	Op339	Op340	Op341	Op342	Op343	Op344	Op345	Op346	Op347	Op348	Op349	Op350	Op351	Op352	Op353	Op354	Op355	Op356	Op357	Op358	Op359	Op360	Op361	Op362	Op363	Op364	Op365	Op366	Op367	Op368	Op369	Op370	Op371	Op372	Op373	Op374	Op375	Op376	Op377	Op378	Op379	Op380	Op381	Op382	Op383	Op384	Op385	Op386	Op387	Op388	Op389	Op390	Op391	Op392	Op393	Op394	Op395	Op396	Op397	Op398	Op399	Op400	Op401	Op402	Op403	Op404	Op405	Op406	Op407	Op408	Op409	Op410	Op411	Op412	Op413	Op414	Op415	Op416	Op417	Op418
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012704	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
012706	022767	012656	164662	CMP	#T72A,SR2	;CHECK CONTENTS OF SR2
012714	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
012716	000000			HLT		;ERROR! INCORRECT PC IN SR2
012720	022766	000001	000002	CMP	#C,2(KSP)	;CHECK THAT CORRECT STATUS
012726	001401			BEQ	.+4	; WAS SAVED ON THE STACK
012730	000000			HLT		;ERROR! INCORRECT STATUS
012732	005037	177572		CLR	#SR0	;DISABLE MEMORY MGMT
012736	005737	016700		TST	#PKD6	;CHECK THAT ADDRESS WAS NOT WRITTEN
012742	001401			BEQ	.+4	
012744	000000			HLT		;ERROR! DATA WR1 TEN INTO READ ONLY ADDRESS
012746	104000			SCOPE		

;CHECK ACCESS VIOLATION ABORT

;ABORTS WHEN SOURCE DATA IS FETCHED FROM READ ONLY SPACE USING A DATIP.

012750	012737	012774	000250	MOV	#T73C,#MMVEC	;LOAD MEM MGMT ERROR VECTOR
012756	005037	016700		CLR	#PKD6	;PRESET ADDRESS
012762	005237	177572		INC	#SR0	;ENABLE MEMORY MGMT
012766	000261			SEC		;SET 'C'
012770	106037	140001		T73A: RORB	#KD6+1	;ABORTS WHEN RESULT IS WRITTEN
012774				T73C:		
012774	022767	020035	164570	CMP	#AVA+KPG+DS+VS6+1,SR0	;CHECK SR0 (ABORT CONDITIONS
013002	001401			BEQ	.+4	; & FAILING PAGE #)
013004	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
013006	022767	000027	164560	CMP	#S2+PC,SR1	;CHECK SR1 (REGISTER CHANGES)
013014	001401			BEQ	.+4	
013016	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
013020	022767	012770	164550	CMP	#T73A,SR2	;CHECK CONTENTS OF SR2
013026	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
013030	000000			HLT		;ERROR! INCORRECT PC IN SR2
013032	022766	000001	000002	CMP	#C,2(KSP)	;CHECK THAT CORRECT STATUS
013040	001401			BEQ	.+4	; WAS SAVED ON THE STACK
013042	000000			HLT		;ERROR! INCORRECT STATUS
013044	005037	177572		CLR	#SR0	;DISABLE MEMORY MGMT
013050	005737	016700		TST	#PKD6	
013054	001401			BEQ	.+4	
013056	000000			HLT		;ERROR! ADDRESS WAS WRITTEN
013060	012737	000006	177 '34	MOV	#6,#KDPDR6	;SET KDPDR R/W
013066	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT FET.02

013070	012737	013152	000250	MOV	#T75C,#MMVEC	;LOAD MEM MGMT ERROR VECTOR
013076	000237			SPL	7	;SET PRIORITY LEVEL 7
013100	012737	010000	177772	MOV	#PIR4,#PIRQ	;BOOK INT REQUEST AT LEVEL 4
013106	012737	140000	000240	MOV	#KD6,#PIRVEC	;SET PIRQ INT VECTOR
013114	012737	000340	000242	MOV	#340,#PIRVEC+2	;PRIORITY LEVEL 7 ON INTERRUPT
013122	012737	000340	000252	MOV	#340,#MMVEC+2	;PRIORITY LEVEL 7 ON ABORT TRAP
013130	005037	016700		CLR	#PKD6	
013134	005237	177572		INC	#SR0	;ENABLE MEMORY MGMT
013140	000264			SEZ		;SET 'Z'
013142	000233			SPL	3	;ALLOW BOOKED INTERRUPT
013144	001001			T75A: BNE	.+4	;SHOULD NOT BRANCH
013146	000000			HLT		;ERROR! DID NOT INTERRUPT & BRANCH FAILED
013150	000000			HLT		;ERROR! DID NOT INTERRUPT
	013152			RETURN=.		

016700	016700			T75B:	.=PKD6 HLT	;ERROR! DID NOT ABORT WHEN THIS INST ;WAS FETCHED
	013152			T75C:	.=RETURN	
013152	022767	100015	164412		CMP #NRA+KPG+IS+VS6+1,SR0	;CHECK SR0 (ABORT CONDITIONS
013152	001401				BEQ .+4	; & FAILING PAGE #)
013160	000000				HLT	;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
013162	022767	000000	164402		CMP #0,SR1	;CHECK SR1 (REGISTER CHANGES)
013164	001401				BEQ .+4	
013172	000000				HLT	;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
013174	022767	140000	164372		CMP #KD6,SR2	;CHECK CONTENTS OF SR2
013176	001401				BEQ .+4	; (PC OF ABORTED INSTRUCTION)
013204	000000				HLT	;ERROR! INCORRECT PC IN SR2
013206	005037	177772			CLR #PIRQ	;CLEAR REQUEST
013210	012737	000242	000240		MOV #PIRVEC+2,#PIRVEC	
013214	005037	000242			CLR #PIRVEC+2	
013222	104000				SCOPE	;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
						;CHECK ABORT AT SVC.80 USING 'T' BIT TRAP
						;ABORTS WHEN RETURN PC IS PUSHED ONTO SUPERVISOR STACK
013230	012737	013322	000250		MOV #T76C,#MMVEC	;LOAD MEM MGMT ERROR VECTOR
013236	012737	013404	000014		MOV #T76D,#TBITVEC	;SET 'T' BIT TRAP VECTOR
013244	012737	040000	000016		MOV #SM,#TBITVEC+2	;SUPER MODE ON TRAP
013252	012767	050000	164516		MOV #SM+PSM,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
013260	012706	020002			MOV #SD1+2,\$SP	;SET SUPER STACK PTR
013264	012767	170000	164504		MOV #UM+PUM,PSW	;USER MODE!!!,PREV USER MODE!!
013272	005000				CLR RO	;PRESET RO
013274	013746	177776			MOV #PSW,-(USP)	;SET UP TO
013300	005237	177572			INC #SRO	;ENABLE MEMORY MGMT
013304	052716	000020			BIS #T,(USP)	;SET 'T' BIT
013310	012746	013316			MOV #.+6,-(USP)	
013314	000006				RTT	;RTT SETS THE 'T' BIT
013316	005200				INC RO	;TRAP AFTER THIS INST
013320	000000			T76A:	HLT	;ERROR! FAILED TO TRAP
013322				T76C:		
013322	022767	040261	164242		CMP #PLA+IC+DS+SPG+VSD+1,SR0	;CHECK SR0 (ABORT CONDITIONS
013330	001401				BEQ .+4	; & FAILING PAGE #)
013332	000000				HLT	;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
013334	022767	173366	164232		CMP #DM2+DR6+SM2+SP,SR1	;CHECK SR1 (REGISTER CHANGES)
013342	001401				BEQ .+4	
013344	000000				HLT	;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
013346	022767	000014	164222		CMP #TBITVEC,SR2	;CHECK CONTENTS OF SR2
013354	001401				BEQ .+4	; (PC OF ABORTED INSTRUCTION)
013356	000000				HLT	;ERROR! INCORRECT PC IN SR2
013360	022766	170020	000002		CMP #UM+PUM+T,2(KSP)	;CHECK THAT CORRECT STATUS
013366	001401				BEQ .+4	;WAS SAVED ON THE STACK
013370	000000				HLT	;ERROR! INCORRECT STATUS
013372	022716	013320			CMP #T76A,(KSP)	;CHECK RETURN PC ON
013376	001401				BEQ .+4	;STACK
013400	000000				HLT	;ERROR! INCORRECT RETURN PC ON STACK
013402	000401				BR T76EX	;EXIT TEST
013404	000000			T76D:	HLT	;ERROR! FAILED TO ABORT AT SVC.80
013406	012737	000016	000014	T76EX:	MOV #TBITVEC+2,#TBITVEC	
013414	005037	000016			CLR #TBITVEC+2	

013420 104000

SCOPE

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013422 012737 010000 177776 ;CHECK RELATIONSHIP BETWEEN SEG ABORT TRAP & FATAL STACK ERROR TRAP
013430 012737 013466 000250      MOV      #KM+PSW, @#PSW ;KERNEL MODE!!!, PREV SUPER MODE!!
013436 012737 013470 000004      MOV      #T100B, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
013444 012706 000740      MOV      #T100C, @#ERRVEC ;LOAD FATAL STACK ERROR TRAP VECTOR
013450 005037 000000      MOV      #REDPTR, KSP ;SET KERNEL STACK PTR IN RED ZONE
013454 005237 177572      CLR      @#0 ;PRESET RED STACK
013460 006537 040100      INC      @#SR0 ;ENABLE MEMORY MGMT
013464 000000      T100A: MFPI @#SI2+100 ;SEG ABORT WHEN DATA AT SI2+100 IS FETCHED
013466 000000      HLT ;ERROR! NO FATAL STACK ERR NOR SEG ABORT
013470 005706      T100B: HLT ;ERROR! NO FATAL STACK ERROR TRAP
013472 001401      T100C: TST KSP ;CHECK THAT KERNEL STACK PTR WAS FORCED
013474 000000      BEQ .+4 ;TO 0
013476 022737 013466 000000      HLT ;ERROR! FATAL STACK ERROR TRAP FAILED
013504 001401      CMP      #T100B, @#0 ;CHECK THAT RETURN ADDRESS WAS SAVED
013506 000000      BEQ .+4
013510 012706 001060      HLT ;ERROR! RETURN ADDRESS NOT SAVED
013514 022767 040045 164050      MOV      #KPTR, KSP ;RESTORE KERNEL STACK PTR
013522 001401      CMP      #PLA+IS+SPG+VS2+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
013524 000000      BEQ .+4 ;& FAILING PAGE #)
013526 022767 000027 164040      HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
013534 001401      CMP      #S2+PC, SR1 ;CHECK SR1 (REGISTER CHANGES)
013536 000000      BEQ .+4
013540 022767 013460 164030      HLT ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
013546 001401      CMP      #T100A, SR2 ;CHECK CONTENTS OF SR2
013550 000000      BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
013552 012737 000400 000004      HLT ;ERROR! INCORRECT PC IN SR2
013560 104000      MOV      #SHLT, @#ERRVEC ;RESTORE ERROR TRAP
                                SCOPE ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

013562 012737 013616 000250 ;CHECK ABORT WHEN PSW IS NON-RESIDENT
013570 005002      MOV      #T102C, @#MMVEC ;LOAD MEM MGMT ERROR VECTOR
013572 005237 177572      CLR      R2 ;PRESET DESTINATION
013576 012746 040017      INC      @#SR0 ;ENABLE MEMORY MGMT
013602 012746 013610      MOV      #SM+17, -(KSP) ;'NEW' STATUS ON STACK
013606 000002      MOV      #.+6, -(KSP) ;RETURN PC
013610 013702 177776      RTI ;SET STATUS AND EXECUTE NEXT INST.
013614 000000      T102A: MOV @#PSW, R2 ;PSW IS NON-RESIDENT IN SUPER MODE
                                HLT ;ERROR! FAILED TO ABORT

013616      T102C:
013616 022767 140077 163746      CMP      #NRA+PLA+SPG+DS+VS7+1, SR0 ;CHECK SR0 (ABORT CONDITIONS
013624 001401      BEQ .+4 ;& FAILING PAGE #)
013626 000000      HLT ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
013630 022767 000027 163736      CMP      #S2+PC, SR1 ;CHECK SR1 (REGISTER CHANGES)
013636 001401      BEQ .+4
013640 000000      HLT ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
013642 022767 013610 163726      CMP      #T102A, SR2 ;CHECK CONTENTS OF SR2
013650 001401      BEQ .+4 ;(PC OF ABORTED INSTRUCTION)
013652 000000      HLT ;ERROR! INCORRECT PC IN SR2
013654 022766 040017 000002      CMP      #SM+17, 2(KSP) ;CHECK THAT CORRECT STATUS
013662 001401      BEQ .+4 ;WAS SAVED ON THE STACK
013664 000000      HLT ;ERROR! INCORRECT STATUS
013666 005702      TST R2 ;CHECK THAT R2 WAS NOT LOADED
013670 001401      BEQ .+4

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013672 000000          HLT          ;ERROR! DEST (R2) WAS CHEANGED
013674 104000          SCOPE

;CHECK ABORT WHEN DEST ADDRESS IS PSW AND PSW IS NON-RESIDENT
013676 012737 010000 177776      MOV      #KM+PSM,2#PSW ;KERNEL MODE!!!,PREV SUPER MODE!!
013704 012737 013740 000250      MOV      #T103C,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
013712 005046          CLR      -(KSP) ;DATA TO STACK
013714 012746 177776      MOV      #PSW,-(KSP) ;ADDRESS OF PSW TO STACK
013720 005046          CLR      -(KSP) ;DATA TO STACK
013722 005237 177572      INC      2#SRO ;ENABLE MEMORY MGMT
013726 052737 000357 177776      BIS      #PTY7+17,2#PSW ;PRESET STATUS
013734 106636          T103A: MTPD  2(KSP)+ ;DEST ADRS(PSW) IS NON-RES
013736 000000          HLT          ;ERROR! FAILED TO ABORT

013740 013700 177776      T103C: MOV      2#PSW,R0 ;SAVE CURRENT STATUS
013744 022700 000340      CMP      #KM+PKM+PTY7,R0 ;CHECK CURRENT STATUS
013750 001401          BEQ      .+4
013752 000000          HLT          ;ERROR! INCORRECT STATUS AFTER ABORT
013754 022767 140077 163610      CMP      #NRA+PLA+SPG+DS+VS7+1,SRO ;CHECK SRO (ABORT CONDITIONS
013762 001401          BEQ      .+4 ;& FAILING PAGE #)
013764 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
013766 022767 013026 163600      CMP      #D2+DR6+S2+KSP,SR1 ;CHECK SR1 (REGISTER CHANGES)
013774 001401          BEQ      .+4
013776 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
014000 022767 013734 163570      CMP      #T103A,SR2 ;CHECK CONTENTS OF SR2
014006 001401          BEQ      .+4 ; (PC OF ABORTED INSTRUCTION)
014010 000000          HLT          ;ERROR! INCORRECT PC IN SR2
014012 022766 010345 000002      CMP      #PSM+PTY7+Z+C,2(KSP) ;CHECK THAT CORRECT STATUS
014020 001401          BEQ      .+4 ;WAS SAVED ON THE STACK
014022 000000          HLT          ;ERROR! INCORRECT STATUS
014024 104000          SCOPE

;CHECK ABORT WHEN ADDRESS IS ONE OF THE MEMORY MANAGEMENT REGISTERS.
014026 012737 077402 177636      MOV      #200*256.-400+UP+RDO,2#UDPDR7 ;SET UDPDR7=RDO UP 200 BLOCKS
014034 012737 007600 177676      MOV      #7600,2#UDPDR7 ;SET TO I/O PAGE
014042 012737 014076 000250      MOV      #T104C,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
014050 005237 177572      INC      2#SRO ;ENABLE MEMORY MGMT
014054 012737 140000 177776      MOV      #UM,2#PSW ;SET USER MODE IN PSW
014062 005737 177636          T104A: TST      2#UDPDR7 ;SHOULD NOT ABORT
014066 013737 177676 177636      T104B: MOV      2#UDPDR7,2#UDPDR7 ;SHOULD ABORT
014074 000000          HLT          ;ERROR! FAILED TO ABORT

;NOTE: IF ABOVE TEST FAILED TO ABORT OR TRAPPED CHECK THAT M8108
;MODULE IS UP TO REV F...

014076 014076 022767 020177 163466      T104C: CMP      #AVA+UPG+DS+VS7+1,SRO ;CHECK SRO (ABORT CONDITIONS
014104 001401          BEQ      .+4 ;& FAILING PAGE #)
014106 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
014110 022767 013427 163456      CMP      #D2+DR7+S2+PC,SR1 ;CHECK SR1 (REGISTER CHANGES)
014116 001401          BEQ      .+4
014120 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
014122 022767 014066 163446      CMP      #T104B,SR2 ;CHECK CONTENTS OF SR2
014130 001401          BEQ      .+4 ; (PC OF ABORTED INSTRUCTION)
014132 000000          HLT          ;ERROR! INCORRECT PC IN SR2
014134 022766 140000 000002      CMP      #UM,2(KSP) ;CHECK THAT CORRECT STATUS
014142 001401          BEQ      .+4 ;WAS SAVED ON THE STACK

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014144 000000          HLT          ;ERROR! INCORRECT STATUS
014146 022737 077402 177636  CMP      #77402,2#UDPDR7 ;CHECK THAT UDPDR7 WAS NOT CHANGED
014154 001401          BEQ      .+4
014156 000000          HLT          ;ERROR! UDPDR7 WAS CHANGED
014160 005037 177636  CLR      2#UDPDR7
014164 104000          SCOPE

;CHECK IF FLOATING POINT OPTION IS AVAILABLE
014166 012737 014200 000010  MOV      #NOFP,2#RESVEC ;LOAD ERROR VECTOR
014174 170001          SETF          ;DO A FLOATING POINT INST.
014176 000402          BR      STFP ;START FP TEST IF AVAILABLE
014200 000167 002174      NOFP:  JMP      END ;END OF TEST IF NO FLOATING POINT
014204 012737 000012 000010  STFP:  MOV      #RESVEC+2,2#RESVEC ;RESTORE USER/SUPER HLT TRAP

;START FLOATING POINT TESTS
;CHECK ABORT AT
;ABORTS WHEN INSTRUCTION FOLLOWING FIRST ADDF IS FETCHED
014212 012737 014264 000250  MOV      #FOC,2#MMVEC ;LOAD MEM MGMT ERROR VECTOR
014220 012767 050000 163550  MOV      #SM+PSM,PSW ;SUPER MODE!!!,PREV SUPER MODE!!
014226 012705 017076      MOV      #PSI2+76,R5
014232 172427 040200      LDF      #1,AC0
014236 172500      LDF      AC0,AC1
014240 012725      MOV      (7)+,(5)+ ;LOAD INSTRUCTION
014242 172100      ADDF      AC0,AC1 ;THESE INSTRUCTIONS
014244 012725      MOV      (7)+,(5)+
014246 172100      ADDF      AC0,AC1 ;WILL BE
014250 012715      MOV      (7)+,(5)
014252 000000      HLT          ;EXECUTED IN THIS TEST
014254 005237 177572      INC      2#SR0 ;ENABLE MEMORY MGMT
014260 000137 040076      JMP      2#SI2+76 ;GO DO FLOATING POINT INST.
          RETURN=
          .=PSI2+76

017076 172100          ADDF      AC0,AC1 ;DO THIS INST. ABORT ON NEXT
017100 172100          ADDF      AC0,AC1 ;SEG LEN ABORT AT FET.00
017102 000000          HLT          ;ERROR! FAILED TO ABORT
          .=RETURN

FOC:
014264          FOC:
014264 022706 001054      CMP      #KPTR-4,KSP ;CHECK STACK PTR
014270 001401          BEQ      .+4 ;AFTER ABORT
014272 000000          HLT          ;ERROR! INCORRECT STACK PTR
014274 022767 040045 163270  CMP      #PLA+SPG+VS2+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
014302 001401          BEQ      .+4 ;& FAILING PAGE #)
014304 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
014306 022767 000000 163260  CMP      #0,SR1 ;CHECK SR1 (REGISTER CHANGES)
014314 001401          BEQ      .+4
014316 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
014320 022767 040100 163250  CMP      #SI2+100,SR2 ;CHECK CONTENTS OF SR2
014326 001401          BEQ      .+4 ; (PC OF ABORTED INSTRUCTION)
014330 000000          HLT          ;ERROR! INCORRECT PC IN SR2
014332 005037 177572      CLR      2#SR0 ;DISABLE MEMORY MGMT
014336 173527 040400      CMPF     #2,AC1
014342 170000          CFCC
014344 001401          BEQ      .+4

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014346 000000          HLT          ;ERROR! FOP DID NOT COMPLETE.
014350 104000          SCOPE        ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;CHECK ABORT AT D12.80
014352 012737 014420 000250      MOV      #F1C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
014360 012767 170000 163410      MOV      #UM+PUM, PSW      ;USER MODE!!!, PREV USER MODE!!
014366 172427 040200              LDF      #1, ACO
014372 174037 017200              STF      ACO, @PUIS
014376 012703 120000              MOV      #UIS, R3
014402 005237 177572              INC      @SRO              ;ENABLE MEMORY MGMT
014406 172023          F1A:      ADDF     (3)+, ACO          ;NON-RES ABORT AT D12.80
014410 000240              NOP
014412 000240              NOP
014414 000240              NOP
014416 000000          HLT          ;ERROR! FAILED TO ABORT

014420          F1C:
014420 022767 100173 163144      CMP      #NRA+UPG+DS+VS5+1, SRO ;CHECK SRO (ABORT CONDITIONS
014426 001401              BEQ      .+4                    ;& FAILING PAGE #)
014430 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
014432 022767 000043 163134      CMP      #S4+R3, SR1       ;CHECK SR1 (REGISTER CHANGES)
014440 001401              BEQ      .+4
014442 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
014444 022767 014406 163124      CMP      #F1A, SR2         ;CHECK CONTENTS OF SR2
014452 001401              BEQ      .+4                    ; (PC OF ABORTED INSTRUCTION)
014454 000000          HLT          ;ERROR! INCORRECT PC IN SR2
014456 173427 040200      CMPF     #1, ACO                 ;CHECK THAT INST. ABORTED
014462 170000      CFCC
014464 001401      BEQ      .+4
014466 000000          HLT          ;ERROR!
014470 104000          SCOPE        ;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;BEGIN TESTING FLOATING POINT DOUBLE INSTRUCTION ABORT TRAPS
;AUTO INCREMENT FIRST DATA WORD

014472 012767 050000 163276      MOV      #SM+PSM, PSW      ;SUPER MODE!!!, PREV SUPER MODE!!
014500 012737 014540 000250      MOV      #F2C, @MMVEC      ;LOAD MEM MGMT ERROR VECTOR
014506 170127 000200              LDFPS   #200
014512 172427 040200              LDD      #1, ACO          ;PRESET ACO
014516 012703 020100              MOV      #SD1+100, R3
014522 005037 017200              CLR      @PSD1+100
014526 005237 177572              INC      @SRO              ;PRESET PHYSICAL ADDRESS
014532 172423          F2A:      LDD      (R3)+, ACO          ;ENABLE MEMORY MGMT
014534 000000          HLT          ;ABORTS WHEN FIRST DATA IS FETCHED
014536 000240          NOP          ;ERROR! FAILED TO ABORT

014540          F2C:
014540 022767 040063 163024      CMP      #PLA+SPG+DS+VS1+1, SRO ;CHECK SRO (ABORT CONDITIONS
014546 001401              BEQ      .+4                    ;& FAILING PAGE #)
014550 000000          HLT          ;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
014552 022767 000103 163014      CMP      #S8+R3, SR1       ;CHECK SR1 (REGISTER CHANGES)
014560 001401              BEQ      .+4
014562 000000          HLT          ;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
014564 022767 014532 163004      CMP      #F2A, SR2         ;CHECK CONTENTS OF SR2
014572 001401              BEQ      .+4                    ; (PC OF ABORTED INSTRUCTION)
014574 000000          HLT          ;ERROR! INCORRECT PC IN SR2
014576 174067 164202      STF      ACO, TEMP              ;PUT ACO IN TEMP

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014602	173427	040200		CMPD	#1,ACD	;CHECK THAT ACD WAS NOT CHANGED
014606	170000			CFCC		;COPY FLOATING CC'S INTO PSW
014610	001401			BEQ	.+4	
014612	000000			HLT		;ERROR! ACD WAS ALTERED
014614	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
014616	012767	170000	163152	;AUTO INCREMENT SECOND DATA WORD		
014624	012737	014654	000250	MOV	#UM+PUM,PSW	;USER MODE!!! PREV USER MODE!!
014632	170127	000200		MOV	#F3C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
014636	012704	100076		LDFPS	#200	
014642	005237	177572		MOV	#UD4+76,R4	
014646	172024			INC	2#SR0	;ENABLE MEMORY MGMT
014650	000000			F3A: ADDD	(R4)+,ACD	;ABORTS WHEN SECOND DATA IS FETCHED
014652	000240			HLT		;ERROR! FAILED TO ABORT
014654				NOP		
014654	022767	040171	162710	F3C: CMP	#PLA+UPG+DS+VS4+1,SR0	;CHECK SR0 (ABORT CONDITIONS
014662	001401			BEQ	.+4	; & FAILING PAGE #)
014664	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
014666	022767	000104	162700	CMP	#S8+R4,SR1	;CHECK SR1 (REGISTER CHANGES)
014674	001401			BEQ	.+4	
014676	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
014700	022767	014646	162670	CMP	#F3A,SR2	;CHECK CONTENTS OF SR2
014706	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
014710	000000			HLT		;ERROR! INCORRECT PC IN SR2
014712	022704	100106		CMP	#UD4+106,R4	;CHECK AUTO INC
014716	001401			BEQ	.+4	
014720	000000			HLT		;ERROR! R4 NOT AUTO-INC TWICE
014722	170200			STFPS	R0	;STORE FPS IN R0
014724	022700	000200		CMP	#200,R0	;CHECK FP STATUS AFTER ABORT
014730	001401			BEQ	.+4	
014732	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
014734	174067	164044		STF	ACD,TEMP	;PUT ACD IN TEMP
014740	173427	040200		CMPD	#1,ACD	;CHECK THAT ACD WAS NOT CHANGED
014744	170000			CFCC		;COPY FLOATING CC'S INTO PSW
014746	001401			BEQ	.+4	
014750	000000			HLT		;ERROR! ACD WAS ALTERED
014752	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
014754	012737	015002	000250	;AUTO INCREMENT THIRD DATA WORD		
014762	170127	000200		MOV	#F4C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
014766	012702	001074		LDFPS	#200	
014772	005237	177572		MOV	#K00-4,R2	
014776	171022			INC	2#SR0	;ENABLE MEMORY MGMT
015000	000000			F4A: MULD	(R2)+,ACD	;ABORTS WHEN THIRD DATA IS FETCHED
015002				HLT		;ERROR! FAILED TO ABORT
015002	022767	040021	162562	F4C: CMP	#PLA+KPG+DS+VS0+1,SR0	;CHECK SR0 (ABORT CONDITIONS
015010	001401			BEQ	.+4	; & FAILING PAGE #)
015012	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
015014	022767	000102	162552	CMP	#S8+R2,SR1	;CHECK SR1 (REGISTER CHANGES)
015022	001401			BEQ	.+4	
015024	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
015026	022767	014776	162542	CMP	#F4A,SR2	;CHECK CONTENTS OF SR2
015034	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
015036	000000			HLT		;ERROR! INCORRECT PC IN SR2

015040	022702	001104		CMP	#K00+4,R2	;CHECK AUTO-INC THRE TIMES
015044	001401			BEQ	.+4	
015046	000000			HLT		;ERROR! R2 NOT AUTO-INC THREE TIMES
015050	005037	177572		CLR	2#SR0	;DISABLE MEMORY MGMT
015054	170200			STFPS	R0	;STORE FPS IN R0
015056	022700	000200		CMP	#200,R0	;CHECK FP STATUS AFTER ABORT
015062	001401			BEQ	.+4	
015064	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
015066	174067	163712		STF	ACD,TEMP	;PUT ACD IN TEMP
015072	173427	040200		CMPD	#1,ACD	;CHECK THAT ACD WAS NOT CHANGED
015076	170000			CFCC		;COPY FLOATING CC'S INTO PSW
015100	001401			BEQ	.+4	
015102	000000			HLT		;ERROR! ACD WAS ALTERED
015104	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;AUTO INCREMENT FOURTH DATA WORD						
015106	012767	170000	162662	MOV	#UM+PUM,PSW	;USER MODE!!!,PREV USER MODE!!
015114	012737	015144	000250	MOV	#F5C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
015122	170127	000200		LDFPS	#200	
015126	012700	100074		MOV	#UD4+74,R0	
015132	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
015136	174420			FSA: DIVD	(R0)+,ACD	;ABORTS WHEN FOURTH DATA IS FETCHED
015140	000000			HLT		;ERROR! FAILED TO ABORT
015142	000240			NOP		
015144				F5C:		
015144	022767	040171	162420	CMP	#PLA+UPG+DS+VS4+1,SR0	;CHECK SR0 (ABORT CONDITIONS
015152	001401			BEQ	.+4	; & FAILING PAGE #)
015154	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
015156	022767	000100	162410	CMP	#S8+R0,SR1	;CHECK SR1 (REGISTER CHANGES)
015164	001401			BEQ	.+4	
015166	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
015170	022767	015136	162400	CMP	#F5A,SR2	;CHECK CONTENTS OF SR2
015176	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
015200	000000			HLT		;ERROR! INCORRECT PC IN SR2
015202	022700	100104		CMP	#UD4+104,R0	;CHECK AUTO INC 4 TIMES
015206	001401			BEQ	.+4	
015210	000000			HLT		;ERROR! R0 NOT AUTO-INC 4 TIMES
015212	170200			STFPS	R0	;STORE FPS IN R0
015214	022700	000200		CMP	#200,R0	;CHECK FP STATUS AFTER ABORT
015220	001401			BEQ	.+4	
015222	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
015224	174067	163554		STF	ACD,TEMP	;PUT ACD IN TEMP
015230	173427	040200		CMPD	#1,ACD	;CHECK THAT ACD WAS NOT CHANGED
015234	170000			CFCC		;COPY FLOATING CC'S INTO PSW
015236	001401			BEQ	.+4	
015240	000000			HLT		;ERROR! ACD WAS ALTERED
015242	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;AUTO DECREMENT FIRST DATA WORD						
015244	012767	050000	162524	MOV	#SM+PSM,PSW	;SUPER MODE!!!,PREV SUPER MODE!!
015252	012737	015302	000250	MOV	#F6C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
015260	170127	000200		LDFPS	#200	
015264	012703	020000		MOV	#SD1,R3	
015270	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
015274	173043			F6A: SUBD	-(R3),ACD	;ABORTS WHEN FIRST DATA IS FETCHED
015276	000000			HLT		;ERROR! FAILED TO ABORT

015300	000240			NUP	
015302				F6C:	
015302	022767	040061	162262	CMP	#PLA+SPG+DS+VSD+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
015310	001401			BEQ	.+4 ;& FAILING PAGE #)
015312	000000			HLT	;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
015314	022767	000303	162252	CMP	#SM8+R3,SR1 ;CHECK SR1 (REGISTER CHANGES)
015322	001401			BEQ	.+4
015324	000000			HLT	;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
015326	022767	015274	162242	CMP	#F6A,SR2 ;CHECK CONTENTS OF SR2
015334	001401			BEQ	.+4 ;(PC OF ABORTED INSTRUCTION)
015336	000000			HLT	;ERROR! INCORRECT PC IN SR2
015340	005037	177572		CLR	@#SR0 ;DISABLE MEMORY MGMT
015344	022703	017770		CMP	#SD1-8.,R3 ;CHECK AUTO-DEC
015350	001401			BEQ	.+4
015352	000000			HLT	;ERROR! R3 NOT AUTO-DEC
015354	170200			STFPS	R0 ;STORE FPS IN R0
015356	022700	000200		CMP	#200,R0 ;CHECK FP STATUS AFTER ABORT
015362	001401			BEQ	.+4
015364	000000			HLT	;ERROR! INCORRECT FPS AFTER ABORT
015366	174067	163412		STF	ACD,TEMP ;PUT ACD IN TEMP
015372	173427	040200		CMPD	#1,ACD ;CHECK THAT ACD WAS NOT CHANGED
015376	170000			CFCC	;COPY FLOATING CC'S INTO PSW
015400	001401			BEQ	.+4
015402	000000			HLT	;ERROR! ACD WAS ALTERED
015404	104000			SCOPE	;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

015406	012767	170000	162362	;AUTO DECREMENT SECOND DATA WORD	
015414	012737	015444	000250	MOV	#UM+PUM,PSW ;USER MODE!!!,PREV USER MODE!!
015422	170127	000200		MOV	#F7C,@#ATVEC ;LOAD MEM MGMT ERROR VECTOR
015426	012704	130002		LDFPS	#200
015432	005237	177572		MOV	#UD4+2,R4
015436	177444			INC	@#SR0 ;ENABLE MEMORY MGMT
015440	000000			F7A: LDCFD	-(R4),ACD ;ABORTS WHEN SECOND DATA WORD IS FETCHED
015442	000240			HLT	;ERROR! FAILED TO ABORT
015444				NOP	
015444	022767	140167	162120	F7C:	
015452	001401			CMP	#NRA+PLA+UPG+DS+VS3+1,SR0 ;CHECK SR0 (ABORT CONDITIONS
015454	000000			BEQ	.+4 ;& FAILING PAGE #)
015456	022767	000344	162110	HLT	;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
015464	001401			CMP	#SM4+R4,SR1 ;CHECK SR1 (REGISTER CHANGES)
015466	000000			BEQ	.+4
015470	022767	015436	162100	HLT	;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
015476	001401			CMP	#F7A,SR2 ;CHECK CONTENTS OF SR2
015500	000000			BEQ	.+4 ;(PC OF ABORTED INSTRUCTION)
015502	022704	077776		HLT	;ERROR! INCORRECT PC IN SR2
015506	001401			CMP	#UD4-2,R4 ;CHECK AUTO-DEC TWICE
015510	000000			BEQ	.+4
015512	174067	163266		HLT	;ERROR! R4 NOT AUTO-DEC TWICE
015516	173427	040200		STF	ACD,TEMP ;PUT ACD IN TEMP
015522	170000			CMPD	#1,ACD ;CHECK THAT ACD WAS NOT CHANGED
015524	001401			CFCC	;COPY FLOATING CC'S INTO PSW
015526	000000			BEQ	.+4
015530	104000			HLT	;ERROR! ACD WAS ALTERED
				SCOPE	;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS

;AUTO DECREMENT THIRD DATA WORD

015532	012737	015562	000250	MOV	#F10C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
015540	170127	000200		LDFPS	#200	
015544	012702	140004		MOV	#KD6+4,R2	
015550	005237	177572		INC	2#SRO	;ENABLE MEMORY MGMT
015554	173442		F10A:	CMPD	-(R2),ACD	
015556	000000			HLT		
015560	000240			NOP		
015562			F10C:			
015562	022767	140033	162002	CMP	#NRA+PLA+KPG+DS+VS5+1,SRO	;CHECK SRO (ABORT CONDITIONS
015570	001401			BEQ	.+4	; & FAILING PAGE #)
015572	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
015574	022767	000302	161772	CMP	#SM8+R2,SR1	;CHECK SR1 (REGISTER CHANGES)
015602	001401			BEQ	.+4	
015604	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
015606	022767	015554	161762	CMP	#F10A,SR2	;CHECK CONTENTS OF SR2
015614	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
015616	000000			HLT		;ERROR! INCORRECT PC IN SR2
015620	022702	137774		CMP	#KD6-4,R2	;CHECK AUTO DEC 3 TIMES
015624	001401			BEQ	.+4	
015626	000000			HLT		;ERROR! R2 NOT AUTO-DEC 3 TIMES
015630	170200			STFPS	RO	;STORE FPS IN RO
015632	022700	000200		CMP	#200,RO	;CHECK FP STATUS AFTER ABORT
015636	001401			BEQ	.+4	
015640	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
015642	174067	163136		STF	ACD,TEMP	;PUT ACD IN TEMP
015646	173427	040200		CMPD	#1,ACD	;CHECK THAT ACD WAS NOT CHANGED
015652	170000			CFCC		;COPY FLOATING CC'S INTO PSW
015654	001401			BEQ	.+4	
015656	000000			HLT		;ERROR! ACD WAS ALTERED
015660	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;AUTO DECREMENT FOURTH WORD						
015662	012767	070000	162106	MOV	#SM+PUM,PSW	;SUPER MODE!!!,PREV USER MODE!!
015670	012737	015720	000250	MOV	#F11C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
015676	170127	000200		LDFPS	#200	
015702	012700	020006		MOV	#SD1+6,RO	
015706	005237	177572		INC	2#SRO	;ENABLE MEMORY MGMT
015712	171440		F11A:	MOOD	-(RO),ACD	
015714	000000			HLT		
015716	000240			NOP		
015720			F11C:			
015720	022767	040061	161644	CMP	#PLA+SPG+DS+VSO+1,SRO	;CHECK SRO (ABORT CONDITIONS
015726	001401			BEQ	.+4	; & FAILING PAGE #)
015730	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
015732	022767	000300	161634	CMP	#SM8+RO,SR1	;CHECK SR1 (REGISTER CHANGES)
015740	001401			BEQ	.+4	
015742	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
015744	022767	015712	161624	CMP	#F11A,SR2	;CHECK CONTENTS OF SR2
015752	001401			BFO	.+4	; (PC OF ABORTED INSTRUCTION)
015754	000000			HLT		;ERROR! INCORRECT PC IN SR2
015756	005037	177572		CLR	2#SRO	;DISABLE MEMORY MGMT
015762	022700	017776		CMP	#SD1-2,RO	;CHECK AUTO-DEC 4 TIMES
015766	001401			BEQ	.+4	
015770	000000			HLT		;ERROR! RO NOT AUTO-DEC 4 TIMES
015772	170200			STFPS	RO	;STORE FPS IN RO
015774	022700	000200		CMP	#200,RO	;CHECK FP STATUS AFTER ABORT

016000	001401			BEQ	.+4	
016002	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
016004	174067	162774		STF	AC0,TEMP	;PUT AC0 IN TEMP
016010	173427	040200		CMPD	#1,AC0	;CHECK THAT AC0 WAS NOT CHANGED
016014	170000			CFCC		;COPY FLOATING CC'S INTO PSW
016016	001401			BEQ	.+4	
016020	000000			HLT		;ERROR! AC0 WAS ALTERED
016022	104000			SCOPE		;SCOPE STORES PC IN R1 & SETS ALL STACK PTRS
;CHECK ABORT AT FET.09						
;ABORTS WHEN INST FOLLOWING MODD IS FETCHED						
016024	012767	070000	161744	MOV	#SM+PUM,PSW	;SUPER MODE!!!,PREV USER MODE!!
016032	012737	016074	000250	MOV	#F12C,2#MMVEC	;LOAD MEM MGMT ERROR VECTOR
016040	170127	000200		LDFPS	#200	
016044	012702	017100		MOV	#PSI2+100,R2	
016050	005012			CLR	(R2)	
016052	012742			MOV	(7)+,-(R2)	
016054	171443			MODD	-(R3),AC0	
016056	005237	177572		INC	2#SR0	;ENABLE MEMORY MGMT
016062	012703	020000		MOV	#SD1,R3	
016066	174023			STD	AC0,(R3)+	
016070	000137	040076		JMP	2#SI2+76	;GO EXECUTE MODD INST
	016074			RETURN=		
	017076			.=PSI2+76		
017076	171443			F12A: MODD	-(R3),AC0	
017100	000000			HLT		;ABORTS AT FET.09 WHEN FETCHED
	016074			.=RETURN		
016074	022767	040045	161470	F12C: CMP	#PLA+SPG+IS+VS2+1,SR0	;CHECK SR0 (ABORT CONDITIONS
016102	001401			BEQ	.+4	; & FAILING PAGE #)
016104	000000			HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
016106	022767	000000	161460	CMP	#0,SR1	;CHECK SR1 (REGISTER CHANGES)
016114	001401			BEQ	.+4	
016116	000000			HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
016120	022767	040100	161450	CMP	#SI2+100,SR2	;CHECK CONTENTS OF SR2
016126	001401			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
016130	000000			HLT		;ERROR! INCORRECT PC IN SR2
016132	022703	020000		CMP	#SD1,R3	;CHECK THAT R3 WAS DECREMENTED BY 8.
016136	001401			BEQ	.+4	
016140	000000			HLT		;ERROR! R0 NOT DECREMENTED PROPERLY
016142	170200			SIFPS	R0	;STORE FPS IN R0
016144	022700	000204		CMP	#204,R0	;CHECK FP STATUS AFTER ABORT
016150	001401			BEQ	.+4	
016152	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
016154	174067	162624		STF	AC0,TEMP	;PUT AC0 IN TEMP
016160	173427	000000		CMPD	#0,AC0	;CHECK THAT AC0 WAS NOT CHANGED
016164	170000			CFCC		;COPY FLOATING CC'S INTO PSW
016166	001401			BEQ	.+4	
016170	000000			HLT		;ERROR! AC0 WAS ALTERED
016172	174167	162606		STF	AC1,TEMP	;PUT AC1 IN TEMP
016176	173527	040200		CMPD	#1,AC1	;CHECK THAT AC1 WAS NOT CHANGED
016202	170000			CFCC		;COPY FLOATING CC'S INTO PSW
016204	001401			BEQ	.+4	
016206	000000			HLT		;ERROR! AC1 WAS ALTERED
016210	104000			SCOPE		

;CHECK RELATIONSHIP BETWEEN MEM MGMT ABORT AND FLOATING POINT EXCEPT-
;ION INTERRUPT.

016212	012737	016266	000250	MOV	#F13C, @MMVEC	;LOAD MEM MGMT ERROR VECTOR
016220	012737	016346	000244	MOV	#F13D, @FPVEC	;LOAD FP INTERRUPT VECTOR
016226	012700	001004		MOV	#TEMP, R0	
016232	005020			CLR	(R0)+	;LOAD TEMP
016234	005020			CLR	(R0)+	;AND TEMP+2
016236	170127	007400		LDFPS	#7400	;ENABLE INTERRUPTS (FP)
016242	172440			LDF	-(R0), ACO	
016244	012702	016676		MOV	#KIO-2, R2	
016250	012722			MOV	(PC)+, (R2)+	;LOAD INSTRUCTION
016252	174410			DIVF	(R0), ACO	
016254	005012			CLR	(R2)	;HALT FOLLOWS MULF
016256	005237	177572		INC	@SR0	;ENABLE MEMORY MGMT
016262	000137	016676		JMP	@KIO-2	;GO EXECUTE MULF
	016266			RETURN=.		
	016676			. =KIO-2		
016676	174410			DIVF	(R0), ACO	;WILL INTERRUPT
016700	000000			HALT		;ABORTS WHEN THIS INST IS FETCHED
	016266			. =RETURN		
016266				F13A:		
016266	022767	040001	161276	F13C:		
016274	001401			CMP	#PLA+KPG+IS+VSO+1, SR0	;CHECK SR0 (ABORT CONDITIONS
016276	000000			BEQ	.+4	; & FAILING PAGE #)
01700	022767	000000	161266	HLT		;ERROR! INCORRECT ABORT CONDITIONS OR PAGE IDENT
016306	001401			CMP	#0, SR1	;CHECK SR1 (REGISTER CHANGES)
016310	000000			BEQ	.+4	
016312	022767	016700	161256	HLT		;ERROR! INCORRECT REGISTER CHANGES RECORDED IN SR1
016320	001401			CMP	#F13A, SR2	;CHECK CONTENTS OF SR2
016322	000000			BEQ	.+4	; (PC OF ABORTED INSTRUCTION)
016324	005702			HLT		;ERROR! INCORRECT PC IN SR2
016326	001401			TST	R2	;FP INTERRUPT SERV ROUTINE CLEARS R2
016328	001401			BEQ	.+4	
016330	000000			HLT		;ERROR! FP DID NOT INTERRUPT
016332	170200			STFPS	R0	;STORE FPS IN R0
016334	022700	107404		CMP	#107404, R0	;CHECK FP STATUS AFTER ABORT
016340	001401			BEQ	.+4	
016342	000000			HLT		;ERROR! INCORRECT FPS AFTER ABORT
016344	000402			BR	F13EX	;EXIT TEST
016346	005002			F13D:	CLR	R2
016350	000002			RTI		;CLEAR R2
016352	170127	000000		F13EX:	LDFPS	#0
016356	012737	000252	000250	MOV	#MMVEC+2, @MMVEC	;CLEAR FLOATING POINT STATUS
016364	005037	000252		CLR	@MMVEC+2	;LOAD MEM MGMT ERROR VECTOR
016370	012737	000246	000244	MOV	#FPVEC+2, @FPVEC	
016376	104000			SCOPE		
016400	005267	162374		END:	INC	ICNT
016404	022767	004400	162366	CMP	#4400, ICNT	
016412	001402			BEQ	DONE	
016414	000167	162476		JMP	BEGIN	
016420	012767	000007	161140	DONE:	MOV	#7, TPB
016426	105767	161132		TSTB	TPB	
016432	100375			BPL	.-4	
016434	013702	000042		MOV	@42, %2	;GET DECTAPE MONITOR RETURN ADDRESS
016440	001404			BEQ	DONE1	;DO NOT RETURN TO MON IF (42)=0
016442	004712			LOGICAL:	JSR	7, (2)

;RETURN TO DECTAPE MONITOR

H05

TEST DCKTF-C MEMORY MGMT ABORT TRAPS
DCKTFC.P11

MACY11 27(732) 14-SEP-76 10:28 PAGE 60

016444 000240
016446 000240
016450 000240
016452 000167 162432
000001

NOP
NOP
NOP
DONE1: JMP START
.END

;ACT11
;OVERLAY
;AREA

[illegible]

3101#	3110													
3085	3103#													
3086	3121#													
3120	3123#													
2789#	2799													
2783	2792#													
2815#	2825													
2811	2818#													
2847#	2856													
2843	2849#													
2880#	2890													
2876	2883#													
2913#	2923													
2909	2916#													
2947#	2957													
2943	2950#													
480#	633	638	641	644	647	650	653	664	669	672	675	678		
682	694	699	702	705	708	712	725	730	733	736	739	742		
746	750	753	765	770	773	776	779	783	787	790	802	807		
810	813	816	819	823	833	838	841	844	847	856	861	864		
867	870	880	885	888	891	894	904	909	912	915	918	929		
934	937	940	943	947	959	960	965	968	971	974	977	981		
993	994	999	1002	1005	1009	1020	1021	1026	1029	1032	1035	1038		
1042	1057	1060	1064	1067	1070	1073	1076	1094	1100	1103	1106	1109		
1112	1115	1131	1138	1141	1144	1147	1163	1165	1172	1175	1178	1181		
1184	1187	1203	1210	1213	1216	1219	1222	1232	1237	1240	1243	1246		
1249	1259	1264	1267	1270	1273	1291	1298	1301	1304	1307	1311	1314		
1327	1332	1335	1338	1342	1345	1355	1360	1363	1366	1370	1373	1387		
1392	1395	1398	1401	1404	1416	1421	1424	1427	1431	1434	1447	1452		
1455	1458	1462	1473	1478	1481	1484	1487	1490	1502	1507	1510	1513		
1516	1519	1531	1536	1539	1542	1545	1548	1566	1573	1576	1579	1583		
1599	1605	1608	1611	1627	1633	1636	1639	1642	1653	1657	1660	1663		
1666	1669	1684	1686	1690	1693	1696	1712	1718	1721	1724	1727	1731		
1734	1751	1757	1760	1763	1767	1785	1791	1794	1797	1800	1803	1806		
1809	1828	1832	1835	1838	1841	1844	1857	1858	1863	1866	1869	1873		
1876	1888	1893	1896	1899	1902	1906	1919	1920	1925	1928	1931	1934		
1937	1940	1945	1958	1959	1964	1967	1970	1973	1976	1979	1984	2001		
2002	2006	2009	2012	2015	2018	2023	2041	2042	2046	2049	2052	2055		
2058	2061	2066	2069	2085	2091	2094	2097	2100	2113	2119	2122	2125		
212														

IS = 000000	305#	1104	1136	1176	1330	1419	1795	1833	2263	2303	2337	2370	2403
	2437	2528	2598	3055	3104								
KDE = 000004	353#	573											
KDPAR0= 172360	460#	602*											
KDPAR1= 172362	461#												
KDPAR2= 172364	462#												
KDPAR3= 172366	463#												
KDPAR4= 172370	464#												
KDPAR5= 172372	465#												
KDPAR6= 172374	466#	603*											
KDPAR7= 172376	467#	604*											
KDPDR0= 172320	442#	589*	1994	1995*	2025*	2033	2034*	2070*					
KDPDR1= 172322	443#												
KDPDR2= 172324	444#												
KDPDR3= 172326	445#												
KDPDR4= 172330	446#												
KDPDR5= 172332	447#												
KDPDR6= 172334	448#	590*	2454*	2505*									
KDPDR7= 172336	449#	591*											
KD0 = 001100	485#	1351	1352*	1368	1371*	2845	2859						
KD6 = 140000	487#	900	916	1122	1145	1280	1312	1526	1546	1649	1667	2459*	2486*
	2512	2534	2973	2988									
KIPAR0= 172340	451#	601*											
KIPAR1= 172342	452#												
KIPAR2= 172344	453#												
KIPAR3= 172346	454#												
KIPAR4= 172350	455#												
KIPAR5= 172352	456#												
KIPAR6= 172354	457#												
KIPAR7= 172356	458#												
KIPDR0= 172300	433#	588*											
KIPDR1= 172302	434#												
KIPDR2= 172304	435#												
KIPDR3= 172306	436#												
KIPDR4= 172310	437#												
KIPDR5= 172312	438#												
KIPDR6= 172314	439#												
KIPDR7= 172316	440#												
KIO = 016700	486#	627	659	680	689	710	832	855	879	901	1048*	1050*	1052
	1055	1094*	1085*	1086*	1089	1092	1123*	1124*	1126	1129	1153*	1154*	1155*
	1159	1162	1194*	1195*	1199	1201	1282*	1283*	1287	1289	1468	1485	1488
	1497	1517	1527	1543	2253*	2254*	2256	2258	2323	2332	2354	2363	2387
	2398	2423	2432	3092	3097	3099							
KM = 000000	247#	1227	1648	1941	1980	2021	2044	2582	2639	2650			
KPG = 000000	308#	2010	2053	2263	2337	2370	2403	2437	2462	2489	2528	2850	2979
	3104												
KPTR = 001060	281#	541	569	636	667	728	768	805	963	1024	1062	1098	1170
	1208	1235	1262	1655	1716	1789	1792	1830	1891	1923	1962	2004	2047
	2089	2228	2297	2300	2597	2731							
KSP = %000006	234#	530*	531	533*	540	541*	542*	543*	544*	545*	569*	636	639
	667	697	728	731	768	805	821	932	963	966	979	1007	1024
	1040	1062	1098	1101	1170	1173	1208	1211	1235	1262	1296	1340	1429
	1460	1505	1581	1655	1716	1729	1789	1871	1891	1904	1923	1926	1943
	1962	1965	1968	1982	2004	2007	2047	2050	2064	2089	2127	2228	2241
	2297	2471	2498	2569	2572	2585*	2591	2597*	2614*	2615*	2630	2641*	2642*
	2643*	2646*	2656	2662	2689	2731							

```

RDO      = 000002
ROOT     = 000001
REOPTR   = 000740

```

515	3138*											
587*												
313*												
266*	572*	625*	626*	658*	688*	718*	758*	796*	829*	852*	876*	899*
923*	952*	986*	1016*	1047*	1082*	1120*	1156*	1193*	1228*	1254*	1278*	1320*
1350*	1378*	1408*	1439*	1467*	1496*	1525*	1554*	1588*	1616*	1647*	1674*	1701*
1739*	1772*	1814*	1849*	1881*	1911*	1950*	1991*	2030*	2075*	2104*	2133*	2159*
2187*	2215*	2251*	2279*	2322*	2353*	2386*	2422*	2453*	2482*	2509*	2514*	2544*
2583*	2611*	2640*	2670*	2709*	2751*	2783*	2811*	2843*	2876*	2909*	2943*	2971*
3004*	3039*	3085*	3124*	3125*								
576*												
242*	2367											
2699	2702*											
316*	734	771	808	935	969	1027	1238	1265	1330	1390	1419	1450
1719	1755	1861	1894	1929	2528	2621	2653	2764	2951	2979		
470*												
473*												
477*												
312*												
217*	886	1511	1606	1691	2216	2424	2465	2492	2601	2624	2683	3093
260*												
271*	2511*	2537*										
264*	2512*	2513*	2538*	2539*								
292*	2511											
494*	901*	1121*	1281*	1309	1650*	2456*	2475	2483*	2502	2515*	2523	
493*												
250*	2650											
315*	642	670	700	836	859	883	907	997	1065	1104	1136	1176
1214	1265	1299	1358	1476	1508	1534	1571	1603	1631	1658	1688	1755
1795	1833	1861	1694	1929	1971	2010	2053	2092	2117	2146	2173	2201
2231	2263	2303	2337	2370	2403	2437	2560	2598	2621	2653	2734	2793
2819	2850	2884	2917	2951	2979	3012	3055	3104				
245*												
244*	1192	1296	1954	1993	2645	2650	2662					
496*	925*	928*	945	1380	1413*	2787*						
495*	798*	955*	1382*	1558*	1559*	1563	1590*	1591*	1592*	1596	1675*	1676*
1677*	1682	1816*	1821*	1826	2080*	2084	2134*	2135*	2140	2191*	2192*	2196
2223	2280	2292	2711	2723	3041	3050						
251*	719	731	795	924	932	953	966	1014	1227	1256	1384	1409
1589	1648	1815	1914	1941	1951	1980	2076	2132	2186	2214	2287	2547
2582	2639	2662	2710	2782	2908							
269*	546*	548*	687*	709*	719*	759*	795*	924*	953*	987*	1014*	1192*
1227*	1256*	1322*	1384*	1409*	1440*	1555*	1589*	1617*	1648*	1678*	1702*	1740*
1775*	1815*	1850*	1882*	1914*	1916*	1938	1941*	1951*	1955*	1980*	1997*	2021
2036												

SDPAR1= 172262

246#	253#	687	697	709								
257#	2031*	2071*	2699*	2703*								
1053#	1059	1090#	1096	1127#	1132	1161#	1167	1200#	1205	1288#	1293	1562#
1568	1595#	1600	1624#	1628	1681#	1685	1709#	1713	1748#	1752	1781#	1787
1825#	1829	2083#	2086	2110#	2114	2139#	2143	2167#	2171	2195#	2199	2222#
2225	2257#	2261	2291#	2295	2331#	2335	2362#	2366	2397#	2401	2431#	2435
2522#	2526	2722#	2728	3049#	3053	3098#	3102					
476#	588	589	590	591	592	593	594	595	596	597	598	599
1995	2034											
474#												
475#												
210#	2043*	2044	2280*	2281*	2282*	2425	2427*	2428*	2433	2446	2550*	2556*
2649*	2650	2831*	2832	2863*	2864	2878*	2880	2887	2893	2896*	2897	2930*
2931	2991*	2992	3006*	3008	3015	3022	3025*	3026	3067*	3068	3087*	3088*
3089*	3091	3094	3100	3116*	3117							
211#	540*	543										
218#												
219#												
220#												
221#												
222#	690*	693*										
223#	689*	690	693	710								
212#	578*	580*	582*	584*	628*	632*	651	659*	660	661*	663	673
680	720*	721	724	737	748	799*	801*	817	830*	832*	845*	1083*
1093*	1113*	1122*	1130*	1145	1229*	1231	1241	1247	1255*	1258*	1279*	1290
1379*	1386*	1399	1412*	1413	1415*	1432	1777*	1784*	1804	1817*	1818*	1827
1842	2032*	2039*	2067	2161*	2169*	2252*	2259	2272	2283*	2285*	2293*	2312
2326	2327*	2328*	2333	2354*	2355*	2356*	2361	2390*	2393*	2399*	2412	2425*
2433*	2612*	2617*	2633	2845*	2847	2853	2859	2973*	2975	2982	2988	3041*
3042*	3043*	3092*	3093*	3095*	3113	3121*						
213#	579*	581*	583*	585*	627*	628	629*	632	651	721*	724*	751
877*	879*	892	900*	903*	910	916	1164*	1185	1280*	1290*	1312	1351*
1354*	1361	1368	1380*	1381*	1382	1383*	1386	1393	1402	1468*	1469	1470*
1472	1479	1488	1527*	1528*	1530*	1543	1618*	1626	1634	1649*	1652*	1667
1704*	1711	1722	1732	1778*	1807	2162*	2188*	2197	2286*	2315	2323*	2325*
2326*	2330	2333*	2346	2357	2358*	2364	2391*	2392*	2399	2415	2755*	2767
2786*	2789	2796	2911*	2913	2920	2927	3044	3046*	3047*	3051	3064	
214#	660*	760*	761	764	774	785	853*	855*	868	1321*	1326*	1343
1469*	1472*	1485	1497*	1498*	1501*	1517	1526*	1530	1537	1546	1619*	1626*
1640	1776*	1784	1820*	1827*	2160*	2169	2189*	2197*	2357*	2359*	2364*	2379
2813*	2815	2822										

SDPAR2=	172264	426#															
SDPAR3=	172266	427#															
SDPAR4=	172270	428#															
SDPAR5=	172272	429#															
SDPAR6=	172274	430#															
SDPAR7=	172276	431#															
SDPOR0=	172220	406#	593*														
SDPOR1=	172222	407#	594*														
SDPOR2=	172224	408#	744	747*													
SDPOR3=	172226	409#															
SDPOR4=	172230	410#															
SDPOR5=	172232	411#															
SDPOR6=	172234	412#															
SDPOR7=	172236	413#															
SD1 =	320000	489#	928	1383	1402	1412	1432	1952	1982	2548	2786	2911	2927	3006			
		3022	3046	3064													
SHLT	000400	511	529#	2607													
SHLTA	000430	532	535#														
SIPAR0=	172240	415#	607*														
SIPAR1=	172242	416#															
SIPAR2=	172244	417#	609*														
SIPAR3=	172246	418#															
SIPAR4=	172250	419#															
SIPAR5=	172252	420#															
SIPAR6=	172254	421#															
SIPAR7=	172256	422#															
SIPOR0=	172200	397#	582	592*													
SIPOR1=	172202	398#															
SIPOR2=	172204	399#	595*														
SIPOR3=	172206	400#															
SIPOR4=	172210	401#															
SIPOR5=	172212	402#															
SIPOR6=	172214	403#															
SIPOR7=	172216	404#															
SI2 =	040000	488#	720	748	751	797	821	925	945	954	979	1015	1040	1229			
		1247	1379	1399	1561	1577	1594	1609	1680	1694	1824	1839	2079	2098			
		2138	2152	2194	2207	2218	2237	2290	2309	2588	2721	2740	3048	3061			
SLR =	177774	270#	571*														
SM =	040000	248#	719	731	795	924	932	953	966	1014	1256	1322	1384	1409			
		1440	1555	1589	1678	1815	1882	1912	1914	1951	1954	1993	2076	2078			
		2132	2186	2214	2287	2546	2547	2614	2630	2710	2782	2908	3003	3038			
SM1 =	000370	331#	1393	1537													
SM2 =	000360	332#	737	774	910	1722	1864	1897	1932	1974	2563						
SM4 =	000340	333#	2954														
SM6 =	000320	334#															
SM8 =	000300	335#	2920	2982	3015												
SP =	%000006	216#	811	972	1000	1030	1333	1422	1453	1574	1661	1758	1864	1897			
		1932	1974	2563													
SPG =	000040	307#	734	808	935	969	1027	1238	1265	1390	1419	1571	1603	1688			
		1833	1894	1929	1971	2092	2146	2201	2231	2303	2560	2598	2621	2653			
		2734	2793	2917	3012	3055											
SPTR =	000700	282#	544	1323	1340	1410	1429	1460	1556	1581	2077	2241	2244				
SRO =	177572	356#	529*	539*	577*	630*	642	662*	670	691*	700	722*	734	763*			
		771	800*	808	831*	836	854*	859	878*	883	902*	907	926*	935			
		944*	956*	969	991*	997	1018*	1027	1051*	1065	1087*	1104	1125*	1136			
		1157*	1176	1196*	1214	1230*	1238	1255	1257*	1265	1284*	1299	1308*	1325*			

		1330	1353*	1358	1367*	1385*	1390	1414*	1419	1444*	1450	1471*	1476	1499*
		1508	1529*	1534	1560*	1571	1593*	1603	1622*	1631	1651*	1658	1679*	1688
		1707*	1719	1746*	1755	1764*	1779*	1795	1822*	1833	1855*	1861	1885*	1894
		1917*	1929	1956*	1971	1998*	2010	2019*	2037*	2053	2062*	2081*	2092	2108*
		2117	2137*	2146	2165*	2173	2193*	2201	2220*	2231	2255*	2263	2288*	2303
		2323*	2337	2360*	2370	2394*	2403	2429*	2437	2457*	2452	2474*	2484*	2489
		2501*	2516*	2528	2552*	2560	2587*	2598	2613*	2621	2644*	2653	2671*	2680
		2720*	2734	2743*	2756*	2764	2788*	2793	2814*	2819	2846*	2850	2862*	2879*
		2884	2912*	2917	2926*	2946*	2951	2974*	2979	3007*	3012	3021*	3045*	3055
		3096*	3104											
SR0T	= 001002	559#												
SR1	= 177574	357#	645	673	703	737	774	811	839	862	886	910	938	972
		1000	1030	1068	1107	1139	1179	1217	1241	1268	1302	1333	1361	1393
		1422	1453	1479	1511	1537	1574	1606	1634	1661	1691	1722	1758	1798
		1836	1864	1897	1932	1974	2013	2056	2095	2120	2149	2176	2204	2234
		2256	2306	2340	2373	2406	2440	2465	2492	2531	2563	2601	2624	2656
SR2	= 177576	2683	2737	2767	2796	2822	2853	2887	2920	2954	2982	3015	3058	3107
		358#	648	676	706	740	777	814	842	865	889	913	941	975
		1003	1033	1071	1110	1142	1182	1220	1244	1271	1305	1336	1364	1396
		1425	1456	1482	1514	1540	1577	1609	1637	1664	1694	1725	1761	1801
		1839	1867	1900	1935	1977	2016	2059	2098	2123	2152	2179	2207	2237
		2269	2309	2343	2376	2409	2443	2468	2495	2534	2566	2604	2627	2659
		2686	2740	2770	2799	2825	2856	2890	2923	2957	2985	3018	3061	3110
SR3	= 172516	359#	573*	797*	820	954*	978	1015*	1039	1323*	1324*	1339	1410*	1411*
SSP	= %000006	235#	549*		1445*	1459	1556*	1557*	1580	1883*	1887	1903	1915*	1942
		1428	1441*	1442*	2077*	2078*	2079*	2216*	2221	2240	2548*			
		1952*	1981	2077*	2078*	2079*	2216*	2221	2240	2548*				
		525	566#	3142										
START	001110	2701	2703#											
STFP	014204	277#	550	552										
SWR	= 177570	326#	673	1361										
S1	= 000010	327#	703	811	886	972	1000	1030	1241	1333	1422	1453	1479	1511
S2	= 000020	1574	1606	1634	1661	1691	1758	2465	2492	2601	2624	2656	2683	
S4	= 000040	328#	2767											
CE	= 000060	329#												
S8	= 000100	330#	2796	2822	2853	2887								
T	= 000020	243#	2553	2569										
TBITVE	= 000014	258#	2545*	2546*	2566	2577*	2578*							
TE	= 001000	311#												
TEMP	= 001004	560#	1817	1842	1854*	1856	1994*	2025	2033*	2070	2327	2391	2415	2427
		2446	2802*	2835*	2867*	2900*	2934*	2963*	2995*	3029*	3071*	3076*	3087	
TKB	= 177562	274#												
TKS	= 177560	273#												
TPB	= 177566	276#	3133*											
TPS	= 177564	275#	3134											
TPVEC	= 000064	263#												
TRAPVE	= 000034	262#												
TO	001414	624#												
TOA	001444	632#	648											
TOB	001446	633#												
TOC	001450	625	635#											
T1A	001562	663#	676											
T1B	001564	664#												
T1C	001566	658	666#											
T10A	002646	879#	889											
T10B	002652	880#												

T10C	002654	876	882#	
T100A	013460	2588#	2604	
T100B	013466	2583	2590#	2594
T100C	013470	2584	2591#	
T102A	013610	2617#	2627	
T102C	013616	2611	2620#	
T103A	013734	2646#	2659	
T103C	013740	2640	2649#	
T104A	014062	2673#		
T104B	014066	2674#	2686	
T104C	014076	2670	2679#	
T11A	002746	903#	913	
T11B	002750	904#		
T11C	002752	899	906#	
T12A	003052	928#	941	
T12B	003060	929#		
T12C	003062	923	931#	
T13A	003206	958#	975	
T13B	003210	959#		
T13C	003214	952	962#	
T13D	003212	955	960#	
T14A	003346	992#	1003	
T14B	003350	993#		
T14C	003354	986	996#	
T14D	003352	983	994#	
T16A	003456	1019#	1033	
T16B	003460	1020#		
T16C	003464	1016	1023#	
T16D	003462	1017	1021#	1036
T17A	016676	1056#	1071	
T17B	016700	1057#		
T17C	003614	1047	1061#	
T17D	003612	1049	1060#	1074
T2A	001676	693#	706	
T2B	001700	694#		
T2C	001702	688	696#	
T20A	016676	1093#	1110	
T20B	016702	1094#		
T20C	003736	1082	1097#	
T21A	016676	1130#	1142	
T21B	016702	1131#		
T21C	004070	1120	1135#	
T22	016674	1163#		
T22A	016676	1164#		
T22AA	016700	1165#	1182	
T22B	016702	1166#		
T22C	004202	1156	1169#	
T23A	016676	1202#		
T23AA	016700	1203#	1220	
T23B	016702	1204#		
T23C	004334	1193	1207#	
T24A	004442	1231#	1244	
T24B	004444	1232#		
T24C	004446	1228	1234#	
T25A	004552	1258#	1271	
T25B	004554	1259#		

T25C	004556	1254	1261#	
T26A	016676	1290#		
T26AA	016700	1291#	1305	
T26B	016702	1292#		
T26C	004676	1278	1295#	
T27A	005026	1326#	1336	
T27B	005030	1327#		
T27C	005032	1320	1329#	
T3A	002022	724#	740	
T3B	002024	725#		
T3C	002026	718	727#	
T3CA	005140	1354#	1364	
T30C	005144	1350	1357#	
T31A	005274	1386#	1396	
T31B	005276	1387#		
T31C	005300	1378	1389#	
T32A	005416	1415#	1425	
T32B	005420	1416#		
T32C	005422	1408	1418#	
T33A	005540	1445#	1456	
T33B	005542	1447#		
T33C	005544	1439	1449#	
T34A	005642	1472#	1482	
T34B	005644	1473#		
T34C	005646	1467	1475#	
T35A	005752	1501#	1514	
T35B	005756	1502#		
T35C	005760	1496	1504#	
T36A	006070	1530#	1540	
T36B	006072	1531#		
T36C	006074	1525	1533#	
T37A	017076	1564#		
T37B	017102	1566#		
T37C	006220	1554	1570#	
T4A	002204	764#	777	
T4B	002206	765#		
T4C	002210	758	767#	
T40A	017074	1597#		
T40B	017102	1599#		
T40C	006340	1588	1602#	
T41A	017200	1626#		
T41B	017202	1627#		
T41C	006446	1616	1630#	
T42A	006550	1652#	1664	
T42B	006552	1653#		
T42C	006554	1647	1655#	
T43A	017076	1683#		
T43B	017102	1684#		
T43C	006702	1674	1687#	
T43D	006700	1676	1683	1686#
T44A	017200	1711#		
T44B	017202	1712#		
T44C	007012	1701	1715#	
T45A	017200	1750#		
T45B	017204	1751#		
T45C	007156	1739	1754#	

T46A	017300	1784#	
T46B	017302	1785#	
T46C	007302	1772	1788#
T47A	017100	1828#	
T47C	007454	1814	1830#
T5A	002354	801#	814
T5B	002356	802#	
T5C	002360	796	804#
T50A	007574	1856#	1867
T50B	007600	1857#	
T50C	007604	1849	1860#
T50D	007602	1854	1858#
T51A	007716	1887#	1900
T51B	007722	1888#	
T51C	007724	1881	1890#
T52A	010052	1918#	1935
T52B	010054	1919#	
T52C	010060	1911	1922#
T52D	010056	1913	1920#
T53A	010242	1957#	1977
T53B	010244	1958#	1965
T53C	010250	1950	1961#
T53D	010246	1953	1959#
T54A	010444	1999#	2016
T54B	010450	1992	2002#
T54C	010452	1991	2003#
T55A	010640	2039#	
T55B	010644	2031	2042#
T55C	010646	2030	2043#
T56A	017100	2085#	
T56C	011050	2075	2088#
T57A	017300	2113#	
T57C	011156	2104	2116#
T6A	002466	832#	842
T6B	002472	833#	
T6C	002474	829	835#
T60A	017076	2141#	
T60C	011270	2133	2145#
T61A	017300	2170#	
T61C	011400	2159	2172#
T62A	017100	2198#	
T62C	011510	2187	2200#
T63A	017100	2219#	2224#
T63C	011606	2215	2227#
T64A	016676	2259#	
T64B	016700	2260#	2269
T64C	011734	2251	2262#
T65A	017076	2293#	
T65C	012054	2279	2296#
T66A	016676	2333#	
T66B	016700	2334#	2343
T66C	012212	2322	2336#
T67A	016676	2364#	
T67B	016700	2365#	2376
T67C	012320	2353	2367#
T7A	002556	855#	865

[illegible]

UM	= 140000	1761	1780	1801	1884	2109	2123	2166	2179	2755				
UP	= 000000	249#	759	987	1617	1702	1740	1775	1850	1916	1926	1955	1968	1997
UPG	= 000140	2007	2036	2050	2105	2158	2549	2569	2672	2689	2752	2810	2875	2942
UPTR	= 000600	320#	588	589	590	591	592	593	594	595	596	597	598	599
USP	= %000006	2668												
V	= 000002	306#	771	997	1330	1450	1631	1719	1755	1795	1651	2117	2173	2680
VSC	= 000000	2764	2819	2884	2951									
VS1	= 000002	283#	545	1703	1729	1741	2064	2127						
VS2	= 000004	236#	547*	988*	1006	1703*	1728	1741*	1742*	1750	1851*	1870	2063	2126
VS3	= 000006	2551*	2553*	2554*										
VS4	= 000010	240#	1792											
VS5	= 000012	296#	642	670	700	836	907	1065	1104	1136	1176	1971	2010	2053
VS6	= 000014	2263	2337	2370	2403	2437	2560	2850	2917	3012	3104			
VS7	= 000016	297#	1419	2793										
W	= 000100	298#	734	808	935	969	1027	1238	1390	1571	1603	1688	1833	2092
Z	= 000004	2146	2201	2231	2303	2598	2734	3055						
.	= 016456	299#	1861	2951										
		300#	997	1330	1631	2819	2884							
		301#	771	1450	1719	1795	2117	2173	2764	2979				
		302#	1658	2462	2489	2528								
		303#	1265	1755	1894	1929	2621	2653	2680					
		323#	744	747	781	784								
		241#	1296	1792	2662									
		509#	510#	512#	514#	516#	519#	524#	527#	556#	560	561#	564#	581
		585	637	640	643	646	649	652	668	671	674	677	681	698
		701	704	707	711	729	732	735	738	741	745	749	752	769
		772	775	778	782	786	789	806	809	812	815	818	822	837
		840	843	846	860	863	866	869	884	887	890	893	908	911
		914	917	933	936	939	942	946	964	967	970	973	976	980
		998	1001	1004	1008	1025	1028	1031	1034	1037	1041	1053	1055#	1059#
		1063	1066	1069	1072	1075	1090	1092#	1093	1096#	1099	1102	1105	1108
		1111	1114	1127	1129#	1132#	1137	1140	1143	1146	1161	1162#	1164	1167#
		1171	1174	1177	1180	1183	1186	1200	1201#	1205#	1209	1212	1215	1218
		1221	1236	1239	1242	1245	1248	1263	1266	1269	1272	1288	1289#	1293#
		1297	1300	1303	1306	1310	1313	1331	1334	1337	1341	1344	1359	1362
		1365	1369	1372	1391	1394	1397	1400	1403	1420	1423	1426	1430	1433
		1451	1454	1457	1461	1477	1480	1483	1486	1489	1506	1509	1512	1515
		1518	1535	1538	1541	1544	1547	1562	1563#	1564#	1568#	1572	1575	1578
		1582	1595	1596#	1597*	1600#	1604	1607	1610	1624	1625#	1628#	1632	1635
		1638	1641	1656	1659	1662	1665	1668	1681	1682#	1685#	1689	1692	1695
		1709	1710#	1713#	1717	1720	1723	1726	1730	1733	1748	1749#	1752#	1756
		1759	1762	1766	1781	1782#	1787#	1790	1793	1796	1799	1802	1805	1808
		1825	1826#	1829#	1831	1834	1837	1840	1843	1862	1865	1868	1872	1875
		1892	1895	1898	1901	1905	1924	1927	1930	1933	1936	1939	1944	1963
		1966	1969	1972	1975	1978	1983	2005	2008	2011	2014	2017	2022	2045
		2048	2051	2054	2057	2060	2065	2068	2083	2084#	2086#	2090	2093	2096
		2099	2110	2111#	2114#	2118	2121	2124	2128	2139	2140#	2143#	2147	2150
		2153	2167	2168#	2171#	2174	2177	2180	2195	2196#	2199#	2202	2205	2208
		2222	2223#	2225#	2229	2232	2235	2238	2242	2245	2257	2258#	2261#	2264
		2267	2270	2273	2291	2292#	2295#	2298	2301	2304	2307	2310	2313	2316
		2331	2332#	2335#	2338	2341	2344	2347	2362	2363#	2366#	2368	2371	2374
		2377	2380	2397	2398#	2401#	2404	2407	2410	2413	2416	2431	2432#	2435#
		2438	2441	2444	2447	2463	2466	2469	2472	2476	2490	2493	2496	2499
		2503	2519	2522	2523#	2526#	2529	2532	2535	2554	2561	2564	2567	2570
		2573	2592	2595	2599	2602	2605	2615	2622	2625	2628	2631	2634	2651
		2654	2657	2660	2663	2681	2684	2687	2690	2693	2722	2723#	2728#	2732

TEST DCKTF-C MEMORY MGMT ABORT TRAPS MACY11 27(732) 14-SEP-76 10:28 PAGE 74
DCKTFC.P11 CROSS REFERENCE TABLE -- USER SYMBOLS

2735	2738	2741	2746	2765	2768	2771	2775	2794	2797	2800	2805	2820
2823	2826	2829	2833	2838	2851	2854	2857	2860	2865	2870	2885	2888
2891	2894	2898	2903	2918	2921	2924	2928	2932	2937	2952	2955	2958
2961	2966	2980	2983	2986	2989	2993	2998	3013	3016	3019	3023	3027
3032	3049	3050*	3053*	3056	3059	3062	3065	3069	3074	3079	3098	3099*
3102*	3105	3108	3111	3114	3118	3135						

CAC	499#	2802	2835	2867	2900	2934	2963	2995	3029	3071	3076				
CFPS	499#	2831	2863	2896	2930	2991	3025	3067	3116						
CPC	484#	1965													
CPDR	484#	743	780												
CPTR	484#	635	666	727	767	804	962	1023	1061	1097	1169	1207	1234	1261	1715
	1788	1890	1922	1961	2003	2047	2088	2227	2296	2730					
CSRO	484#	642	670	700	734	771	808	835	858	882	906	935	969	996	1027
	1065	1104	1135	1176	1214	1238	1265	1299	1329	1357	1389	1418	1449	1475	1508
	1533	1570	1602	1630	1658	1687	1719	1754	1795	1833	1860	1894	1929	1971	2010
	2053	2092	2116	2145	2172	2200	2231	2262	2303	2336	2370	2402	2436	2461	2488
	2527	2559	2598	2620	2653	2679	2734	2763	2792	2818	2849	2883	2916	2950	2978
	3011	3054	3103												
CSR1	484#	645	673	703	737	774	811	839	862	886	910	938	972	1000	1030
	1068	1107	1139	1179	1217	1241	1268	1302	1333	1361	1393	1422	1453	1479	1511
	1537	1574	1606	1634	1661	1691	1722	1758	1798	1836	1864	1897	1932	1974	2013
	2056	2095	2120	2149	2176	2204	2234	2266	2306	2340	2373	2406	2440	2465	2492
	2531	2563	2601	2624	2656	2683	2737	2767	2796	2822	2853	2887	2920	2954	2982
	3015	3058	3107												
CSR2	484#	648	676	706	740	777	814	842	865	889	913	941	975	1003	1033
	1071	1110	1142	1182	1220	1244	1271	1305	1336	1364	1396	1425	1456	1482	1514
	1540	1577	1609	1637	1664	1694	1725	1761	1801	1839	1867	1900	1935	1977	2016
	2059	2098	2123	2152	2179	2207	2237	2269	2309	2343	2376	2409	2443	2468	2495
	2534	2566	2604	2627	2659	2686	2740	2770	2799	2825	2856	2890	2923	2957	2985
	3018	3061	3110												
CSTAT	484#	639	697	731	931	966	1101	1173	1211	1295	1504	1926	1968	2007	2050
	2471	2498	2569	2630	2662	2689									
KKM	499#														
KKP	484#	1192													
KKR	499#	687													
KSM	499#	1227	1648	1980	2582	2639									
KSNP	499#														
KSR	484#														
KUM	499#														
KUP	484#														
KUR	484#														
LDKM1	484#														
LDKO	484#														
LDPDR	499#	587	589	590	591	592	593	594	595	596	597	598	599	1995	2034
	2668														
LDSO	499#	1324	1411	1557											
LDUO	499#	1742													
SETK	499#														
SETS	499#	1323	1410	1556	2077										
SETU	499#	1703	1741												
SGF	484#	538	944	1308	1367	1764	2019	2062	2474	2501	2743	2862	2926	3021	
SGN	484#	630	662	691	722	763	800	831	854	878	902	926	956	991	1018
	1051	1087	1125	1157	1196	1230	1257	1284	1325	1353	1385	1414	1444	1471	1499
	1529	1560	1593	1622	1651	1679	1707	1746	1779	1822	1855	1885	1917	1956	1998
	2037	2081	2108	2137	2165	2193	2220	2255	2288	2329	2360	2394	2429	2457	2484
	2516	2552	2587	2613	2644	2671	2720	2756	2788	2814	2846	2879	2912	2946	2974
	3007	3045	3096												
SSM	499#	719	795	924	953	1014	1256	1384	1409	1589	1815	1914	1951	2076	2132
	2186	2214	2287	2547	2710	2782	2908								
SSR	484#														
SUM	499#	1322	1440	1555	1678	1882	3003	3038							
SUR	484#														

TEST DCKTF-C MEMORY MGMT ABORT TRAPS MACY11 27(732) 14-SEP-76 10:28 PAGE 77
DCKTFC.P11 CROSS REFERENCE TABLE -- MACRO NAMES

[illegible]

ADC	2459														
ADD	533	724	855												
ADDD	2815														
ADDF	2715	2717	2725	2726	2757										
ASH	1472	2357	2364	2390	2399										
ASHC	1784	1827	2283	2293											
ASR	548														
BEQ	532	551	637	640	643	646	649	652	668	671	674	677	681	698	701
	704	707	711	729	732	735	738	741	745	749	752	769	772	775	778
	782	786	789	806	809	812	815	818	822	837	840	843	846	860	863
	866	869	884	887	890	893	908	911	914	917	933	936	939	942	946
	964	967	970	973	976	980	998	1001	1004	1008	1025	1028	1031	1034	1037
	1041	1063	1066	1069	1072	1075	1099	1102	1105	1108	1111	1114	1137	1140	1143
	1146	1171	1174	1177	1180	1183	1186	1209	1212	1215	1218	1221	1236	1239	1242
	1245	1248	1263	1266	1269	1272	1297	1300	1303	1306	1310	1313	1331	1334	1337
	1341	1344	1359	1362	1365	1369	1372	1391	1394	1397	1400	1403	1420	1423	1426
	1430	1433	1451	1454	1457	1461	1477	1480	1483	1486	1489	1506	1509	1512	1515
	1518	1535	1538	1541	1544	1547	1572	1575	1578	1582	1604	1607	1610	1632	1635
	1638	1641	1656	1659	1662	1665	1668	1689	1692	1695	1717	1720	1723	1726	1730
	1733	1756	1759	1762	1790	1793	1796	1799	1802	1805	1808	1831	1834	1837	1840
	1843	1862	1865	1868	1872	1875	1892	1895	1898	1901	1905	1924	1927	1930	1933
	1936	1939	1944	1963	1966	1969	1972	1975	1978	1983	2005	2008	2011	2014	2017
	2022	2045	2048	2051	2054	2057	2060	2065	2068	2090	2093	2096	2099	2118	2121
	2124	2128	2147	2150	2153	2174	2177	2180	2202	2205	2208	2229	2232	2235	2238
	2242	2245	2264	2267	2270	2273	2298	2301	2304	2307	2310	2313	2316	2338	2341
	2344	2347	2368	2371	2374	2377	2380	2404	2407	2410	2413	2416	2438	2441	2444
	2447	2463	2466	2469	2472	2476	2490	2493	2496	2499	2503	2529	2532	2535	2561
	2564	2567	2570	2573	2592	2595	2599	2602	2605	2622	2625	2628	2631	2634	2651
	2654	2657	2660	2663	2681	2684	2687	2690	2693	2732	2735	2738	2741	2746	2765
	2768	2771	2775	2794	2797	2800	2805	2820	2823	2826	2829	2833	2838	2851	2854
	2857	2860	2865	2870	2885	2888	2891	2894	2898	2903	2918	2921	2924	2928	2932
	2937	2952	2955	2958	2961	2966	2980	2983	2986	2989	2993	2998	3013	3016	30

	1104	1107	1110	1136	1139	1142	1145	1170	1173	1176	1179	1182	1208	1211	1214
	1217	1220	1235	1238	1241	1244	1247	1262	1265	1268	1271	1296	1299	1302	1305
	1312	1330	1333	1336	1340	1343	1358	1361	1364	1368	1390	1393	1396	1399	1402
	1419	1422	1425	1429	1432	1450	1453	1456	1460	1476	1479	1482	1485	1488	1505
	1508	1511	1514	1517	1534	1537	1540	1543	1546	1571	1574	1577	1581	1603	1606
	1609	1631	1634	1637	1640	1655	1658	1661	1664	1667	1688	1691	1694	1716	1719
	1722	1725	1729	1732	1755	1758	1761	1789	1795	1798	1801	1833	1836	1839	1842
	1861	1864	1867	1871	1891	1894	1897	1900	1904	1923	1926	1929	1932	1935	1943
	1962	1965	1968	1971	1974	1977	1982	2004	2007	2010	2013	2016	2021	2044	2047
	2050	2053	2056	2059	2064	2067	2089	2092	2095	2098	2117	2120	2123	2127	2146
	2149	2152	2173	2176	2179	2201	2204	2207	2228	2231	2234	2237	2241	2244	2263
	2266	2269	2297	2303	2306	2309	2315	2337	2340	2343	2346	2370	2373	2376	2379
	2403	2406	2409	2415	2437	2440	2443	2446	2462	2465	2468	2471	2489	2492	2495
	2498	2528	2531	2534	2560	2563	2566	2569	2572	2594	2598	2601	2604	2621	2624
	2627	2630	2650	2653	2656	2659	2662	2680	2683	2686	2689	2692	2731	2734	2737
	2740	2764	2767	2770	2793	2796	2799	2819	2822	2825	2828	2832	2850	2853	2856
	2859	2864	2884	2887	2890	2893	2897	2917	2920	2923	2927	2931	2951	2954	2957
	2960	2979	2982	2985	2988	2992	3012	3015	3018	3022	3026	3055	3058	3061	3064
	3068	3104	3107	3110	3117	3130									
CMPB	663	1792	1938	2300	2367										
CMPD	2803	2836	2868	2901	2935	2964	2975	2996	3030	3072	3077				
CMPF	2744	2773													
DIV	2169	2425	2433												
DIVD	2880														
DIVF	3094	3100													
EMT	481														
HALT	480	509	520	3101											
INC	630	662	691	722	763	800	831	845	854	878	902	926	956	991	1018
	1051	1087	1113	1125	1157	1156	1230	1257	1284	1325	1353	1371	1385	1414	1444
	1471	1499	1529	1560	1593	1622	1651	1679	1707	1746	1779	1822	1855	1885	1917
	1956	1998	2037	2081	2108	2137	2165	2193	2220	2255	2288	2329	2360	2394	2429
	2457	2484	2516	2552	2556	2587	2613	2644	2671	2720	2756	2788	2814	2846	2879
	2912	2946	2974	3007	3045	3096	3129								
IOT	1918	1957	1999												
JMP	525	534	535	1052	1089	1126	1159	1199	1287	1561	1594	1623	1680	1683	1708
	1747	1780	1824	2109	2138	2166	2194	2221	2256	2290	2330	2361	2396	2430	2702
	2721	3048	3097	3132	3142										
JSR	1711	1856	3138												
LDCFD	2947														
LDD	2785	2789													
LDF	2712	2713	2753	3091											
LDFPS	2784	2812	2844	2877	2910	2944	2972	3005	3040	3090	3123				
MARK	1056	2217													
MFPD	820	978	1006	1039	1231	1339	1428	1459	1580	1728	1870	1903	1942	1981	2063
	2126	2240													
MFPI	1887	2588													
MODE	3008	3044	3051												
MOV	540	541	543	544	545	546	568	569	571	573	578	579	582	583	588
	589	590	591	592	593	594	595	596	597	598	599	603	604	609	610
	614	615	625	627	628	632	658	659	660	687	688	689	690	718	719
	720	721	758	759	760	761	762	795	796	797	798	829	830	832	852
	876	879	899	900	901	923	924	925	952	953	954	955	986	987	988
	989	1014	1015	1016	1017	1047	1048	1049	1082	1083	1084	1093	1120	1121	1122
	1123	1130	1152	1153	1156	1192	1193	1194	1227	1228	1229	1254	1255	1256	1278
	1280	1281	1282	1290	1320	1321	1322	1323	1350	1351	1352	1378	1379	1380	1381
	1382	1383	1384	1408	1409	1410	1412	1413	1439	1440	1441	1442	1467	1468	1469

	1470	1496	1497	1498	1525	1526	1527	1528	1554	1555	1556	1558	1588	1589	1590
	1591	1592	1616	1617	1618	1619	1620	1626	1647	1648	1649	1650	1674	1675	1676
	1678	1701	1702	1703	1704	1705	1706	1739	1740	1741	1743	1744	1750	1772	1773
	1775	1776	1777	1814	1815	1816	1817	1819	1820	1849	1850	1851	1854	1881	1882
	1884	1911	1912	1913	1914	1916	1941	1950	1951	1952	1953	1954	1955	1980	1986
	1991	1992	1993	1994	1995	1997	2024	2025	2030	2031	2032	2033	2034	2036	2043
	2070	2071	2075	2076	2077	2078	2079	2104	2105	2106	2112	2132	2133	2134	2158
	2159	2160	2161	2163	2186	2187	2188	2189	2191	2214	2215	2216	2218	2251	2252
	2253	2279	2280	2282	2284	2286	2287	2322	2323	2325	2327	2328	2353	2354	2356
	2358	2359	2386	2387	2389	2391	2392	2393	2422	2423	2424	2427	2453	2482	2505
	2509	2511	2512	2513	2514	2538	2544	2545	2546	2547	2548	2549	2551	2554	2577
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	2669	2670	2672	2674	2699	2703	2709	2710	2711	2714	2716	2718	2751	2752	2755
	2782	2783	2786	2810	2811	2813	2843	2845	2875	2876	2878	2908	2909	2911	2942
	2943	2945	2971	2973	3003	3004	3006	3038	3039	3041	3043	3046	3085	3086	3087
	3092	3093	3124	3126	3133	3136									
MOV8	552	1386	1501	1597	2326	2333	2454								
MTPD	547	549	801	1445	1564	1652	2039	2646							
MTPI	1326	1415													
MUL	2197														
MULD	2847														
NOP	566	576	1886	2758	2759	2760	2791	2817	2882	2915	2949	2977	3010	3139	3140
	3141														
RESET	2141														
RORB	2486														
RTI	958	2082	2616	3122											
RTS	1019														
RTT	553	992	2555												
SCC	631	692	723	927	957	1086	1158	1198	1500	1823	2038				
SEC	2289	2395	2458	2485											
SETF	2700														
SEZ	2517														
SOB	581	585	1164												
SPL	1197	1202	1285	2510	2518										
STD	3047														
STF	2754	2802	2835	2867	2900	2934	2963	2995	3029	3071	3076				
STFPS	2831	2863	2896	2930	2991	3025	3067	3116							
SUB	530	928													
SUBO	2913														
TST	531	817	868	892	1185	1309	1765	1804	1807	1874	2272	2312	2412	2475	2502
	2591	2633	2673	3113											
TSTB	1830	2259	3134												
.ABS	204														
.END	3144														
.LIST	203	484	499	509											
.MACR	499														
.MACRO	484	499													
.NLIST	202	484	499	500	509										
.REM	1														
.REPT	509														
.TITLE	205														
.WORD	511	513													

N06

TEST DCKTF-C MEMORY MGMT ABORT TRAPS MACY11 27(732) 14-SEP-76 10:28 PAGE 82
DCKTFC.P11 CROSS REFERENCE TABLE -- PERMANENT SYMBOLS

ERRORS DETECTED: 0
DEFAULT GLOBALS GENERATED: 0

*DCKTFC.DCKTFC.SEQ/SOL/CRF/DS:ERFZ/EN:ABS=DSKM:DCKTFC.P11
RUN-TIME: 12 22 6 SECONDS
RUN-TIME RATIO: 65/42=1.5
CORE USED: 12K (24 PAGES)