

9M02A

MAIN FRAME DIAGNOSTIC AND RELIABILITY TEST

A. UNIT TESTED - 709 CPU

1. PURPOSE OF TEST

- A. TEST INDICATOR AND DISPLAY BUTTON OPERATIONS.
- B. TEST FAST MULTIPLY
- C. PERFORM ADDITIONAL TESTS FOR INSTRUCTIONS CHECKED IN 9M01.

2. METHOD OF TESTS

- A. THE PROGRAM IS DIVIDED IN TWO PARTS UNDER SENSE SWITCH 5 CONTROL.
- B. REFER TO SENSE SWITCH CONTROL SECTION C-2 FOR AN EXPLANATION OF PROGRAM OPERATION AND CONTROL.

B. MACHINE UNITS AND STORAGE AREA

1. UNITS REQUIRED

MF, CF, DSU, CR, PR

2. STORAGE LOCATIONS

00001-00010 - INDICATOR FALSE TRAP ROUTINE
00030-05511 - 9M02
06500-07712 - 9DEPR DIAGNOSTIC PRINT SUBROUTINE

C. PROGRAM CONTROL

1. DECK

000	9LD02 HIGH END LOADER
001-132	9M02
133-161	9DEPR DIAGNOSTIC PRINT
162	TRANSFER CARD TRA 00030
163	FAST MPY TEST CARD
164-165	2 BLANK CARDS

2. SENSE SWITCH CONTROL

SWITCH 1 UP	TEST SWITCH 4
SWITCH 1 DOWN	REPEAT ROUTINE

SWITCH 2 UP INDICATE ERRORS
SWITCH 2 DOWN BYPASS ERRORS
SWITCH 3 UP PRINT ERROR IF SWITCH 2 IS UP
SWITCH 3 DOWN HALT ON ERROR IF SWITCH 2 IS UP
SWITCH 4 UP PROCEED TO NEXT ROUTINE
SWITCH 4 DOWN LOOP IN ROUTINE 50 TIMES OCTAL
AND THEN PROCEED TO NEXT ROUTINE
SWITCH 5 UP BYPASS DISPLAY BUTTON AND FAST MULTIPLY
TESTS
SWITCH 5 DOWN PERFORM DISPLAY BUTTON AND FAST
MULTIPLY TESTS. ON THE SECOND PASS,
PERFORM DISPLAY BUTTON TESTS ONLY
SWITCH 6 UP CALL IN NEXT DIAGNOSTIC
SWITCH 6 DOWN REPEAT TEST-NOTE-PROGRAM PRINTS OUT
*100 PROGRAM PASSES COMPLETE
9M02 * EVERY 100 PASSES IF SWITCH 3 IS UP.

D. NORMAL STOPS

05053 DISPLAY INDICATOR BUTTON TEST WITH HTR
05064 DISPLAY STORAGE BUTTON TEST WITH HTR
05076 DISPLAY EFFECTIVE ADDRESS BUTTON TEST WITH HTR
05107 DISPLAY INDICATOR BUTTON TEST WITH HPR
05120 DISPLAY STORAGE BUTTON TEST WITH HPR
05132 DISPLAY EFFECTIVE ADDRESS BUTTON WITH HPR
05144 TEST CARD IN CARD READER FOR FAST MPY TEST

E. ERROR STOPS

05054 ERROR WITH DISPLAY INDICATOR BUTTON TEST WITH HTR
05065 ERROR WITH DISPLAY STORAGE BUTTON TEST WITH HTR
05077 ERROR WITH DISPLAY EFFECTIVE ADDRESS BUTTON TEST WITH HTR
05111 ERROR WITH DISPLAY INDICATOR BUTTON TEST WITH HPR
05122 ERROR WITH DISPLAY STORAGE BUTTON TEST WITH HPR
05134 ERROR WITH DISPLAY EFFECTIVE ADDRESS BUTTON WITH HPR
06517 ERROR IN PROGRAM WITH SWITCH 3 DOWN. INDEX
OR REGISTER C CONTAINS THE 2-S COMPLEMENT OF THE ADDRESS
06545 WHERE THE ERROR WAS DETECTED

F. PRINTOUTS

1. PROGRAM IDENTIFICATION IS PRINTED OUT BEFORE STARTING THE TEST IF SWITCH 3 IS UP.
2. PROGRAM PRINTS *100 PROGRAM PASSES COMPLETE 9M02* IF SWITCH 3 IS UP AND SWITCH 6 IS DOWN.
3. IF FAST MPY TAKES MORE THAN 2 CYCLES, THERE IS A PRINTOUT INDICATING THIS ERROR IF SENSE SWITCH 3 IS UP.

4. REFER TO PAGE 1.004 FOR EXAMPLES OF PRINTOUTS.
5. CONSULT THE WRITE-UP AND LISTING FOR 9DEPR FOR A DETAILED ACCOUNT OF THE DIAGNOSTIC PRINT SUBROUTINE

G. COMMENTS

1. 9M02 TESTS INDICATOR INSTRUCTIONS WITH PRIMARY OP 0,4 FOR FALSE TRAPPING. LOCATIONS 00001-00010 CONTAIN A SUBROUTINE TO TRANSFER TO THE MAIN PROGRAM IN CASE OF A FALSE TRAP.
2. 9M02 CHECKS THE RESTORING OF THE ACCUMULATOR BY CERTAIN INDICATOR INSTRUCTIONS. THIS SUBROUTINE IS IN LOCATIONS 05273-05320. IF THERE IS AN ERROR, THE MQ WILL CONTAIN THE LOCATION OF THE INSTRUCTION BEING TESTED AND THE ACCUMULATOR CONTAINS THE ERROR INFORMATION.
3. BECAUSE OF LOCATION LIMITATION IN 9M01, ADDITIONAL TESTS OF INSTRUCTIONS CHECKED IN 9M01 FOLLOW THE INDICATOR INSTRUCTION TESTS.
4. WITH SENSE SWITCH 5 DEPRESSED THE CONSOLE DISPLAY BUTTONS AND FAST MULTIPLY TESTS ARE PERFORMED ON THE INITIAL PASS. ON SUCCEEDING PASSES, THE FAST MULTIPLY TEST IS BYPASSED.
5. CARD 163 IS THE FAST MPY TEST CARD AND SHOULD ALWAYS BE PLACED AFTER THE TRANSFER CARD.
6. THE DECREMENT PORTION OF LOCATION 07570 CONTAINS THE 2-S COMPLEMENT OF THE LAST TEST ADDRESS PERFORMED CORRECTLY.
7. ALTHOUGH INDEXING HAS NOT BEEN CHECKED, IT IS USED SPARING FOR THE RIPPLE TESTS.
8. ALSO WITH AND ERROR IN THE CONVERT ROUTINES, INITIALLY INVESTIGATE THE CORRECT OPERATION OF XRA.

SAMPLE PRINTOUT

NOW PERFORMING DIAGNOSTIC 9M02

TEST LOC 00037, OPN PAI ,ERROR LOC 00051, 0 LOC 002000000041,SW 000001
LITE 0000, MQ 002000000032, XRA 00017, XRB 77740, XRC 77727, TRAP TGR 1
ACC +,Q 0,P 0,002000000041, DIV CK 0, ACC OVFL 1,
INDS 000010000000, KEYS 002000000001

TEST LOC 00037, OPN PAI ,ERROR LOC 00062, 0 LOC 002000000032,SW 000001
LITE 0000, MQ 002000000032, XRA 00017, XRB 77740, XRC 77716, TRAP TGR 0
ACC +,Q 0,P 0,000010000000, DIV CK 0, ACC OVFL 0,
INDS 000010000000, KEYS 002000000001

TEST LOC 00037, OPN PAI ,ERROR LOC 00072, 0 LOC 002000000032,SW 000001
LITE 0000, MQ 777777777777, XRA 00017, XRB 77740, XRC 77706, TRAP TGR 0
ACC -,Q 0,P 0,400004000000, DIV CK 0, ACC OVFL 0,
INDS 000010000000, KEYS 002000000001

TEST LOC 05273, OPN ACCU ,ERROR LOC 05303, 0 LOC 002000000032,SW 000001
LITE 0000, MQ 000000002277, XRA 00021, XRB 75474, XRC 72475, TRAP TGR 0
ACC -,Q 0,P 0,777777777774, DIV CK 0, ACC OVFL 1,
INDS 777777777777, KEYS 000000000000

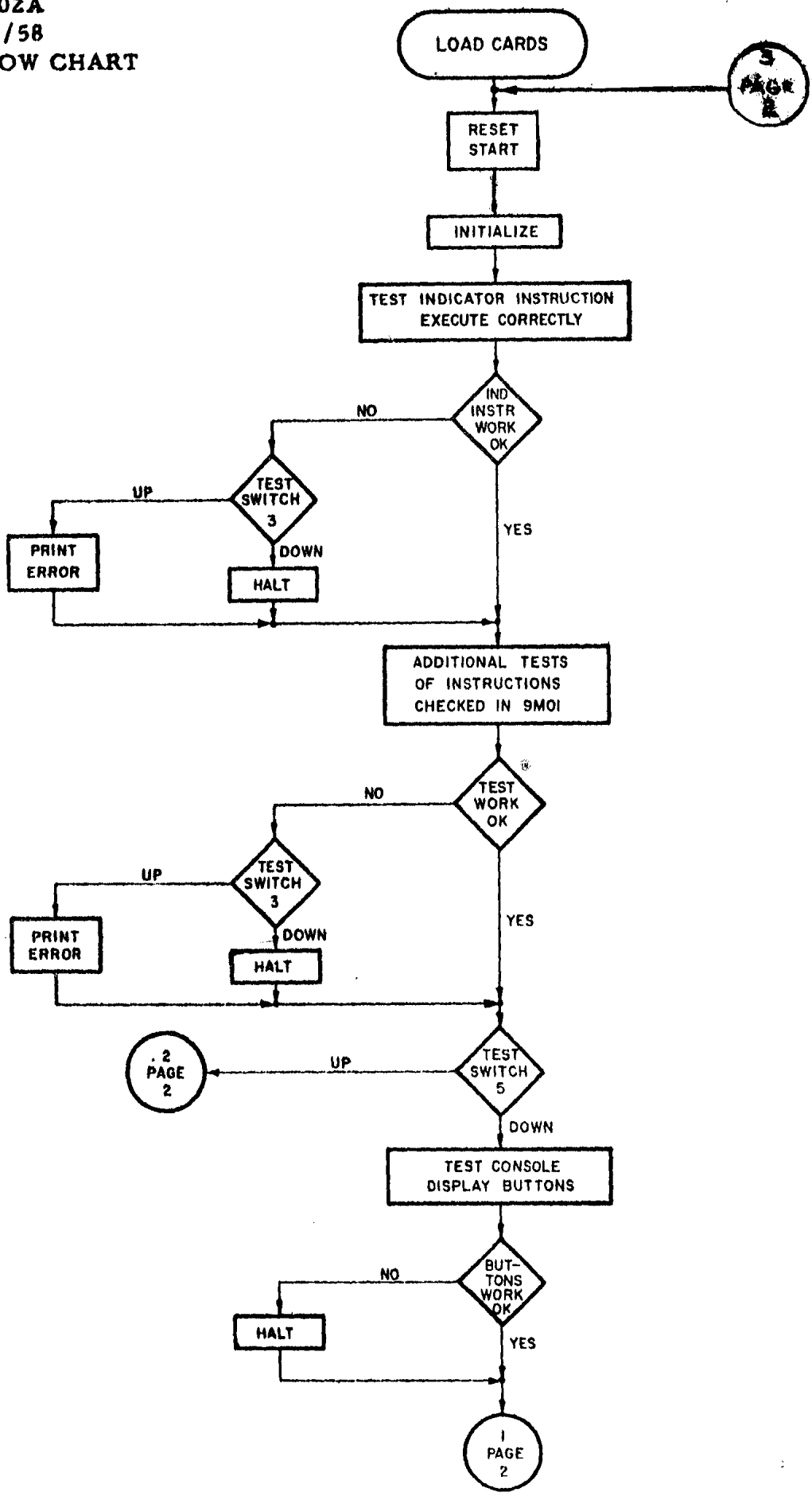
TEST LOC 05273, OPN ACCU ,ERROR LOC 05315, 0 LOC 002000000032,SW 000001
LITE 0000, MQ 000000002277, XRA 00021, XRB 75474, XRC 72463, TRAP TGR 0
ACC -,Q 0,P 0,777777777776, DIV CK 0, ACC OVFL 0,
INDS 777777777777, KEYS 000000000000

MULTIPLY WITH ZERO MULTIPLICAND EXECUTING IN MORE THAN 2 CYCLES

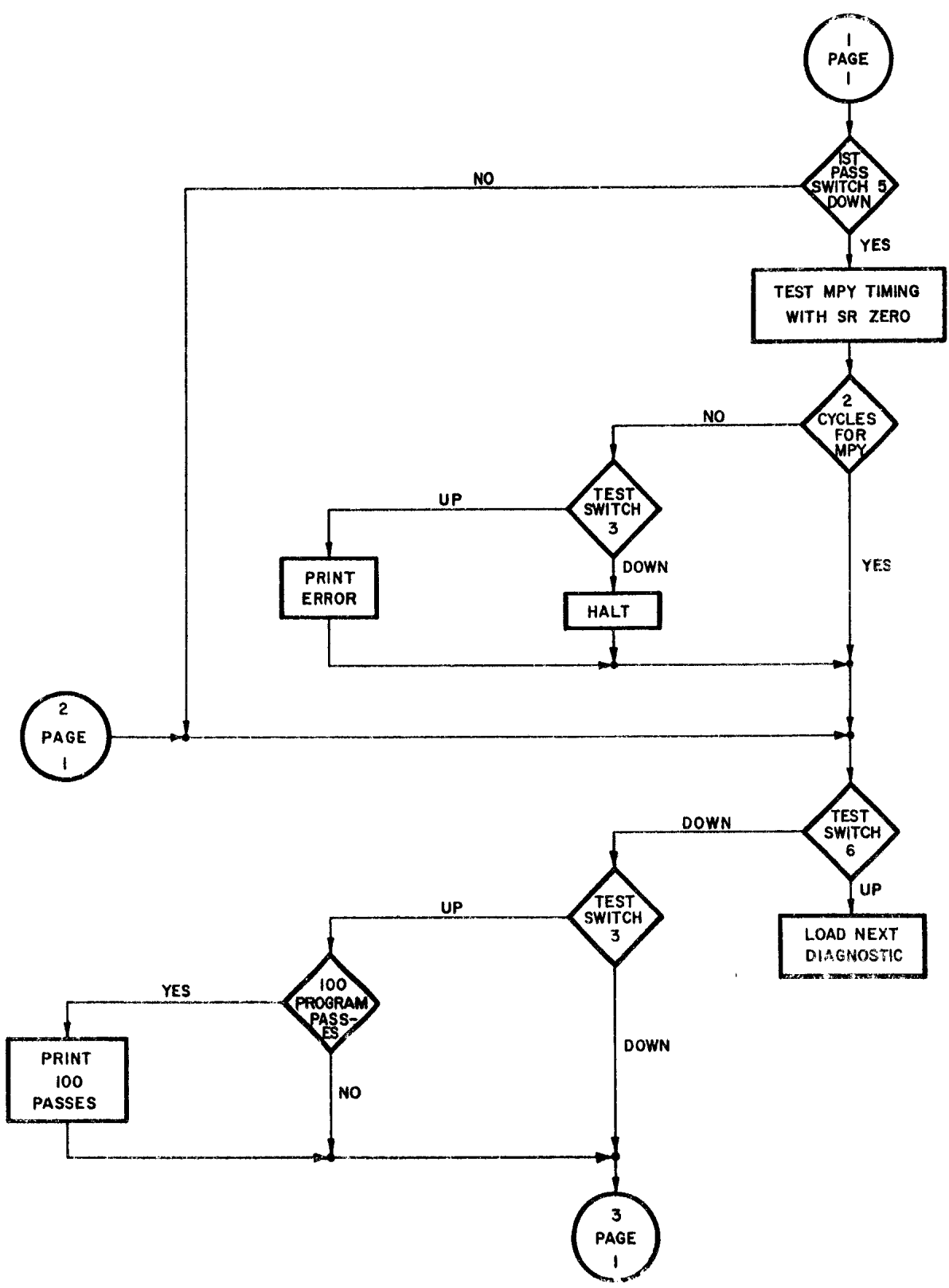
100 PROGRAM PASSESS COMPLETE 9M02

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9M02A
7/1/58
FLOW CHART



9M02A
7/1/58
FLOW CHART



9M02

*INDICATOR TESTS, TIMING TEST FOR MPY WITH ZERO MULTIPLICAND, DISPLAY
*BUTTON TESTS AND ADDITIONAL TESTS FOR INSTRUCTIONS CHECKED IN 9M01

00001 ORG 1

*FALSE TRAP ROUTINE TO ADJUST DEPR AND RETURN TO PROGRAM

00001	-0760	00	0	00007	LTM	LEAVE TRAP MODE
00002	0602	00	0	05511	SLW TEMP+2	SAVE ACCUMULATOR
00003	0500	00	0	05443	CLA TR	PUT BIT IN DEPR TO
00004	0601	00	0	07572	STO LOC+3	SHOW TRAP TRGR ON
00005	0500	00	0	00000	CLA	L CONTENTS LOC 00000
00006	0400	00	0	00000	ADD	
00007	0621	00	0	00010	STA *+1	
00010	0020	00	0	00000	TRA	RETURN TO PROGRAM

00030 ORG 24

00030	0760	00	0	00163	SWT 3	TEST SENSE SWITCH 3
00031	0020	00	0	05241	TRA ID	IDENTIFY PROGRAM
00032	0074	00	4	05265	TSX STORE, 4	TO RESET START
00033	0500	00	0	05444	CLA TR+1	L HTR THREE
00034	0621	00	0	00006	STA 6	ADJUST LOC 00006
00035	0020	00	0	00037	START TRA *+2	
00036	472131606060				BCD 1PAI	TEST-PLACE ACC IN IND AND PLACE IND IN ACC
00037	-0500	00	0	05412	D CAL ONES	L ALL ONES
00040	0074	00	2	05270	TSX ENTM, 2	TEST PRI OP 0, 4 NO TRAP
00041	0044	00	0	00000	PAI	ALL INDICATORS ON

*CHECK CONTENTS OF LOCATION 00000

00042	-0760	00	0	00007	LTM	FXIT TRAP MODE
00043	0602	00	0	05511	SLW TEMP+2	SAVE ACCUMULATOR
00044	0500	00	0	00000	CLA	L CONTENTS LOC 00000
00045	0560	00	0	05175	LDQ END+1	L TRA START-3
00046	0340	00	0	05175	CAS END+1	
00047	0020	00	0	00051	TRA *+2	ERROR
00050	0020	00	0	00054	TRA *+4	OK
00051	0074	00	4	06503	TSX ERROR-1, 4	
00052	0020	00	0	00037	TRA D	
00053	0074	00	4	05265	TSX STORE, 4	TO RESTORE RESET START
00054	-0500	00	0	05511	CAL TEMP+2	RESTORE ACCUMULATOR
00055	0500	00	0	05401	CLA ZERO	CLEAR ACCUMULATOR
00056	-0046	00	0	00000	PIA	BITS IN P, 1 THRU 35 IN ACC
00057	-0760	00	0	00001	PBT	
00060	0020	00	0	00062	TRA *+2	ERROR

00061	0020	00	0	00064		TRA DA	OK SHOULD HAVE P BIT
00062	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
00063	0020	00	0	00037		TRA D	REPEAT SECTION
00064	0771	00	0	00001	DA	ARS 1	CLEAR P
00065	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
00066	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00067	0340	00	0	05412		CAS ONES	
00070	0020	00	0	00072		TRA DA+6	ERROR
00071	0020	00	0	00073		TRA DA+7	OK ALL IND ON
00072	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00073	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00074	0020	00	0	00037		TRA D	REPEAT TEST
00075	473121606060					BCD 1PIA	
00076	0500	00	0	05401	D1	CLA ZERO	L +0
00077	0044	00	0	00000		PAI	ALL INDICATORS OFF
00100	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 04 NO TRAP
00101	-0046	00	0	00000		PIA	
*CHECK CONTENTS OF LOCATION 00000							
00102	-0760	00	0	00007		LTM	EXIT TRAP MODE
00103	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
00104	0500	00	0	00000		CLA	L CONTENTS LOC 00000
00105	0560	00	0	05175		LDQ END+1	L TRA START-3
00106	0340	00	0	05175		CAS END+1	
00107	0020	00	0	00111		TRA *+2	ERROR
00110	0020	00	0	00114		TRA *+4	OK
00111	0074	00	4	06503		TSX ERROR-1,4	
00112	0020	00	0	00076		TRA D1	
00113	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
00114	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
00115	0100	00	0	00117		TZE *+2	OK-IND OFF
00116	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00117	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00120	0020	00	0	00076		TRA D1	REPEAT TEST
00121	313121606060					BCD 1IIA	TEST-INVERT IND FROM ACC
00122	-0500	00	0	05412	D2	CAL ONES	L ALL ONES
00123	0534	00	1	05416		LXA K26,1	L +50 IN XRA
00124	0044	00	0	00000		PAI	ALL INDICATORS ON
00125	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NO TRAP
00126	0041	00	0	00000		IIA	ALTERNATE INDICATORS
*CHECK CONTENTS OF LOCATION 00000							
00127	-0760	00	0	00007		LTM	EXIT TRAP MODE
00130	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
00131	0500	00	0	00000		CLA	L CONTENTS LOC 00000
00132	0560	00	0	05175		LDQ END+1	L TRA START-3
00133	0340	00	0	05175		CAS END+1	

00215	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00216	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00217	0020	00	0	00177		TRA D2B	REPEAT TEST
00220	513162606060					BCD 1RIS	TEST-RESET IND FROM STG
00221	-0500	00	0	05412	E	CAL ONES	L ALL ONES
00222	0044	00	0	00000		PAI	SET INDICATORS ON
00223	0445	00	0	05412		RIS ONES	RESET ALL IND OFF
00224	-0046	00	0	00000		PIA	SET INDICATORS INTO ACC
00225	0100	00	0	00227		TZE E+6	OK-IND OFF
00226	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00227	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00230	0020	00	0	00221		TRA E	REPEAT TEST
00231	513162606060					BCD 1RIS	
00232	-0500	00	0	05412	E1	CAL ONES	L ALL ONES
00233	0044	00	0	00000		PAI	TURN ALL INDICATOR ON
00234	0445	00	0	05401		RIS ZERO	IND NOT RESET
00235	-0046	00	0	00000		PIA	SET TGRS INTO ACC
00236	0771	00	0	00001		ARS 1	CLEAR P
00237	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
00240	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00241	0340	00	0	05412		CAS ONES	
00242	0020	00	0	00244		TRA E1+10	ERROR
00243	0020	00	0	00245		TRA E1+11	OK-IND ON
00244	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00245	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00246	0020	00	0	00232		TRA E1	REPEAT TEST
00247	513121606060					BCD 1RIA	TEST-RESET IND FROM ACC
00250	-0500	00	0	05412	E2	CAL ONES	L ALL ONES
00251	0044	00	0	00000		PAI	SET INDICATOR ALL ON
00252	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NO TRAP
00253	-0042	00	0	00000		RIA	RESET ALL INDICATORS OFF
*CHECK CONTENTS OF LOCATION 00000							
00254	-0760	00	0	00007		LTM	EXIT TRAP MODE
00255	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
00256	0500	00	0	00000		CLA	L CONTENTS LOC 00000
00257	0560	00	0	05175		LDQ END+1	L TRA START-3
00260	0340	00	0	05175		CAS END+1	
00261	0020	00	0	00263		TRA *+2	ERROR
00262	0020	00	0	00266		TRA *+4	OK
00263	0074	00	4	06503		TSX ERROR-1,4	
00264	0020	00	0	00250		TRA E2	
00265	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
00266	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
00267	-0046	00	0	00000		PIA	CHECK INDICATORS OFF
00270	0100	00	0	00272		TZE *+2	OK-IND OFF
00271	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE

00272	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00273	0020	00	0	00250		TRA E2	REPEAT TEST
00274	513121606060					BCD 1RIA	
00275	-0500	00	0	05412	E3	CAL ONES	L ALL ONES
00276	0044	00	0	00000		PAI	TURN ON ALL INDICATORS
00277	0500	00	0	05401		CLA ZERO	L +0
00300	-0042	00	0	00000		RIA	SHOULD NOT RESET
00301	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
00302	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
00303	0500	00	0	05507		CLA TEMP	L SAVED ACCUMULATOR
00304	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00305	0340	00	0	05412		CAS ONES	
00306	0020	00	0	00310		TRA *+2	ERROR
00307	0020	00	0	00311		TRA *+2	OK-IND ON
00310	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
00311	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00312	0020	00	0	00275		TRA E3	REPEAT TEST
00313	626331606060					BCD 1STI	TEST-STORE INDICATORS
00314	0500	00	0	05401	E3A	CLA ZERO	L +0
00315	0044	00	0	00000		PAI	TURN ALL INDICATORS OFF
00316	0604	00	0	05507		STI TEMP	STORE INDICATORS
00317	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
00320	0100	00	0	00322		TZE E3A+6	OK-IND OFF
00321	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
00322	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00323	0020	00	0	00314		TRA E3A	REPEAT TEST
00324	626331606060					BCD 1STI	
00325	-0500	00	0	05412	E3B	CAL ONES	L ALL ONES
00326	0044	00	0	00000		PAI	TURN ALL INDICATORS ON
00327	0604	00	0	05507		STI TEMP	STORE INDICATORS
00330	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
00331	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00332	0340	00	0	05412		CAS ONES	
00333	0020	00	0	00335		TRA E3B+8	ERROR
00334	0020	00	0	00336		TRA E3B+9	OK-IND ON
00335	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
00336	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00337	0020	00	0	00325		TRA E3B	REPEAT TEST
00340	626331606060					BCD 1STI	
00341	0500	00	0	05415	E3C	CLA K25	L +154321654321
00342	0044	00	0	00000		PAI	
00343	0604	00	0	05507		STI TEMP	STORE INDICATORS
00344	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
00345	0560	00	0	05415		LDQ K25	L +154321654321
00346	0340	00	0	05415		CAS K25	
00347	0020	00	0	00351		TRA E3C+8	ERROR
00350	0020	00	0	00352		TRA E3C+9	OK-CORRECT IND ON
00351	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE

00352	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00353	0020	00	0	00341		TRA E3C	REPEAT TEST
00354	462131606060					BCD 10AI	TEST-OR ACC TO INDICATORS
00355	-0500	00	0	05412	E4	CAL ONES	L ALL ONES
00356	0074	00	2	05270		TSX ENTM, 2	TEST PRI OP 0, 4 NO TRAP
00357	0043	00	0	00000		OAI	TURN ALL INDICATORS ON
*CHECK CONTENTS OF LOCATION 00000							
00360	-0760	00	0	00007		LTM	EXIT TRAP MODE
00361	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
00362	0500	00	0	00000		CLA	L CONTENTS LOC 00000
00363	0560	00	0	05175		LDQ END+1	L TRA START-3
00364	0340	00	0	05175		CAS END+1	
00365	0020	00	0	00367		TRA *+2	ERROR
00366	0020	00	0	00372		TRA *+4	OK
00367	0074	00	4	06503		TSX ERROR-1, 4	
00370	0020	00	0	00355		TRA E4	
00371	0074	00	4	05265		TSX STORE, 4	TO RESTORE RESET START
00372	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
00373	0604	00	0	05507		STI TEMP	STORE INDICATORS
00374	0602	00	0	05510		SLW TEMP+1	SAVE ACCUMULATOR
00375	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
00376	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00377	0340	00	0	05412		CAS ONES	
00400	0020	00	0	00402		TRA *+2	ERROR
00401	0020	00	0	00404		TRA E4A	OK ALL IND ON
00402	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00403	0020	00	0	00355		TRA E4	REPEAT SECTION
00404	0500	00	0	05510	E4A	CLA TEMP+1	CHECK SAVED ACCUMULATOR
00405	0340	00	0	05412		CAS ONES	
00406	0020	00	0	00410		TRA E4A+4	ERROR
00407	0020	00	0	00411		TRA E4A+5	OK ACC UNCHANGED
00410	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
00411	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00412	0020	00	0	00355		TRA E4	REPEAT TEST
00413	462131606060					BCD 10AI	
00414	-0500	00	0	05412	E5	CAL ONES	L ALL ONES
00415	0043	00	0	00000		OAI	TURN ALL INDICATORS ON
00416	0500	00	0	05401		CLA ZERO	L +0
00417	0043	00	0	00000		OAI	ALL INDICATORS STILL ON
00420	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
00421	0771	00	0	00001		ARS 1	CLEAR P
00422	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
00423	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00424	0340	00	0	05412		CAS ONES	
00425	0020	00	0	00427		TRA E5+11	ERROR
00426	0020	00	0	00430		TRA E5+12	OK-IND ON
00427	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE

00430	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00431	0020	00	0	00414		TRA E5	
00432	462131606060					BCD 10AI	
00433	-0500	00	0	05412	E6	CAL ONES	L ALL ONES
00434	0044	00	0	00000		PAI	ALL IND ON
00435	-0042	00	0	00000		RIA	TURN ALL INDICATORS OFF
00436	0500	00	0	05414		CLA K24	L +111111111111
00437	0043	00	0	00000		OAI	TURN 12 INDICATORS ON
00440	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
00441	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
00442	0560	00	0	05414		LDQ K24	L +111111111111
00443	0340	00	0	05414		CAS K24	
00444	0020	00	0	00446		TRA E6+11	ERROR
00445	0020	00	0	00450		TRA E6A	OK-CORRECT 12 IND ON
00446	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00447	0020	00	0	00433		TRA E6	REPEAT SECTION
00450	0767	00	0	00001	E6A	ALS 1	ACC NOW +222222222222
00451	0043	00	0	00000		OAI	IND 333333333333
00452	0601	00	0	05510		STO TEMP+1	SAVE ACCUMULATOR
00453	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
00454	0560	00	0	05420		LDQ K28	L +333333333333
00455	0340	00	0	05420		CAS K28	
00456	0020	00	0	00460		TRA E6A+8	ERROR
00457	0020	00	0	00462		TRA E6B	OK-CORRECT 24 IND ON
00460	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00461	0020	00	0	00433		TRA E6	REPEAT SECTION
00462	0500	00	0	05414	E6B	CLA K24	L +111111111111
00463	0767	00	0	00002		ALS 2	ACC +P044444444444
00464	0043	00	0	00000		OAI	IND 777777777777
00465	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
00466	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
00467	0771	00	0	00001		ARS 1	CLEAR P
00470	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
00471	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00472	0340	00	0	05412		CAS ONES	
00473	0020	00	0	00475		TRA E6B+11	ERROR
00474	0020	00	0	00477		TRA E6C	OK-ALL IND ON
00475	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00476	0020	00	0	00433		TRA E6	REPEAT SECTION
CHECK ACCS UNCHANGES							
00477	0500	00	0	05507	E6C	CLA TEMP	L +111111111111
00500	0400	00	0	05510		ADD TEMP+1	L +222222222222
00501	0402	00	0	05511		SUB TEMP+2	L -044444444444
00502	0760	00	0	00002		CHS	ACC NOW -377777777777
00503	0340	00	0	05412		CAS ONES	
00504	0020	00	0	00506		TRA E6C+7	ERROR
00505	0020	00	0	00507		TRA E6C+8	OK-ACCS UNCHANGED
00506	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
00507	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
00510	0020	00	0	00433		TRA E6	REPEAT TEST

00511	462131606060		BCD 10AI	RIPPLE TEST
00512	0441 00 0 05401	E6D	LDI ZERO	ALL INDICATORS OFF
00513	-0534 00 1 05430		LXD K37A,1	L +44 IN XRA
00514	0500 00 0 05403		CLA ONE	L +1
00515	0602 00 0 05507		SLW TEMP	SAVE ACCUMULATOR
00516	0043 00 0 00000		OAI	TURN TESTED IND ON
00517	0604 00 0 05510		STI TEMP+1	STORE INDICATORS
00520	0500 00 0 05510		CLA TEMP+1	CHECK INDICATORS
00521	0340 00 0 05507		CAS TEMP	
00522	0020 00 0 00524		TRA *+2	ERROR
00523	0020 00 0 00527		TRA *+4	OK
00524	0560 00 0 05507		LDQ TEMP	L POSITION TESTING
00525	0074 00 4 06503		TSX ERROR-1,4	ERROR
00526	0020 00 0 00512		TRA E6D	REPEAT SECTION
00527	-0500 00 0 05507		CAL TEMP	L LAST POSITION TESTED
00530	0041 00 0 00000		IIA	TURN TESTED IND OFF
00531	0767 00 0 00001		ALS 1	RIPPLE 1 POSITION
00532	2 00001 1 00515		TIX E6D+3,1,1	REPEAT FOR EVERY IND POS
*	CHECK NO EFFECT WITH Q BIT			
00533	0043 00 0 00000		OAI	
00534	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00535	0100 00 0 00537		TZE *+2	OK-NO EFFECT WITH Q BIT
00536	0074 00 4 06504		TSX ERROR,4	ERROR
00537	0074 00 4 06511		TSX OK,4	CONTINUE TEST
00540	0020 00 0 00512		TRA E6D	REPEAT TEST
00541	462131606060		BCD 10AI	TEST-OAI WITH SIGN BIT
00542	0441 00 0 05401	E6D1	LDI ZERO	ALL INDICATORS OFF
00543	0500 00 0 05402		CLA MZE	L -0
00544	0043 00 0 00000		OAI	
00545	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00546	0100 00 0 00550		TZE *+2	OK
00547	0074 00 4 06504		TSX ERROR,4	ERROR
00550	0074 00 4 06511		TSX OK,4	CONTINUE TEST
00551	0020 00 0 00542		TRA E6D1	REPEAT TEST
00552	466231606060		BCD 10SI	TEST OR STORAGE TO IND
00553	0442 00 0 05412	E7	OSI ONES	ALL INDICATORS ON
00554	0604 00 0 05507		STI TEMP	STORE INDICATORS
00555	0500 00 0 05507		CLA TEMP	CHECK INDICATORS
00556	0560 00 0 05412		LDQ ONES	L ALL ONES TO MQ
00557	0340 00 0 05412		CAS ONES	
00560	0020 00 0 00562		TRA E7+7	ERROR
00561	0020 00 0 00563		TRA E7+8	OK-ALL IND ON
00562	0074 00 4 06504		TSX ERROR,4	TO ERROR ROUTINE
00563	0074 00 4 06511		TSX OK,4	CONTINUE TEST
00564	0020 00 0 00553		TRA E7	TEST

00565	466231606060		BCD 10SI	
00566	-0500 00 0 05412	E8	CAL ONES	L ALL ONES
00567	0043 00 0 00000		OAI	TURN ALL INDICATORS ON
00570	0442 00 0 05401		OSI ZERO	ALL INDICATORS STILL ON
00571	0604 00 0 05507		STI TEMP	STORE INDICATORS
00572	0500 00 0 05507		CLA TEMP	CHECK INDICATORS
00573	0560 00 0 05412		LDQ ONES	L ALL ONES TO MQ
00574	0340 00 0 05412		CAS ONES	
00575	0020 00 0 00577		TRA E8+9	ERROR
00576	0020 00 0 00600		TRA E8+10	OK-ALL IND ON
00577	0074 00 4 06504		TSX ERROR, 4	TO ERROR ROUTINE
00600	0074 00 4 06511		TSX OK, 4	CONTINUE TEST
00601	0020 00 0 00566		TRA E8	REPEAT TEST

00602	466231606060		BCD 10SI	
00603	-0500 00 0 05412	E9	CAL ONES	L ALL ONES
00604	0044 00 0 00000		PAI	ALL IND ON
00605	-0042 00 0 00000		RIA	TURN ALL INDICATORS OFF
00606	0442 00 0 05414		OSI K24	IND 111111111111
00607	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00610	0560 00 0 05414		LDQ K24	L +111111111111
00611	0340 00 0 05414		CAS K24	
00612	0020 00 0 00614		TRA E9+9	ERROR
00613	0020 00 0 00616		TRA E9A	OK-CORRECT 12 IND ON
00614	0074 00 4 06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00615	0020 00 0 00603		TRA E9	REPEAT SECTION

00616	0442 00 0 05417	E9A	OSI K27	IND 333333333333
00617	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00620	0560 00 0 05420		LDQ K28	L +333333333333
00621	0340 00 0 05420		CAS K28	
00622	0020 00 0 00624		TRA E9A+6	ERROR
00623	0020 00 0 00626		TRA E9B	OK-CORRECT 24 IND ON
00624	0074 00 4 06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00625	0020 00 0 00603		TRA E9	REPEAT SECTION

00626	0442 00 0 05421	E9B	OSI K29	ALL IND ON
00627	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00630	0771 00 0 00001		ARS 1	CLEAR P
00631	0760 00 0 00002		CHS	ACC NOW MINUS ALL ONES
00632	0560 00 0 05412		LDQ ONES	L ALL ONES TO MQ
00633	0340 00 0 05412		CAS ONES	
00634	0020 00 0 00636		TRA E9B+8	ERROR
00635	0020 00 0 00640		TRA E9C	OK-ALL IND ON
00636	0074 00 4 06503		TSX ERROR-1, 4	TO ERROR ROUTINE
00637	0020 00 0 00603		TRA E9	REPEAT SECTION

CHECK STORAGES UNCHANGED

00640	0500 00 0 05414	E9C	CLA K24	L +111111111111
00641	0400 00 0 05417		ADD K27	L +222222222222
00642	0402 00 0 05421		SUB K29	L -044444444444
00643	0760 00 0 00002		CHS	ACC NOW MINUS ALL ONES
00644	0340 00 0 05412		CAS ONES	
00645	0020 00 0 00647		TRA E9C+7	ERROR

00646	0020	00	0	00650		TRA E9C+8	OK-STORAGES UNCHANGED
00647	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00650	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00651	0020	00	0	00603		TRA E9	REPEAT TEST
00652	466231606060					BCD 10SI	RIPPLE TEST
00653	0441	00	0	05401	E9D	LDI ZERO	ALL INDICATORS OFF
00654	-0534	00	1	05430		LXD K37A,1	L +44 IN XRA
00655	0500	00	0	05403		CLA ONE	L +1
00656	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
00657	0442	00	0	05507		OSI TEMP	TURN TESTED IND ON
00660	0604	00	0	05510		STI TEMP+1	STORE INDICATORS
00661	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
00662	0340	00	0	05507		CAS TEMP	
00663	0020	00	0	00665		TRA *+2	ERROR
00664	0020	00	0	00670		TRA *+4	OK
00665	0560	00	0	05507		LDQ TEMP	L POSITION TESTING
00666	0074	00	4	06503		TSX ERROR-1,4	ERROR
00667	0020	00	0	00653		TRA E9D	REPEAT SECTION
00670	-0500	00	0	05507		CAL TEMP	L LAST POSITION TESTED
00671	0041	00	0	00000		IIA	TURN TESTED IND OFF
00672	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
00673	2	00001	1	00656		TIX E9D+3,1,1	REPEAT FOR EVERY IND POS
00674	0074	00	4	06511		TSX OK,4	
00675	0020	00	0	00653		TRA E9D	
00676	472131606060					BCD 1PAI	TEST PLACE ACC IN IND
00677	-0500	00	0	05412	E10	CAL ONES	L ALL ONES
00700	0044	00	0	00000		PAI	TURN ALL INDICATORS ON
00701	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
00702	0500	00	0	05507		CLA TEMP	CHECK ACCUMULATOR
00703	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
00704	0340	00	0	05412		CAS ONES	
00705	0020	00	0	00707		TRA E10+8	ERROR
00706	0020	00	0	00711		TRA E10A	OK-ACC UNCHANGED
00707	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
00710	0020	00	0	00677		TRA E10	REPEAT SECTION
00711	0604	00	0	05510	E10A	STI TEMP+1	STORE INDICATORS
00712	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
00713	0340	00	0	05412		CAS ONES	
00714	0020	00	0	00716		TRA E10A+5	ERROR
00715	0020	00	0	00717		TRA E10A+6	OK-ALL IND ON
00716	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
00717	0074	00	4	06511		TSX OK,4	CONTINUE TEST
00720	0020	00	0	00677		TRA E10	REPEAT TEST
00721	472131606060					BCD 1PAI	
00722	0500	00	0	05401	E11	CLA ZERO	L +0
00723	0044	00	0	00000		PAI	ALL INDICATORS OFF
00724	0100	00	0	00727		TZE E11A	OK-ACC UNCHANGED
00725	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE

00726	0020 00 0 00722		TRA E11	REPEAT SECTION
00727	0604 00 0 05507	E11A	STI TEMP	STORE INDICATORS
00730	0500 00 0 05507		CLA TEMP	CHECK INDICATORS
00731	0100 00 0 00733		TZE E11A+4	OK-IND OFF
00732	0074 00 4 06504		TSX ERROR,4	TO ERROR ROUTINE
00733	0074 00 4 06511		TSX OK,4	CONTINUE TEST
00734	0020 00 0 00722		TRA E11	REPEAT TEST
00735	472131606060		BCD 1PAI	RIPPLE TEST
00736	-0534 00 1 05430	E11B	LXD K37A,1	L +44 IN XRA
00737	0500 00 0 05403		CLA ONE	L +1
00740	0602 00 0 05507		SLW TEMP	SAVE ACCUMULATOR
00741	0044 00 0 00000		PAI	
00742	0604 00 0 05510		STI TEMP+1	STORE INDICATORS
00743	0500 00 0 05510		CLA TEMP+1	CHECK INDICATORS
00744	0340 00 0 05507		CAS TEMP	
00745	0020 00 0 00747		TRA *+2	ERROR
00746	0020 00 0 00752		TRA *+4	OK
00747	0560 00 0 05507		LDQ TEMP	L POSITION TESTING
00750	0074 00 4 06503		TSX ERROR-1,4	ERROR
00751	0020 00 0 00736		TRA E11B	REPEAT SECTION
00752	-0500 00 0 05507		CAL TEMP	L LAST POSITION TESTED
00753	0041 00 0 00000		IIA	TURN OFF IND TESTED
00754	0767 00 0 00001		ALS 1	RIPPLE 1 POSITION
00755	2 00001 1 00740		TIX E11B+2,1,1	REPEAT FOR EACH IND POS
* CHECK NO EFFECT WITH Q BIT				
00756	0044 00 0 00000		PAI	
00757	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00760	0100 00 0 00762		TZE *+2	OK-NO EFFECT WITH Q BIT
00761	0074 00 4 06504		TSX ERROR,4	TO ERROR ROUTINE
00762	0074 00 4 06511		TSX OK,4	CONTINUE TEST
00763	0020 00 0 00736		TRA E11B	REPEAT TEST
00764	472131606060		BCD 1PAI	TEST-PAI WITH SIGN BIT
00765	0500 00 0 05412	E11B1	CLA ONES	L ALL ONES
00766	0044 00 0 00000		PAI	IND 3777777777
00767	-0046 00 0 00000		PIA	IND TO ACC AND CHECK
00770	0760 00 0 00002		CHS	ACC NOW MINUS ALL ONES
00771	0340 00 0 05412		CAS ONES	
00772	0020 00 0 00774		TRA *+2	ERROR
00773	0020 00 0 00776		TRA *+3	OK
00774	0560 00 0 05412		LDQ ONES	L ALL ONES TO MQ
00775	0074 00 4 06504		TSX ERROR,4	ERROR
00776	0074 00 4 06511		TSX OK,4	CONTINUE TEST
00777	0020 00 0 00765		TRA E11B1	REPEAT TEST
01000	432431606060		BCD 1LDI	TEST-LOAD INDICATORS
01001	0441 00 0 05412	E12	LDI ONES	ALL INDICATORS ON
01002	0604 00 0 05507		STI TEMP	STORE INDICATORS
01003	0500 00 0 05507		CLA TEMP	CHECK INDICATORS

01004	0560	00	0	05412		LDQ	ONES	L ALL ONES TO MQ	
01005	0340	00	0	05412		CAS	ONES		
01006	0020	00	0	01010		TRA	E12+7	ERROR	
01007	0020	00	0	01011		TRA	E12+8	OK-ALL IND ON	
01010	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01011	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01012	0020	00	0	01001		TRA	E12	REPEAT TEST	
01013	432431606060					BCD	1LDI		
01014	0441	00	0	05401	E13	LDI	ZERO	ALL INDICATORS OFF	
01015	0604	00	0	05507		STI	TEMP	STORE INDICATORS	
01016	0500	00	0	05507		CLA	TEMP	CHECK INDICATORS	
01017	0100	00	0	01021		TZE	E13+5	OK IND OFF	
01020	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01021	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01022	0020	00	0	01014		TRA	E13	REPEAT TEST	
01023	473121606060					BCD	1PIA	TEST-PLACE IND IN ACC	
01024	0500	00	0	05401	E14	CLA	ZERO	L +0	
01025	0044	00	0	00000		PAI		TURN ALL INDICATORS OFF	
01026	0100	00	0	01031		TZE	E14A	OK ACC UNCHANGED	
01027	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE	
01030	0020	00	0	01024		TRA	E14	REPEAT SECTION	
01031	-0046	00	0	00000	E14A	PIA		IND TO ACC AND CHECK	
01032	0100	00	0	01034		TZE	E14A+3	OK IND OFF	
01033	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01034	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01035	0020	00	0	01024		TRA	E14	REPEAT TEST	
01036	473121606060					BCD	1PIA		
01037	0441	00	0	05412	E15	LDI	ONES	ALL INDICATORS ON	
01040	-0046	00	0	00000		PIA		IND TO ACC AND CHECK	
01041	0771	00	0	00001		ARS	1	CLEAR P	
01042	0760	00	0	00002		CHS		ACC NOW -377777077777	
01043	0560	00	0	05412		LDQ	ONES	L ALL ONES TO MQ	
01044	0340	00	0	05412		CAS	ONES		
01045	0020	00	0	01047		TRA	E15+8	ERROR	
01046	0020	00	0	01050		TRA	E15+9	OK-ALL IND ON	
01047	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01050	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01051	0020	00	0	01037		TRA	E15	REPEAT TEST	
01052	473121606060					BCD	1PIA		
01053	0500	00	0	05413	E16	CLA	K3	L-377777077777	
01054	0044	00	0	00000		PAI		IND 377777077777	
01055	-0046	00	0	00000		PIA		ACC +377777077777	
01056	0760	00	0	00002		CHS		ACC NOW -377777077777	
01057	0560	00	0	05413		LDQ	K3	L -377777077777	
01060	0340	00	0	05413		CAS	K3		
01061	0020	00	0	01063		TRA	E16+8	ERROR	
01062	0020	00	0	01064		TRA	E16+9	OK	

01063	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01064	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01065	0020	00	0	01053		TRA E16	REPEAT TEST
01066	313121606060					BCD 11IA	TEST-INVERT INDICATORS
01067	-0500	00	0	05412	E20	CAL ONES	L ALL ONES
01070	0044	00	0	00000		PAI	ALL INDICATORS ON
01071	0041	00	0	00000		IIA	ALL INDICATORS OFF
01072	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
01073	0100	00	0	01075		TZE E20+6	OK ALL IND OFF
01074	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01075	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01076	0020	00	0	01067		TRA E20	REPEAT TEST
01077	313121606060					BCD 11IA	
01100	0441	00	0	05401	E21	LDI ZERO	ALL INDICATORS OFF
01101	-0500	00	0	05412		CAL ONES	L ALL ONES
01102	0041	00	0	00000		IIA	ALL INDICATORS ON
01103	0604	00	0	05507		STI TEMP	STORE INDICATORS
01104	0602	00	0	05510		SLW TEMP+1	SAVE ACCUMULATOR
01105	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
01106	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01107	0340	00	0	05412		CAS ONES	
01110	0020	00	0	01112		TRA E21+10	ERROR
01111	0020	00	0	01114		TRA E21A	OK-ALL IND ON
01112	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01113	0020	00	0	01100		TRA E21	REPEAT SECTION
01114	0500	00	0	05510	E21A	CLA TEMP+1	CHECK SAVED ACCUMULATOR
01115	0340	00	0	05412		CAS ONES	
01116	0020	00	0	01120		TRA E21A+4	ERROR
01117	0020	00	0	01121		TRA E21A+5	OK-ACC UNCHANGED
01120	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01121	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01122	0020	00	0	01100		TRA E21	REPEAT TEST
01123	313121606060					BCD 11IA	
01124	-0500	00	0	05412	E22	CAL ONES	L ALL ONES
01125	0441	00	0	05401		LDI ZERO	ALL INDICATORS OFF
01126	0041	00	0	00000		IIA	ALL INDICATORS ON
01127	0041	00	0	00000		IIA	ALL INDICATORS OFF
01130	0041	00	0	00000		IIA	ALL INDICATORS ON
01131	0041	00	0	00000		IIA	ALL INDICATORS OFF
01132	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
01133	0100	00	0	01135		TZE E22+9	OK ALL IND OFF
01134	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01135	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01136	0020	00	0	01124		TRA E22	REPEAT TEST
01137	313121606060					BCD 11IA	RIPPLE TEST
01140	-0534	00	1	05430	E22A	LXD K37A,1	L +44 IN XRA

01141	0500	00	0	05403	CLA ONE	L +1
01142	0602	00	0	05507	SLW TEMP	SAVE ACCUMULATOR
01143	0441	00	0	05507	LDI TEMP	TURN ON IND TESTING
01144	0041	00	0	05507	IIA TEMP	TURN OFF IND TESTING
01145	-0046	00	0	00000	PIA	IND TO ACC AND CHECK
01146	0100	00	0	01151	TZE *+3	OK
01147	0074	00	4	06503	TSX ERROR-1,4	ERROR
01150	0020	00	0	01140	TRA E22A	REPEAT SECTION

01151	-0500	00	0	05507	CAL TEMP	L LAST TESTED POSITION
01152	0767	00	0	00001	ALS 1	RIPPLE 1 POSITION
01153	2 00001	1	1	01142	TIX E22A+2,1,1	CHECK EACH IND POS

* CHECK NO EFFECT WITH Q BIT

01154	0041	00	0	00000	IIA	
01155	-0046	00	0	00000	PIA	IND TO ACC AND CHECK
01156	0100	00	0	01160	TZE *+2	OK
01157	0074	00	4	06504	TSX ERROR,4	TO ERROR ROUTINE
01160	0074	00	4	06511	TSX OK,4	CONTINUE TEST
01161	0020	00	0	01140	TRA E22A	REPEAT TEST

01162	313121606060				BCD 1IIA	TEST-IIA WITH SIGN BIT
01163	0441	00	0	05412	E22A1 LDI ONES	ALL INDICATORS ON
01164	0500	00	0	05412	CLA ONES	L ALL ONES
01165	0041	00	0	00000	IIA	
01166	-0046	00	0	00000	PIA	IND TO ACC AND CHECK
01167	0771	00	0	00002	ARS 2	ACC NOW +100000000000
01170	0340	00	0	05410	CAS PTHR	
01171	0020	00	0	01173	TRA *+2	ERROR
01172	0020	00	0	01175	TRA *+3	OK
01173	0560	00	0	05410	LDQ PTHR	L +100000000000
01174	0074	00	4	06504	TSX ERROR,4	TO ERROR ROUTINE
01175	0074	00	4	06511	TSX OK,4	CONTINUE TEST
01176	0020	00	0	01163	TRA E22A1	REPEAT TEST

01177	313162606060				BCD 1IIS	TEST-INVERT INDICATORS FROM STORAGE
01200	0441	00	0	05412	E23 LDI ONES	ALL INDICATORS ON
01201	0440	00	0	05412	IIS ONES	ALL INDICATORS OFF
01202	-0046	00	0	00000	PIA	IND TO ACC ANCHE CHECK
01203	0100	00	0	01205	TZE E23+5	OK ALL IND OFF
01204	0074	00	4	06504	TSX ERROR,4	TO ERROR ROUTINE
01205	0074	00	4	06511	TSX OK,4	CONTINUE TEST
01206	0020	00	0	01200	TRA E23	REPEAT TEST

01207	313162606060				BCD 1IIS	
01210	0441	00	0	05401	E24 LDI ZERO	ALL INDICATORS OFF
01211	0440	00	0	05412	IIS ONES	ALL INDICATORS ON
01212	0604	00	0	05507	STI TEMP	STORE INDICATORS
01213	0500	00	0	05507	CLA TEMP	CHECK INDICATORS
01214	0560	00	0	05412	LDQ ONES	L ALL ONES TO MQ
01215	0340	00	0	05412	CAS ONES	

01216	0020	00	0	01220		TRA E24+8	ERROR
01217	0020	00	0	01221		TRA E24+9	OK-ALL IND ON
01220	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01221	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01222	0020	00	0	01210		TRA E24	REPEAT TEST
01223	313162606060					BCD 1IIS	
01224	0441	00	0	05412	E25	LDI ONES	ALL INDICATORS ON
01225	0440	00	0	05412		IIS ONES	INDICATORS OFF
01226	0440	00	0	05412		IIS ONES	INDICATORS ON
01227	0440	00	0	05412		IIS ONES	INDICATORS OFF
01230	0440	00	0	05412		IIS ONES	INDICATORS ON
01231	0440	00	0	05412		IIS ONES	INDICATORS OFF
01232	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
01233	0100	00	0	01235		TZE E25+9	OK-ALL IND OFF
01234	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01235	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01236	0020	00	0	01224		TRA E25	REPEAT TEST
01237	313162606060					BCD 1IIS	RIPPLE TEST
01240	0441	00	0	05401	E25A	LDI ZERO	ALL INDICATORS OFF
01241	-0534	00	1	05430		LXD K37A,1	L +44 IN XRA
01242	0500	00	0	05403		CLA ONE	L +1
01243	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
01244	0440	00	0	05507		IIS TEMP	TESTED INDICATOR ON
01245	0440	00	0	05507		IIS TEMP	TESTED INDICATOR OFF
01246	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
01247	0100	00	0	01252		TZE *+3	
01250	0074	00	4	06503		TSX ERROR-1,4	
01251	0020	00	0	01240		TRA E25A	REPEAT SECTION
01252	-0500	00	0	05507		CAL TEMP	L LAST POSITION TESTED
01253	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
01254	2	00001	1	01243		TIX E25A+3,1,1	CHECK EACH IND POS
01255	0074	00	4	06511		TSX OK,4	
01256	0020	00	0	01240		TRA E25A	
01257	633126606060					BCD 1TIF	TEST-TRANSFER WHEN IND OFF
01260	0441	00	0	05412	E26	LDI ONES	ALL INDICATORS ON
01261	-0500	00	0	05412		CAL ONES	L ALL ONES
01262	0046	00	0	01264		TIF E26+4	NG ALL IND SHOULD BE ON
01263	0020	00	0	01266		TRA E26A	OK
01264	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01265	0020	00	0	01260		TRA E26	REPEAT SECTION
01266	0771	00	0	00001	E26A	ARS 1	CHECK ACC-CLEAR P
01267	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
01270	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01271	0340	00	0	05412		CAS ONES	
01272	0020	00	0	01274		TRA E26A+6	ERROR
01273	0020	00	0	01276		TRA E26A1	OK-ACC UNCHANGED
01274	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01275	0020	00	0	01260		TRA E26	REPEAT SECTION

01276	0604	00	0	05507	E26A1	STI	TEMP	STORE INDICATORS	
01277	0500	00	0	05507		CLA	TEMP	CHECK INDICATORS	
01300	0340	00	0	05412		CAS	ONES		
01301	0020	00	0	01303		TRA	E26A1+5	ERROR	
01302	0020	00	0	01304		TRA	E26A1+6	OK-IND UNCHANGED	
01303	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01304	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01305	0020	00	0	01260		TRA	E26	REPEAT TEST	
01306	633126606060					BCD	1TIF		
01307	0441	00	0	05412	E27	LDI	ONES	ALL INDICATORS ON	
01310	0500	00	0	05401		CLA	ZERO	L +0	
01311	0046	00	0	01314		TIF	E27A	IND UNEXAMINED-TRANSFER	
01312	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE	
01313	0020	00	0	01307		TRA	E27	REPEAT SECTION	
01314	0100	00	0	01317	E27A	TZE	E27A1	OK-ACC UNCHANGED	
01315	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE	
01316	0020	00	0	01307		TRA	E27	REPEAT SECTION	
01317	0604	00	0	05507	E27A1	STI	TEMP	STORE INDICATORS	
01320	0500	00	0	05507		CLA	TEMP	CHECK INDICATORS	
01321	0560	00	0	05412		LDQ	ONES	L ALL ONES TO MQ	
01322	0340	00	0	05412		CAS	ONES		
01323	0020	00	0	01325		TRA	E27A1+6	ERROR	
01324	0020	00	0	01326		TRA	E27A1+7	OK-IND UNCHANGED	
01325	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01326	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01327	0020	00	0	01307		TRA	E27	REPEAT TEST	
01330	633126606060					BCD	1TIF		
01331	0441	00	0	05401	E28	LDI	ZERO	ALL INDICATORS OFF	
01332	-0500	00	0	05412		CAL	ONES	L ALL ONES	
01333	0046	00	0	01336		TIF	E28A	IND OFF-TRANSFER	
01334	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE	
01335	0020	00	0	01331		TRA	E28	REPEAT SECTION	
01336	0602	00	0	05507	E28A	SLW	TEMP	SAVE ACCUMULATOR	
01337	0500	00	0	05507		CLA	TEMP	CHECK ACCUMULATOR	
01340	0560	00	0	05412		LDQ	ONES	L ALL ONES TO MQ	
01341	0340	00	0	05412		CAS	ONES		
01342	0020	00	0	01344		TRA	E28A+6	ERROR	
01343	0020	00	0	01346		TRA	E28A1	OK-ACC UNCHANGED	
01344	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE	
01345	0020	00	0	01331		TRA	E28	REPEAT SECTION	
01346	-0046	00	0	00000	E28A1	PIA		IND TO ACC AND CHECK	
01347	0100	00	0	01351		TZE	E28A1+3	OK-IND UNCHANGED	
01350	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE	
01351	0074	00	4	06511		TSX	OK,4	CONTINUE TEST	
01352	0020	00	0	01331		TRA	E28	REPEAT TEST	

01353	633126606060		BCD 1TIF	
01354	0441 00 0 05401	E29	LDI ZERO	ALL INDICATORS OFF
01355	0500 00 0 05401		CLA ZERO	L +0
01356	0046 00 0 01361		TIF E29A	IND UNEXAMINED -TRANSFER
01357	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01360	0020 00 0 01354		TRA E29	REPEAT SECTION
01361	0100 00 0 01364	E29A	TZE E29A1	OK ACC UNCHANGED
01362	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01363	0020 00 0 01354		TRA E29	REPEAT SECTION
01364	-0046 00 0 00000	E29A1	PIA	IND TO ACC AND CHECK
01365	0100 00 0 01367		TZE E29A1+3	OK IND UNCHANGED
01366	0074 00 4 06504		TSX ERROR,4	TO ERROR ROUTINE
01367	0074 00 4 06511		TSX OK,4	CONTINUE TEST
01370	0020 00 0 01354		TRA E29	REPEAT TEST
01371	633126606060		BCD 1TIF	
01372	0441 00 0 05414	E30	LDI K24	L +111111111111
01373	-0500 00 0 05421		CAL K29	L -044444444444
01374	0046 00 0 01377		TIF E30A	OK EXAMINED IND OFF
01375	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01376	0020 00 0 01372		TRA E30	REPEAT SECTION
01377	0602 00 0 05507	E30A	SLW TEMP	SAVE ACCUMULATOR
01400	0500 00 0 05420		CLA K28	L+333333333333
01401	0046 00 0 01403		TIF E30A+4	NG IND NOT ALL OFF
01402	0020 00 0 01405		TRA E30A1	OK
01403	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01404	0020 00 0 01372		TRA E30	REPEAT SECTION
01405	0601 00 0 05510	E30A1	STO TEMP+1	SAVE ACCUMULATOR
01406	0500 00 0 05417		CLA K27	L+222222222222
01407	0046 00 0 01412		TIF E30A2	OK EXAMINED IND OFF
01410	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01411	0020 00 0 01372		TRA E30	REPEAT SECTION
01412	0601 00 0 05511	E30A2	STO TEMP+2	SAVE ACCUMULATOR
01413	0500 00 0 05414		CLA K24	L+111111111111
01414	0046 00 0 01416		TIF E30A2+4	NG EXAMINED IND ON
01415	0020 00 0 01420		TRA E30A3	OK
01416	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01417	0020 00 0 01372		TRA E30	REPEAT SECTION
01420	-0046 00 0 00000	E30A3	PIA	IND TO ACC AND CHECK
01421	0560 00 0 05414		LDQ K24	L +111111111111
01422	0340 00 0 05414		CAS K24	
01423	0020 00 0 01425		TRA E30A3+5	ERROR
01424	0020 00 0 01427		TRA E30A4	OK-IND UNCHANGED
01425	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
01426	0020 00 0 01372		TRA E30	REPEAT SECTION

CHECK ACCS UNCHANGED

01427	0400 00 0 05511	E30A4	ADD TEMP+2	L +222222222222
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01430	0402	00	0	05510		SUB TEMP+1	L +333333333333
01431	0400	00	0	05510		ADD TEMP+1	
01432	0402	00	0	05507		SUB TEMP	L -044444444444
01433	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
01434	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01435	0340	00	0	05412		CAS ONES	
01436	0020	00	0	01440		TRA E30A4+9	ERROR
01437	0020	00	0	01441		TRA E30A4+10	OK-ACCS UNCHANGED
01440	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01441	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01442	0020	00	0	01372		TRA E30	REPEAT TEST
01443	633126606060					BCD 1TIF	TEST-TRANSFER WHEN
							INDICATORS OFF-RIPPLE TEST
01444	0441	00	0	05412	E30B	LDI ONES	ALL INDICATORS ON
01445	0140	00	0	01446		TOV E30B+2	TURN OFF OVERFLOW LITE
01446	-0500	00	0	05412		CAL ONES	L ALL ONES
01447	0041	00	0	00000		IIA	EXAMINED IND OFF
01450	0046	00	0	01453		TIF E30C	EXAMINED IND OFF-TRANSFER
01451	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01452	0020	00	0	01444		TRA E30B	REPEAT SECTION
01453	0041	00	0	00000	E30C	IIA	PUT INDICATOR ON AGAIN
01454	0767	00	0	00001		ALS 1	RIPPLE ONE POSITION
01455	-0760	00	0	00001		PBT	
01456	0140	00	0	01460		TOV E30C+5	EVERY POSITION IS TESTED
01457	0020	00	0	01447		TRA E30B+3	REPEAT FOR EACH POSITION
01460	0767	00	0	00001		ALS 1	
01461	0100	00	0	01464		TZE E30D	OK ACC CLEAR
01462	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01463	0020	00	0	01444		TRA E30B	REPEAT SECTION
01464	0604	00	0	05507	E30D	STI TEMP	STORE INDICATORS
01465	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
01466	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01467	0340	00	0	05412		CAS ONES	
01470	0020	00	0	01472		TRA E30D+6	ERROR
01471	0020	00	0	01473		TRA E30D+7	OK-IND UNCHANGED
01472	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01473	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01474	0020	00	0	01444		TRA E30B	REPEAT TEST
01475	633126606060					BCD 1TIF	TEST-TRANSFER WHEN
							INDICATORS OFF, RIPPLE TEST
01476	0441	00	0	05401	E30D1	LDI ZERO	ALL INDICATORS OFF
01477	0140	00	0	01500		TOV E30D1+2	TURN OFF OVERFLOW LITE
01500	0500	00	0	05403		CLA ONE	L +1
01501	0044	00	0	00000		PAI	ACC TO IND
01502	0046	00	0	01504		TIF E30D1+6	ERROR-EXAMINED IND ON
01503	0020	00	0	01506		TRA E30E	OK
01504	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01505	0020	00	0	01476		TRA E30D1	REPEAT SECTION

01506	0767	00	0	00001	E30E	ALS 1	RIPPLE ONE POSITION
01507	-0760	00	0	00001		PBT	
01510	0140	00	0	01512		TOV *+2	ALL POSITION TESTED
01511	0020	00	0	01501		TRA E30D1+3	REPEAT FOR EACH POSITION
01512	0074	00	4	06511		TSX OK, 4	
01513	0020	00	0	01476		TRA E30D1	
01514	633146606060					BCD 1TIO	TEST-TRANSFER WHEN IND ON
01515	0441	00	0	05412	E31	LDI ONES	ALL INDICATORS ON
01516	0140	00	0	01517		TOV E31+2	TURN OFF OVERFLOW LITE
01517	0500	00	0	05403		CLA ONE	L +1
01520	-0534	00	1	05430		LXD K37A,1	L +44 IN XRA
01521	0042	00	0	01524		TIO E31A	OK EXAMINED IND ON
01522	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
01523	0020	00	0	01515		TRA E31	REPEAT SECTION
01524	0767	00	0	00001	E31A	ALS 1	RIPPLE ONE POSITION
01525	-0760	00	0	00001		PBT	
01526	0140	00	0	01530		TOV E31A1	36 POSITIONS TESTED
01527	2 00001	1	1	01521		TIX E31+4,1,1	REPEAT FOR EACH POSITION
01530	0604	00	0	05507	E31A1	STI TEMP	STORE INDICATORS
01531	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
01532	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01533	0340	00	0	05412		CAS ONES	
01534	0020	00	0	01536		TRA E31A1+6	ERROR
01535	0020	00	0	01537		TRA E31A1+7	OK-IND UNCHANGED
01536	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
01537	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
01540	0020	00	0	01515		TRA E31	REPEAT TEST
01541	633146606060					BCD 1TIO	
01542	0441	00	0	05412	E32	LDI ONES	ALL INDICATORS ON
01543	0500	00	0	05401		CLA ZERO	L +0
01544	0042	00	0	01547		TIO E32A	IND UNEXAMINED TRANSFER
01545	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
01546	0020	00	0	01542		TRA E32	REPEAT SECTION
01547	0100	00	0	01552	E32A	TZE E32A1	OK-ACC UNCHANGED
01550	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
01551	0020	00	0	01542		TRA E32	REPEAT SECTION
01552	0604	00	0	05507	E32A1	STI TEMP	STORE INDICATORS
01553	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
01554	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01555	0340	00	0	05412		CAS ONES	
01556	0020	00	0	01560		TRA E32A1+6	ERROR
01557	0020	00	0	01561		TRA E32A1+7	OK-IND UNCHANGED
01560	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
01561	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
01562	0020	00	0	01542		TRA E32	REPEAT TEST
01563	633146606060					BCD 1TIO	

01564	0441	00	0	05401	E33	LDI ZERO	ALL INDICATORS OFF
01565	-0500	00	0	05412		CAL ONES	L ALL ONES
01566	0042	00	0	01570		TIO E33+4	NG ALL IND SHOULD BE OFF
01567	0020	00	0	01572		TRA E33A	OK
01570	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01571	0020	00	0	01564		TRA E33	REPEAT SECTION
01572	0602	00	0	05507	E33A	SLW TEMP	SAVE ACCUMULATOR
01573	0500	00	0	05507		CLA TEMP	CHECK ACCUMULATOR
01574	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01575	0340	00	0	05412		CAS ONES	
01576	0020	00	0	01600		TRA E33A+6	ERROR
01577	0020	00	0	01602		TRA E33A1	OK-ACC UNCHANGED
01600	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01601	0020	00	0	01564		TRA E33	REPEAT SECTION
01602	-0046	00	0	00000	E33A1	PIA	IND TO ACC AND CHECK
01603	0100	00	0	01605		TZE E33A1+3	OK-IND UNCHANGED
01604	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01605	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01606	0020	00	0	01564		TRA E33	REPEAT TEST
01607	633146606060					BCD 1TIO	
01610	0441	00	0	05401	E34	LDI ZERO	ALL INDICATORS OFF
01611	0500	00	0	05401		CLA ZERO	L +0
01612	0042	00	0	01615		TIO E34A	IND UNEXAMINED-TRANSFER
01613	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01614	0020	00	0	01610		TRA E34	REPEAT SECTION
01615	0100	00	0	01620	E34A	TZE E34A1	OK-ACC UNCHANGED
01616	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01617	0020	00	0	01610		TRA E34	REPEAT SECTION
01620	-0046	00	0	00000	E34A1	PIA	IND TO ACC AND CHECK
01621	0100	00	0	01623		TZE E34A1+3	OK-IND UNCHANGED
01622	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01623	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01624	0020	00	0	01610		TRA E34	REPEAT TEST
01625	633146606060					BCD 1TIO	
01626	0441	00	0	05414	E34B	LDI K24	L +111111111111
01627	-0500	00	0	05421		CAL K29	L-044444444444
01630	0042	00	0	01632		TIO E34B+4	NG EXAMINED IND OFF
01631	0020	00	0	01634		TRA E34B1	OK
01632	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01633	0020	00	0	01626		TRA E34B	REPEAT SECTION
01634	0602	00	0	05507	E34B1	SLW TEMP	SAVE ACCUMULATOR
01635	0500	00	0	05417		CLA K27	L+222222222222
01636	0042	00	0	01640		TIO E34B1+4	NG EXAMINED IND OFF
01637	0020	00	0	01642		TRA E34B2	OK
01640	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01641	0020	00	0	01626		TRA E34B	REPEAT SECTION

01642	0601	00	0	05510	E34B2	STO TEMP+1	SAVE ACCUMULATOR
01643	0500	00	0	05414		CLA K24	L+11111111111111
01644	0042	00	0	01647		TIO E34B3	OK-EXAMINED IND ON
01645	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01646	0020	00	0	01626		TRA E34B	REPEAT SECTION
CHECK ACCS UNCHANGED							
01647	0400	00	0	05510	E34B3	ADD TEMP+1	L +222222222222
01650	0402	00	0	05507		SUB TEMP	L -04444444444444
01651	0760	00	0	00002		CHS	ACC NOW -377777777777
01652	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
01653	0340	00	0	05412		CAS ONES	
01654	0020	00	0	01656		TRA E34B3+7	ERROR
01655	0020	00	0	01660		TRA E34B4	OK ACCS UNCHANGED
01656	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
01657	0020	00	0	01626		TRA E34B	REPEAT SECTION
01660	-0046	00	0	00000	E34B4	PIA	IND TO ACC AND CHECK
01661	0560	00	0	05414		LDQ K24	L +11111111111111
01662	0340	00	0	05414		CAS K24	
01663	0020	00	0	01665		TRA E34B4+5	ERROR
01664	0020	00	0	01666		TRA E34B4+6	OK-IND UNCHANGED
01665	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
01666	0074	00	4	06511		TSX OK,4	CONTINUE TEST
01667	0020	00	0	01626		TRA E34B	REPEAT TEST
01670	633146606060					BCD 1TIO	RIPPLE TEST
01671	0441	00	0	05401	E34C	LDI ZERO	ALL INDICATORS OFF
01672	-0534	00	1	05430		LXD K37A,1	L +44 IN XRA
01673	0500	00	0	05403		CLA ONE	L +1
01674	0044	00	0	00000		PAI	ACC TO IND
01675	0042	00	0	01700		TIO *+3	EXMINED IND ON-TRANSFER
01676	0074	00	4	06503		TSX ERROR-1,4	ERROR
01677	0020	00	0	01671		TRA E34C	REPEAT SECTION
01700	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
01701	2	00001	1	01674		TIX E34C+3,1,1	CHECK EACH INDICATOR POS
01702	0074	00	4	06511		TSX OK,4	
01703	0020	00	0	01671		TRA E34C	
01704	633146606060					BCD 1TIO	RIPPLE TEST
01705	0441	00	0	05412	E34D	LDI ONES	ALL INDICATORS ON
01706	-0534	00	1	05430		LXD K37A,1	L +44 IN XRA
01707	0500	00	0	05403		CLA ONE	L +1
01710	0041	00	0	00000		IIA	EXMINED IND OFF
01711	0042	00	0	01713		TIO *+2	ERROR
01712	0020	00	0	01715		TRA *+3	OK
01713	0074	00	4	06503		TSX ERROR-1,4	ERROR
01714	0020	00	0	01705		TRA E34D	REPEAT SECTION
01715	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
01716	2	00000	0	01710		TIX E34D+3	CHECK EACH IND POSITION
01717	0074	00	4	06511		TSX OK,4	

01720 0020 00 0 01705 TRA E34D

*TEST TIF AND TIO TRAPS IN TRAP MODE

01721	633126606060		BCD 1TIF	TEST TIF IN TRAP MODE
01722	0500 00 0 05446	MODE	CLA TR+3	L TRA MODE1
01723	0601 00 0 00002		STO 2	STORE IN LOC 00002
01724	0441 00 0 05414		LDI K24	L +111111111111
01725	-0500 00 0 05421		CAL K29	L -044444444444
01726	0074 00 2 05270		TSX ENTM,2	ENTER TRAP MODE
01727	0046 00 0 01730		TIF *+1	SHOULD TRAP AND GO TO LOC 00001
01730	-0760 00 0 00007		LTM	LEAVE TRAP MODE
01731	0074 00 4 06503		TSX ERROR-1,4	ERROR-DID NOT TRAP
01732	0020 00 0 01722		TRA MODE	AND GO TO LOC 00001

CHECK CONTENTS LOC 00000

01733	0500 00 0 00000	MODE1	CLA	L CONTENTS LOC 00000
01734	0560 00 0 05447		LDQ TR+4	L TRA MODE+5
01735	0340 00 0 05447		CAS TR+4	
01736	0020 00 0 01740		TRA *+2	ERROR
01737	0020 00 0 01741		TRA *+2	OK
01740	0074 00 4 06504		TSX ERROR,4	
01741	0074 00 4 06511		TSX OK,4	
01742	0020 00 0 01722		TRA MODE	

01743	633146606060		BCD 1TIO	TEST TIO IN TRAP MODE
01744	0500 00 0 05450	MODE2	CLA TR+5	L TRA MODE 3
01745	0601 00 0 00002		STO 2	STORE IN MOC 00002
01746	0441 00 0 05421		LDI K29	L -044444444444
01747	-0500 00 0 05421		CAL K29	
01750	0074 00 2 05270		TSX ENTM,2	ENTER TRAP MODE
01751	0042 00 0 01752		TIO *+1	SHOULD TRAP AND GO TO LOC 00001
01752	-0760 00 0 00007		LTM	LEAVE TRAP MODE
01753	0074 00 4 06503		TSX ERROR-1,4	ERROR-DID NOT TRAP
01754	0020 00 0 01744		TRA MODE2	AND GO TO LOC 00001

CHECK CONTENTS LOC 00000

01755	0500 00 0 00000	MODE3	CLA 0	L CONTENTS LOC 00000
01756	0560 00 0 05451		LDQ TR+6	L TRA MODE2+5
01757	0340 00 0 05451		CAS TR+6	
01760	0020 00 0 01762		TRA *+2	ERROR
01761	0020 00 0 01763		TRA *+2	OK
01762	0074 00 4 06504		TSX ERROR,4	
01763	0074 00 4 06511		TSX OK,4	
01764	0020 00 0 01744		TRA MODE2	
01765	0761 00 0 00000		NOP	
01766	0500 00 0 05452		CLA TR+7	L SLW TEMP+2
01767	0601 00 0 00002		STO 2	STORE IN LOC 00002
01770	0074 00 4 05265		TSX STORE,4	TO RESTORE RESET START

01771	0020	00	0	01773		TRA	*+2	
01772	462663606060							
01773	0500	00	0	05412	E35	CLA	ONES	TEST-OFF TEST FOR IND L ALL ONES
01774	0601	00	0	05507		STO	TEMP	
01775	0441	00	0	05412		LDI	ONES	ALL INDICATORS ON
01776	0560	00	0	05405		LDQ	MTW	BITS TO MQ POSITIONS S,1
01777	-0763	00	0	00002		LGL	2	BITS IN S,Q,P,1-35
02000	0600	00	0	05511		STZ	TEMP+2	CLEAR LOCATION
02001	-0625	00	0	05511		STL	TEMP+2	LOC OF TEST INSTR
02002	0444	00	0	05507		OFT	TEMP	
02003	0020	00	0	02006		TRA	*+3	OK-EXAMINED IND NOT ZERO
02004	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE
02005	0020	00	0	01773		TRA	E35	REPEAT SECTION
02006	0074	00	2	05273		TSX	ACC,2	TO CHECK ACCUMULATOR
02007	0604	00	0	05510	E35A	STI	TEMP+1	STORE INDICATORS
02010	0500	00	0	05510		CLA	TEMP+1	CHECK INDICATORS
02011	0560	00	0	05412		LDQ	ONES	L ALL ONES IN MQ
02012	0340	00	0	05412		CAS	ONES	
02013	0020	00	0	02015		TRA	E35A+6	ERROR
02014	0020	00	0	02017		TRA	E35A1	OK-IND UNCHANGED
02015	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE
02016	0020	00	0	01773		TRA	E35	REPEAT SECTION
02017	0500	00	0	05507	E35A1	CLA	TEMP	CHECK STORAGE UNCHANGED
02020	0340	00	0	05412		CAS	ONES	
02021	0020	00	0	02023		TRA	E35A1+4	ERROR
02022	0020	00	0	02024		TRA	E35A1+5	OK-STORAGE UNCHANGED
02023	0074	00	4	06504		TSX	ERROR,4	TO ERROR ROUTINE
02024	0074	00	4	06511		TSX	OK,4	CONTINUE TEST
02025	0020	00	0	01773		TRA	E35	REPEAT TEST
02026	462663606060							
02027	0500	00	0	05401	E36	CLA	ZERO	L +0
02030	0601	00	0	05507		STO	TEMP	SAVE ACCUMULATOR
02031	0441	00	0	05412		LDI	ONES	ALL INDICATORS ON
02032	0500	00	0	05412		CLA	ONES	L ALL ONES
02033	0560	00	0	05405		LDQ	MTW	BITS TO MQ POSITIONS S,1
02034	-0763	00	0	00002		LGL	2	BITS IN S,Q,P,1-35
02035	0600	00	0	05511		STZ	TEMP+2	CLEAR LOCATION
02036	-0625	00	0	05511		STL	TEMP+2	LOC OF TEST INSTRUCTION
02037	0444	00	0	05507		OFT	TEMP	IND NOT EXMINED-SKIP
02040	0020	00	0	02042		TRA	*+2	ERROR
02041	0020	00	0	02044		TRA	*+3	OK
02042	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE
02043	0020	00	0	02027		TRA	E36	REPEAT SECTION
02044	0074	00	2	05273		TSX	ACC,2	TO CHECK ACCUMULATOR
02045	0500	00	0	05507	E36A	CLA	TEMP	CHECK STORAGE
02046	0100	00	0	02051		TZE	E36A1	OK-STORAGE UNCHANGED
02047	0074	00	4	06503		TSX	ERROR-1,4	TO ERROR ROUTINE

02050	0020	00	0	02027		TRA E36	REPEAT SECTION
02051	0604	00	0	05510	E36A1	STI TEMP+1	STORE INDICATORS
02052	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
02053	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02054	0340	00	0	05412		CAS ONES	
02055	0020	00	0	02057		TRA E36A1+6	ERROR
02056	0020	00	0	02060		TRA E36A1+7	OK-IND UNCHANGED
02057	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02060	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02061	0020	00	0	02027		TRA E36	REPEAT TEST
02062	462663606060					BCD 10FT	
02063	0500	00	0	05401	E37	CLA ZERO	L +0
02064	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
02065	0441	00	0	05401		LDI ZERO	ALL INDICATORS OFF
02066	0500	00	0	05412		CLA ONES	L ALL ONES
02067	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
02070	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02071	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02072	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02073	0444	00	0	05507		OFT TEMP	IND NOT EXAMINED SKIP
02074	0020	00	0	02076		TRA *+2	ERROR
02075	0020	00	0	02100		TRA *+3	OK
02076	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02077	0020	00	0	02063		TRA E37	REPEAT SECTION
02100	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02101	-0046	00	0	00000	E37A	PIA	IND TO ACC AND CHECK
02102	0100	00	0	02105		TZE E37A1	OK-IND UNCHANGED
02103	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02104	0020	00	0	02063		TRA E37	REPEAT SECTION
02105	0500	00	0	05507	E37A1	CLA TEMP	CHECK STORAGE
02106	0100	00	0	02110		TZE E37A1+3	OK
02107	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02110	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02111	0020	00	0	02063		TRA E37	REPEAT TEST
02112	462663606060					BCD 10FT	
02113	0500	00	0	05412	E38	CLA ONES	L ALL ONES
02114	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
02115	0441	00	0	05401		LDI ZERO	ALL INDICATORS OFF
02116	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
02117	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02120	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02121	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02122	0444	00	0	05507		OFT TEMP	IND OFF-SKIP
02123	0020	00	0	02125		TRA *+2	ERROR
02124	0020	00	0	02127		TRA *+3	OK
02125	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02126	0020	00	0	02113		TRA E38	REPEAT SECTION

02127	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02130	-0046	00	0	00000	E38A	PIA	IND TO ACC AND CHECK
02131	0100	00	0	02134		TZE E38A1	OK ALL IND OFF
02132	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02133	0020	00	0	02113		TRA E38	REPEAT SECTION
02134	0500	00	0	05507	E38A1	CLA TEMP	CHECK STORAGE
02135	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02136	0340	00	0	05412		CAS ONES	
02137	0020	00	0	02141		TRA E38A1+5	ERROR
02140	0020	00	0	02142		TRA E38A1+6	OK-STORAGE UNCHANGED
02141	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02142	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02143	0020	00	0	02113		TRA E38	REPEAT TEST
02144	462663606060					BCD 10FT	
02145	-0534	00	1	05430	E39	LXD K37A,1	L +44 IN XRA
02146	0500	00	0	05403		CLA ONE	L +1
02147	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
02150	0044	00	0	00000		PAI	ACC TO IND.
02151	0444	00	0	05507		OFT TEMP	
02152	0020	00	0	02155		TRA E39A	OK EXAMINED IND ON
02153	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02154	0020	00	0	02145		TRA E39	REPEAT SECTION
02155	0767	00	0	00001	E39A	ALS 1	RIPPLE 1 POSITION
02156	2 00001	1		02147		TIX E39+2,1,1	REPEAT FOR EACH POSITION
02157	0604	00	0	05510		STI TEMP+1	STORE INDICATORS
02160	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
02161	-0120	00	0	02164		TMI E39A1	OK-IND HAS ZERO POS BIT
02162	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02163	0020	00	0	02145		TRA E39	REPEAT SECTION
02164	0100	00	0	02167	E39A1	TZE E39A2	OK IND 1 THRU 35 ARE ZERO
02165	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02166	0020	00	0	02145		TRA E39	REPEAT SECTION
02167	0500	00	0	05507	E39A2	CLA TEMP	CHECK STORAGE
02170	-0120	00	0	02173		TMI E39A3	STORAGE SIGN OK
02171	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02172	0020	00	0	02145		TRA E39	REPEAT SECTION
02173	0100	00	0	02175	E39A3	TZE E39A3+2	STORAGE CONTENTS OK
02174	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02175	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02176	0020	00	0	02145		TRA E39	REPEAT TEST
02177	464563606060					BCD 10NT	TEST-ON TEST FOR IND
02200	-0500	00	0	05412	E41	CAL ONES	L ALL ONES
02201	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
02202	0441	00	0	05412		LDI ONES	ALL INDICATORS ON
02203	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1

02204	0763	00	0	00001		LLS 1	SHIFT FOR BITS IN Q,P,1-35
02205	-0760	00	0	00003		SSM	MAKE ACC SIGN MINUS
02206	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02207	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02210	0446	00	0	05507		ONT TEMP	ALL IND ON-SKIP
02211	0020	00	0	02213		TRA *+2	ERROR
02212	0020	00	0	02215		TRA *+3	OK
02213	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02214	0020	00	0	02200		TRA E41	REPEAT SECTION
02215	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02216	0604	00	0	05510	E41A	STI TEMP+1	STORE INDICATORS
02217	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
02220	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02221	0340	00	0	05412		CAS ONES	
02222	0020	00	0	02224		TRA E41A+6	ERROR
02223	0020	00	0	02226		TRA E41A1	OK IND UNCHANGED
02224	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02225	0020	00	0	02200		TRA E41	REPEAT SECTION
02226	0500	00	0	05507	E41A1	CLA TEMP	CHECK STORAGE
02227	0340	00	0	05412		CAS ONES	
02230	0020	00	0	02232		TRA E41A1+4	ERROR
02231	0020	00	0	02233		TRA E41A1+5	OK-STORAGE UNCHANGED
02232	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02233	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02234	0020	00	0	02200		TRA E41	REPEAT TEST
02235	464563606060					BCD 1ONT	
02236	0441	00	0	05401	E42	LDI ZERO	ALL INDICATORS OFF
02237	0500	00	0	05412		CLA ONES	L ALL ONES
02240	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
02241	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
02242	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02243	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02244	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02245	0446	00	0	05507		ONT TEMP	
02246	0020	00	0	02251		TRA *+3	OK-EXAMINED IND OFF
02247	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02250	0020	00	0	02236		TRA E42	REPEAT SECTION
02251	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02252	-0046	00	0	00000	E42A	PIA	IND TO ACC AND CHECK
02253	0100	00	0	02256		TZE E42A1	OK-IND UNCHANGED
02254	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02255	0020	00	0	02236		TRA E42	REPEAT SECTION
02256	0500	00	0	05507	E42A1	CLA TEMP	CHECK STORAGE
02257	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02260	0340	00	0	05412		CAS ONES	
02261	0020	00	0	02263		TRA E42A1+5	ERROR
02262	0020	00	0	02264		TRA E42A1+6	OK-STORAGE UNCHANGED
02263	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE

02264	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
02265	0020	00	0	02236		TRA E42	REPEAT TEST
02266	464563606060					BCD 1ONT	
02267	0441	00	0	05412	E43	LDI ONES	ALL INDICATORS ON
02270	0500	00	0	05401		CLA ZERO	L +0
02271	0601	00	0	05507		STO TEMP	
02272	0500	00	0	05412		CLA ONES	L ALL ONES
02273	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
02274	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02275	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02276	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02277	0446	00	0	05507		ONT TEMP	IND NOT EXAMINED-SKIP
02300	0020	00	0	02302		TRA *+2	ERROR
02301	0020	00	0	02304		TRA *+3	OK
02302	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
02303	0020	00	0	02267		TRA E43	REPEAT SECTION
02304	0074	00	2	05273		TSX ACC, 2	TO CHECK ACCUMULATOR
02305	0500	00	0	05507	E43A	CLA TEMP	CHECK STORAGE
02306	0100	00	0	02311		TZE E43A1	OK-STORAGE UNCHANGE
02307	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
02310	0020	00	0	02267		TRA E43	REPEAT SECTION
02311	0604	00	0	05510	E43A1	STI TEMP+1	STORE INDICATORS
02312	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
02313	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02314	0340	00	0	05412		CAS ONES	
02315	0020	00	0	02317		TRA E43A1+6	ERROR
02316	0020	00	0	02320		TRA E43A1+7	OK IND UNCHANGED
02317	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
02320	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
02321	0020	00	0	02267		TRA E43	REPEAT TEST
02322	464563606060					BCD 1ONT	
02323	0441	00	0	05401	E44	LDI ZERO	ALL INDICATORS OFF
02324	0500	00	0	05401		CLA ZERO	L +0
02325	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
02326	0500	00	0	05412		CLA ONES	L ALL ONES
02327	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
02330	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02331	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02332	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02333	0446	00	0	05507		ONT TEMP	IND NOT EXAMINED-SKIP
02334	0020	00	0	02336		TRA *+2	ERROR
02335	0020	00	0	02340		TRA *+3	OK
02336	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
02337	0020	00	0	02323		TRA E44	REPEAT SECTION
02340	0074	00	2	05273		TSX ACC, 2	TO CHECK ACC
02341	-0046	00	0	00000	E44A	PIA	IND TO ACC AND CHECK
02342	0100	00	0	02345		TZE E44A1	OK-IND UNCHANGED

02343	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02344	0020	00	0	02323		TRA E44	REPEAT SECTION
02345	0500	00	0	05507	E44A1	CLA TEMP	CHECK STORAGE
02346	0100	00	0	02350		TZE E44A1+3	OK-STORAGE UNCHANGED
02347	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02350	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02351	0020	00	0	02323		TRA E44	REPEAT TEST
02352	464563606060					BCD 1ONT	
02353	0441	00	0	05414	E45	LDI K24	L +111111111111
02354	0446	00	0	05421		ONT K29	L -044444444444
02355	0020	00	0	02360		TRA E45A	OK-EXAMINED IND OFF
02356	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02357	0020	00	0	02353		TRA E45	REPEAT SECTION
02360	0446	00	0	05417	E45A	ONT K27	L +222222222222
02361	0020	00	0	02364		TRA E45A1	OK-EXAMINED IND OFF
02362	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02363	0020	00	0	02353		TRA E45	REPEAT SECTION
02364	0446	00	0	05414	E45A1	ONT K24	L +111111111111
02365	0020	00	0	02367		TRA E45A1+3	ERROR
02366	0020	00	0	02371		TRA E45A2	OK-EXAMINED IND ON
02367	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02370	0020	00	0	02353		TRA E45	REPEAT SECTION
02371	0604	00	0	05507	E45A2	STI TEMP	STORE INDICATORS
02372	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
02373	0560	00	0	05414		LDQ K24	L +111111111111
02374	0340	00	0	05414		CAS K24	
02375	0020	00	0	02377		TRA E45A2+6	ERROR
02376	0020	00	0	02401		TRA E45A3	OK-IND UNCHANGED
02377	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02400	0020	00	0	02353		TRA E45	REPEAT SECTION
CHECK STORAGES UNCHANGED							
02401	0500	00	0	05414	E45A3	CLA K24	L +111111111111
02402	0400	00	0	05417		ADD K27	L +222222222222
02403	0402	00	0	05421		SUB K29	L -044444444444
02404	0760	00	0	00002		CHS	ACC NOW MINUS ALL ONES
02405	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02406	0340	00	0	05412		CAS ONES	
02407	0020	00	0	02411		TRA E45A3+8	ERROR
02410	0020	00	0	02412		TRA E45A3+9	OK-STORAGES UNCHANGED
02411	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02412	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02413	0020	00	0	02353		TRA E45	REPEAT TEST
02414	464563606060					BCD 1ONT	
02415	-0534	00	1	05430	E40	LXD K37A,1	L ++44 IN XRA
02416	0500	00	0	05403		CLA ONE	L +1
02417	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR

02420	0044	00	0	00000		PAI	ACC TO IND
02421	0446	00	0	05507		ONT TEMP	EXAMINED IND ON-SKIP
02422	0020	00	0	02424		TRA E40+7	ERROR
02423	0020	00	0	02426		TRA E40A	OK
02424	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02425	0020	00	0	02415		TRA E40	REPEAT SECTION
02426	0767	00	0	00001	E40A	ALS 1	RIPPLE 1 POSITION
02427	2 00001	1	1	02417		TIX E40+2,1,1	REPEAT FOR EACH POSITION
02430	0604	00	0	05510		STI TEMP+1	STORE INDICATORS
02431	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
02432	-0120	00	0	02435		TMI E40A1	OK-IND HAS ZERO POS BIT
02433	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02434	0020	00	0	02415		TRA E40	REPEAT SECTION
02435	0100	00	0	02440	E40A1	TZE E40A2	OK IND 1 THRU 35 ARE ZERO
02436	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02437	0020	00	0	02415		TRA E40	REPEAT SECTION
02440	0500	00	0	05507	E40A2	CLA TEMP	CHECK STORAGE
02441	-0120	00	0	02444		TMI E40A3	STORAGE SIGN OK
02442	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02443	0020	00	0	02415		TRA E40	REPEAT SECTION
02444	0100	00	0	02446	E40A3	TZE E40A3+2	STORAGE CONTENTS OK
02445	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02446	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02447	0020	00	0	02415		TRA E40	REPEAT TEST
02450	623151606060					BCD 1SIR	TEST-SET IND RIGHT HALF
02451	0441	00	0	05401	F	LDI ZERO	ALL INDICATORS OFF
02452	0500	00	0	05412		CLA ONES	L ALL ONES
02453	0560	00	0	05405		LDQ MTW	BITS IN MQ POSITIONS S,1
02454	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02455	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02456	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02457	0055	00		777777		SIR 32767,7	TURN IND 18 THRU 35 ON
02460	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02461	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
02462	0560	00	0	05423		LDQ K31	L +777777
02463	0340	00	0	05423		CAS K31	
02464	0020	00	0	02466		TRA *+2	ERROR
02465	0020	00	0	02467		TRA *+2	OK IND 18-35 ON
02466	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02467	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02470	0020	00	0	02451		TRA F	REPEAT TEST
02471	623151606060					BCD 1SIR	
02472	0441	00	0	05401	F1	LDI ZERO	ALL INDICATORS OFF
02473	0500	00	0	05412		CLA ONES	L ALL ONES
02474	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1

02475	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02476	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02477	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02500	0055	00		000000		SIR 0	
02501	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02502	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
02503	0100	00	0	02505		TZE *+2	OK-ALL IND OFF
02504	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02505	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02506	0020	00	0	02472		TRA F1	REPEAT TEST
02507	623151606060					BCD 1SIR	
02510	0441	00	0	05401	F2	LDI ZERO	ALL INDICATORS OFF
02511	0074	00	2	05270		TSX ENTM,2	TEST PRI 0,4 NO TRAP
02512	0055	00		111111		SIR 4681,1	TURN 6 RT HALF IND ON
*CHECK CONTENTS OF LOCATION 00000							
02513	-0760	00	0	00007		LTM	EXIT TRAP MODE
02514	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
02515	0500	00	0	00000		CLA	L CONTENTS LOC 00000
02516	0560	00	0	05175		LDQ END+1	L TRA START-3
02517	0340	00	0	05175		CAS END+1	
02520	0020	00	0	02522		TRA *+2	ERROR
02521	0020	00	0	02525		TRA *+4	OK
02522	0074	00	4	06503		TSX ERROR-1,4	
02523	0020	00	0	02510		TRA F2	
02524	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
02525	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
02526	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
02527	0560	00	0	05424		LDQ K33	L +111111
02530	0340	00	0	05424		CAS K33	
02531	0020	00	0	02533		TRA *+2	ERROR
02532	0020	00	0	02535		TRA F2A	OK 6 RT HALF IND ON
02533	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02534	0020	00	0	02510		TRA F2	REPEAT SECTION
02535	0055	00	2	222222	F2A	SIR 9362,2	NOW 12 RT HALF IND ON
02536	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
02537	0560	00	0	05425		LDQ K34	L +333333
02540	0340	00	0	05425		CAS K34	
02541	0020	00	0	02543		TRA F2A+6	ERROR
02542	0020	00	0	02545		TRA F2A1	OK 12 IND ON
02543	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02544	0020	00	0	02510		TRA F2	REPEAT SECTION
02545	0055	00	4	444444	F2A1	SIR 18724,4	NOW IND 18 THRU 35 ON
02546	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
02547	0560	00	0	05423		LDQ K31	L +777777
02550	0340	00	0	05423		CAS K31	
02551	0020	00	0	02553		TRA F2A1+6	ERROR

02552	0020	00	0	02554	TRA F2A1+7	OK IND 18-35 ON
02553	0074	00	4	06504	TSX ERROR,4	TO ERROR ROUTINE
02554	0074	00	4	06511	TSX OK,4	CONTINUE TEST
02555	0020	00	0	02510	TRA F2	REPEAT TEST
02556	623151606060				BCD 1SIR	RIPPLE TEST
02557	-0534	00	1	05422	F2B LXD K30,1	L +22 IN XRA
02560	0500	00	0	05431	CLA K38	L SIR INSTRUCTION
02561	-0501	00	0	05403	ORA ONE	WITH BIT IN
02562	0601	00	0	02566	STO *+4	POSITION 35
02563	0500	00	0	05403	CLA ONE	L +1
02564	0441	00	0	05401	LDI ZERO	ALL IND OFF
02565	0601	00	0	05507	STO TEMP	SAVE ACCUMULATOR
02566	0055	00		000001	SIR 1	
02567	-0046	00	0	00000	PIA	IND TO ACC AND CHECK
02570	0340	00	0	05507	CAS TEMP	
02571	0020	00	0	02573	TRA *+2	ERROR
02572	0020	00	0	02576	TRA *+4	OK
02573	0560	00	0	05507	LDQ TEMP	L POSITION TESTING
02574	0074	00	4	06503	TSX ERROR-1,4	ERROR
02575	0020	00	0	02557	TRA F2B	REPEAT SECTION
02576	0500	00	0	05507	CLA TEMP	L LAST POSITION TESTED
02577	0767	00	0	00001	ALS 1	RIPPLE 1 POSITION
02600	-0501	00	0	05431	ORA K38	ADJUST SIR
02601	0601	00	0	02566	STO F2B+7	INSTRUCTION
02602	-0320	00	0	05423	ANA K31	L +777777-ADJUST ACC
02603	2	00001	1	02564	TIX F2B+5,1,1	CHECK EACH RT HALF POS
02604	0074	00	4	06511	TSX OK,4	
02605	0020	00	0	02557	TRA F2B	
02606	623143606060				BCD 1SIL	TEST-SET IND LEFT HALF
02607	0441	00	0	05401	F3 LDI ZERO	ALL INDICATORS OFF
02610	0500	00	0	05412	CLA ONES	L ALL ONES
02611	0560	00	0	05405	LDQ MTW	BITS IN MQ POSITIONS S,1
02612	-0763	00	0	00002	LGL 2	BITS IN S,Q,P,1-35
02613	0600	00	0	05511	STZ TEMP+2	CLEA LOCATION
02614	-0625	00	0	05511	STL TEMP+2	LOC OF TEST INSTR
02615	-0055	00		777777	SIL 32767,7	TURN IND 0 THRU 17ON
02616	0074	00	2	05273	TSX ACC,2	TO CHECK ACCUMULATOR
02617	0604	00	0	05507	STI TEMP	STORE INDICATORS
02620	0500	00	0	05507	CLA TEMP	CHECK INDICATORS
02621	0402	00	0	05423	SUB K31	L +777777
02622	0560	00	0	05412	LDQ ONES	L ALL ONES TO MQ
02623	0340	00	0	05412	CAS ONES	
02624	0020	00	0	02626	TRA *+2	ERROR
02625	0020	00	0	02627	TRA *+2	OK
02626	0074	00	4	06504	TSX ERROR,4	TO ERROR ROUTINE
02627	0074	00	4	06511	TSX OK,4	CONTINUE TEST
02630	0020	00	0	02607	TRA F3	REPEAT TEST
02631	623143606060				BCD 1SIL	

02632	0441	00	0	05401	F4	LDI ZERO	ALL INDICATORS OFF
02633	0500	00	0	05412		CLA ONES	L ALL ONES
02634	0560	00	0	05405		LDQ MTW	BITS IN MQ POSITIONS S,1
02635	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02636	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02637	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02640	-0055	00	0	000000		SIL 0	
02641	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02642	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
02643	0100	00	0	02645		TZE *+2	OK
02644	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02645	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02646	0020	00	0	02632		TRA F4	REPEAT TEST
02647	623143606060					BCD 1SIL	
02650	0441	00	0	05401	F5	LDI ZERO	ALL INDICATORS OFF
02651	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NO TRAP
02652	-0055	00	0	111111		SIL 4681,1	TURN 6 LEFT HALF IND ON
*CHECK CONTENTS OF LOCATION 000000							
02653	-0760	00	0	00007		LTM	EXIT TRAP MODE
02654	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
02655	0500	00	0	00000		CLA	L CONTENTS LOC 00000
02656	0560	00	0	05175		LDQ END+1	L TRA START-3
02657	0340	00	0	05175		CAS END+1	
02660	0020	00	0	02662		TRA *+2	ERROR
02661	0020	00	0	02665		TRA *+4	OK
02662	0074	00	4	06503		TSX ERROR-1,4	
02663	0020	00	0	02650		TRA F5	
02664	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
02665	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
02666	0604	00	0	05507		STI TEMP	STORE INDICATORS
02667	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
02670	0400	00	0	05424		ADD K33	L +111111
02671	0560	00	0	05414		LDQ K24	L +111111111111
02672	0340	00	0	05414		CAS K24	
02673	0020	00	0	02675		TRA *+2	ERROR
02674	0020	00	0	02677		TRA F5A	OK 6 IND ON
02675	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
02676	0020	00	0	02650		TRA F5	REPEAT SECTION
02677	-0055	00	0	222222	F5A	SIL 9362,2	NOW 12 LEFT HALF IND ON
02700	0604	00	0	05510		STI TEMP+1	STORE INDICATORS
02701	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
02702	0400	00	0	05425		ADD K34	L +333333
02703	0560	00	0	05420		LDQ K28	L +333333333333
02704	0340	00	0	05420		CAS K28	
02705	0020	00	0	02707		TRA F5A+8	ERROR
02706	0020	00	0	02711		TRA F5A1	OK 12 IND ON
02707	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE

02710	0020	00	0	02650		TRA F5	REPEAT SECTION
02711	-0055	00	444444		F5A1	SIL 18724,4	NOW IND 0 THRU 17 ON
02712	0604	00	0	05511		STI TEMP+2	STORE INDICATORS
02713	0500	00	0	05511		CLA TEMP+2	CHECK INDICATORS
02714	0402	00	0	05423		SUB K31	L +777777
02715	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02716	0340	00	0	05412		CAS ONES	
02717	0020	00	0	02721		TRA F5A1+8	ERROR
02720	0020	00	0	02722		TRA F5A1+9	OK IND 0 THRU 17 ON
02721	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
02722	0074	00	4	06511		TSX OK,4	CONTINUE TEST
02723	0020	00	0	02650		TRA F5	REPEAT TEST
02724	623143606060					BCD 1SIL	RIPPLE TEST
02725	0441	00	0	05401	F5B	LDI ZERO	ALL INDICATORS OFF
02726	0500	00	0	05403		CLA ONE	L +1
02727	0601	00	0	05510		STO TEMP+1	SAVE ACCUMULATOR
02730	0500	00	0	05432		CLA K38+1	L SIL INSTRUCTION
02731	-0501	00	0	05403		ORA ONE	WITH BIT IN
02732	0601	00	0	02737		STO *+5	POSITION 35
02733	-0534	00	1	05422		LXD K30,1	L +22 IN XRA
02734	0500	00	0	05426		CLA K35	L +400000
02735	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
02736	0602	00	0	05507		SLW TEMP	SAVE ACCUMULATOR
02737	-0055	00	000001			SIL 1	
02740	0604	00	0	05511		STI TEMP+2	
02741	0500	00	0	05511		CLA TEMP+2	
02742	0340	00	0	05507		CAS TEMP	
02743	0020	00	0	02745		TRA *+2	ERROR
02744	0020	00	0	02750		TRA *+4	OK
02745	0560	00	0	05507		LDQ TEMP	L POSITION TESTING
02746	0074	00	4	06503		TSX ERROR-1,4	ERROR
02747	0020	00	0	02725		TRA F5B	REPEAT SECTION
02750	0500	00	0	05510		CLA TEMP+1	ADJUST
02751	0767	00	0	00001		ALS 1	F
02752	0601	00	0	05510		STO TEMP+1	FIELD
02753	-0501	00	0	05432		ORA K38+1	ADJUST SIL
02754	0602	00	0	02737		SLW F5B+10	INSTRUCTION
02755	-0500	00	0	05507		CAL TEMP	RESTORE SAVED ACC
02756	0041	00	0	00000		IIA	TURN TESTED IND OFF
02757	2	00001	1	02735		TIX F5B+8,1,1	CHECK EACH LEFT HALF POS
02760	0074	00	4	06511		TSX OK,4	
02761	0020	00	0	02725		TRA F5B	
02762	513151606060					BCD 1RIR	TEST-RESET IND RIGHT HALF
02763	0441	00	0	05412	F6	LDI ONES	ALL INDICATORS ON
02764	0500	00	0	05412		CLA ONES	L ALL ONES
02765	0560	00	0	05405		LDQ MTW	BITS IN MQ POSITIONS S,1
02766	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
02767	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
02770	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
02771	0057	00	000000			RIR 0	RT HALF IND UNCHANGED

02772	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
02773	0604	00	0	05507		STI TEMP	STORE INDICATORS
02774	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
02775	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
02776	0340	00	0	05412		CAS ONES	
02777	0020	00	0	03001		TRA *+2	ERROR
03000	0020	00	0	03002		TRA *+2	OK-ALL IND ON
03001	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03002	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03003	0020	00	0	02763		TRA F6	REPEAT TEST
03004	513151606060					BCD 1RIR	
03005	0441	00	0	05412	F7	LDI ONES	ALL INDICATORS ON
03006	0500	00	0	05412		CLA ONES	L ALL ONES
03007	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03010	-0763	00	0	00002		LGL 2	BITS IN S,Q,P,1-35
03011	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03012	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
03013	0057	00		777777		RIR 32767,7	TURN IND 18 THRU 35 OFF
03014	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
03015	0604	00	0	05507		STI TEMP	STORE INDICATORS
03016	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03017	0402	00	0	05423		SUB K31	L +777777
03020	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
03021	0340	00	0	05412		CAS ONES	
03022	0020	00	0	03024		TRA *+2	ERROR
03023	0020	00	0	03025		TRA *+2	OK
03024	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03025	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03026	0020	00	0	03005		TRA F7	REPEAT TEST
03027	513151606060					BCD 1RIR	
03030	0441	00	0	05401	F8	LDI ZERO	ALL IND OFF
03031	0055	00		777777		SIR 32767,7	IND 18 THRU 35 ON
03032	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NO TRAP
03033	0057	00		444444		RIR 18724,4	TURN 6 RT HALF IND OFF
*CHECK CONTENTS OF LOCATION 00000							
03034	-0760	00	0	00007		LTM	EXIT TRAP MODE
03035	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
03036	0500	00	0	00000		CLA	L CONTENTS LOC 00000
03037	0560	00	0	05175		LDQ END+1	L TRA START-3
03040	0340	00	0	05175		CAS END+1	
03041	0020	00	0	03043		TRA *+2	ERROR
03042	0020	00	0	03046		TRA *+4	OK
03043	0074	00	4	06503		TSX ERROR-1,4	
03044	0020	00	0	03030		TRA F8	
03045	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START

03046	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
03047	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03050	0560	00	0	05425		LDQ K34	L +333333
03051	0340	00	0	05425		CAS K34	
03052	0020	00	0	03054		TRA *+2	ERROR
03053	0020	00	0	03056		TRA F8A	OK-6 IND TURNED OFF
03054	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03055	0020	00	0	03030		TRA F8	REPEAT SECTION
03056	0057	00		222222	F8A	RIR 9362,2	NOW 12 RT HALF IND OFF
03057	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03060	0560	00	0	05424		LDQ K33	L +111111
03061	0340	00	0	05424		CAS K33	
03062	0020	00	0	03064		TRA F8A+6	ERROR
03063	0020	00	0	03066		TRA F8A1	OK 12 RT HALF IND OFF
03064	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03065	0020	00	0	03030		TRA F8	REPEAT SECTION
03066	0057	00		111111	F8A1	RIR 4681,1	NOW ALL IND OFF
03067	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03070	0100	00	0	03072		TZE F8A1+4	OK ALL IND OFF
03071	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03072	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03073	0020	00	0	03030		TRA F8	REPEAT TEST
03074	513151606060					BCD 1RIR	RIPPLE TEST
03075	0500	00	0	05433	F8B	CLA K38+2	L RIR INSTRUCTION
03076	-0501	00	0	05403		ORA ONE	WITH BIT IN
03077	0601	00	0	03104		STO *+5	POSITION 35
03100	0500	00	0	05403		CLA ONE	L +1
03101	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
03102	-0534	00	1	05422		LXD K30,1	L +22 IN XRA
03103	0044	00	0	00000		PAI	ACC TO IND
03104	0057	00		000001		RIR 1	
03105	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03106	0100	00	0	03111		TZE *+3	OK
03107	0074	00	4	06503		TSX ERROR-1,4	ERROR
03110	0020	00	0	03075		TRA F8B	REPEAT SECTION
03111	0500	00	0	05507		CLA TEMP	L LAST POSITION TESTED
03112	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
03113	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
03114	-0501	00	0	05433		ORA K38+2	ADJUST RIR
03115	0601	00	0	03104		STO F8B+7	INSTRUCTION
03116	-0320	00	0	05423		ANA K31	L +777777-ADJUST ACC
03117	2	00001	1	03103		TIX F8B+6,1,1	CHECK EACH RT HALF POS
03120	0074	00	4	06511		TSX OK,4	
03121	0020	00	0	03075		TRA F8B	
03122	513143606060					BCD 1RIL	TEST-RESET IND LEFT HALF
03123	0441	00	0	05412	F9	LDI ONES	ALL INDICATORS ON
03124	0500	00	0	05412		CLA ONES	L ALL ONES
03125	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1

03126	-0763	00	0	00002	LGL	2	BITS TO ACC S,Q,P,1-35
03127	0600	00	0	05511	STZ	TEMP+2	CLEAR LOCATION
03130	-0625	00	0	05511	STL	TEMP+2	LOC OF TEST INSTR
03131	-0057	00	0	000000	RIL	0	IND UNCHANGED
03132	0074	00	2	05273	TSX	ACC,2	TO CHECK ACCUMULATOR
03133	0604	00	0	05507	STI	TEMP	STORE INDICATORS
03134	0500	00	0	05507	CLA	TEMP	CHECK INDICATORS
03135	0560	00	0	05412	LDQ	ONES	L ALL ONES TO MQ
03136	0340	00	0	05412	CAS	ONES	
03137	0020	00	0	03141	TRA	*+2	ERROR
03140	0020	00	0	03142	TRA	*+2	OK
03141	0074	00	4	06504	TSX	ERROR,4	TO ERROR ROUTINE
03142	0074	00	4	06511	TSX	OK,4	CONTINUE TEST
03143	0020	00	0	03123	TRA	F9	REPEAT TEST
03144	513143606060				BCD	1RIL	
03145	0441	00	0	05412	F10	LDI	ONES
03146	0500	00	0	05412	CLA	ONES	L ALL ONES
03147	0560	00	0	05405	LDQ	MTW	BITS TO MQ POSITIONS S,1
03150	-0763	00	0	00002	LGL	2	BITS TO ACC S,Q,P,1-35
03151	0600	00	0	05511	STZ	TEMP+2	CLEAR LOCATION
03152	-0625	00	0	05511	STL	TEMP+2	LOC OF TEST INSTR
03153	-0057	00	0	777777	RIL	32767,7	TURN IND 0 THRU 17 OFF
03154	0074	00	2	05273	TSX	ACC,2	TO CHECK ACCUMULATOR
03155	0604	00	0	05507	STI	TEMP	STORE INDICATORS
03156	0500	00	0	05507	CLA	TEMP	CHECK INDICATORS
03157	0560	00	0	05423	LDQ	K31	L +777777
03160	0340	00	0	05423	CAS	K31	
03161	0020	00	0	03163	TRA	*+2	ERROR
03162	0020	00	0	03164	TRA	*+2	OK
03163	0074	00	4	06504	TSX	ERROR,4	TO ERROR ROUTINE
03164	0074	00	4	06511	TSX	OK,4	CONTINUE TEST
03165	0020	00	0	03145	TRA	F10	REPEAT TEST
03166	513143606060				BCD	1RIL	
03167	0441	00	0	05401	F11	LDI	ZERO
03170	-0055	00	0	777777	SIL	32767,7	IND 0-17 ON
03171	0074	00	2	05270	TSX	ENTM,2	TEST PRI OP 0,4 NO TRAP
03172	-0057	00	0	444444	RIL	18724,4	TURN 6 LEFT HALF IND OFF

*CHECK CONTENTS OF LOCATION 00000

03173	-0760	00	0	00007	LTM		EXIT TRAP MODE
03174	0602	00	0	05511	SLW	TEMP+2	SAVE ACCUMULATOR
03175	0500	00	0	00000	CLA		L CONTENTS LOC 00000
03176	0560	00	0	05175	LDQ	END+1	L TRA START-3
03177	0340	00	0	05175	CAS	END+1	
03200	0020	00	0	03202	TRA	*+2	ERROR
03201	0020	00	0	03205	TRA	*+4	OK
03202	0074	00	4	06503	TSX	ERROR-1,4	

03203	0020	00	0	03167		TRA F11	
03204	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
03205	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
03206	0604	00	0	05507		STI TEMP	STORE INDICATORS
03207	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03210	0400	00	0	05425		ADD K34	L +333333
03211	0560	00	0	05420		LDQ K28	L +333333333333
03212	0340	00	0	05420		CAS K28	
03213	0020	00	0	03215		TRA *+2	ERROR
03214	0020	00	0	03217		TRA F11A	OK-6 IND TURNED OFF
03215	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03216	0020	00	0	03167		TRA F11	REPEAT SECTION
03217	-0057	00		222222	F11A	RIL 9362,2	NOW 12 LEFT HALF IND OFF
03220	0604	00	0	05510		STI TEMP+1	STORE INDICATORS
03221	0500	00	0	05510		CLA TEMP+1	CHECK INDICATORS
03222	0400	00	0	05424		ADD K33	L +111111
03223	0560	00	0	05414		LDQ K24	L +111111111111
03224	0340	00	0	05414		CAS K24	
03225	0020	00	0	03227		TRA F11A+8	ERROR
03226	0020	00	0	03231		TRA F11A1	OK-NOW 12 IND TURNED OFF
03227	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03230	0020	00	0	03167		TRA F11	REPEAT SECTION
03231	-0057	00		111111	F11A1	RIL 4681,1	NOW ALL IND OFF
03232	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03233	0100	00	0	03235		TZE F11A1+4	OK-IND 0-17 TURNED OFF
03234	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03235	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03236	0020	00	0	03167		TRA F11	REPEAT TEST
03237	513143606060					BCD 1RIL	RIPPLE TEST
03240	0500	00	0	05434	F11B	CLA K38+3	L RIL INSTRUCTION
03241	-0501	00	0	05403		ORA ONE	WITH BIT IN
03242	0601	00	0	03252		STO *+8	POSITION 35
03243	0500	00	0	05403		CLA ONE	L +1
03244	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
03245	-0534	00	1	05422		LXD K30,1	L +22 IN XRA
03246	0500	00	0	05426		CLA K35	L +400000
03247	0767	00	0	00001		ALS 1	RIPPLE 1 POS
03250	0602	00	0	05510		SLW TEMP+1	SAVE ACCUMULATOR
03251	0044	00	0	00000		PAI	ACC TO IND
03252	-0057	00		000001		RIL 1	
03253	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03254	0100	00	0	03257		TZE *+3	OK
03255	0074	00	4	06503		TSX ERROR-1,4	ERROR
03256	0020	00	0	03240		TRA F11B	REPEAT SECTION
03257	0500	00	0	05507		CLA TEMP	ADJUST
03260	0767	00	0	00001		ALS 1	F
03261	0601	00	0	05507		STO TEMP	FIELD
03262	-0501	00	0	05434		ORA K38+3	ADJUST RIL
03263	0602	00	0	03252		SLW F11B+10	INSTRUCTION

03264	-0500	00	0	05510		CAL TEMP+1	RESTORE SAVED ACCUMULATOR
03265	2	00001	1	03247		TIX F11B+7,1,1	CHECK EACH LEFT HALF POS
03266	0074	00	4	06511		TSX OK,4	
03267	0020	00	0	03240		TRA F11B	
03270	313151606060					BCD 1IIR	TEST INVERT INDICATORS OF RIGHT HALF
03271	0441	00	0	05412	F12	LDI ONES	ALL INDICATORS ON
03272	0500	00	0	05412		CLA ONES	L ALL ONES
03273	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03274	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
03275	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03276	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
03277	0051	00		777777		IIR 32767,7	IND 18 THRU 35 OFF
03300	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
03301	0604	00	0	05507		STI TEMP	STORE INDICATORS
03302	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03303	0402	00	0	05423		SUB K31	L +777777
03304	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
03305	0340	00	0	05412		CAS ONES	
03306	0020	00	0	03310		TRA *+2	ERROR
03307	0020	00	0	03311		TRA *+2	OK
03310	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03311	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03312	0020	00	0	03271		TRA F12	REPEAT TEST
03313	313151606060					BCD 1IIR	
03314	0441	00	0	05412	F13	LDI ONES	ALL INDICATORS ON
03315	0500	00	0	05412		CLA ONES	L ALL ONES
03316	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03317	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
03320	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03321	-0625	00	0	05511		STL TEMP+2	LOCATION OF TEST INSTR
03322	0051	00		000000		IIR 0	IND UNCHANGED
03323	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
03324	0604	00	0	05507		STI TEMP	STORE INDICATORS
03325	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03326	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
03327	0340	00	0	05412		CAS ONES	
03330	0020	00	0	03332		TRA *+2	ERROR
03331	0020	00	0	03333		TRA *+2	OK
03332	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03333	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03334	0020	00	0	03314		TRA F13	REPEAT TEST
03335	313151606060					BCD 1IIR	
03336	0441	00	0	05401	F14	LDI ZERO	ALL INDICATORS OFF
03337	0055	00		777777		SIR 32767,7	IND 18-35 ON
03340	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NO TRAP

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03341 0051 00 444444      IIR 18724,4      6 RT HALF IND OFF

*CHECK CONTENTS OF LOCATION 00000

03342 -0760 00 0 00007      LTM              EXIT TRAP MODE
03343 0602 00 0 05511      SLW TEMP+2      SAVE ACCUMULATOR
03344 0500 00 0 00000      CLA              L CONTENTS LOC 00000
03345 0560 00 0 05175      LDQ END+1       L TRA START-3
03346 0340 00 0 05175      CAS END+1
03347 0020 00 0 03351      TRA *+2         ERROR
03350 0020 00 0 03354      TRA *+4         OK
03351 0074 00 4 06503      TSX ERROR-1,4
03352 0020 00 0 03336      TRA F14

03353 0074 00 4 05265      TSX STORE,4     TO RESTORE RESET START
03354 -0500 00 0 05511      CAL TEMP+2      RESTORE ACCUMULATOR

03355 -0046 00 0 00000      PIA              IND TO ACC AND CHECK
03356 0560 00 0 05425      LDQ K34         L +333333
03357 0340 00 0 05425      CAS K34
03360 0020 00 0 03362      TRA *+2         ERROR
03361 0020 00 0 03364      TRA F14A        OK-6 IND TURNED OFF
03362 0074 00 4 06503      TSX ERROR-1,4  TO ERROR ROUTINE
03363 0020 00 0 03336      TRA F14         REPEAT SECTION

03364 0051 00 222222      F14A IIR 9362,2  NOW 12 RT HALF IND OFF
03365 -0046 00 0 00000      PIA              IND TO ACC AND CHECK
03366 0560 00 0 05424      LDQ K33         L +111111
03367 0340 00 0 05424      CAS K33
03370 0020 00 0 03372      TRA F14A+6      ERROR
03371 0020 00 0 03374      TRA F14A1       OK-12 IND NOW TURNED OFF
03372 0074 00 4 06503      TSX ERROR-1,4  TO ERROR ROUTINE
03373 0020 00 0 03336      TRA F14

03374 0051 00 111111      F14A1 IIR 4681,1  NOW ALL IND OFF
03375 -0046 00 0 00000      PIA              IND TO ACC AND CHECK
03376 0100 00 0 03401      TZE F14A2       OK-IND 18-35 TURNED OFF
03377 0074 00 4 06503      TSX ERROR-1,4  TO ERROR ROUTINE
03400 0020 00 0 03336      TRA F14         REPEAT SECTION

03401 0051 00 444444      F14A2 IIR 18724,4  6 RIGHT HALF IND ON
03402 0051 00 222222      IIR 9362,2     12 RIGHT HALF IND ON
03403 0051 00 111111      IIR 4681,1     IND 18-35 ON
03404 0051 00 777777      IIR 32767,7    IND 18-35 OFF
03405 0051 00 777777      IIR 32767,7    IND 18-35 ON
03406 -0046 00 0 00000      PIA              IND TO ACC AND CHECK
03407 0560 00 0 05423      LDQ K31         L +777777
03410 0340 00 0 05423      CAS K31
03411 0020 00 0 03413      TRA F14A2+10    ERROR
03412 0020 00 0 03414      TRA F14A2+11    OK IND 18-35 ON
03413 0074 00 4 06504      TSX ERROR,4     TO ERROR ROUTINE
03414 0074 00 4 06511      TSX OK,4        CONTINUE TEST
03415 0020 00 0 03336      TRA F14         REPEAT TEST

03416 313151606060        BCD 1IIR        RIPPLE TEST

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03417	0500	00	0	05435	F14B	CLA K38+4	L IIR INSTRUCTION
03420	-0501	00	0	05403		ORA ONE	WITH BIT IN
03421	0601	00	0	03426		STO *+5	POSITION 35
03422	-0534	00	1	05422		LXD K30,1	L +22 IN XRA
03423	0500	00	0	05403		CLA ONE	L +1
03424	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
03425	0441	00	0	05507		LDI TEMP	TURN ON IND TESTING
03426	0051	00	0	000001		IIR 1	TURN OFF IND TESTING
03427	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03430	0100	00	0	03433		TZE *+3	OK
03431	0074	00	4	06503		TSX ERROR-1,4	ERROR
03432	0020	00	0	03417		TRA F14B	REPEAT SECTION
03433	0500	00	0	05507		CLA TEMP	L LAST TESTED POSITION
03434	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
03435	-0501	00	0	05435		ORA K38+4	ADJUST IIR
03436	0601	00	0	03426		STO F14B+7	INSTRUCTION
03437	-0320	00	0	05423		ANA K31	L +777777-ADJUST ACC
03440	2	00001	1	03424		TIX F14B+5,1,1	CHECK EACH RT HALF POS
03441	0074	00	4	06511		TSX OK,4	
03442	0020	00	0	03417		TRA F14B	
03443	313143606060					BCD 1IIL	TEST-INVERT INDICATORS OF LEFT HALF
03444	0441	00	0	05412	F15	LDI ONES	ALL INDICATORS ON
03445	0500	00	0	05412		CLA ONES	L ALL ONES
03446	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03447	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
03450	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03451	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
03452	-0051	00	0	777777		IIL 32767,7	IND 0 THRU 17 OFF
03453	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
03454	0604	00	0	05507		STI TEMP	STORE INDICATORS
03455	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03456	0560	00	0	05423		LDQ K31	L +777777
03457	0340	00	0	05423		CAS K31	
03460	0020	00	0	03462		TRA *+2	ERROR
03461	0020	00	0	03463		TRA *+2	OK IND 0-17 OFF
03462	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03463	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03464	0020	00	0	03444		TRA F15	REPEAT TEST
03465	313143606060					BCD 1IIL	
03466	0441	00	0	05412	F16	LDI ONES	ALL INDICATORS ON
03467	0500	00	0	05412		CLA ONES	L ALL ONES
03470	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03471	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
03472	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03473	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
03474	-0051	00	0	000000		IIL 0	IND UNCHANGED
03475	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR

03476	0604	00	0	05507		STI TEMP	STORE INDICATORS
03477	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03500	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
03501	0340	00	0	05412		CAS ONES	
03502	0020	00	0	03504		TRA *+2	ERROR
03503	0020	00	0	03505		TRA *+2	OK IND 0-17 OFF
03504	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03505	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03506	0020	00	0	03466		TRA F16	REPEAT TEST
03507	313143606060					BCD 1IIL	
03510	0441	00	0	05401	F17	LDI ZERO	ALL INDICATORS OFF
03511	-0055	00		777777		SIL 32767,7	IND 0-17 ON
03512	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NO TRAP
03513	-0051	00		444444		IIL 18724,4	6 LEFT HALF IND OFF
*CHECK CONTENTS OF LOCATION 00000							
03514	-0760	00	0	00007		LTM	EXIT TRAP MODE
03515	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
03516	0500	00	0	00000		CLA	L CONTENTS LOC 00000
03517	0560	00	0	05175		LDQ END+1	L TRA START-3
03520	0340	00	0	05175		CAS END+1	
03521	0020	00	0	03523		TRA *+2	ERROR
03522	0020	00	0	03526		TRA *+4	OK
03523	0074	00	4	06503		TSX ERROR-1,4	
03524	0020	00	0	03510		TRA F17	
03525	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
03526	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
03527	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03530	0400	00	0	05425		ADD K34	L +333333
03531	0560	00	0	05420		LDQ K28	L +333333333333
03532	0340	00	0	05420		CAS K28	
03533	0020	00	0	03535		TRA *+2	ERROR
03534	0020	00	0	03537		TRA F17A	OK-6 IND TURNED OFF
03535	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03536	0020	00	0	03510		TRA F17	REPEAT SECTION
03537	-0051	00		222222	F17A	IIL 9362,2	NOW 12 LEFT HALF IND OFF
03540	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03541	0400	00	0	05424		ADD K33	L +111111
03542	0560	00	0	05414		LDQ K24	L +111111111111
03543	0340	00	0	05414		CAS K24	
03544	0020	00	0	03546		TRA F17A+7	ERROR
03545	0020	00	0	03550		TRA F17A1	OK-12 IND NOW TURNED OFF
03546	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03547	0020	00	0	03510		TRA F17	REPEAT SECTION
03550	-0051	00		111111	F17A1	IIL 4681,1	NOW ALL IND OFF
03551	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03552	0100	00	0	03555		TZE F17A2	OK ALL IND OFF
03553	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE

03554	0020	00	0	03510		TRA F17	REPEAT SECTION
03555	-0051	00	444444		F17A2	IIL 18724,4	6 LEFT IND ON
03556	-0051	00	222222			IIL 9362,2	12 LEFT IND ON
03557	-0051	00	111111			IIL 4681,1	IND 0-17 ON
03560	-0051	00	777777			IIL 32767,7	IND 0-17 OFF
03561	-0046	00	00000			PIA	IND TO ACC AND CHECK
03562	0100	00	0	03564		TZE F17A2+7	OK ALL IND OFF
03563	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
03564	0074	00	4	06511		TSX OK,4	CONTINUE TEST
03565	0020	00	0	03510		TRA F17	REPEAT TEST
03566	313143606060					BCD 1IIL	
03567	0500	00	0	05436	F17B	CLA K38+5	L IIL INSTRUCTION
03570	-0501	00	0	05403		ORA ONE	WITH BIT IN
03571	0601	00	0	03601		STO *+8	POSITION 35
03572	0500	00	0	05403		CLA ONE	L +1
03573	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
03574	-0534	00	1	05422		LXD K30,1	L +22 IN XRA
03575	0500	00	0	05426		CLA K35	L +400000
03576	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
03577	0602	00	0	05510		SLW TEMP+1	SAVE ACCUMULATOR
03600	0044	00	0	00000		PAI	ACC TO IND
03601	-0051	00	000001			IIL 1	
03602	-0046	00	0	00000		PIA	IND TO ACC AND CHECK
03603	0100	00	0	03606		TZE *+3	OK
03604	0074	00	4	06503		TSX ERROR-1,4	ERROR
03605	0020	00	0	03567		TRA F17B	REPEAT SECTION
03606	0500	00	0	05507		CLA TEMP	ADJUST
03607	0767	00	0	00001		ALS 1	F
03610	0601	00	0	05507		STO TEMP	FIELD
03611	-0501	00	0	05436		ORA K38+5	ADJUST IIL
03612	0602	00	0	03601		SLW F17B+10	INSTRUCTION
03613	-0500	00	0	05510		CAL TEMP+1	L SAVED ACCUMULATOR
03614	2	00001	1	03576		TIX F17B+7,1,1	CHECK EACH IND POS
03615	0074	00	4	06511		TSX OK,4	
03616	0020	00	0	03567		TRA F17B	
03617	512663606060					BCD 1RFT	TEST-RIGHT HALF IND OFF SET
03620	0441	00	0	05412	F18	LDI ONES	ALL INDICATORS ON
03621	0500	00	0	05412		CLA ONES	L ALL ONES
03622	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03623	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
03624	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03625	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
03626	0054	00	777777			RFT 32767,7	L +777777
03627	0020	00	0	03632		TRA *+3	OK-RT HALF IND ON
03630	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
03631	0020	00	0	03620		TRA F18	REPEAT SECTION
03632	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
03633	0604	00	0	05507	F18A	STI TEMP	STORE INDICATORS

03634	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03635	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
03636	0340	00	0	05412		CAS ONES	
03637	0020	00	0	03641		TRA F18A+6	ERROR
03640	0020	00	0	03642		TRA F18A+7	OK IND UNCHANGED
03641	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
03642	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
03643	0020	00	0	03620		TRA F18	REPEAT TEST
03644	512663606060					BCD 1RFT	
03645	0441	00	0	05412	F19	LDI ONES	ALL INDICATORS ON
03646	0500	00	0	05412		CLA ONES	L ALL ONES
03647	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
03650	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
03651	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
03652	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
03653	0054	00		000000		RFT 0	IND NOT EXAMINED-SKIP
03654	0020	00	0	03656		TRA *+2	ERROR
03655	0020	00	0	03660		TRA *+3	OK
03656	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
03657	0020	00	0	03645		TRA F19	REPEAT SECTION
03660	0074	00	2	05273		TSX ACC, 2	TO CHECK ACCUMULATOR
03661	0604	00	0	05507	F19A	STI TEMP	STORE INDICATORS
03662	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
03663	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
03664	0340	00	0	05412		CAS ONES	
03665	0020	00	0	03667		TRA F19A+6	ERROR
03666	0020	00	0	03670		TRA F19A+7	OK IND UNCHANGED
03667	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
03670	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
03671	0020	00	0	03645		TRA F19	REPEAT TEST
03672	0761	00	0	00000		NOP	
03673	0500	00	0	05445		CLA TR+2	L HTR FOUR
03674	0621	00	0	00006		STA 6	ADJUST LOC 00006
03675	0020	00	0	03677		TRA *+2	
03676	512663606060					BCD 1RFT	
03677	0441	00	0	05401	F20	LDI ZERO	ALL INDICATORS OFF
03700	0074	00	2	05270		TSX ENTM, 2	TEST PRI OP 0, 4 NO TRAP
03701	0054	00		000000		RFT 0	IND NOT EXAMINED SKIP
03702	0021	00	0	03717		TTR *+13	ERROR-SHOULD SKIP
*CHECK CONTENTS OF LOCATION 00000							
03703	-0760	00	0	00007		LTM	EXIT TRAP MODE
03704	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
03705	0500	00	0	00000		CLA	L CONTENTS LOC 00000
03706	0560	00	0	05175		LDQ END+1	L TRA START-3
03707	0340	00	0	05175		CAS END+1	
03710	0020	00	0	03712		TRA *+2	ERROR

03711	0020	00	0	03715	TRA	*+4	OK
03712	0074	00	4	06503	TSX	ERROR-1,4	
03713	0020	00	0	03677	TRA	F20	
03714	0074	00	4	05265	TSX	STORE,4	TO RESTORE RESET START
03715	-0500	00	0	05511	CAL	TEMP+2	RESTORE ACCUMULATOR
03716	0020	00	0	03722	TRA	F20AA	OK
03717	-0760	00	0	00007	LTM		
03720	0074	00	4	06503	TSX	ERROR-1,4	ERROR-DID NOT SKIP
03721	0020	00	0	03677	TRA	F20	REPEAT SECTION
03722	-0046	00	0	00000	F20AA	PIA	IND TO ACC AND CHECK
03723	0100	00	0	03725	TZE	F20AA+3	OK ALL IND OFF
03724	0074	00	4	06504	TSX	ERROR,4	TO ERROR ROUTINE
03725	0074	00	4	06511	TSX	OK,4	CONTINUE TEST
03726	0020	00	0	03677	TRA	F20	REPEAT TEST
03727	512663606060					BCD 1RFT	RFT RIPPLE TEST
03730	-0534	00	1	05422	F20A	LXD K30,1	L +22 IN XRA
03731	0500	00	0	05437	CLA	K38+6	L RFT INSTRUCTION
03732	-0501	00	0	05403	ORA	ONE	WITH BIT IN
03733	0601	00	0	03736	STO	F20A+6	POSITION 35
03734	0500	00	0	05403	CLA	ONE	L +1
03735	0044	00	0	00000	PAI		LOAD INDICATORS WITH THE ONE BIT BEING TESTED
03736	0054	00	0	000001	RFT	1	
03737	0020	00	0	03742	TRA	F20B	OK EXAMINED IND ON
03740	0074	00	4	06503	TSX	ERROR-1,4	TO ERROR ROUTINE
03741	0020	00	0	03730	TRA	F20A	REPEAT SECTION
03742	0767	00	0	00001	F20B	ALS 1	RIPPLE 1 POSITION
03743	-0501	00	0	05437	ORA	K38+6	ADJUST RFT
03744	0601	00	0	03736	STO	F20A+6	INSTRUCTION
03745	-0320	00	0	05423	ANA	K31	L +777777-ADJUST ACC
03746	2	00001	1	03735	TIX	F20A+5,1,1	REPEAT FOR ALL RT HALF
03747	0074	00	4	06511	TSX	OK,4	
03750	0020	00	0	03730	TRA	F20A	
03751	512663606060					BCD 1RFT	RFT RIPPLE TEST
03752	0441	00	0	05412	F20B1	LDI ONES	ALL INDICATORS ON
03753	0500	00	0	05437	CLA	K38+6	L RFT INSTRUCTION
03754	-0501	00	0	05403	ORA	ONE	WITH BIT IN
03755	0601	00	0	03761	STO	F20B1+7	POSITION 35
03756	-0534	00	1	05422	LXD	K30,1	L +22 IN XRA
03757	0500	00	0	05403	CLA	ONE	L +1
03760	0041	00	0	00000	IIA		TURN INDICATOR OFF THAT IS BEING CHECKED
03761	0054	00	0	000001	RFT	1	
03762	0020	00	0	03764	TRA	F20B1+10	ERROR
03763	0020	00	0	03766	TRA	F20C	OK EXAMINED IND OFF
03764	0074	00	4	06503	TSX	ERROR-1,4	TO ERROR ROUTINE
03765	0020	00	0	03752	TRA	F20B1	REPEAT SECTION

03766	0041	00	0	00000	F20C	IIA	RESET INDICATOR THAT WAS JUST TESTED
03767	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
03770	-0501	00	0	05437		ORA K38+6	ADJUST RFT
03771	0601	00	0	03761		STO F20B1+7	INSTRUCTION
03772	-0320	00	0	05423		ANA K31	L +777777-ADJUST ACC
03773	2	00001	1	03760		TIX F20B1+6,1,1	REPEAT FOR RT HALF
03774	0074	00	4	06511		TSX OK,4	
03775	0020	00	0	03752		TRA F20B1	
03776	512663606060					BCD 1RFT	
03777	0441	00	0	05414	F21	LDI K24	L +111111111111
04000	0051	00		111111		IIR 4681,1	TURN RT HALF IND OFF
04001	0054	00		444444		RFT 18724,4	EXAMINED IND OFF-SKIP
04002	0020	00	0	04004		TRA F21+5	ERROR
04003	0020	00	0	04006		TRA F21A	OK
04004	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04005	0020	00	0	03777		TRA F21	REPEAT SECTION
04006	0054	00		222222	F21A	RFT 9362,2	EXAMINED IND OFF-SKIP
04007	0020	00	0	04011		TRA F21A+3	ERROR
04010	0020	00	0	04013		TRA F21A1	OK
04011	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04012	0020	00	0	03777		TRA F21	REPEAT SECTION
04013	0054	00		111111	F21A1	RFT 4681,1	EXAMINED IND OFF-SKIP
04014	0020	00	0	04016		TRA F21A1+3	ERROR
04015	0020	00	0	04017		TRA F21A1+4	OK
04016	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04017	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04020	0020	00	0	03777		TRA F21	REPEAT TEST
04021	512663606060					BCD 1RFT	
04022	0441	00	0	05401	F22	LDI ZERO	ALL INDICATORS OFF
04023	0055	00		111111		SIR 4681,1	TURN 6 IND ON
04024	0054	00		444444		RFT 18724,4	EXAMINED IND OFF-SKIP
04025	0020	00	0	04027		TRA F22+5	ERROR
04026	0020	00	0	04031		TRA F22A	OK
04027	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04030	0020	00	0	04022		TRA F22	REPEAT SECTION
04031	0054	00		222222	F22A	RFT 9362,2	EXAMINED IND OFF-SKIP
04032	0020	00	0	04034		TRA F22A+3	ERROR
04033	0020	00	0	04036		TRA F22A1	OK
04034	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04035	0020	00	0	04022		TRA F22	REPEAT SECTION
04036	0054	00		333333	F22A1	RFT 14043,3	EXAMINED IND NOT OFF
04037	0020	00	0	04042		TRA F22A2	OK
04040	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04041	0020	00	0	04022		TRA F22	REPEAT SECTION
04042	-0046	00	0	00000	F22A2	PIA	IND TO ACC AND CHECK
04043	0560	00	0	05424		LDQ K33	L +111111

04044	0340	00	0	05424		CAS K33	
04045	0020	00	0	04047		TRA F22A2+5	ERROR
04046	0020	00	0	04050		TRA F22A2+6	OK IND UNCHANGED
04047	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04050	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04051	0020	00	0	04022		TRA F22	REPEAT TEST
04052	432663606060					BCD 1LFT	TEST-LEFT HALF INDICATOR OFF TEST
04053	0441	00	0	05412	F23	LDI ONES	ALL INDICATORS ON
04054	0500	00	0	05412		CLA ONES	L ALL ONES
04055	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
04056	-0763	00	0	00002		LGL 2	BITA TO ACC S,Q,P,1-35
04057	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
04060	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
04061	-0054	00		777777		LFT 32767,7	EXMINED IND ON
04062	0020	00	0	04065		TRA *+3	OK
04063	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04064	0020	00	0	04053		TRA F23	REPEAT SECTION
04065	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
04066	0604	00	0	05507	F23A	STI TEMP	STORE INDICATORS
04067	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04070	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
04071	0340	00	0	05412		CAS ONES	
04072	0020	00	0	04074		TRA F23A+6	ERROR
04073	0020	00	0	04075		TRA F23A+7	OK IND UNCHANGED
04074	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04075	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04076	0020	00	0	04053		TRA F23	REPEAT TEST
04077	432663606060					BCD 1LFT	
04100	0441	00	0	05412	F24	LDI ONES	ALL INDICATORS ON
04101	0500	00	0	05412		CLA ONES	L ALL ONES
04102	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
04103	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
04104	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
04105	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
04106	-0054	00		000000		LFT 0	IND NOT EXAMINED-SKIP
04107	0020	00	0	04111		TRA *+2	ERROR
04110	0020	00	0	04113		TRA *+3	OK
04111	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04112	0020	00	0	04100		TRA F24	REPEAT SECTION
04113	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
04114	0604	00	0	05507	F24A	STI TEMP	STORE INDICATORS
04115	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04116	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
04117	0340	00	0	05412		CAS ONES	
04120	0020	00	0	04122		TRA F24A+6	ERROR
04121	0020	00	0	04123		TRA F24A+7	OK IND UNCHANGED
04122	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE

04123	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04124	0020	00	0	04100		TRA F24	REPEAT TEST
04125	432663606060					BCD 1LFT	
04126	0441	00	0	05414	F25	LDI K24	L +111111111111
04127	-0051	00		111111		IIL 4681,1	TURN OFF LEFT HALF IND
04130	0074	00	2	05270		TSX ENTM,2	TEST PRI OP 0,4 NOT TRAP
04131	-0054	00		444444		LFT 18724,4	EXAMINED IND OFF-SKIP
04132	0021	00	0	04147		TTR *+13	ERROR-SHOULD SKIP
*CHECK CONTENTS OF LOCATION 00000							
04133	-0760	00	0	00007		LTM	EXIT TRAP MODE
04134	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
04135	0500	00	0	00000		CLA	L CONTENTS LOC 00000
04136	0560	00	0	05175		LDQ END+1	L TRA START-3
04137	0340	00	0	05175		CAS END+1	
04140	0020	00	0	04142		TRA *+2	ERROR
04141	0020	00	0	04145		TRA *+4	OK
04142	0074	00	4	06503		TSX ERROR-1,4	
04143	0020	00	0	04126		TRA F25	
04144	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
04145	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
04146	0020	00	0	04152		TRA F25A	OK
04147	-0760	00	0	00007		LTM	EXIT TRAP MODE
04150	0074	00	4	06503		TSX ERROR-1,4	ERROR-DID NOT SKIP
04151	0020	00	0	04126		TRA F25	REPEAT SECTION
04152	-0054	00		222222	F25A	LFT 9362,2	EXAMINED IND OFF-SKIP
04153	0020	00	0	04155		TRA F25A+3	ERROR
04154	0020	00	0	04157		TRA F25A1	OK
04155	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04156	0020	00	0	04126		TRA F25	REPEAT SECTION
04157	-0054	00		111111	F25A1	LFT 4681,1	EXAMINED IND OFF-SKIP
04160	0020	00	0	04162		TRA F25A1+3	ERROR
04161	0020	00	0	04163		TRA F25A1+4	OK
04162	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04163	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04164	0020	00	0	04126		TRA F25	REPEAT TEST
04165	432663606060					BCD 1LFT	
04166	0441	00	0	05401	F26	LDI ZERO	ALL INDICATORS OFF
04167	-0055	00		111111		SIL 4681,1	TURN ON 6 LEFT HALF IND
04170	-0054	00		444444		LFT 18724,4	EXAMINED IND OFF-SKIP
04171	0020	00	0	04173		TRA F26+5	ERROR
04172	0020	00	0	04175		TRA F26A	OK
04173	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04174	0020	00	0	04166		TRA F26	REPEAT SECTION
04175	-0054	00		222222	F26A	LFT 9362,2	EXAMINED IND OFF-SKIP

04176	0020	00	0	04200	TRA F26A+3	ERROR
04177	0020	00	0	04202	TRA F26A1	OK
04200	0074	00	4	06503	TSX ERROR-1,4	TO ERROR ROUTINE
04201	0020	00	0	04166	TRA F26	REPEAT SECTION
04202	-0054	00	333333	F26A1	LFT 14043,3	EXAMINED IND ON
04203	0020	00	0	04206	TRA F26A2	OK
04204	0074	00	4	06503	TSX ERROR-1,4	TO ERROR ROUTINE
04205	0020	00	0	04166	TRA F26	REPEAT SECTION
04206	0604	00	0	05507	F26A2	STI TEMP STORE INDICATORS
04207	0500	00	0	05507	CLA TEMP	CHECK INDICATORS
04210	0400	00	0	05424	ADD K33	L +111111
04211	0560	00	0	05414	LDQ K24	L +111111111111
04212	0340	00	0	05414	CAS K24	
04213	0020	00	0	04215	TRA F26A2+7	ERROR
04214	0020	00	0	04216	TRA F26A2+8	OK IND UNCHANGED
04215	0074	00	4	06504	TSX ERROR,4	TO ERROR ROUTINE
04216	0074	00	4	06511	TSX OK,4	CONTINUE TEST
04217	0020	00	0	04166	TRA F26	REPEAT TEST
04220	432663606060				BCD 1LFT	RIPPLE TEST
04221	0500	00	0	05440	F26B	CLA K38+7 L LFT INSTRUCTION
04222	-0501	00	0	05403	ORA ONE	WITH BIT IN
04223	0601	00	0	04234	STO *+9	POSITION 35
04224	0500	00	0	05403	CLA ONE	L +1
04225	0601	00	0	05507	STO TEMP	SAVE ACCUMULATOR
04226	0441	00	0	05412	LDI ONES	ALL INDICATORS ON
04227	-0534	00	1	05422	LXD K30,1	L +22 IN XRA
04230	0500	00	0	05426	CLA K35	L +400000
04231	0767	00	0	00001	ALS 1	RIPPLE 1 POSITION
04232	0602	00	0	05510	SLW TEMP+1	SAVE ACCUMULATOR
04233	0041	00	0	00000	IIA	TURN TESTED IND OFF
04234	-0054	00	000001		LFT 1	
04235	0020	00	0	04237	TRA *+2	ERROR
04236	0020	00	0	04241	TRA *+3	OK
04237	0074	00	4	06503	TSX ERROR-1,4	ERROR
04240	0020	00	0	04221	TRA F26B	REPEAT SECTION
04241	0041	00	0	00000	IIA	RESET TESTED IND
04242	0500	00	0	05507	CLA TEMP	L SAVED ACCUMULATOR
04243	0767	00	0	00001	ALS 1	RIPPLE 1 POSITION
04244	0601	00	0	05507	STO TEMP	SAVE ACCUMULATOR
04245	-0501	00	0	05440	ORA K38+7	ADJUST LFT
04246	0602	00	0	04234	SLW F26B+11	INSTRUCTION
04247	-0500	00	0	05510	CAL TEMP+1	L SAVED ACCUMULATOR
04250	2	00001	1	04231	TIX F26B+8,1,1	CHECK EACH IND POSITION
04251	0074	00	4	06511	TSX OK,4	
04252	0020	00	0	04221	TRA F26B	
04253	432663606060				BCD 1LFT	RIPPLE TEST
04254	0500	00	0	05440	F26C	CLA K38+7 L LFT INSTRUCTION
04255	-0501	00	0	05403	ORA ONE	WITH BIT IN
04256	0601	00	0	04267	STO *+9	POSITION 35
04257	0500	00	0	05403	CLA ONE	L +1

04260	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
04261	0441	00	0	05401		LDI ZERO	ALL INDICATORS OFF
04262	-0534	00	1	05422		LXD K30,1	L +22 IN XRA
04263	0500	00	0	05426		CLA K35	L +400000
04264	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
04265	0602	00	0	05510		SLW TEMP+1	SAVE ACCUMULATOR
04266	0041	00	0	00000		IIA	TURN TESTED IND ON
04267	-0054	00	0	000001		LFT 1	
04270	0020	00	0	04273		TRA *+3	OK
04271	0074	00	4	06503		TSX ERROR-1,4	ERROR
04272	0020	00	0	04254		TRA F26C	
04273	0041	00	0	00000		IIA	TURN TEST IND OFF
04274	0500	00	0	05507		CLA TEMP	L SAVED ACCUMULATOR
04275	0767	00	0	00001		ALS 1	RIPPLE 1 POSITION
04276	0601	00	0	05507		STO TEMP	SAVE ACCUMULATOR
04277	-0501	00	0	05440		ORA K38+7	ADJUST LFT
04300	0602	00	0	04267		SLW F26C+11	INSTRUCTION
04301	-0500	00	0	05510		CAL TEMP+1	L SAVED ACCUMULATOR
04302	2	00001	1	04264		TIX F26C+8,1,1	CHECK EACH IND POS
04303	0074	00	4	06511		TSX OK,4	
04304	0020	00	0	04254		TRA F26C	
04305	514563606060					BCD 1RNT	TEST-RIGHT HALF IND ON TEST
04306	0441	00	0	05412	F28	LDI ONES	ALL INDICATORS ON
04307	0500	00	0	05412		CLA ONES	L ALL ONES
04310	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
04311	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
04312	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
04313	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
04314	0056	00	7	777777		RNT 32767,7	EXAMINED IND ON SKIP
04315	0020	00	0	04317		TRA *+2	ERROR
04316	0020	00	0	04321		TRA *+3	OK
04317	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04320	0020	00	0	04306		TRA F28	REPEAT SECTION
04321	0074	00	2	05273		TSX ACC,2	TO TEST ACCUMULATOR
04322	0604	00	0	05507	F28A	STI TEMP	STORE INDICATORS
04323	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04324	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
04325	0340	00	0	05412		CAS ONES	
04326	0020	00	0	04330		TRA F28A+6	ERROR
04327	0020	00	0	04331		TRA F28A+7	OK IND UNCHANGED
04330	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04331	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04332	0020	00	0	04306		TRA F28	REPEAT TEST
04333	514563606060					BCD 1RNT	
04334	0441	00	0	05401	F29	LDI ZERO	ALL INDICATORS OFF
04335	0500	00	0	05412		CLA ONES	L ALL ONES
04336	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
04337	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
04340	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION

04341	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
04342	0056	00		777777		RNT 32767,7	EXAMINED IND OFF
04343	0020	00	0	04346		TRA *+3	OK
04344	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04345	0020	00	0	04334		TRA F29	REPEAT SECTION
04346	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
04347	-0046	00	0	00000	F29A	PIA	IND TO ACC AND CHECK
04350	0100	00	0	04352		TZE F29A+3	OK IND UNCHANGED
04351	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04352	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04353	0020	00	0	04334		TRA F29	REPEAT TEST
04354	514563606060					BCD 1RNT	
04355	0441	00	0	05412	F30	LDI ONES	ALL INDICATORS ON
04356	0074	00	2	05270		TSX ENTM,2	TEST PRI 0,4 NO TRAP
04357	0056	00		000000		RNT 0	IND NOT EXAMINED-SKIP
04360	0021	00	0	04375		TTR *+13	ERROR-SHOULD SKIP
*CHECK CONTENTS OF LOCATION 00000							
04361	-0760	00	0	00007		LTM	EXIT TRAP MODE
04362	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
04363	0500	00	0	00000		CLA	L CONTENTS LOC 00000
04364	0560	00	0	05175		LDQ END+1	L TRA START-3
04365	0340	00	0	05175		CAS END+1	
04366	0020	00	0	04370		TRA *+2	ERROR
04367	0020	00	0	04373		TRA *+4	OK
04370	0074	00	4	06503		TSX ERROR-1,4	
04371	0020	00	0	04355		TRA F30	
04372	0074	00	4	05265		TSX STORE,4	TO RESTORE RESET START
04373	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
04374	0020	00	0	04400		TRA F30A	OK
04375	-0760	00	0	00007		LTM	EXIT TRAP MODE
04376	0074	00	4	06503		TSX ERROR-1,4	ERROR-DID NOT SKIP
04377	0020	00	0	04355		TRA F30	REPEAT SECTION
04400	0604	00	0	05507	F30A	STI TEMP	STORE INDICATORS
04401	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04402	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
04403	0340	00	0	05412		CAS ONES	
04404	0020	00	0	04406		TRA F30A+6	ERROR
04405	0020	00	0	04407		TRA F30A+7	OK IND UNCHANGED
04406	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04407	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04410	0020	00	0	04355		TRA F30	REPEAT TEST
04411	514563606060					BCD 1RNT	
04412	0441	00	0	05401	F31	LDI ZERO	ALL INDICATORS OFF
04413	0056	00		000000		RNT 0	IND NOT EXAMINED-SKIP
04414	0020	00	0	04416		TRA F31+4	ERROR

04415	0020	00	0	04420		TRA F31A	OK
04416	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04417	0020	00	0	04412		TRA F31	
04420	-0046	00	0	00000	F31A	PIA	IND TO ACC AND CHECK
04421	0100	00	0	04423		TZE F31A+3	OK IND UNCHANGED
04422	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04423	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04424	0020	00	0	04412		TRA F31	REPEAT TEST
04425	514563606060					BCD 1RNT	
04426	0441	00	0	05414	F32	LDI K24	L +111111111111
04427	0056	00		444444		RNT 18724,4	EXAMINED IND OFF
04430	0020	00	0	04433		TRA F32A	OK
04431	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04432	0020	00	0	04426		TRA F32	REPEAT SECTION
04433	0056	00		222222	F32A	RNT 9362,2	EXAMINED IND OFF
04434	0020	00	0	04437		TRA F32A1	OK
04435	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04436	0020	00	0	04426		TRA F32	REPEAT SECTION
04437	0056	00		111111	F32A1	RNT 4681,1	EXAMINED IND ON-SKIP
04440	0020	00	0	04442		TRA F32A1+3	ERROR
04441	0020	00	0	04444		TRA F32A2	OK
04442	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04443	0020	00	0	04426		TRA F32	REPEAT SECTION
04444	-0046	00	0	00000	F32A2	PIA	IND TO ACC AND CHECK
04445	0560	00	0	05414		LDQ K24	L +111111111111
04446	0340	00	0	05414		CAS K24	
04447	0020	00	0	04451		TRA F32A2+5	ERROR
04450	0020	00	0	04452		TRA F32A2+6	OK IND UNCHANGED
04451	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04452	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04453	0020	00	0	04426		TRA F32	REPEAT TEST
04454	514563606060					BCD 1RNT	
04455	-0534	00	1	05422	F27	LXD K30,1	L +22 IN XRA
04456	0500	00	0	05441		CLA K38+8	L RNT INSTRUCTION
04457	-0501	00	0	05403		ORA ONE	WITH BIT IN
04460	0601	00	0	04463		STO F27+6	POSITION 35
04461	0500	00	0	05403		CLA ONE	L +1
04462	0044	00	0	00000		PAI	ACC TO IND
04463	0056	00		000001		RNT 1	EXAMINED IND ON-SKIP
04464	0020	00	0	04466		TRA F27+9	ERROR
04465	0020	00	0	04470		TRA F27A	OK
04466	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04467	0020	00	0	04455		TRA F27	REPEAT SECTION
04470	0767	00	0	00001	F27A	ALS 1	RIPPLE 1 POSITION
04471	-0501	00	0	05441		ORA K38+8	ADJUST RNT
04472	0601	00	0	04463		STO F27+6	INSTRUCTION
04473	-0320	00	0	05423		ANA K31	L +777777-ADJUST ACC

04474	2	00001	1	04462		TIX F27+5,1,1	REPEAT EACH RT HALF POS
04475	0560	00	0	05426	F27A1	LDQ K35	L +400000
04476	0604	00	0	05507		STI TEMP	STORE INDICATORS
04477	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04500	0340	00	0	05426		CAS K35	POS TESTED
04501	0020	00	0	04503		TRA F27A1+6	ERROR
04502	0020	00	0	04504		TRA F27A1+7	OK
04503	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04504	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04505	0020	00	0	04455		TRA F27	REPEAT TEST
04506	434563606060					BCD 1LNT	TEST-LEFT HALF IND ON TEST
04507	0441	00	0	05412	F34	LDI ONES	ALL INDICATORS ON
04510	0500	00	0	05412		CLA ONES	L ALL ONES
04511	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
04512	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
04513	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
04514	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
04515	-0056	00		777777		LNT 32767,7	EXAMINED IND ON SKIP
04516	0020	00	0	04520		TRA *+2	ERROR
04517	0020	00	0	04522		TRA *+3	OK
04520	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04521	0020	00	0	04507		TRA F34	REPEAT SECTION
04522	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
04523	0604	00	0	05507	F34A	STI TEMP	STORE INDICATORS
04524	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04525	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
04526	0340	00	0	05412		CAS ONES	
04527	0020	00	0	04531		TRA F34A+6	ERROR
04530	0020	00	0	04532		TRA F34A+7	OK IND UNCHANGED
04531	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04532	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04533	0020	00	0	04507		TRA F34	REPEAT TEST
04534	434563606060					BCD 1LNT	
04535	0441	00	0	05401	F35	LDI ZERO	ALL INDICATORS OFF
04536	0500	00	0	05412		CLA ONES	L ALL ONES
04537	0560	00	0	05405		LDQ MTW	BITS TO MQ POSITIONS S,1
04540	-0763	00	0	00002		LGL 2	BITS TO ACC S,Q,P,1-35
04541	0600	00	0	05511		STZ TEMP+2	CLEAR LOCATION
04542	-0625	00	0	05511		STL TEMP+2	LOC OF TEST INSTR
04543	-0056	00		777777		LNT 32767,7	EXAMINED IND OFF
04544	0020	00	0	04547		TRA *+3	OK
04545	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04546	0020	00	0	04535		TRA F35	REPEAT SECTION
04547	0074	00	2	05273		TSX ACC,2	TO CHECK ACCUMULATOR
04550	-0046	00	0	00000	F35A	PIA	IND TO ACC AND CHECK
04551	0100	00	0	04553		TZE F35A+3	OK IND UNCHANGED
04552	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE

04553	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
04554	0020	00	0	04535		TRA F35	REPEAT TEST
04555	434563606060					BCD 1LNT	
04556	0441	00	0	05412	F36	LDI ONES	ALL INDICATORS ON
04557	0074	00	2	05270		TSX ENTM, 2	TEST PRI OP 0, 4 NO TRAP
04560	-0056	00		000000		LNT 0	IND UNEXAMINED SKIP
04561	0021	00	0	04576		TTR *+13	ERROR-SHOULD SKIP
*CHECK CONTENTS OF LOCATION 00000							
04562	-0760	00	0	00007		LTM	EXIT TRAP MODE
04563	0602	00	0	05511		SLW TEMP+2	SAVE ACCUMULATOR
04564	0500	00	0	00000		CLA	L CONTENTS LOC 00000
04565	0560	00	0	05175		LDQ END+1	L TRA START-3
04566	0340	00	0	05175		CAS END+1	
04567	0020	00	0	04571		TRA *+2	ERROR
04570	0020	00	0	04574		TRA *+4	OK
04571	0074	00	4	06503		TSX ERROR-1, 4	
04572	0020	00	0	04556		TRA F36	
04573	0074	00	4	05265		TSX STORE, 4	TO RESTORE RESET START
04574	-0500	00	0	05511		CAL TEMP+2	RESTORE ACCUMULATOR
04575	0020	00	0	04601		TRA F36A	OK
04576	-0760	00	0	00007		LTM	EXIT TRAP MODE
04577	0074	00	4	06503		TSX ERROR-1, 4	ERROR-DID NOT SKIP
04600	0020	00	0	04556		TRA F36	REPEAT SECTION
04601	0604	00	0	05507	F36A	STI TEMP	STORE INDICATORS
04602	0500	00	0	05507		CLA TEMP	CHECK INDICATORS
04603	0560	00	0	05412		LDQ ONES	L ALL ONES TO MQ
04604	0340	00	0	05412		CAS ONES	
04605	0020	00	0	04607		TRA F36A+6	ERROR
04606	0020	00	0	04610		TRA F36A+7	OK IND UNCHANGED
04607	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
04610	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
04611	0020	00	0	04556		TRA F36	REPEAT TEST
04612	434563606060					BCD 1LNT	
04613	0441	00	0	05401	F37	LDI ZERO	ALL INDICATORS OFF
04614	-0056	00		000000		LNT 0	IND NOT EXAMINED-SKIP
04615	0020	00	0	04617		TRA F37+4	ERROR
04616	0020	00	0	04621		TRA F37A	OK
04617	0074	00	4	06503		TSX ERROR-1, 4	TO ERROR ROUTINE
04620	0020	00	0	04613		TRA F37	REPEAT SECTION
04621	-0046	00	0	00000	F37A	PIA	IND TO ACC AND CHECK
04622	0100	00	0	04624		TZE F37A+3	OK IND UNCHANGED
04623	0074	00	4	06504		TSX ERROR, 4	TO ERROR ROUTINE
04624	0074	00	4	06511		TSX OK, 4	CONTINUE TEST
04625	0020	00	0	04613		TRA F37	REPEAT TEST

04626	434563606060		BCD 1LNT	
04627	0441 00 0 05414	F38	LDI K24	L +111111111111
04630	-0056 00 444444		LNT 18724,4	EXAMINED IND OFF
04631	0020 00 0 04634		TRA F38A	OK
04632	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
04633	0020 00 0 04627		TRA F38	REPEAT SECTION
04634	-0056 00 222222	F38A	LNT 9362,2	EXAMINED IND OFF
04635	0020 00 0 04640		TRA F38A1	OK
04636	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
04637	0020 00 0 04627		TRA F38	REPEAT SECTION
04640	-0056 00 111111	F38A1	LNT 4681,1	EXAMINED IND ON SKIP
04641	0020 00 0 04643		TRA F38A1+3	ERROR
04642	0020 00 0 04645		TRA F38A2	OK
04643	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
04644	0020 00 0 04627		TRA F38	REPEAT SECTION
04645	-0046 00 0 00000	F38A2	PIA	IND TO ACC AND CHECK
04646	0560 00 0 05414		LDQ K24	L +111111111111
04647	0340 00 0 05414		CAS K24	
04650	0020 00 0 04652		TRA F38A2+5	ERROR
04651	0020 00 0 04653		TRA F38A2+6	OK IND UNCHANGED
04652	0074 00 4 06504		TSX ERROR,4	TO ERROR ROUTINE
04653	0074 00 4 06511		TSX OK,4	CONTINUE TEST
04654	0020 00 0 04627		TRA F38	REPEAT TEST
04655	434563606060		BCD 1LNT	
04656	0500 00 0 05403	F33	CLA ONE	L +1
04657	0601 00 0 05510		STO TEMP+1	SAVE ACCUMULATOR
04660	0500 00 0 05442		CLA K38+9	L LNT INSTRUCTION
04661	-0501 00 0 05403		ORA ONE	WITH BIT IN
04662	0601 00 0 04667		STO F33+9	POSITION 35
04663	-0534 00 1 05422		LXD K30,1	L 22 IN XRA
04664	0500 00 0 05426		CLA K35	L +400000
04665	0767 00 0 00001		ALS 1	RIPPLE 1 POSITION
04666	0044 00 0 00000		PAI	ACC TO IND
04667	-0056 00 000001		LNT 1	
04670	0020 00 0 04672		TRA F33+12	ERROR
04671	0020 00 0 04674		TRA F33A	OK
04672	0074 00 4 06503		TSX ERROR-1,4	TO ERROR ROUTINE
04673	0020 00 0 04656		TRA F33	REPEAT SECTION
04674	0602 00 0 05507	F33A	SLW TEMP	SAVE ACCUMULATOR
04675	0500 00 0 05510		CLA TEMP+1	ADJUST
04676	0767 00 0 00001		ALS 1	F
04677	0601 00 0 05510		STO TEMP+1	FIELD
04700	-0501 00 0 05442		ORA K38+9	ADJUST LNT
04701	0602 00 0 04667		SLW F33+9	INSTRUCTION
04702	-0500 00 0 05507		CAL TEMP	RESTORE SAVED ACC
04703	2 00001 1 04665		TIX F33+7,1,1	REPEAT EACH LEFT HALF POS
04704	0604 00 0 05511		STI TEMP+2	STORE INDICATORS
04705	0500 00 0 05511		CLA TEMP+2	CHECK INDICATORS
04706	-0120 00 0 04711		TMI F33A1	OK

04707	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
04710	0020	00	0	04656		TRA F33	REPEAT SECTION
04711	0100	00	0	04713	F33A1	TZE F33A1+2	OK
04712	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04713	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04714	0020	00	0	04656		TRA F33	REPEAT TEST

*ADDITIONAL TESTS OF INSTRUCTIONS CHECKED IN 9M01

04715	434362606060					BCD 1LLS	LLS TEST
04716	0500	00	0	05401	A46	CLA ZERO	CLEAR ACCUMULATOR
04717	0560	00	0	05403		LDQ ONE	MOVE BIT FROM MQ 35 TO MQ 1
04720	0763	00	0	00043		LLS 35	BIT FROM MQ 35 TO ACC 35
04721	0760	00	0	00001		LBT	TEST ACC POSITION 35
04722	0020	00	0	04724		TRA *+2	ERROR
04723	0020	00	0	04726		TRA A47	OK-PROCEED
04724	0074	00	4	06503		TSX ERROR-1,4	
04725	0020	00	0	04716		TRA A46	

04726	-0600	00	0	05507	A47	STQ TEMP	IS THE BIT STILL IN MQ
04727	0500	00	0	05507		CLA TEMP	
04730	0100	00	0	04732		TZE *+2	OK-NO BIT IN MQ
04731	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04732	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04733	0020	00	0	04716		TRA A46	GO BACK UP TO A 46

04734	214562606060					BCD 1ANS	
04735	0500	00	0	05412	B70Z	CLA ONES	L ONES IN S,1-35
04736	0601	00	0	05507		STO TEMP	
04737	0500	00	0	05405		CLA MTW	L -200000000000
04740	0767	00	0	00002		ALS 2	BIT ONLY IN S AND Q
04741	0320	00	0	05507		ANS TEMP	CLEAR TEMP SIG LOCATION

* CHECK Q BIT NOT LOST BY ANS

04742	0771	00	0	00001		ARS 1	MOVE BIT TO P
04743	-0760	00	0	00001		PBT	CHECK FOR BIT
04744	0020	00	0	04746		TRA *+2	ERROR-LOST Q BIT
04745	0020	00	0	04750		TRA *+3	OK
04746	0074	00	4	06503		TSX ERROR-1,4	
04747	0020	00	0	04735		TRA B70Z	

* CHECK SIGN NOT LOST BY ANS

04750	-0120	00	0	04753		TMI *+3	OK-SIGN REMAINED MINUS
04751	0074	00	4	06503		TSX ERROR-1,4	
04752	0020	00	0	04735		TRA B70Z	

* CHECK TEMP

04753	-0500	00	0	05507		CAL TEMP	
04754	0100	00	0	04756		TZE *+2	OK-TEMP STG LOC PLUS ZERO
04755	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE

04756	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04757	0020	00	0	04735		TRA B70Z	REPEAT TEST
04760	465121606060					BCD 1ORA	
04761	0500	00	0	05412	B72X	CLA ONES	L -3777777777777
04762	-0501	00	0	05401		ORA ZERO	SHOULD NOT CHANGE ACC
04763	-0120	00	0	04766		TMI B72X1	SHOULD TRANSFER
04764	0074	00	4	06503		TSX ERROR-1,4	ERROR
04765	0020	00	0	04761		TRA B72X	
04766	0402	00	0	05412	B72X1	SUB ONES	CHECK ACC P,1-35
04767	0100	00	0	04771		TZE *+2	OK
04770	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
04771	0074	00	4	06511		TSX OK,4	CONTINUE TEST
04772	0020	00	0	04761		TRA B72X	REPEAT TEST
04773	236551606060					BCD 1CVR	
04774	-0500	00	0	05464	CONV	CAL K16	L +010203040506
04775	0114	06	1	05464		CVR K16,1,6	FULL WORD CONVERSION WITH 6TH CONVERT SR ADR IN XRA

CHECK ACC AND CORRECT VALUE IN XRA

04776	0560	00	1	13160		LDQ K16B+K16,1	L +212223242526
04777	0340	00	0	05474		CAS K16B	
05000	0020	00	0	05002		TRA *+2	ERROR
05001	0020	00	0	05003		TRA *+2	OK
05002	0074	00	4	06504		TSX ERROR,4	TO ERROR ROUTINE
05003	0074	00	4	06511		TSX OK,4	CONTINUE TEST
05004	0020	00	0	04774		TRA CONV	REPEAT TEST
05005	232150606060					BCD 1CAQ	
05006	0140	00	0	05007	CONV1	TOV *+1	TURN OFF ACC OVFLO LIGHT
05007	0560	00	0	05464		LDQ K16	L +010203040506
05010	0500	00	0	05401		CLA ZERO	L +0
05011	-0114	06	1	05464		CAQ K16,1,6	FULL WORD CONVERSION WITH 6TH CONVERT SR ADR IN XRA
05012	0602	00	0	05507		SLW TEMP	SAVE ACC
05013	0771	00	0	00001		ARS 1	MOVE Q BIT TO P
05014	-0760	00	0	00001		PBT	
05015	0020	00	0	05017		TRA *+2	ERROR
05016	0020	00	0	05021		TRA CONV2	OK
05017	0074	00	4	06503		TSX ERROR-1,4	TO ERROR ROUTINE
05020	0020	00	0	05006		TRA CONV1	

* CHECK ACC AND CORRECT VALUE IN XRA

05021	-0600	00	0	05510	CONV2	STQ TEMP+1	SAVE MQ
05022	0500	00	1	13173		CLA TEMP+K16,1	CHECK SAVED ACC
05023	0560	00	0	05473		LDQ K16+7	MQ, ACC SHOULD BE SAME
05024	0340	00	0	05473		CAS K16+7	
05025	0020	00	0	05027		TRA CONV2+6	ERROR
05026	0020	00	0	05031		TRA CONV3	OK

```

05027 0074 00 4 06503      TSX ERROR-1,4  TO ERROR ROUTINE
05030 0020 00 0 05006      TRA CONV1

05031 0500 00 0 05510      CONV3 CLA TEMP+1      CHECK SAVED MQ
05032 0560 00 0 05464      LDQ K16              L +010203040506 MQ,ACC
05033 0340 00 0 05464      CAS K16
05034 0020 00 0 05036      TRA CONV3+5         ERROR
05035 0020 00 0 05037      TRA CONV3+6         OK
05036 0074 00 4 06504      TSX ERROR,4        TO ERROR ROUTINE
05037 0074 00 4 06511      TSX OK,4           CONTINUE TEST
05040 0020 00 0 05006      TRA CONV1

05041 0761 00 0 00000      NOP

05042 0760 00 0 00165      SWT 5              TEST SENSE SWITCH 5
05043 0020 00 0 05174      TRA END            BYPASS DISPLAY BUTTONS AND
                                MPY TIMING TESTS

05044 0020 00 0 05046      TRA *+2

```

*TEST CONSOLE DISPLAY BUTTONS WITH HTR AND HPR

```

05045 226463634645          BCD 1BUTTON        DISPLAY IND BUTTON WITH HTR
05046 0500 00 0 05453      BUT CLA DIS         L TRA BUT+6
05047 0601 00 0 77777      STO 32K           PUT IN LAST STORAGE LOC
05050 0500 00 0 05454      CLA DIS+1         L HTR BUT+7
05051 0601 00 0 00000      STO 0             PUT IN LOC 00000
05052 0441 00 0 05411      LDI 8CF           INDICATORS 21-35 ON
05053 0000 00 0 00000      HTR

```

*PUT MACHINE IN MANUAL-HIT DISPLAY IND BUTTON-PUT MACHINE IN AUTOMATIC

*HIT START TWICE AND PROGRAM SHOULD CONTINUE.

*IF PROGRAM TRANSFERRED TO INDICATOR ADR DIPLSAYED IN SR,

*YOU WILL GET AN ERROR STOP AT THE NEXT HPR

```

05054 0000 00 0 05060      HTR *+4           ERROR STOP
05055 0074 00 4 06511      TSX OK,4
05056 0020 00 0 05046      TRA BUT

```

```

05057 226463634645          BCD 1BUTTON        DISPLAY STG BUTTON WITH HTR
05060 0500 00 0 05455      BUT1 CLA DIS+2      L TRA BUT1+5
05061 0601 00 0 77777      STO 32K           PUT IN LAST STORAGE LOC
05062 0500 00 0 05456      CLA DIS+3         L TRA BUT1+6
05063 0601 00 0 00000      STO 0             PUT IN LOC 00000
05064 0000 00 0 00000      HTR

```

*PUT MACHINE IN MANUAL-PUT ADDRESS05411IN KEYS AND HIT

*DISPLAY STG BUTTON-NOW PUT MACHINE IN AUTOMATIC

*HIT START TWICE AND PROGRAM SHOULD CONTINUE.

*IF PROGRAQM TRANSFERRED TO ADDRESS DISPLAYED IN SR,

*YOU WILL GET AN ERROR STOP AT THE FOLLOWING HTR

```

05065 0000 00 0 05071      HTR *+4           ERROR STOP
05066 0074 00 4 06511      TSX OK,4
05067 0020 00 0 05060      TRA BUT1

```

```
05070 226463634645          BCD 1BUTTON    DISPLAY EFFECTIVE ARD
                                BUTTON WITH HTR
05071 0500 00 0 05461    BUT4  CLA DIS+6    L TRA BUT4+6
05072 0601 00 0 77777          STO 32K        PUT IN LAST STORAGE LOC
05073 0500 00 0 05462          CLA DIS+7    L TRA BUT4+7
05074 0601 00 0 00000          STO 0         PUT IN LOCATION 000000
05075 0774 00 1 77777          AXT 32K,1    L 77777 IN XRA
05076 0000 00 1 77777          HTR 32K,1
```

*PUT MACHINE IN MANUL-HIT DISPLAY EFFECTIVE ADR BUTTON-
*PUT MACHINE IN AUTOMATIC-HIT START TWICE AND PROGRAM SHOULD CONTINUE
*IF PROGRAM TRANSFERRED TO ADDRESS 77777,
*YOU WILL GET AN ERROR STOP AT THE FOLLOWING HTR

```
05077 0000 00 0 05103          HTR *+4      ERROR STOP
05100 0074 00 4 06511          TSX OK,4
05101 0020 00 0 05071          TRA BUT4
```

```
05102 226463634645          BCD 1BUTTON    DISPLAY IND BUTTON WITH HPR
05103 0500 00 0 05457    BUT2  CLA DIS+4    L TRA BUT2+5
05104 0601 00 0 77777          STO 32K        PUT IN LAST STORAGE LOC
05105 0441 00 0 05411          LDI 8CF        INDICATORS 21-35 ON
05106 0420 00 0 00000          HPR
```

*PUT MACHINE IN MANUAL, HIT DISPLAY IND BUTTON-PUT MACHINE IN AUTOMATIC
*AND HIT START BUTTON-SHOULD CONTINUE PROGRAM
*IF PROGRAM TRANSFERRED TO INDICATOR ADR DISPLAYED IN SR.
*YOU WILL GET AN ERROR STOP AT NEXT HPR

```
05107 0020 00 0 05112          TRA *+3      HPR WORKED OK
05110 0420 00 0 00000          HPR          ERROR STOP
05111 0020 00 0 05115          TRA *+4
05112 0074 00 4 06511          TSX OK,4
05113 0020 00 0 05103          TRA BUT2
```

```
05114 226463634645          BCD 1BUTTON    DISPLAY STG BUTTON WITH HPR
05115 0500 00 0 05460    BUT3  CLA DIS+5    L TRA BUT3+4
05116 0601 00 0 77777          STO 32K        PUT IN LAST STORAGE LOC
05117 0420 00 0 00000          HPR
```

*PUT MACHINE IN MANUAL-PUT ADDRESS05411 IN KEYS AND HIT
*DISPLAY STG BUTTON-NOW PUTMACHINE IN AUTOMATIC
*AND HIT START BUTTON-SHOULD CONTINUE PROGRAM
*IF PROGRAM TRANSFERRED TO ADDRESS DISPLAYED IN SR,
*YOU WILL GET AN ERROR STOP AT THE NEXT HPR

```
05120 0020 00 0 05123          TRA *+3      HPR WORKED OK
05121 0420 00 0 00000          HPR          ERROR STOP
05122 0020 00 0 05126          TRA *+4
05123 0074 00 4 06511          TSX OK,4
05124 0020 00 0 05115          TRA BUT3
```



```
05125 226463634645          BCD 1BUTTON    DISPLAY EFFECTIVE ADR
                                BUTTON WITH HPR
05126 0500 00 0 05463    BUT5  CLA DIS+8      L TRA BUT5+5
05127 0601 00 0 00000          STO
05130 0774 00 1 77777          AXT 32K,1      L 77777 IN XRA
05131 0420 00 1 77777          HPR 32K,1
```

*PUT MACHINE IN MANUAL-HIT DISPLAY EFFECTIVE ADR BUTTON
 *PUT MACHINE IN AUTOMATIC-HIT START AND PROGRAM SHOULD CONTINUE
 *IF PROGRAM TRANSFERRED TO MODIFIED ADDRESS,
 *YOU WILL GET AN ERROR STOP AT THE FOLLOWING HPR

```
05132 0020 00 0 05135          TRA *+3      HPR WORKED OK
05133 0420 00 0 00000          HPR          ERROR STOP
05134 0020 00 0 05140          TRA *+4
05135 0074 00 4 06511          TSX OK,4
05136 0020 00 0 05126          TRA BUT5

05137 0761 00 0 00000          NOP
05140 0074 00 4 05265          TSX STORE,4  TO RESTORE RESET START
05141 0020 00 0 05143          TRA *+2
```

```
05142 444770606060          BCD 1MPY      TEST ZERO MULTIPLICAND
                                EXECUTED IN AN I,E CYCLE
05143 0420 00 0 00000    TI    HPR          MPY TEST CARD IN CARD
                                READER AND READY READER
```

*SET UP PREVIOUS INSTRUCTION TO BYPASS THIS TEST AFTER THE FIRST PASS
 *WITH SENSE SWITCH 5 DOWN

```
05144 0500 00 0 05264          CLA TI1+7    L TRA END
05145 0601 00 0 05143          STO TI
05146 0600 00 0 05507          STZ TEMP    CLEAR LOCATION
05147 0774 00 1 01143          AXT 611,1   L 1143 IN XRA
05150 0762 00 0 01321          RCDA        SELECT CARD READER
05151 0540 00 0 05504          RCHA CW+7
```

*LOOP IN THE NEXT 2 INSTRUCTIONS UNTIL 9L ROW IS READ INTO STORAGE

```
05152 -0520 00 0 05507          NZT TEMP    HAS 9L ROW BEEN READ
05153 0020 00 0 05152          TRA *-1     NO
05154 0560 00 0 05412          LDQ ONES    YES, -37777777777777 TO MQ
05155 0200 00 0 05401          MPY ZERO    MULTIPLICAND ALL ZEROS
05156 2 00001 1 05154          TIX *-2,1,1 LOOP 611 DECIMAL TIMES
05157 0540 00 0 05401          RCHA ZERO    CLOBBER BUFFER
```

*IF MPY WITH ZERO MULTIPLICAND IS OPERATING CORRECTLY IN 2 CYCLES,
 *CARD READER SHOULD READ APPROXIMATELY 8 WORDS INTO A STORAGE LOCATION
 *WITHIN THE TIME ALLOTTED.COMPUTING FOR CARD READER AND A SAFETY FACTOR
 *TIMINGS, THE PROGRAM WILL USE THE INFORMATION IN 5R ROW FOR A
 *COMPARISON. WORDS READ THRU THE 5R ROW INDICATE MPY WITH ZERO
 *MULTIPLICAND IS EXECUTING IN 2 CYCLES. IF MPY IS EXECUTING IN 20
 *CYCLES IN ERROR, ENTIRE CARD WILL HAVE BEEN READ.

05160	0500	00	0	05507	CLA	TEMP	L	LAST WORD READ
05161	0560	00	0	05427	LDQ	K35+1	COMPARE	ACC
05162	0340	00	0	05427	CAS	K35+1	WITH	5R ROW
05163	0020	00	0	05166	TRA	*+3	ERROR-MORE	THAN 5R READ
05164	0020	00	0	05171	TRA	*+5	OK-5R	READ
05165	0020	00	0	05171	TRA	*+4	OK-LESS	THAN 5R READ
05166	0760	00	0	00163	SWT	3	ERROR-IS	PRINTER ON LINE
05167	0020	00	0	05255	TRA	TI1	YES,	PRINT ERROR INDICATION
05170	0000	00	0	05174	HTR	END	NO-ACC	CONTAINS LAST WORD
							READ-MQ	CONTAINS 5R ROW
05171	0074	00	4	06511	TSX	OK,4		
05172	0020	00	0	05143	TRA	TI		

05173	0761	00	0	00000		NOP		
05174	0074	00	2	05176	END	TSX	PR100,2	
05175	0020	00	0	00032	TRA	START-3	START	ADDRESS

THIS ROUTINE IS USED TO PRINT OUT
UPON COMPLETION OF 100 PROGRAM
PASSES.

05176	0760	00	0	00166	PR100	SWT	6	TEST SENSE SWITCH 6
05177	0020	00	0	05235	TRA	CRSL		
05200	0760	00	0	00163		SWT	3	TEST SENSE SWITCH 3
05201	0020	00	0	05203	TRA	BAR	BEGIN	CT FOR 100 PASSES
05202	0020	00	2	00001	TRA	1,2	RETURN	TO START ADDRESS
05203	0500	00	0	05227	BAR	CLA	TOP	COUNT OF 100 DECIMAL
05204	0402	00	0	05233		SUB	HAT	L +1
05205	0601	00	0	05227		STO	TOP	STORE IN COUNT
05206	-0100	00	2	00001		TNZ	1,2	REPEAT TILL COUNT ZERO
05207	0500	00	0	05230		CLA	TOP+1	RESET
05210	0601	00	0	05227		STO	TOP	COUNTER
05211	0534	00	1	05234		LXA	ATTA,1	L 13 IN XRA
05212	0766	00	0	01361		WPRA		
05213	0760	00	0	01363		SPRA	3	SPACE PRINTER
05214	0540	00	0	05477		RCHA	CW+2	
05215	0544	00	0	05503		LCHA	CW+6	
05216	0544	00	0	05500	BOY	LCHA	CW+3	
05217	0544	00	0	05503		LCHA	CW+6	
05220	0500	00	0	05500		CLA	CW+3	
05221	0402	00	0	05232		SUB	CLUB	L +2
05222	0621	00	0	05500		STA	CW+3	
05223	2 00001	1	1	05216		TIX	BOY,1,1	
05224	0500	00	0	05501		CLA	CW+4	RESTORE CONTROL WORD
05225	0601	00	0	05500		STO	CW+3	
05226	0020	00	2	00001		TRA	1,2	RETURN TO START ADDRESS

05227	+0000000000144	TOP	OCT	144
05230	+0000000000144		OCT	144
05231	+0000000000000		OCT	0
05232	+0000000000002	CLUB	OCT	2
05233	+0000000000001	HAT	OCT	1

```

05234 +000000000013      ATTA  OCT 13

05235  0762 00 0 01321   CRSL  RCDA          LOAD
05236  0540 00 0 05502           RCHA CW+5      THE
05237  0544 00 0 00000           LCHA 0         NEXT
05240  0020 00 0 00001           TRA 1         PROGRAM

05241  0534 00 1 05234   ID    LXA ATTA,1    L 13 IN XRA
05242  0766 00 0 01361           WPRA          SELECT PRINTER
05243  0760 00 0 01363           SPRA 3        SPACE PRINTER
05244  0540 00 0 05475           RCHA CW
05245  0544 00 0 05503           LCHA CW+6
05246  0544 00 0 05476           LCHA CW+1
05247  0544 00 0 05503           LCHA CW+6
05250  0500 00 0 05476           CLA CW+1
05251  0402 00 0 05232           SUB CLUB      L +2
05252  0621 00 0 05476           STA CW+1
05253  2 00001 1 05246           TIX *-5,1,1
05254  0020 00 0 00032           TRA START-3

```

*BEFORE SELECTING,THE PRINTER TO PRINT FAST MPY ERROR INDICATION,
*DELAY ABOUT 1 CARD READER CYCLE TO INSURE CARD READER DISCONNECTED

```

05255  0774 00 1 00003   TI1   AXT 3,1      L 3 IN XRA
05256  0774 00 2 06402           AXT 3330,2    L 6402 IN XRB
05257  2 00001 2 05257           TIX *,2,1
05260  2 00001 1 05256           TIX *-2,1,1

05261  0766 00 0 01361           WPRA          SELECT PRINTER
05262  0760 00 0 01363           SPRA 3        SPACE PRINTER
05263  0540 00 0 05506           RCHA CW+9
05264  0020 00 0 05174           TRA END

```

*RESTORE RESET START ROUTINE

```

05265  0500 00 0 05175   STORE CLA END+1
05266  0601 00 0 00000           STO 0
05267  0020 00 4 00001           TRA 1,4

```

* ENTER TRAP MODE SUBROUTINE

```

05270  0760 00 0 00007   ENTM  ETM          ENTER TRAP MODE
05271  0021 00 2 00001           TTR 1,2       RETURN TO TEST

```

*CHECK ACCUMULATOR UNCHANGED BY EXECUTING INDICATOR INSTRUCTIONS

```

05272  212323646060           BCD 1ACCU
05273  -0120 00 0 05277   ACC   TMI  *+4      OK-SIGN UNCHANGED
05274  0560 00 0 05511           LDQ TEMP+2    LOC OF INSTR TESTING
05275  0074 00 4 06503           TSX ERROR-1,4
05276  0020 00 0 05273           TRA ACC

05277  0760 00 0 00001           LBT          TEST POSITION 35
05300  0020 00 0 05302           TRA  *+2     ERROR-LOST POSITION 35
05301  0020 00 0 05305           TRA ACC1     OK
05302  0560 00 0 05511           LDQ TEMP+2    LOC OF INSTR TESTING

```

```

05303 0074 00 4 06503      TSX ERROR-1,4
05304 0020 00 0 05273      TRA ACC

05305 0771 00 0 00001      ACC1  ARS 1          SHIFT BIT OUT OF Q
05306 0602 00 0 05510      SLW TEMP+1        SAVE ACCUMULATOR
05307 0500 00 0 05510      CLA TEMP+1        L SAVED ACCUMULATOR
05310 0560 00 0 05412      LDQ ONES          L ALL ONES TO MQ
05311 0340 00 0 05412      CAS ONES
05312 0020 00 0 05314      TRA *+2          ERROR-LOST A POS Q,P,1-34
05313 0020 00 0 05317      TRA ACC2         OK-
05314 0560 00 0 05511      LDQ TEMP+2       LOC OF INSTR TESTING
05315 0074 00 4 06503      TSX ERROR-1,4

```

*NO BIT IN ACC SIGN POS,Q WAS LOST-NO BIT IN ACC 1 POS,P WAS LOST
*NO BIT IN ACC 2 POS,1 WAS LOST-NO BIT IN ACC 3 POS, 2 WAS LOST ETC.

```

05316 0020 00 0 05273      TRA ACC

05317 0140 00 0 05320      ACC2  TOV *+1      TURN OFF OVFL0 LUGHT
05320 0020 00 2 00001      TRA 1,2

```

PRINT IMAGES

```

05321 +001120402200      PI   OCT 1120402200      9 L
05322 +0004400000010    OCT 440000010       9 R
05323 +0000000000000    OCT 0                8 L
05324 +0000000000000    OCT 0                8 R
05325 +004004100000     OCT 4004100000      7 L
05326 +001102001000     OCT 1102001000      7 R
05327 +060600020000     OCT 60600020000     6 L
05330 +000200004000     OCT 200004000       6 R
05331 +102010040000     OCT 102010040000    5 L
05332 +000000100240     OCT 100240          5 R
05333 +000041000100     OCT 41000100        4 L
05334 +000010002004     OCT 10002004        4 R
05335 +000000005000     OCT 5000             3 L
05336 +000000010500     OCT 10500            3 R
05337 +000000010020     OCT 10020            2 L
05340 +000000640001     OCT 640001          2 R
05341 +000000200000     OCT 200000          1 L
05342 +020021000000     OCT 20021000000     1 R
05343 +020000014040     OCT 20000014040     0 L
05344 +014000640102     OCT 14000640102     0 R
05345 +145350060100     OCT 145350060100    11L
05346 +001652007404     OCT 1652007404     11R
05347 +002425703000     OCT 2425703000     12L
05350 +000121110240     OCT 121110240      12R

```

*ERROR PRINT IMAGE FOR MPY TIMING TEST

```

05351 +000404240220      PI1  OCT 404240220      9 L
05352 +002102000000     OCT 2102000000     9 R
05353 +000041000000     OCT 41000000       8 L
05354 +000000100400     OCT 100400         8 R
05355 +000200000100     OCT 200000100      7 L
05356 +100400000000     OCT 100400000000    7 R

```

05357	+000010020000	OCT	10020000	6	L
05360	+000004000000	OCT	4000000	6	R
05361	+000000100002	OCT	100002	5	L
05362	+241041020040	OCT	241041020040	5	R
05363	+014000006001	OCT	14000006001	4	L
05364	+010010000000	OCT	10010000000	4	R
05365	+003102001450	OCT	3102001450	3	L
05366	+024000201300	OCT	24000201300	3	R
05367	+000000000000	OCT	0	2	L
05370	+000000004020	OCT	4020	2	R
05371	+000000000004	OCT	4	1	L
05372	+000000040000	OCT	40000	1	R
05373	+005052202400	OCT	5052202400	0	L
05374	+114000200420	OCT	114000200420	0	R
05375	+012300065142	OCT	12300065142	11	L
05376	+001056020100	OCT	1056020100	11	R
05377	+000405100235	OCT	405100235	12	L
05400	+262501141240	OCT	262501141240	12	R

CONSTANTS

05401	+000000000000	ZERO	OCT	0
05402	-0 00000 0 00000	MZE	MZE	
05403	+000000000001	ONE	OCT	1
05404	+000000000002	TWO	OCT	2
05405	-2 00000 0 00000	MTW	MTW	
05406	+000000000003	THREE	OCT	3
05407	+000000000004	FOUR	OCT	4
05410	+100000000000	PTHR	OCT	100000000000
05411	+000000077777	8CF	OCT	77777
05412	-377777777777	ONES	OCT	777777777777
05413	-377777077777	K3	OCT	777770777777
05414	+111111111111	K24	OCT	111111111111
05415	+154321654321	K25	OCT	154321654321
05416	+000000000050	K26	OCT	50
05417	+222222222222	K27	OCT	222222222222
05420	+333333333333	K28	OCT	333333333333
05421	-044444444444	K29	OCT	-044444444444
05422	+000022000035	K30	OCT	22000035
05423	+000000777777	K31	OCT	777777
05424	+000000111111	K33	OCT	111111
05425	+000000333333	K34	OCT	333333
05426	+000000400000	K35	OCT	400000
05427	+000012000012		OCT	12000012
05430	+000044000043	K37A	OCT	44000043
05431	0055 00 000000	K38	SIR	0
05432	-0055 00 000000		SIL	0
05433	0057 00 000000		RIR	0
05434	-0057 00 000000		RIL	0
05435	0051 00 000000		IIR	0
05436	-0051 00 000000		IIL	0
05437	0054 00 000000		RFT	0
05440	-0054 00 000000		LFT	0
05441	0056 00 000000		RNT	0
05442	-0056 00 000000		LNT	0
05443	+000000000040	TR	OCT	40

05444	0000	00	0	05406		HTR	THREE
05445	0000	00	0	05407		HTR	FOUR
05446	0020	00	0	01733		TRA	MODE1
05447	0020	00	0	01727		TRA	MODE+5
05450	0020	00	0	01755		TRA	MODE3
05451	0020	00	0	01751		TRA	MODE2+5
05452	0602	00	0	05511		SLW	TEMP+2
05453	0020	00	0	05054	DIS	TRA	BUT+6
05454	0020	00	0	05055		TRA	BUT+7
05455	0020	00	0	05065		TRA	BUT1+5
05456	0020	00	0	05066		TRA	BUT1+6
05457	0020	00	0	05110		TRA	BUT2+5
05460	0020	00	0	05121		TRA	BUT3+4
05461	0020	00	0	05077		TRA	BUT4+6
05462	0020	00	0	05100		TRA	BUT4+7
05463	0020	00	0	05133		TRA	BUT5+5
05464	+010203040506				K16	OCT	010203040506
05465	2	10000	0	05464		TIX	K16,0,4096
05466	2	20000	0	05464		TIX	K16,0,8192
05467	2	30000	0	05464		TIX	K16,0,12288
05470	2	40000	0	05464		TIX	K16,0,16384
05471	2	50000	0	05464		TIX	K16,0,20480
05472	2	60000	0	05464		TIX	K16,0,24576
05473	-2	50000	0	41470		TNX	6*K16,0,20480
05474	+212223242526				K16B	OCT	212223242526

CONTROL WORDS

05475	-1	00001	0	05321	CW	IOCT	PI,0,1
05476	-1	00001	0	05323		IOCT	PI+2,0,1
05477	-1	00001	0	05322		IOCT	PI+1,0,1
05500	-1	00001	0	05324		IOCT	PI+3,0,1
05501	-1	00001	0	05324		IOCT	PI+3,0,1
05502	-1	00003	0	00000		IOCT	0,0,3
05503	-1	00001	0	05231		IOCT	TOP+2,0,1
05504	-0000	01	0	05507		IOCP	TEMP,0,1
05505	1	00000	0	05504		TCH	CW+7
05506	0000	30	0	05351		IOCD	PI1,0,24

TEMPORARY STORAGE

05507	+0000000000000				TEMP	OCT	0
05510	+0000000000000					OCT	0
05511	+0000000000000					OCT	0
	77777	32K	EQU	32767			
	06504	ERROR	EQU	3396			
	06511	OK	EQU	3401			
	07567	LOC	EQU	3959			
	00000		END				

EOF*