

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
2				*****
3	*			
4	*			TRE instruction tests
5	*			
6	*			NOTE: This test is based the CLCL-et-al Test
7	*			modified to only test the TRE instruction.
8	*			
9	*			James Wekel August 2022
10				*****
11				*****
12	*			
13	*			TRE basic instruction tests
14	*			
15				*****
16	*			
17	*			This program tests proper functioning of the TRE
18	*			instructions.
19	*			
20	*			PLEASE NOTE that the tests are very SIMPLE TESTS designed to catch
21	*			obvious coding errors. None of the tests are thorough. They are
22	*			NOT designed to test all aspects of any of the instructions.
23	*			
24				*****
25	*			
26	*			Example Hercules Testcase:
27	*			
28	*			
29	*			*Testcase TRE-01-basic (Test TRE instructions)
30	*			
31	*	archlvl	390	
32	*	mainsize	3	
33	*	numcpu	1	
34	*	sysclear		
35	*			
36	*	loadcore	\$(testpath)/TRE-01-basic	0x0
37	*			
38	*	runtetest	1	# (NON-timing test duration)
39	*			
40	*			*Done
41	*			
42	*			
43				*****

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
		45		PRINT OFF
		3426		PRINT ON
		3428		*****
		3429	*	SATK prolog stuff...
		3430		*****
		3432		ARCHLVL ZARCH=NO,MNOTE=NO
		3434+\$AL		OPSYN AL
		3435+\$ALR		OPSYN ALR
		3436+\$B		OPSYN B
		3437+\$BAS		OPSYN BAS
		3438+\$BASR		OPSYN BASR
		3439+\$BC		OPSYN BC
		3440+\$BCTR		OPSYN BCTR
		3441+\$BE		OPSYN BE
		3442+\$BH		OPSYN BH
		3443+\$BL		OPSYN BL
		3444+\$BM		OPSYN BM
		3445+\$BNE		OPSYN BNE
		3446+\$BNH		OPSYN BNH
		3447+\$BNL		OPSYN BNL
		3448+\$BNM		OPSYN BNM
		3449+\$BNO		OPSYN BNO
		3450+\$BNP		OPSYN BNP
		3451+\$BNZ		OPSYN BNZ
		3452+\$BO		OPSYN BO
		3453+\$BP		OPSYN BP
		3454+\$BXLE		OPSYN BXLE
		3455+\$BZ		OPSYN BZ
		3456+\$CH		OPSYN CH
		3457+\$L		OPSYN L
		3458+\$LH		OPSYN LH
		3459+\$LM		OPSYN LM
		3460+\$LPSW		OPSYN LPSW
		3461+\$LR		OPSYN LR
		3462+\$LTR		OPSYN LTR
		3463+\$NR		OPSYN NR
		3464+\$SL		OPSYN SL
		3465+\$SLR		OPSYN SLR
		3466+\$SR		OPSYN SR
		3467+\$ST		OPSYN ST
		3468+\$STM		OPSYN STM
		3469+\$X		OPSYN X
		3470+\$AHI		OPSYN AHI
		3471+\$B		OPSYN J
		3472+\$BC		OPSYN BRC
		3473+\$BE		OPSYN JE
		3474+\$BH		OPSYN JH
		3475+\$BL		OPSYN JL
		3476+\$BM		OPSYN JM
		3477+\$BNE		OPSYN JNE
		3478+\$BNH		OPSYN JNH
		3479+\$BNL		OPSYN JNL
		3480+\$BNM		OPSYN JNM
		3481+\$BNO		OPSYN JNO

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
		3482+\$BNP		OPSYN JNP
		3483+\$BNZ		OPSYN JNZ
		3484+\$BO		OPSYN JO
		3485+\$BP		OPSYN JP
		3486+\$BXLE		OPSYN JXLE
		3487+\$BZ		OPSYN JZ
		3488+\$CHI		OPSYN CHI

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3490 **** 3491 * Initiate the TRE01TST CSECT in the CODE region 3492 * with the location counter at 0 3493 ****
				3495 TRE01TST ASALOAD REGION=CODE
00000000	000A0000 00000008	00000000 000021FF	3496+TRE01TST START 0,CODE	64-bit Restart ISR Trap New PSW
00000008		00000008 00000058	3498+ PSW 0,0,2,0,X'008'	
00000058	000A0000 00000018		3499+ ORG TRE01TST+X'058'	64-bit External ISR Trap New PSW
00000060	000A0000 00000020		3501+ PSW 0,0,2,0,X'018'	64-bit Supervisor Call ISR Trap New PSW
00000068	000A0000 00000028		3502+ PSW 0,0,2,0,X'020'	64-bit Program ISR Trap New PSW
00000070	000A0000 00000030		3503+ PSW 0,0,2,0,X'028'	64-bit Machine Check Trap New PSW
00000078	000A0000 00000038		3504+ PSW 0,0,2,0,X'030'	64-bit Input/Output Trap New PSW
00000080		00000080 00000200	3505+ PSW 0,0,2,0,X'038'	64-bit Input/Output Trap New PSW
			3506+ ORG TRE01TST+512	
				3508 **** 3509 * Create IPL (restart) PSW 3510 ****
				3512 ASA IPL IA-BEGIN
00000200		00000000 000021FF	3513+TRE01TST CSECT	
00000000	00080000 00000200	00000200 00000000	3514+ ORG TRE01TST	
00000008		00000008 00000200	3515+ PSW 0,0,0,0,BEGIN,24	Reset CSECT to end of assigned storage area
		00000000 000021FF	3516+ ORG TRE01TST+512	
			3517+TRE01TST CSECT	

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	
				3519 **** 3520 * The actual "TRE01TST" program itself... 3521 **** 3522 * 3523 * Architecture Mode: 390 3524 * Addressing Mode: 31-bit 3525 * Register Usage: 3526 *	
				3527 * R0 (work) 3528 * R1 I/O device used by ENADEV and RAWIO macros 3529 * R2 First base register 3530 * R3 IOCB pointer for ENADEV and RAWIO macros 3531 * R4 IO work register used by ENADEV and RAWIO 3532 * R5-R7 (work) 3533 * R8 ORB pointer 3534 * R9 Second base register 3535 * R10-R13 (work) 3536 * R14 Subroutine call 3537 * R15 Secondary Subroutine call or work 3538 *	
				3539 ****	
00000200	00000000			3541 USING ASA,R0	Low core addressability
00000200	00000200			3542 USING BEGIN,R2	FIRST Base Register
00000200	00001200			3543 USING BEGIN+4096,R9	SECOND Base Register
00000200	0520			3545 BEGIN BALR R2,0	Initalize FIRST base register
00000202	0620			3546 BCTR R2,0	Initalize FIRST base register
00000204	0620			3547 BCTR R2,0	Initalize FIRST base register
00000206	5020 20CC	000002CC		3548 ST R2,SAVER2	
0000020A	4190 2800	00000800		3550 LA R9,2048(,R2)	Initalize SECOND base register
0000020E	4190 9800	00000800		3551 LA R9,2048(,R9)	Initalize SECOND base register
				3553 **** 3554 * Run the tests... 3555 ****	
00000212	45E0 202C	0000022C		3556 BAL R14,TEST01	Test TRE instruction
				3558 **** 3559 * Test for normal or unexpected test completion... 3560 ****	
00000216	950A 9FFE	000021FE	3562	CLI TESTNUM,X'0A'	Did we end on expected test?
0000021A	4770 2110	00000310	3563	BNE FAILTEST	No?! Then FAIL the test!
0000021E	9502 9FFF	000021FF	3565	CLI SUBTEST,X'02'	Did we end on expected SUB-test?
00000222	4770 2110	00000310	3566	BNE FAILTEST	No?! Then FAIL the test!
00000226	47F0 20E0	000002E0	3568	B EOJ	Yes, then normal completion!

LOC	OBJECT CODE	ADDR1	ADDR2	STMT		
				3570 **** 3571 * TEST01 3572 ****	Test TRE instruction	
0000022C				3574 TEST01 DS 0F		
0000022C	5010 20C8	000002C8	3576	ST R1,SAVER1	Save register 1	
00000230	18F2		3577	LR R15,R2	Save first base register	
00000232		00000200	3579	DROP R2	Temporarily drop addressability	
00000232			3580	USING BEGIN,R15	Establish temporary addressability	
00000232	4150 F12C	0000032C	3582	LA R5,TRECTL	Point R5 --> testing control table	
00000236		00000000	3583	USING TRETEST,R5	What each table entry looks like	
		00000236	00000001	3585 TST1LOOP EQU *		
00000236	4360 5000	00000000	3587	IC R6,TNUM	Set test number	
0000023A	4260 9FFE	000021FE	3588	STC r6,TESTNUM		
			3589 *			
			3590 **	Initialize operand data	(move data to testing address)	
			3591 *			
0000023E	58A0 500C	0000000C	3592	L R10,OP1WHERE	Where to move operand-1 data to	
00000242	58B0 5010	00000010	3593	L R11,OP1LEN	Get operand-1 length	
00000246	5860 5004	00000004	3594	L R6,OP1DATA	Where op1 data is right now	
0000024A	5870 5010	00000010	3595	L R7,OP1LEN	How much of it there is	
0000024E	0EA6		3596	MVCL R10,R6		
00000250	58C0 5014	00000014	3598	L R12,OP2WHERE	Where to move operand-2 data to	
00000254	58D0 F120	00000320	3599	L R13,=A(OP2LEN)	How much of it there is	
00000258	5860 5008	00000008	3600	L R6,OP2DATA	Where op2 data is right now	
0000025C	5870 F120	00000320	3601	L R7,=A(OP2LEN)	How much of it there is	
00000260	0EC6		3602	MVCL R12,R6		
00000262	4300 5001	00000001	3604	IC R0,TBYTE	Set test byte	
			3606 *			
			3607 **	Execute TRE instruction and check for expected condition code		
			3608 *			
00000266	9200 9FFF	000021FF	3609	MVI SUBTEST,X'00'	(primary TRE)	
0000026A	5870 5018	00000018	3611	L R7,FAILMASK	(failure CC)	
0000026E	8970 0004	00000004	3612	SLL R7,4	(shift to BC instr CC position)	
00000272	98AC 500C	0000000C	3614	LM R10,R12,OPSWHERE	Get TRE operands	
00000276	B2A5 00AC		3615 TREMORE	TRE R10,R12	TRE...	
0000027A	4470 F0C2	000002C2	3616	EX R7,TREBC	Fail if..not an expected cc?	
0000027E	4710 F076	00000276	3617	BC B'0001',TREMORE	Not finished	

LOC	OBJECT CODE	ADDR1	ADDR2	STMT		
				3619 *		
				3620 **	Verify end conditions R10 and expected main store	
				3621 **	(last 4 bytes)	
				3622 *		
00000282	5860 501C		0000001C	3623	L R6,ENDREG	
00000286	9201 9FFF		000021FF	3625	MVI SUBTEST,X'01'	(R10 result)
0000028A	15A6			3626	CLR R10,R6	R10 correct?
0000028C	4770 F0B6		000002B6	3627	BNE TREFAIL	No, FAILTEST!
00000290	9202 9FFF		000021FF	3629	MVI SUBTEST,X'02'	(end store)
00000294	186A			3630	LR R6,R10	
00000296	5B60 F124		00000324	3631	S R6,=F'4'	
0000029A	D503 5020 6000	00000020	00000000	3632	CLC ENDSTOR,0(R6)	End storage correct?
000002A0	4770 F0B6		000002B6	3633	BNE TREFAIL	No, FAILTEST!
000002A4	4150 5024		00000024	3635	LA R5,TRENEXT	Go on to next table entry
000002A8	D503 F128 5000	00000328	00000000	3636	CLC =F'0',0(R5)	End of table?
000002AE	4770 F036		00000236	3637	BNE TST1LOOP	No, loop...
000002B2	47F0 F0BA		000002BA	3638	B TREDONE	Done! (success!)
000002B6	41E0 F110		00000310	3640	TREFAIL	Unexpected results!
000002BA	5810 F0C8		000002C8	3641	TREDONE	Restore register 1
000002BE	182F			3642	LR R2,R15	Restore first base register
000002C0	07FE			3643	BR R14	Return to caller or FAILTEST
000002C2	4700 F0B6		000002B6	3645	TREBC	BC 0,TREFAIL
						(fail if unexpected condition code)
000002C8	00000000			3647	SAVER1	DC F'0'
000002CC	00000000			3648	SAVER2	DC F'0'
000002D0	00000000			3649	SAVER5	DC F'0'
000002D8	00000000 00000000			3650	SAVETRT	DC D'0'
						(saved R1/R2 from TRT results)
000002E0				3652	DROP R5	
000002E0				3653	DROP R15	
000002E0		00000200		3654	USING BEGIN,R2	

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	
				3656 **** 3657 * Normal completion or Abnormal termination PSWs 3658 ****	
000002E0				3660 EOJ DWAITEND LOAD=YES	Normal completion
000002E0	8200 20E8		000002E8	3662+EOJ DS 0H	
000002E8	000A0000 00000000			3663+ LPSW DWAT0008	
				3664+DWAT0008 PSW 0,0,2,0,X'000000'	
000002F0				3666 FAILDEV DWAIT LOAD=YES, CODE=01	ENADEV failed
000002F0	8200 20F8		000002F8	3667+FAILDEV DS 0H	
000002F8	000A0000 00010001			3668+ LPSW DWAT0009	
				3669+DWAT0009 PSW 0,0,2,0,X'010001'	
00000300				3671 FAILIO DWAIT LOAD=YES, CODE=02	RAWIO failed
00000300	8200 2108		00000308	3672+FAILIO DS 0H	
00000308	000A0000 00010002			3673+ LPSW DWAT0010	
				3674+DWAT0010 PSW 0,0,2,0,X'010002'	
00000310				3676 FAILTEST DWAIT LOAD=YES, CODE=BAD	Abnormal termination
00000310	8200 2118		00000318	3677+FAILTEST DS 0H	
00000318	000A0000 00010BAD			3678+ LPSW DWAT0011	
				3679+DWAT0011 PSW 0,0,2,0,X'010BAD'	
				3681 ****	
				3682 * Working Storage	
				3683 ****	
00000320				3685 LTORG ,	Literals pool
00000320	00000100			3686 =A(OP2LEN)	
00000324	00000004			3687 =F'4'	
00000328	00000000			3688 =F'0'	
				00000400 00000001 3690 K EQU 1024	One KB
				00001000 00000001 3691 PAGE EQU (4*K)	Size of one page
				00010000 00000001 3692 K64 EQU (64*K)	64 KB
				00100000 00000001 3693 MB EQU (K*K)	1 MB
				000021FE 00000001 3695 TESTADDR EQU (2*PAGE+X'200'-2)	Where test/subtest numbers will go

LOC	OBJECT CODE	ADDR1	ADDR2	STMT	
				3697 ****	*****
				3698 * TRETEST DSECT	
				3699 *****	*****
				3701 TRETEST DSECT ,	
00000000 00			3703 TNUM DC X'00'		TRE table Number
00000001 00			3704 TBYTE DC X'00'		TRE Testbyte
00000002 00			3705 DC X'00'		
00000003 00			3706 DC X'00'		
00000004 00000000			3708 OP1DATA DC A(0)		Pointer to Operand-1 data
00000008 00000000			3709 OP2DATA DC A(0)		Pointer to Operand-2 data
0000000C 00000000	0000000C 00000001	3711 OPSWHERE EQU *			Where TRE Operands are located
00000010 00000000		3712 OP1WHERE DC A(0)			Where Operand-1 data should be placed
00000014 00000000		3713 OP1LEN DC F'0'			How much data is there - 1
	00000100 00000001	3714 OP2WHERE DC A(0)			Where Operand-2 data should be placed
		3715 OP2LEN EQU 256			Operand-2 is always 256
00000018 00000000		3717 FAILMASK DC A(0)			Failure Branch on Condition mask
0000001C 00000000		3719 ENDREG DC A(0)			Ending R10 register value
00000020 00000000		3720 ENDSTOR DC XL4'00'			Ending TRE main store value
	00000024 00000001	3722 TRENEXT EQU *			Start of next table entry...

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
0000032C		00000000	000021FF	3724 **** 3725 * TRE Testing Control tables (ref: TRETEST DSECT) 3726 **** 3727 PRINT DATA 3728 TRE01TST CSECT , 3729 TRECTL DC 0A(0) start of table
0000032C	01000000			3732 TRE1 DS 0F 3733 DC X'01',X'00',X'00',X'00'
00000330	0000049C	00001894		3734 DC A(TRTOP10),A(TRTOP20)
00000338	00010000	00000001		3735 DC A(00+(1*K64)),A(001),A(MB+(1*K64))
00000340	00110000			
00000344	00000007			3736 DC A(7) CC0
00000348	00010001	00000000		3737 DC A(00+(1*K64)+01),X'00000000'
00000350	02000000			3739 TRE2 DS 0F 3740 DC X'02',X'00',X'00',X'00'
00000354	0000049C	00001894		3741 DC A(TRTOP10),A(TRTOP20)
0000035C	00020000	00000002		3742 DC A(00+(2*K64)),A(002),A(MB+(2*K64))
00000364	00120000			
00000368	00000007			3743 DC A(7) CC0
0000036C	00020002	00000000		3744 DC A(00+(2*K64)+02),X'00000000'
00000374	03000000			3746 TRE4 DS 0F 3747 DC X'03',X'00',X'00',X'00'
00000378	0000049C	00001894		3748 DC A(TRTOP10),A(TRTOP20)
00000380	00030000	00000004		3749 DC A(00+(3*K64)),A(004),A(MB+(3*K64))
00000388	00130000			
0000038C	00000007			3750 DC A(7) CC0
00000390	00030004	00000000		3751 DC A(00+(3*K64)+04),X'00000000'
00000398	04000000			3753 TRE8 DS 0F 3754 DC X'04',X'00',X'00',X'00'
0000039C	0000049C	00001894		3755 DC A(TRTOP10),A(TRTOP20)
000003A4	00040000	00000008		3756 DC A(00+(4*K64)),A(008),A(MB+(4*K64))
000003AC	00140000			
000003B0	00000007			3757 DC A(7) CC0
000003B4	00040008	00000000		3758 DC A(00+(4*K64)+08),X'00000000'

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
000003BC			3760	TRE256 DS 0F
000003BC	05000000		3761	DC X'05',X'00',X'00',X'00'
000003C0	0000049C	00001894	3762	DC A(TRTOP10),A(TRTOP20)
000003C8	00050000	00000100	3763	DC A(00+(5*K64)),A(256),A(MB+(5*K64))
000003D0	00150000			
000003D4	00000007		3764	DC A(7) CC0
000003D8	00050100	00000000	3765	DC A(00+(5*K64)+256),X'00000000'
000003E0			3767	TREBTH DS 0F
000003E0	06110000		3768	DC X'06',X'11',X'00',X'00'
000003E4	00001694	00001994	3769	DC A(TRTOP11),A(TRTOP211)
000003EC	0005FFF4	00000100	3770	DC A(00+(6*K64)-12),A(256),A(MB+(6*K64)-34) both cross page
000003F4	0015FFDE			
000003F8	0000000A		3771	DC A(10) CC1 = stop, scan incomplete or CC=3
000003FC	00060005	00000000	3772	DC A(00+(6*K64)-12+X'11'),X'00000000'
00000404			3774	TREOP1 DS 0F
00000404	07F00000		3775	DC X'07',X'F0',X'00',X'00'
00000408	00001794	00001A94	3776	DC A(TRTOP1F0),A(TRTOP2F0)
00000410	0006FFF4	00000100	3777	DC A(00+(7*K64)-12),A(256),A(MB+(7*K64)) only op1 crosses
00000418	00170000			
0000041C	0000000A		3778	DC A(10) CC1 = stopped on last byte or CC=3
00000420	000700F3	00000000	3779	DC A(00+(7*K64)-12+255),X'00000000'
00000428			3781	TREOP2 DS 0F
00000428	08110000		3782	DC X'08',X'11',X'00',X'00'
0000042C	00001694	00001994	3783	DC A(TRTOP11),A(TRTOP211)
00000434	00080000	00000100	3784	DC A(00+(8*K64)),A(256),A(MB+(8*K64)-34) only op2 crosses
0000043C	0017FFDE			
00000440	0000000A		3785	DC A(10) CC1 = stop, scan incomplete or CC=3
00000444	00080011	00000000	3786	DC A(00+(8*K64)+X'11'),X'00000000'

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
0000044C			3788	TRELOP1 DS 0F
0000044C	09000000		3789	DC X'09',X'00',X'00',X'00'
00000450	0000049C	00001B94	3790	DC A(TRTOP10),A(TRELOP20)
00000458	0008FFF4	00000200	3791	DC A(00+(9*K64)-12),A(512),A(MB+(9*K64)) only op1 crosses
00000460	00190000			
00000464	00000006		3792	DC A(6) CC0 or CC=3
00000468	000901F4	00000000	3793	DC A(00+(9*K64)-12+512),X'00000000'
00000470			3795	TRELOP2 DS 0F
00000470	0A000000		3796	DC X'0A',X'00',X'00',X'00'
00000474	0000049C	00001C94	3797	DC A(TRTOP10),A(TRELOP21)
0000047C	0009FFF4	000011F8	3798	DC A(00+(10*K64)-12),A(4600),A(MB+(10*K64)) op1 crosses 2X
00000484	001A0000			
00000488	00000006		3799	DC A(6) CC0 or CC=3
0000048C	000A11EC	FFFFFFF	3800	DC A(00+(10*K64)-12+4600),X'FFFFFF'
00000494	00000000		3802	DC A(0) end of table
00000498	00000000		3803	DC A(0) end of table

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3805 ****
				3806 * TRE op1 scan data...
				3807 ****
0000049C	78125634	78125634		3809 TRTOP10 DC 1150XL4'78125634'
000004A4	78125634	78125634		
000004AC	78125634	78125634		
000004B4	78125634	78125634		
000004BC	78125634	78125634		
000004C4	78125634	78125634		
000004CC	78125634	78125634		
000004D4	78125634	78125634		
000004DC	78125634	78125634		
000004E4	78125634	78125634		
000004EC	78125634	78125634		
000004F4	78125634	78125634		
000004FC	78125634	78125634		
00000504	78125634	78125634		
0000050C	78125634	78125634		
00000514	78125634	78125634		
0000051C	78125634	78125634		
00000524	78125634	78125634		
0000052C	78125634	78125634		
00000534	78125634	78125634		
0000053C	78125634	78125634		
00000544	78125634	78125634		
0000054C	78125634	78125634		
00000554	78125634	78125634		
0000055C	78125634	78125634		
00000564	78125634	78125634		
0000056C	78125634	78125634		
00000574	78125634	78125634		
0000057C	78125634	78125634		
00000584	78125634	78125634		
0000058C	78125634	78125634		
00000594	78125634	78125634		
0000059C	78125634	78125634		
000005A4	78125634	78125634		
000005AC	78125634	78125634		
000005B4	78125634	78125634		
000005BC	78125634	78125634		
000005C4	78125634	78125634		
000005CC	78125634	78125634		
000005D4	78125634	78125634		
000005DC	78125634	78125634		
000005E4	78125634	78125634		
000005EC	78125634	78125634		
000005F4	78125634	78125634		
000005FC	78125634	78125634		
00000604	78125634	78125634		
0000060C	78125634	78125634		
00000614	78125634	78125634		
0000061C	78125634	78125634		
00000624	78125634	78125634		
0000062C	78125634	78125634		
00000634	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
0000063C	78125634	78125634		
00000644	78125634	78125634		
0000064C	78125634	78125634		
00000654	78125634	78125634		
0000065C	78125634	78125634		
00000664	78125634	78125634		
0000066C	78125634	78125634		
00000674	78125634	78125634		
0000067C	78125634	78125634		
00000684	78125634	78125634		
0000068C	78125634	78125634		
00000694	78125634	78125634		
0000069C	78125634	78125634		
000006A4	78125634	78125634		
000006AC	78125634	78125634		
000006B4	78125634	78125634		
000006BC	78125634	78125634		
000006C4	78125634	78125634		
000006CC	78125634	78125634		
000006D4	78125634	78125634		
000006DC	78125634	78125634		
000006E4	78125634	78125634		
000006EC	78125634	78125634		
000006F4	78125634	78125634		
000006FC	78125634	78125634		
00000704	78125634	78125634		
0000070C	78125634	78125634		
00000714	78125634	78125634		
0000071C	78125634	78125634		
00000724	78125634	78125634		
0000072C	78125634	78125634		
00000734	78125634	78125634		
0000073C	78125634	78125634		
00000744	78125634	78125634		
0000074C	78125634	78125634		
00000754	78125634	78125634		
0000075C	78125634	78125634		
00000764	78125634	78125634		
0000076C	78125634	78125634		
00000774	78125634	78125634		
0000077C	78125634	78125634		
00000784	78125634	78125634		
0000078C	78125634	78125634		
00000794	78125634	78125634		
0000079C	78125634	78125634		
000007A4	78125634	78125634		
000007AC	78125634	78125634		
000007B4	78125634	78125634		
000007BC	78125634	78125634		
000007C4	78125634	78125634		
000007CC	78125634	78125634		
000007D4	78125634	78125634		
000007DC	78125634	78125634		
000007E4	78125634	78125634		
000007EC	78125634	78125634		
000007F4	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
000007FC	78125634	78125634		
00000804	78125634	78125634		
0000080C	78125634	78125634		
00000814	78125634	78125634		
0000081C	78125634	78125634		
00000824	78125634	78125634		
0000082C	78125634	78125634		
00000834	78125634	78125634		
0000083C	78125634	78125634		
00000844	78125634	78125634		
0000084C	78125634	78125634		
00000854	78125634	78125634		
0000085C	78125634	78125634		
00000864	78125634	78125634		
0000086C	78125634	78125634		
00000874	78125634	78125634		
0000087C	78125634	78125634		
00000884	78125634	78125634		
0000088C	78125634	78125634		
00000894	78125634	78125634		
0000089C	78125634	78125634		
000008A4	78125634	78125634		
000008AC	78125634	78125634		
000008B4	78125634	78125634		
000008BC	78125634	78125634		
000008C4	78125634	78125634		
000008CC	78125634	78125634		
000008D4	78125634	78125634		
000008DC	78125634	78125634		
000008E4	78125634	78125634		
000008EC	78125634	78125634		
000008F4	78125634	78125634		
000008FC	78125634	78125634		
00000904	78125634	78125634		
0000090C	78125634	78125634		
00000914	78125634	78125634		
0000091C	78125634	78125634		
00000924	78125634	78125634		
0000092C	78125634	78125634		
00000934	78125634	78125634		
0000093C	78125634	78125634		
00000944	78125634	78125634		
0000094C	78125634	78125634		
00000954	78125634	78125634		
0000095C	78125634	78125634		
00000964	78125634	78125634		
0000096C	78125634	78125634		
00000974	78125634	78125634		
0000097C	78125634	78125634		
00000984	78125634	78125634		
0000098C	78125634	78125634		
00000994	78125634	78125634		
0000099C	78125634	78125634		
000009A4	78125634	78125634		
000009AC	78125634	78125634		
000009B4	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
000009BC	78125634	78125634		
000009C4	78125634	78125634		
000009CC	78125634	78125634		
000009D4	78125634	78125634		
000009DC	78125634	78125634		
000009E4	78125634	78125634		
000009EC	78125634	78125634		
000009F4	78125634	78125634		
000009FC	78125634	78125634		
00000A04	78125634	78125634		
00000A0C	78125634	78125634		
00000A14	78125634	78125634		
00000A1C	78125634	78125634		
00000A24	78125634	78125634		
00000A2C	78125634	78125634		
00000A34	78125634	78125634		
00000A3C	78125634	78125634		
00000A44	78125634	78125634		
00000A4C	78125634	78125634		
00000A54	78125634	78125634		
00000A5C	78125634	78125634		
00000A64	78125634	78125634		
00000A6C	78125634	78125634		
00000A74	78125634	78125634		
00000A7C	78125634	78125634		
00000A84	78125634	78125634		
00000A8C	78125634	78125634		
00000A94	78125634	78125634		
00000A9C	78125634	78125634		
00000AA4	78125634	78125634		
00000AAC	78125634	78125634		
00000AB4	78125634	78125634		
00000ABC	78125634	78125634		
00000AC4	78125634	78125634		
00000ACC	78125634	78125634		
00000AD4	78125634	78125634		
00000ADC	78125634	78125634		
00000AE4	78125634	78125634		
00000AEC	78125634	78125634		
00000AF4	78125634	78125634		
00000AFC	78125634	78125634		
00000B04	78125634	78125634		
00000B0C	78125634	78125634		
00000B14	78125634	78125634		
00000B1C	78125634	78125634		
00000B24	78125634	78125634		
00000B2C	78125634	78125634		
00000B34	78125634	78125634		
00000B3C	78125634	78125634		
00000B44	78125634	78125634		
00000B4C	78125634	78125634		
00000B54	78125634	78125634		
00000B5C	78125634	78125634		
00000B64	78125634	78125634		
00000B6C	78125634	78125634		
00000B74	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
00000B7C	78125634	78125634		
00000B84	78125634	78125634		
00000B8C	78125634	78125634		
00000B94	78125634	78125634		
00000B9C	78125634	78125634		
00000BA4	78125634	78125634		
00000BAC	78125634	78125634		
00000BB4	78125634	78125634		
00000BBC	78125634	78125634		
00000BC4	78125634	78125634		
00000BCC	78125634	78125634		
00000BD4	78125634	78125634		
00000BDC	78125634	78125634		
00000BE4	78125634	78125634		
00000BEC	78125634	78125634		
00000BF4	78125634	78125634		
00000BFC	78125634	78125634		
00000C04	78125634	78125634		
00000C0C	78125634	78125634		
00000C14	78125634	78125634		
00000C1C	78125634	78125634		
00000C24	78125634	78125634		
00000C2C	78125634	78125634		
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00000C3C	78125634	78125634		
00000C44	78125634	78125634		
00000C4C	78125634	78125634		
00000C54	78125634	78125634		
00000C5C	78125634	78125634		
00000C64	78125634	78125634		
00000C6C	78125634	78125634		
00000C74	78125634	78125634		
00000C7C	78125634	78125634		
00000C84	78125634	78125634		
00000C8C	78125634	78125634		
00000C94	78125634	78125634		
00000C9C	78125634	78125634		
00000CA4	78125634	78125634		
00000CAC	78125634	78125634		
00000CB4	78125634	78125634		
00000CBC	78125634	78125634		
00000CC4	78125634	78125634		
00000CCC	78125634	78125634		
00000CD4	78125634	78125634		
00000CDC	78125634	78125634		
00000CE4	78125634	78125634		
00000CEC	78125634	78125634		
00000CF4	78125634	78125634		
00000CFC	78125634	78125634		
00000D04	78125634	78125634		
00000D0C	78125634	78125634		
00000D14	78125634	78125634		
00000D1C	78125634	78125634		
00000D24	78125634	78125634		
00000D2C	78125634	78125634		
00000D34	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
00000D3C	78125634	78125634		
00000D44	78125634	78125634		
00000D4C	78125634	78125634		
00000D54	78125634	78125634		
00000D5C	78125634	78125634		
00000D64	78125634	78125634		
00000D6C	78125634	78125634		
00000D74	78125634	78125634		
00000D7C	78125634	78125634		
00000D84	78125634	78125634		
00000D8C	78125634	78125634		
00000D94	78125634	78125634		
00000D9C	78125634	78125634		
00000DA4	78125634	78125634		
00000DAC	78125634	78125634		
00000DB4	78125634	78125634		
00000DBC	78125634	78125634		
00000DC4	78125634	78125634		
00000DCC	78125634	78125634		
00000DD4	78125634	78125634		
00000DDC	78125634	78125634		
00000DE4	78125634	78125634		
00000DEC	78125634	78125634		
00000DF4	78125634	78125634		
00000DFC	78125634	78125634		
00000E04	78125634	78125634		
00000E0C	78125634	78125634		
00000E14	78125634	78125634		
00000E1C	78125634	78125634		
00000E24	78125634	78125634		
00000E2C	78125634	78125634		
00000E34	78125634	78125634		
00000E3C	78125634	78125634		
00000E44	78125634	78125634		
00000E4C	78125634	78125634		
00000E54	78125634	78125634		
00000E5C	78125634	78125634		
00000E64	78125634	78125634		
00000E6C	78125634	78125634		
00000E74	78125634	78125634		
00000E7C	78125634	78125634		
00000E84	78125634	78125634		
00000E8C	78125634	78125634		
00000E94	78125634	78125634		
00000E9C	78125634	78125634		
00000EA4	78125634	78125634		
00000EAC	78125634	78125634		
00000EB4	78125634	78125634		
00000EBC	78125634	78125634		
00000EC4	78125634	78125634		
00000ECC	78125634	78125634		
00000ED4	78125634	78125634		
00000EDC	78125634	78125634		
00000EE4	78125634	78125634		
00000EEC	78125634	78125634		
00000EF4	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
00000EFC	78125634	78125634		
00000F04	78125634	78125634		
00000F0C	78125634	78125634		
00000F14	78125634	78125634		
00000F1C	78125634	78125634		
00000F24	78125634	78125634		
00000F2C	78125634	78125634		
00000F34	78125634	78125634		
00000F3C	78125634	78125634		
00000F44	78125634	78125634		
00000F4C	78125634	78125634		
00000F54	78125634	78125634		
00000F5C	78125634	78125634		
00000F64	78125634	78125634		
00000F6C	78125634	78125634		
00000F74	78125634	78125634		
00000F7C	78125634	78125634		
00000F84	78125634	78125634		
00000F8C	78125634	78125634		
00000F94	78125634	78125634		
00000F9C	78125634	78125634		
00000FA4	78125634	78125634		
00000FAC	78125634	78125634		
00000FB4	78125634	78125634		
00000FBC	78125634	78125634		
00000FC4	78125634	78125634		
00000FCC	78125634	78125634		
00000FD4	78125634	78125634		
00000FDC	78125634	78125634		
00000FE4	78125634	78125634		
00000FEC	78125634	78125634		
00000FF4	78125634	78125634		
00000FFC	78125634	78125634		
00001004	78125634	78125634		
0000100C	78125634	78125634		
00001014	78125634	78125634		
0000101C	78125634	78125634		
00001024	78125634	78125634		
0000102C	78125634	78125634		
00001034	78125634	78125634		
0000103C	78125634	78125634		
00001044	78125634	78125634		
0000104C	78125634	78125634		
00001054	78125634	78125634		
0000105C	78125634	78125634		
00001064	78125634	78125634		
0000106C	78125634	78125634		
00001074	78125634	78125634		
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0000108C	78125634	78125634		
00001094	78125634	78125634		
0000109C	78125634	78125634		
000010A4	78125634	78125634		
000010AC	78125634	78125634		
000010B4	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
000010BC	78125634	78125634		
000010C4	78125634	78125634		
000010CC	78125634	78125634		
000010D4	78125634	78125634		
000010DC	78125634	78125634		
000010E4	78125634	78125634		
000010EC	78125634	78125634		
000010F4	78125634	78125634		
000010FC	78125634	78125634		
00001104	78125634	78125634		
0000110C	78125634	78125634		
00001114	78125634	78125634		
0000111C	78125634	78125634		
00001124	78125634	78125634		
0000112C	78125634	78125634		
00001134	78125634	78125634		
0000113C	78125634	78125634		
00001144	78125634	78125634		
0000114C	78125634	78125634		
00001154	78125634	78125634		
0000115C	78125634	78125634		
00001164	78125634	78125634		
0000116C	78125634	78125634		
00001174	78125634	78125634		
0000117C	78125634	78125634		
00001184	78125634	78125634		
0000118C	78125634	78125634		
00001194	78125634	78125634		
0000119C	78125634	78125634		
000011A4	78125634	78125634		
000011AC	78125634	78125634		
000011B4	78125634	78125634		
000011BC	78125634	78125634		
000011C4	78125634	78125634		
000011CC	78125634	78125634		
000011D4	78125634	78125634		
000011DC	78125634	78125634		
000011E4	78125634	78125634		
000011EC	78125634	78125634		
000011F4	78125634	78125634		
000011FC	78125634	78125634		
00001204	78125634	78125634		
0000120C	78125634	78125634		
00001214	78125634	78125634		
0000121C	78125634	78125634		
00001224	78125634	78125634		
0000122C	78125634	78125634		
00001234	78125634	78125634		
0000123C	78125634	78125634		
00001244	78125634	78125634		
0000124C	78125634	78125634		
00001254	78125634	78125634		
0000125C	78125634	78125634		
00001264	78125634	78125634		
0000126C	78125634	78125634		
00001274	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
0000127C	78125634	78125634		
00001284	78125634	78125634		
0000128C	78125634	78125634		
00001294	78125634	78125634		
0000129C	78125634	78125634		
000012A4	78125634	78125634		
000012AC	78125634	78125634		
000012B4	78125634	78125634		
000012BC	78125634	78125634		
000012C4	78125634	78125634		
000012CC	78125634	78125634		
000012D4	78125634	78125634		
000012DC	78125634	78125634		
000012E4	78125634	78125634		
000012EC	78125634	78125634		
000012F4	78125634	78125634		
000012FC	78125634	78125634		
00001304	78125634	78125634		
0000130C	78125634	78125634		
00001314	78125634	78125634		
0000131C	78125634	78125634		
00001324	78125634	78125634		
0000132C	78125634	78125634		
00001334	78125634	78125634		
0000133C	78125634	78125634		
00001344	78125634	78125634		
0000134C	78125634	78125634		
00001354	78125634	78125634		
0000135C	78125634	78125634		
00001364	78125634	78125634		
0000136C	78125634	78125634		
00001374	78125634	78125634		
0000137C	78125634	78125634		
00001384	78125634	78125634		
0000138C	78125634	78125634		
00001394	78125634	78125634		
0000139C	78125634	78125634		
000013A4	78125634	78125634		
000013AC	78125634	78125634		
000013B4	78125634	78125634		
000013BC	78125634	78125634		
000013C4	78125634	78125634		
000013CC	78125634	78125634		
000013D4	78125634	78125634		
000013DC	78125634	78125634		
000013E4	78125634	78125634		
000013EC	78125634	78125634		
000013F4	78125634	78125634		
000013FC	78125634	78125634		
00001404	78125634	78125634		
0000140C	78125634	78125634		
00001414	78125634	78125634		
0000141C	78125634	78125634		
00001424	78125634	78125634		
0000142C	78125634	78125634		
00001434	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
0000143C	78125634	78125634		
00001444	78125634	78125634		
0000144C	78125634	78125634		
00001454	78125634	78125634		
0000145C	78125634	78125634		
00001464	78125634	78125634		
0000146C	78125634	78125634		
00001474	78125634	78125634		
0000147C	78125634	78125634		
00001484	78125634	78125634		
0000148C	78125634	78125634		
00001494	78125634	78125634		
0000149C	78125634	78125634		
000014A4	78125634	78125634		
000014AC	78125634	78125634		
000014B4	78125634	78125634		
000014BC	78125634	78125634		
000014C4	78125634	78125634		
000014CC	78125634	78125634		
000014D4	78125634	78125634		
000014DC	78125634	78125634		
000014E4	78125634	78125634		
000014EC	78125634	78125634		
000014F4	78125634	78125634		
000014FC	78125634	78125634		
00001504	78125634	78125634		
0000150C	78125634	78125634		
00001514	78125634	78125634		
0000151C	78125634	78125634		
00001524	78125634	78125634		
0000152C	78125634	78125634		
00001534	78125634	78125634		
0000153C	78125634	78125634		
00001544	78125634	78125634		
0000154C	78125634	78125634		
00001554	78125634	78125634		
0000155C	78125634	78125634		
00001564	78125634	78125634		
0000156C	78125634	78125634		
00001574	78125634	78125634		
0000157C	78125634	78125634		
00001584	78125634	78125634		
0000158C	78125634	78125634		
00001594	78125634	78125634		
0000159C	78125634	78125634		
000015A4	78125634	78125634		
000015AC	78125634	78125634		
000015B4	78125634	78125634		
000015BC	78125634	78125634		
000015C4	78125634	78125634		
000015CC	78125634	78125634		
000015D4	78125634	78125634		
000015DC	78125634	78125634		
000015E4	78125634	78125634		
000015EC	78125634	78125634		
000015F4	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
000015FC	78125634	78125634		
00001604	78125634	78125634		
0000160C	78125634	78125634		
00001614	78125634	78125634		
0000161C	78125634	78125634		
00001624	78125634	78125634		
0000162C	78125634	78125634		
00001634	78125634	78125634		
0000163C	78125634	78125634		
00001644	78125634	78125634		
0000164C	78125634	78125634		
00001654	78125634	78125634		
0000165C	78125634	78125634		
00001664	78125634	78125634		
0000166C	78125634	78125634		
00001674	78125634	78125634		
0000167C	78125634	78125634		
00001684	78125634	78125634		
0000168C	78125634	78125634		
00001694	78125634	78125634	3811 TRTOP111 DC	04XL4'78125634',X'00110000',59XL4'78125634' (CC1)
0000169C	78125634	78125634		
000016A4	00110000	78125634		
000016AC	78125634	78125634		
000016B4	78125634	78125634		
000016BC	78125634	78125634		
000016C4	78125634	78125634		
000016CC	78125634	78125634		
000016D4	78125634	78125634		
000016DC	78125634	78125634		
000016E4	78125634	78125634		
000016EC	78125634	78125634		
000016F4	78125634	78125634		
000016FC	78125634	78125634		
00001704	78125634	78125634		
0000170C	78125634	78125634		
00001714	78125634	78125634		
0000171C	78125634	78125634		
00001724	78125634	78125634		
0000172C	78125634	78125634		
00001734	78125634	78125634		
0000173C	78125634	78125634		
00001744	78125634	78125634		
0000174C	78125634	78125634		
00001754	78125634	78125634		
0000175C	78125634	78125634		
00001764	78125634	78125634		
0000176C	78125634	78125634		
00001774	78125634	78125634		
0000177C	78125634	78125634		
00001784	78125634	78125634		
0000178C	78125634	78125634		
00001794	78125634	78125634	3813 TRTOP1F0 DC	63XL4'78125634',X'000000F0' (CC1)
0000179C	78125634	78125634		
000017A4	78125634	78125634		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
000017AC	78125634	78125634		
000017B4	78125634	78125634		
000017BC	78125634	78125634		
000017C4	78125634	78125634		
000017CC	78125634	78125634		
000017D4	78125634	78125634		
000017DC	78125634	78125634		
000017E4	78125634	78125634		
000017EC	78125634	78125634		
000017F4	78125634	78125634		
000017FC	78125634	78125634		
00001804	78125634	78125634		
0000180C	78125634	78125634		
00001814	78125634	78125634		
0000181C	78125634	78125634		
00001824	78125634	78125634		
0000182C	78125634	78125634		
00001834	78125634	78125634		
0000183C	78125634	78125634		
00001844	78125634	78125634		
0000184C	78125634	78125634		
00001854	78125634	78125634		
0000185C	78125634	78125634		
00001864	78125634	78125634		
0000186C	78125634	78125634		
00001874	78125634	78125634		
0000187C	78125634	78125634		
00001884	78125634	78125634		
0000188C	78125634	000000F0		

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3817 ****
				3818 * TRE op2 stop tables...
				3819 ****
00001894	00000000 00000000			3821 TRTOP20 DC 256X'00' no stop
0000189C	00000000 00000000			
000018A4	00000000 00000000			
000018AC	00000000 00000000			
000018B4	00000000 00000000			
000018BC	00000000 00000000			
000018C4	00000000 00000000			
000018CC	00000000 00000000			
000018D4	00000000 00000000			
000018DC	00000000 00000000			
000018E4	00000000 00000000			
000018EC	00000000 00000000			
000018F4	00000000 00000000			
000018FC	00000000 00000000			
00001904	00000000 00000000			
0000190C	00000000 00000000			
00001914	00000000 00000000			
0000191C	00000000 00000000			
00001924	00000000 00000000			
0000192C	00000000 00000000			
00001934	00000000 00000000			
0000193C	00000000 00000000			
00001944	00000000 00000000			
0000194C	00000000 00000000			
00001954	00000000 00000000			
0000195C	00000000 00000000			
00001964	00000000 00000000			
0000196C	00000000 00000000			
00001974	00000000 00000000			
0000197C	00000000 00000000			
00001984	00000000 00000000			
0000198C	00000000 00000000			
00001994	00000000 00000000			3823 TRTOP211 DC 17X'00',X'11',238X'00' stop on X'11'
0000199C	00000000 00000000			
000019A4	00110000 00000000			
000019AC	00000000 00000000			
000019B4	00000000 00000000			
000019BC	00000000 00000000			
000019C4	00000000 00000000			
000019CC	00000000 00000000			
000019D4	00000000 00000000			
000019DC	00000000 00000000			
000019E4	00000000 00000000			
000019EC	00000000 00000000			
000019F4	00000000 00000000			
000019FC	00000000 00000000			
00001A04	00000000 00000000			
00001A0C	00000000 00000000			
00001A14	00000000 00000000			
00001A1C	00000000 00000000			
00001A24	00000000 00000000			

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
00001A2C	00000000 00000000			
00001A34	00000000 00000000			
00001A3C	00000000 00000000			
00001A44	00000000 00000000			
00001A4C	00000000 00000000			
00001A54	00000000 00000000			
00001A5C	00000000 00000000			
00001A64	00000000 00000000			
00001A6C	00000000 00000000			
00001A74	00000000 00000000			
00001A7C	00000000 00000000			
00001A84	00000000 00000000			
00001A8C	00000000 00000000			
00001A94	00000000 00000000	3825	TRTOP2F0 DC	240X'00',X'F0',15X'00' stop on X'F0'
00001A9C	00000000 00000000			
00001AA4	00000000 00000000			
00001AAC	00000000 00000000			
00001AB4	00000000 00000000			
00001ABC	00000000 00000000			
00001AC4	00000000 00000000			
00001ACC	00000000 00000000			
00001AD4	00000000 00000000			
00001ADC	00000000 00000000			
00001AE4	00000000 00000000			
00001AEC	00000000 00000000			
00001AF4	00000000 00000000			
00001AFC	00000000 00000000			
00001B04	00000000 00000000			
00001B0C	00000000 00000000			
00001B14	00000000 00000000			
00001B1C	00000000 00000000			
00001B24	00000000 00000000			
00001B2C	00000000 00000000			
00001B34	00000000 00000000			
00001B3C	00000000 00000000			
00001B44	00000000 00000000			
00001B4C	00000000 00000000			
00001B54	00000000 00000000			
00001B5C	00000000 00000000			
00001B64	00000000 00000000			
00001B6C	00000000 00000000			
00001B74	00000000 00000000			
00001B7C	00000000 00000000			
00001B84	F0000000 00000000			
00001B8C	00000000 00000000			
00001B94	FF000000 00000000	3827	TRELOP20 DC	X'FF',255X'00'
00001B9C	00000000 00000000			
00001BA4	00000000 00000000			
00001BAC	00000000 00000000			
00001BB4	00000000 00000000			
00001BBC	00000000 00000000			
00001BC4	00000000 00000000			
00001BCC	00000000 00000000			
00001BD4	00000000 00000000			

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
00001BDC	00000000 00000000			
00001BE4	00000000 00000000			
00001BEC	00000000 00000000			
00001BF4	00000000 00000000			
00001BFC	00000000 00000000			
00001C04	00000000 00000000			
00001C0C	00000000 00000000			
00001C14	00000000 00000000			
00001C1C	00000000 00000000			
00001C24	00000000 00000000			
00001C2C	00000000 00000000			
00001C34	00000000 00000000			
00001C3C	00000000 00000000			
00001C44	00000000 00000000			
00001C4C	00000000 00000000			
00001C54	00000000 00000000			
00001C5C	00000000 00000000			
00001C64	00000000 00000000			
00001C6C	00000000 00000000			
00001C74	00000000 00000000			
00001C7C	00000000 00000000			
00001C84	00000000 00000000			
00001C8C	00000000 00000000			
00001C94	FFFFFFF FFFFFFFF	3829	TREL0P21 DC	256X'FF'
00001C9C	FFFFFFF FFFFFFFF			
00001CA4	FFFFFFF FFFFFFFF			
00001CAC	FFFFFFF FFFFFFFF			
00001CB4	FFFFFFF FFFFFFFF			
00001CBC	FFFFFFF FFFFFFFF			
00001CC4	FFFFFFF FFFFFFFF			
00001CCC	FFFFFFF FFFFFFFF			
00001CD4	FFFFFFF FFFFFFFF			
00001CDC	FFFFFFF FFFFFFFF			
00001CE4	FFFFFFF FFFFFFFF			
00001CEC	FFFFFFF FFFFFFFF			
00001CF4	FFFFFFF FFFFFFFF			
00001CFC	FFFFFFF FFFFFFFF			
00001D04	FFFFFFF FFFFFFFF			
00001D0C	FFFFFFF FFFFFFFF			
00001D14	FFFFFFF FFFFFFFF			
00001D1C	FFFFFFF FFFFFFFF			
00001D24	FFFFFFF FFFFFFFF			
00001D2C	FFFFFFF FFFFFFFF			
00001D34	FFFFFFF FFFFFFFF			
00001D3C	FFFFFFF FFFFFFFF			
00001D44	FFFFFFF FFFFFFFF			
00001D4C	FFFFFFF FFFFFFFF			
00001D54	FFFFFFF FFFFFFFF			
00001D5C	FFFFFFF FFFFFFFF			
00001D64	FFFFFFF FFFFFFFF			
00001D6C	FFFFFFF FFFFFFFF			
00001D74	FFFFFFF FFFFFFFF			
00001D7C	FFFFFFF FFFFFFFF			
00001D84	FFFFFFF FFFFFFFF			
00001D8C	FFFFFFF FFFFFFFF			

LOC	OBJECT CODE	ADDR1	ADDR2	STMT
				3831 **** 3832 * Fixed storage locations 3833 ****
00001D94		00001D94	000021FE	3835 ORG TRE01TST+TESTADDR (s/b @ X'21FE', X'21FF')
000021FE 00				3837 TESTNUM DC X'00' Test number of active test
000021FF 00				3838 SUBTEST DC X'00' Active test sub-test number
				3840 **** 3841 * (other DSECTS needed by SATK) 3842 ****
				3844 DSECTS PRINT=OFF,NAME=(ASA,SCHIB,CCW0,CCW1,CSW)
				4120 PRINT ON 4121 **** 4122 * Register equates 4123 ****
		00000000 00000001	4125 R0	EQU 0
		00000001 00000001	4126 R1	EQU 1
		00000002 00000001	4127 R2	EQU 2
		00000003 00000001	4128 R3	EQU 3
		00000004 00000001	4129 R4	EQU 4
		00000005 00000001	4130 R5	EQU 5
		00000006 00000001	4131 R6	EQU 6
		00000007 00000001	4132 R7	EQU 7
		00000008 00000001	4133 R8	EQU 8
		00000009 00000001	4134 R9	EQU 9
		0000000A 00000001	4135 R10	EQU 10
		0000000B 00000001	4136 R11	EQU 11
		0000000C 00000001	4137 R12	EQU 12
		0000000D 00000001	4138 R13	EQU 13
		0000000E 00000001	4139 R14	EQU 14
		0000000F 00000001	4140 R15	EQU 15
			4142	END

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
ASA	4	000000	512	3848	3541
ASBEGIN	U	000000	1	3849	3854 3896 3932 3941 3959 3966 3972 3976 3980 3986 4003
ASEND	U	000200	1	4002	4003
ASLENGTH	U	000200	1	4003	
BCEXTCOD	H	00001A	2	3866	
BCIOCOD	H	00003A	2	3874	
BCMCKOD	H	000032	2	3872	
BCPGMCOD	H	00002A	2	3870	
BCSVC COD	H	000022	2	3868	
BEGIN	I	000200	2	3545	3515 3542 3543 3580 3654
CAW	F	000048	4	3878	
CAWADDR	R	000049	3	3881	
CAWKEY	X	000048	1	3879	
CAWSUSP	U	000008	1	3880	
CCW0	4	000000	8	4007	4013
CCW0ADDR	R	000001	3	4009	
CCW0CNT	H	000006	2	4012	
CCW0CODE	X	000000	1	4008	
CCW0FLGS	X	000004	1	4010	
CCW0L	U	000008	1	4013	
CCW1	4	000000	8	4025	4030
CCW1ADDR	A	000004	4	4029	
CCW1CNT	H	000002	2	4028	
CCW1CODE	X	000000	1	4026	
CCW1FLGS	X	000001	1	4027	
CCW1L	U	000008	1	4030	
CCWCC	U	000040	1	4017	
CCWCD	U	000080	1	4016	
CCWIDA	U	000004	1	4021	
CCWPCI	U	000008	1	4020	
CCWSKIP	U	000010	1	4019	
CCWSLI	U	000020	1	4018	
CCWSUSP	U	000002	1	4022	
CHANID	F	0000A8	4	3933	
CODE	2	000000	8704	3496	
CPUID	U	00031B	1	4005	
CSW	F	000040	8	3877	
CSWATTN	U	000080	1	4047	
CSWBUSY	U	000010	1	4050	
CSWCCTL	U	000004	1	4062	
CSWCCW	R	000001	3	4044	
CSWCDAT	U	000008	1	4061	
CSWCE	U	000008	1	4051	
CSWCHNG	U	000001	1	4064	
CSWCNT	H	000006	2	4066	
CSWCS	X	000005	1	4056	
CSWCUE	U	000020	1	4049	
CSWDCC0	U	000000	1	4040	
CSWDCC1	U	000001	1	4041	
CSWDCC3	U	000003	1	4042	
CSWDCCM	U	000003	1	4039	
CSWDE	U	000004	1	4052	
CSWFLAG	X	000000	1	4034	
CSWFMT	4	000000	8	4033	4067
CSWFMTL	U	000008	1	4067	
CSWICTL	U	000002	1	4063	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
CSWIL	U	000040	1	4058	
CSWKEYM	U	0000F0	1	4035	
CSWLOG	U	000004	1	4038	
CSWPCI	U	000080	1	4057	
CSWPRGM	U	000020	1	4059	
CSWPROT	U	000010	1	4060	
CSWSM	U	000040	1	4048	
CSWSUSP	U	000008	1	4037	
CSWUC	U	000002	1	4053	
CSWUS	X	000004	1	4046	
CSWUX	U	000001	1	4054	
DWAT0008	3	0002E8	8	3664	3663
DWAT0009	3	0002F8	8	3669	3668
DWAT0010	3	000308	8	3674	3673
DWAT0011	3	000318	8	3679	3678
ENDREG	A	00001C	4	3719	3623
ENDSTOR	X	000020	4	3720	3632
EOJ	H	0002E0	2	3662	3568
EXTCPUAD	H	000084	2	3898	
EXTICODE	H	000086	2	3899	
EXTIPARM	F	000080	4	3897	
EXTNPSW	F	000058	8	3887	
EXTOPSW	F	000018	8	3859	3865
FAILDEV	H	0002F0	2	3667	
FAILIO	H	000300	2	3672	
FAILMASK	A	000018	4	3717	3611
FAILTEST	H	000310	2	3677	3563 3566 3640
IMAGE	1	000000	8704	0	
IOELADDR	F	0000AC	4	3934	
IOICODE	H	0000BA	2	3939	
IOIID	F	0000C0	4	3944	
IOIPARM	F	0000BC	4	3943	
IONPSW	F	000078	8	3891	
IOOPSW	F	000038	8	3863	3873
IOSSID	F	0000B8	4	3942	
IPLCCW1	F	000008	8	3851	
IPLCCW2	F	000010	8	3852	
IPLPSW	F	000000	8	3850	
K	U	000400	1	3690	3691 3692 3693
K64	U	010000	1	3692	3735 3737 3742 3744 3749 3751 3756 3758 3763 3765 3770 3772 3777 3779
LCHANLOG	F	0000B0	4	3935	
MB	U	100000	1	3693	3735 3742 3749 3756 3763 3770 3777 3784 3791 3798
MCKLOG	F	000100	4	3967	
MCKNPSW	F	000070	8	3890	
MCKOPSW	F	000030	8	3862	3871
MEASUREB	X	0000B9	1	3938	
MKARCHMD	X	0000A3	1	3926	
MKARS	F	000120	4	3965	
MKCLKCMP	F	0000E0	8	3951	
MKPUTIM	F	0000D8	8	3950	
MKCRS	F	0001C0	4	3970	
MKDMDGCOD	F	0000F4	4	3954	
MKFAILA	F	0000F8	4	3956	
MKFPRS	D	000160	8	3968	
MKICODE	F	0000E8	4	3952	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
MKLOGOUT	F	000100	4	3958	
MKMODEL	F	0000FC	4	3957	
MKXSAA	F	0000D4	4	3949	
MONCLS	H	000094	2	3914	
MONCODE	F	00009C	4	3921	
MONNUMBR	X	000095	1	3916	
MPGACCID	X	0000A2	1	3924	
NKGRS	F	000180	4	3969	
OP1DATA	A	000004	4	3708	3594
OP1LEN	F	000010	4	3713	3593 3595
OP1WHERE	A	00000C	4	3712	3592
OP2DATA	A	000008	4	3709	3600
OP2LEN	U	000100	1	3715	3599
OP2WHERE	A	000014	4	3714	3598
OPSWHERE	U	00000C	1	3711	3614
PAGE	U	001000	1	3691	3695
PCFETO	A	0000C4	4	3945	
PERACCID	X	0000A1	1	3923	
PERADDR	F	000098	4	3920	
PERCODE	X	000096	1	3917	
PERCODMK	U	0000F0	1	3918	
PGMACCID	X	0000A0	1	3922	
PGMDXC	F	000090	4	3912	
PGMICODE	H	00008E	2	3911	
PGMID	F	00008C	4	3907	
PGMIILC	X	00008D	1	3909	
PGMIILCM	U	00000C	1	3910	
PGMNPSW	F	000068	8	3889	
PGMOPSW	F	000028	8	3861	3869
PGMTRX	F	000090	4	3913	
PMCW1_0	X	000004	1	4074	
PMCW1_8	X	000005	1	4077	
PMCWB	U	000004	1	4109	
PMCWCHP0	X	000010	1	4098	
PMCWCHP1	X	000011	1	4099	
PMCWCHP2	X	000012	1	4100	
PMCWCHP3	X	000013	1	4101	
PMCWCHP4	X	000014	1	4102	
PMCWCHP5	X	000015	1	4103	
PMCWCHP6	X	000016	1	4104	
PMCWCHP7	X	000017	1	4105	
PMCWDNUM	H	000006	2	4089	
PMCWE	U	000080	1	4078	
PMCWEXC	X	00001B	1	4108	
PMCWIP	F	000000	4	4073	
PMCWISCM	U	000038	1	4075	
PMCWLML	U	000060	1	4079	
PMCWLMG	U	000020	1	4080	
PMCWLML	U	000040	1	4081	
PMCWLPM	X	000008	1	4091	
PMCWLPM	X	00000A	1	4093	
PMCWM	U	000004	1	4085	
PMCWMBI	H	00000C	2	4095	
PMCWMM	U	000018	1	4082	
PMCWMMC	U	000008	1	4084	
PMCWMME	U	000010	1	4083	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
PMCWPAM	X	00000F	1	4097	
PMCWPIM	X	00000B	1	4094	
PMCWPNOM	X	000009	1	4092	
PMCWPOM	X	00000E	1	4096	
PMCWRES1	X	000018	4	4106	
PMCWRES2	X	000018	3	4107	
PMCWS	U	000001	1	4111	
PMCWT	U	000002	1	4086	
PMCWV	U	000001	1	4087	
PMCWX	U	000002	1	4110	
R0	U	000000	1	4125	3541 3604
R1	U	000001	1	4126	3576 3641
R10	U	00000A	1	4135	3592 3596 3614 3615 3626 3630
R11	U	00000B	1	4136	3593
R12	U	00000C	1	4137	3598 3602 3614 3615
R13	U	00000D	1	4138	3599
R14	U	00000E	1	4139	3556 3640 3643
R15	U	00000F	1	4140	3577 3580 3642 3653
R2	U	000002	1	4127	3542 3545 3546 3547 3548 3550 3577 3579 3642 3654
R3	U	000003	1	4128	
R4	U	000004	1	4129	
R5	U	000005	1	4130	3582 3583 3635 3636 3652
R6	U	000006	1	4131	3587 3588 3594 3596 3600 3602 3623 3626 3630 3631 3632
R7	U	000007	1	4132	3595 3601 3611 3612 3616
R8	U	000008	1	4133	
R9	U	000009	1	4134	3543 3550 3551
RSTNPSW	F	000000	8	3855	
RSTOPSW	F	000008	8	3856	
SAVER1	F	0002C8	4	3647	3576 3641
SAVER2	F	0002CC	4	3648	3548
SAVER5	F	0002D0	4	3649	
SAVETRT	D	0002D8	8	3650	
SCANOUT	X	000080	1	3893	3894
SCANOUTL	U	000000	1	3894	
SCHIB	4	000000	52	4070	4117
SCHIBL	U	000034	1	4117	
SCHMBA	A	000028	8	4115	
SCHMDA1	X	000030	4	4116	
SCHMDA3	X	000028	12	4114	
SCHPMCW	X	000000	28	4072	
SCHSCSW	X	00001C	12	4113	
SSARCHMD	X	0000A3	1	3925	
SSARS	F	000120	4	3981	
SSCLKCMP	F	0000E0	8	3975	
SSCPUTIM	F	0000D8	8	3974	
SSCRS	F	0001C0	4	3984	
SSFPRS	D	000160	8	3982	
SSGRS	F	000180	4	3983	
SSMODEL	F	00010C	4	3979	
SSPREFIX	F	000108	4	3978	
SSPSW	F	000100	8	3977	
SSXSAA	A	0000D4	4	3973	
STFLDATA	F	0000C8	4	3946	
SUBTEST	X	0021FF	1	3838	3565 3609 3625 3629
SVCICODE	H	00008A	2	3905	
SVCIID	F	000088	4	3901	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
SVCIILC	X	000089	1	3903	
SVCIILCM	U	00000C	1	3904	
SVCNPSW	F	000060	8	3888	
SVCOPSW	F	000020	8	3860	3867
TBYTE	X	000001	1	3704	3604
TEST01	F	00022C	4	3574	3556
TESTADDR	U	0021FE	1	3695	3835
TESTNUM	X	0021FE	1	3837	3562 3588
TIMER	F	000050	4	3884	
TNUM	X	000000	1	3703	3587
TRE01TST	J	000000	8704	3496	3499 3506 3514 3516 3835
TRE1	F	00032C	4	3732	
TRE2	F	000350	4	3739	
TRE256	F	0003BC	4	3760	
TRE4	F	000374	4	3746	
TRE8	F	000398	4	3753	
TREBC	I	0002C2	4	3645	3616
TREBTH	F	0003E0	4	3767	
TRECTL	A	00032C	4	3729	3582
TREDONE	I	0002BA	4	3641	3638
TREFAIL	I	0002B6	4	3640	3627 3633 3645
TRELOP1	F	00044C	4	3788	
TRELOP2	F	000470	4	3795	
TRELOP20	X	001B94	1	3827	3790
TRELOP21	X	001C94	1	3829	3797
TREMORE	I	000276	4	3615	3617
TRENEXT	U	000024	1	3722	3635
TREOP1	F	000404	4	3774	
TREOP2	F	000428	4	3781	
TRETEST	4	000000	36	3701	3583
TRTOP10	X	00049C	4	3809	3734 3741 3748 3755 3762 3790 3797
TRTOP111	X	001694	4	3811	3769 3783
TRTOP1F0	X	001794	4	3813	3776
TRTOP20	X	001894	1	3821	3734 3741 3748 3755 3762
TRTOP211	X	001994	1	3823	3769 3783
TRTOP2F0	X	001A94	1	3825	3776
TST1LOOP	U	000236	1	3585	3637
TTDES	F	000054	4	3885	
UA0	F	000010	8	3857	
UA1	F	00004C	4	3882	
UA2	F	0000A4	4	3927	
UA3	F	0000B4	4	3936	
UA4	X	0000B8	1	3937	
UA5	X	0000CC	8	3947	
UA6	X	0000EC	8	3953	
UA7	F	000118	8	3964	
UA8	X	000180	32	3993	
ZBRKADDR	A	000110	8	3963	
ZEMONCNT	F	00010C	4	3962	
ZEMONCTR	A	000100	8	3960	
ZEMONSIZ	F	000108	4	3961	
ZEXTNPSW	X	0001B0	16	3996	
ZEXTOPSW	X	000130	16	3988	
ZIONPSW	X	0001F0	16	4000	
ZIOOPSW	X	000170	16	3992	
ZMCKNPSW	X	0001E0	16	3999	

SYMBOL	TYPE	VALUE	LENGTH	DEFN	REFERENCES
ZMCKOPSW	X	000160	16	3991	
ZMKFAILA	F	0000F8	8	3955	
ZMONCODE	F	0000B0	8	3930	
ZPGMNPSW	X	0001D0	16	3998	
ZPGMOPSW	X	000150	16	3990	
ZPGMTRX	F	0000A8	8	3929	
ZRSTNPSW	X	0001A0	16	3995	
ZRSTOPSW	X	000120	16	3987	
ZSASDISP	U	0011C0	1	4001	
ZSVCNPSW	X	0001C0	16	3997	
ZSVCOPSW	X	000140	16	3989	
=A(OP2LEN)	A	000320	4	3686 3599 3601	
=F'0'	F	000328	4	3688 3636	
=F'4'	F	000324	4	3687 3631	

MACRO	DEFN	REFERENCES
ANTR	111	
APROB	243	
ARCHIND	403	3433
ARCHLVL	544	3432
ASA IPL	670	3512
ASALOAD	750	3495
ASAREA	805	3847
ASAZAREA	990	
CPUWAIT	1073	
DSECTS	1399	3844
DWAIT	1602	3661 3666 3671 3676
DWAITEND	1659	3660
ENADEV	1667	
ESA390	1767	
IOCB	1778	
IOC BDS	1954	
IOFMT	1988	4006 4024 4032 4069
IOINIT	2326	
IOTRFR	2367	
ORB	2415	
POINTER	2604	
PSWFMT	2632	
RAWAIT	2766	
RAWIO	2862	
SIGCPU	3020	
SMMGR	3078	
SMMGRB	3178	
TRAP128	3227	
TRAP64	3204	3497 3500
TRAPS	3240	
ZARCH	3314	
ZEROH	3326	
ZEROL	3354	
ZEROLH	3382	
ZEROLL	3405	

DESC	SYMBOL	SIZE	POS	ADDR
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Entry: 0

Image	IMAGE	8704	0000-21FF	0000-21FF
Region	CODE	8704	0000-21FF	0000-21FF
CSECT	TRE01TST	8704	0000-21FF	0000-21FF

STMT

FILE NAME

```
1 c:\Users\Fish\Documents\Visual Studio 2008\Projects\MyProjects\ASMA-0\TRE-01-basic\TRE-01-basic.asm
2 C:\Users\Fish\Documents\Visual Studio 2008\Projects\Hercules\_Git\Harold\SATK-0\srcasm\satk.mac
```

```
** NO ERRORS FOUND **
```