

IDENTIFICATION

PRODUCT CODE: MAINDEC-8/E-D0AA

PRODUCT NAME: PDP-8/E INSTRUCTION TEST 1

DATE CREATED: OCTOBER 23, 1970

MAINTAINER: DIAGNOSTIC GROUP

AUTHOR: ED FORTMILLER

(

(

,

(

(

1. ABSTRACT

THIS IS A DIAGNOSTIC PROGRAM FOR TESTING THE AND, TAD,
OPERATE, AND BASIC MQ, INSTRUCTIONS OF THE PDP-8/E ONLY.

2. REQUIREMENTS

2.1 EQUIPMENT

A PDP-8/E EQUIPPED WITH TELETYPE,

2.2 STORAGE

THIS PROGRAM USES LOCATIONS 0000-4761. THE BINARY LOADER MUST
BE STORED IN THE LAST MEMORY PAGE,

2.3 PRELIMINARY PROGRAMS

3. LOADING PROCEDURE

3.1 METHOD

THE STANDARD BINARY LOADER IS USED,

4. STARTING PROCEDURE

4.1 CONTROL SWITCH SETTINGS

SR=7777

4.2 STARTING ADDRESS

0200

4.3 OPERATOR ACTION

1. SET SR TO 200 AND PRESS LOAD ADDRESS,
2. SET SR TO 7777 AND PUSH CLEAR AND CONTINUE
3. PROGRAM WILL HALT. MA=147
4. IF AC = 0000 AN ERROR HAS OCCURRED,
5. PUSH CONTINUE. PROGRAM WILL RUN UNTIL STOPPED OR UNTIL
AN ERROR IS ENCOUNTERED.

5. OPERATING PROCEDURE

SAME AS SECTION 4.

6. ERRORS

6.1 ERROR HALTS AND DESCRIPTION

SEE LISTING.

6.2 ERROR RECOVERY

IF IT IS DESIRED TO LOOP ON THE TEST CAUSING THE ERROR, REPLACE THE OPERATE INSTRUCTION(S) PRECEDING THE HLT WITH A JMP TO THE BEGINNING OF THE TEST.

7. RESTRICTIONS

7.1 STARTING RESTRICTIONS: NONE

7.2 OPERATING RESTRICTIONS: NONE

8. MISCELLANEOUS

8.1 EXECUTION TIME

256 PROGRAM LOOPS PER MINUTE.

9.

PROGRAM DESCRIPTION

THE PROGRAM CONSISTS OF MANY INDIVIDUAL TESTS. IN MOST CASES EACH TEST CHECKS ONLY ONE FUNCTION AND USES PREVIOUSLY TESTED FUNCTIONS AS A BASIS FOR THE TEST. THE PROGRAM COUNTER ACTION IS STRICTLY SEQUENTIAL EXCEPT FOR SKIPS. THE ONLY JMP INSTRUCTIONS USED ARE AT THE BEGINNING AND END OF THE PROGRAM. THE SEQUENCE OF TESTING IS AS FOLLOWS:

1. TEST ALL OPERATE FUNCTIONS INDIVIDUALLY EXCEPT FOR ROTATES.
2. TEST "TAD" INSTRUCTION.
3. TEST ROTATE FUNCTIONS.
4. TEST "BSW" INSTRUCTION.
5. GROUP 1 OPERATE INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.
6. GROUP 2 OPERATE INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.
7. MQ INSTRUCTION TEST. ALL POSSIBLE COMBINATIONS.
8. TEST "AND" INSTRUCTION.

THE TELETYPE BELL RINGS AFTER EACH 512 PROGRAM LOOPS.

10.

LISTING

/PDP-8/E INSTRUCTION TEST 1
 /COPYRIGHT 1970, DIGITAL EQUIPMENT CORP., MAYNARD, MASS. 01754
 /TAPE 1

7002	BSW=7002	/SWAP BYTES IN AC
7401	NOPE=7401	/NOP
7601	CLAE=7601	/CLEAR AC
7421	MOQL=7421	/LOAD MQ FROM AC THEN CLEAR AC
7501	MOA=7501	/INCLUSIVE OR, MQ AND AC
7621	SAM=7621	/CLEAR AC AND MQ
7521	SWP=7521	/SWAP AC AND MQ
7701	ACL=7701	/LOAD AC FROM MQ, CLEAR MQ

0000	0000	00
0001	0001	JMP 1
0002	0002	0002
0003	0003	0003
0004	0000	0
0005	0000	0000
0006	7402	HALT, HLT
0007	7000	NOOP, NOP
0010	0000	0

/CONSTANTS AND VARIABLES

0020	0020	020
0020	0000	K0000, 0000
0021	0001	K0001, 0001
0022	0002	K0002, 0002
0023	0004	K0004, 0004
0024	0010	K0010, 0010
0025	0020	K0020, 0020
0026	0040	K0040, 0040
0027	0100	K0100, 0100
0030	0200	K0200, 0200
0031	0400	K0400, 0400
0032	1000	K1000, 1000
0033	1234	K1234, 1234
0034	2000	K2000, 2000
0035	3312	K3312, 3312
0036	4000	K4000, 4000
0037	7717	K7717, 7717
0040	7776	K7776, 7776
0041	7775	K7775, 7775
0042	7773	K7773, 7773
0043	7767	K7767, 7767
0044	7757	K7757, 7757
0045	7737	K7737, 7737
0046	7677	K7677, 7677
0047	7577	K7577, 7577
0050	7377	K7377, 7377
0051	6777	K6777, 6777
0052	5777	K5777, 5777
0053	3777	K3777, 3777

0054	7777	K7777,	7777
0055	5252	K5252,	5252
0056	2525	K2525,	2525
0057	6000	K6000,	6000
0060	7000	K7000,	7000
0061	7400	K7400,	7400
0062	7600	K7600,	7600
0063	7740	K7740,	7740
0064	7760	K7760,	7760
0065	7770	K7770,	7770
0066	7774	K7774,	7774
0067	0003	K0003,	0003

0070	0007	K0007,	0007
0071	0067	K0067,	0067
0072	0017	K0017,	0017
0073	0037	K0037,	0037
0074	0077	K0077,	0077
0075	0177	K0177,	0177
0076	0377	K0377,	0377
0077	0777	K0777,	0777
0100	1777	K1777,	1777
0101	7700	K7700,	7700
0102	5225	K5225,	5225
0103	2552	K2552,	2552
0104	0770	K0770,	0770
0105	7007	K7007,	7007
0106	0207	BEL,	0207
0107	7000	BLCNT,	-1000
0110	7000	BLCON,	-1000

	0144	*144
		/TAD,CLA,HLT.TEST
0144	1054	START, TAD K7777
0145	7200	CLA
0146	7402	HLT

/AC SHOULD=0
/SET SR TO 7777, CONTINUE

		/SKIP TEST
0147	7410	SKP
0150	7402	HLT
		/SZA TEST 1
0151	7200	CLA
0152	7440	SZA
0153	7402	HLT

/SKP FAILED

0154	7450	SNA
0155	7410	SKP
0156	7402	HLT

/SZA SHOULD HAVE SKIPPED
/AC SHOULD EQUAL ZERO

		/SZA TEST 2
0157	7200	CLA
0160	1036	TAD K4000

/SNA SHOULD NOT HAVE SKIPPED
/AC SHOULD EQUAL ZERO

0161	7440	SZA	
0162	7410	SKP	
0163	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED
			/AC SHOULD EQUAL 4000
0164	7450	SNA	
0165	7402	HLT	/SNA SHOULD HAVE SKIPPED
			/AC SHOULD EQUAL 4000

/SZA TEST 3

0166	7200	CLA	
0167	1034	TAD	K2000
0170	7440	SZA	
0171	7410	SKP	
0172	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED
			/AC SHOULD EQUAL 2000
0173	7450	SNA	
0174	7402	HLT	/SNA SHOULD HAVE SKIPPED
0175	7000	NOP	/AC SHOULD EQUAL 2000
0176	7000	NOP	
0177	7410	SKP	/SKIP OVER JMP START.

	0200	*200	
0200	9144	BEGIN, JMP	START
		/SZA TEST 4	/BEGINNING OF INSTRUCTION TEST 1.

0201	7200	CLA	
0202	1032	TAD	K1000
0203	7440	SZA	
0204	7410	SKP	
0205	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED
			/AC SHOULD EQUAL 1000
0206	7450	SNA	
0207	7402	HLT	/SNA SHOULD HAVE SKIPPED
			/AC SHOULD EQUAL 10000

/SZA TEST 5

0210	7200	CLA	
0211	1031	TAD	K0400
0212	7440	SZA	
0213	7410	SKP	
0214	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED
			/AC SHOULD EQUAL 0400
0215	7450	SNA	
0216	7402	HLT	/SNA SHOULD HAVE SKIPPED
			/AC SHOULD EQUAL 0400

/SZA TEST 6

0217	7200	CLA	
0220	1030	TAD	K0200
0221	7440	SZA	
0222	7410	SKP	
0223	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED
			/AC SHOULD EQUAL 0200
0224	7450	SNA	
0225	7402	HLT	/SNA SHOULD HAVE SKIPPED
			/AC SHOULD EQUAL 0200

/SZA TEST 7

0226	7200	CLA	
0227	1027	TAD	K0100
0230	7440	SZA	
0231	7410	SKP	
0232	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0100
0233	7450	SNA	
0234	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0100

/SZA TEST 8

0235	7200	CLA	
0236	1026	TAD	K0040
0237	7440	SZA	
0240	7410	SKP	
0241	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0040
0242	7450	SNA	
0243	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0040

/SZA TEST 9

0244	7200	CLA	
0245	1025	TAD	K0020
0246	7440	SZA	
0247	7410	SKP	
0250	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0020
0251	7450	SNA	
0252	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0020

/SZA TEST 10

0253	7200	CLA	
0254	1024	TAD	K0010
0255	7440	SZA	
0256	7410	SKP	
0257	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0010
0260	7450	SNA	
0261	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0010

/SZA TEST 11

0262	7200	CLA	
0263	1023	TAD	K0004
0264	7440	SZA	
0265	7410	SKP	
0266	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0004
0267	7450	SNA	
0270	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0004

/SZA TEST 12

0271	7200	CLA	
0272	1022	TAD	K0002
0273	7440	SZA	
0274	7410	SKP	
0275	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0002
0276	7450	SNA	
0277	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0002

/SZA TEST 13

0300	7200	CLA	
0301	1021	TAD	K0001
0302	7440	SZA	
0303	7410	SKP	
0304	7402	HLT	/SZA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 0001
0305	7450	SNA	
0306	7402	HLT	/SNA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 0001

/SPA TEST 1

0307	7200	CLA	
0310	1053	TAD	K3777
0311	7510	SPA	
0312	7402	HLT	/SPA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 3777

/SPA TEST 2

0313	7200	CLA	
0314	1036	TAD	K4000
0315	7510	SPA	
0316	7410	SKP	
0317	7402	HLT	/SPA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 4000

/SMA TEST 1

0320	7200	CLA	
0321	1053	TAD	K3777
0322	7500	SMA	
0323	7410	SKP	
0324	7402	HLT	/SMA SHOULD NOT HAVE SKIPPED /AC SHOULD EQUAL 3777

/SMA TEST 2

0325	7200	CLA	
0326	1036	TAD	K4000
0327	7500	SMA	
0330	7402	HLT	/SMA SHOULD HAVE SKIPPED /AC SHOULD EQUAL 4000

/CMA TEST 1

0331	7200	CLA	
0332	1034	TAD	K7777
0333	7040	CMA	
0334	7440	SZA	
0335	7402	HLT	/CMA DID NOT COMPLEMENT AC

/AC SHOULD EQUAL 0000

/CMA - TAD TEST 1
 0336 7200 CLA
 0337 1056 TAD K2520
 0340 7040 CMA
 0341 7450 SNA
 0342 7402 HLT

/TAD OR CMA ERROR
 /AC SHOULD EQUAL 0252

0343 1056 TAD K2520
 0344 7040 CMA
 0345 7440 SZA
 0346 7402 HLT

/TAD OR CMA ERROR
 /AC SHOULD EQUAL 0500

/CMA - TAD TEST 2
 0347 7200 CLA
 0350 1055 TAD K5252
 0351 7040 CMA
 0352 7430 SNA
 0353 7402 HLT

/TAD OR CMA ERROR
 /AC SHOULD EQUAL 2525

0354 1055 TAD K5252
 0355 7040 CMA
 0356 7440 SZA
 0357 7402 HLT

/TAD OR CMA ERROR
 /AC SHOULD EQUAL 0000

/CMA - TAD TEST 3
 0360 7200 CLA
 0361 1054 TAD K7777
 0362 7040 CMA
 0363 7440 SZA
 0364 7402 HLT

/TAD OR CMA ERROR
 /AC SHOULD EQUAL 0000

/IAC TEST 1
 0365 7200 CLA
 0366 7001 IAC
 0367 7440 SZA
 0370 7410 SKP
 0371 7402 HLT

/IAC DID NOT INCREMENT
 /AC SHOULD EQUAL 0001

/IAC TEST 2
 0372 7200 CLA
 0373 1054 TAD K7777
 0374 7001 IAC
 0375 7440 SZA
 0376 7402 HLT

/IAC DID NOT INCREMENT
 /AC SHOULD EQUAL 0000

/IAC TEST 3
 0377 7200 CLA
 0400 1066 TAD K7774
 0401 7001 IAC
 0402 7001 IAC
 0403 7001 IAC
 0404 7001 IAC

0405 7449 SBA
 0406 7402 HLT
 /IAC NOT INCREMENTING
 /AC SHOULD EQUAL 2000

/SZL TEST 1
 0407 7200 CLA
 0410 7100 CLL
 0411 7004 RAL
 0412 7430 SZL
 0413 7402 HLT
 /CLEAR LINK
 /CLEAR LINK SAFETY
 /SZL SHOULD HAVE SKIPPED
 /LINK SHOULD EQUAL ZERO

/SZL TEST 2
 0414 7200 CLA
 0415 7100 CLL
 0416 7020 CML
 0417 1036 TAD K4000
 0420 7004 RAL
 0421 7430 SZL
 0422 7410 SKP
 0423 7402 HLT
 /CLEAR LINK
 /COMPLEMENT LINK
 /SET LINK SAFETY
 /SZL SHOULD NOT HAVE SKIPPED
 /LINK SHOULD EQUAL ONE

/SNL TEST 1
 0424 7200 CLA
 0425 7100 CLL
 0426 7004 RAL
 0427 7420 SNL
 0430 7410 SKP
 0431 7402 HLT
 /CLEAR LINK
 /CLEAR LINK SAFETY
 /SNL SHOULD NOT HAVE SKIPPED
 /LINK SHOULD EQUAL ZERO

/SNL TEST 2
 0432 7200 CLA
 0433 7100 CLL
 0434 7020 CML
 0435 1036 TAD K4000
 0436 7004 RAL
 0437 7420 SNL
 0440 7402 HLT
 /CLEAR LINK
 /COMPLEMENT LINK
 /SET LINK SAFETY
 /SNL SHOULD HAVE SKIPPED
 /LINK SHOULD EQUAL ONE

/CLL TEST 1
 0441 7200 CLA
 0442 1036 TAD K4000
 0443 7004 RAL
 0444 7420 SNL
 0445 5252 JMP CLL11
 0446 7100 CLL1, CLL
 0447 7430 SZL
 0450 7402 HLT
 0451 5256 JMP .+5
 0452 7020 CLL11, CML
 /SET LINK
 /CANNOT SET LINK WITH RAL
 /TRY A CML
 /CLL DID NOT CLEAR LINK
 /LINK SHOULD EQUAL ONE
 /SET LINK

```

0453 7420 SNL
0454 7402 HLT /CANNOT SET LINK WITH
/RAL OR CML. CANNOT
/PERFORM CLL TEST 1

0455 5246 JMP CLL1

/CML TEST 1
0456 7100 CMLT1, CLL
0457 7430 SZL
0460 7402 HLT /CLL DID NOT CLEAR LINK
0461 7020 CML
0462 7420 SNL
0463 7402 HLT /CML DID NOT SET LINK
0464 7020 CML
0465 7430 SZL
0466 7402 HLT /CML DID NOT RESET LINK

/CLA TEST 1 (OPERATE GROUP 2)
0467 7200 CLA
0470 1054 TAD K7777
0471 7600 7600
0472 7440 SZA
0473 7402 HLT /CLA (7600) DID NOT CLEAR AC
/AC SHOULD EQUAL 0000

/OSR TEST 1
0474 7200 CLA
0475 7404 OSR
0476 7040 CMA
0477 7440 SZA
0500 7402 HLT /OSR DID NOT SET AC TO 7777
/AC SHOULD=0

/NOP TEST 1 (OPERATE GROUP 1)

0501 7200 CLA
0502 7100 CLL /AC AND LINK EQUAL ZERO
0503 7000 7000 /TEST INSTRUCTION
0504 7450 SNA
0505 7430 SZL
0506 7402 HLT /NOP FAILURE
/AC AND LINK SHOULD BE ZERO

/NOP TEST 2 (OPERATE GROUP 2)

0507 7200 CLA
0510 7100 CLL /AC AND LINK EQUAL ZERO
0511 7400 7400 /TEST INSTRUCTION
0512 7450 SNA
0513 7430 SZL
0514 7402 HLT /NOP FAILURE
/AC AND LINK SHOULD BE ZERO

/TAD TEST 1
0515 7200 CLA
0516 1053 TAD K3777 /OPERAND 1
0517 1036 TAD K4000 /OPERAND 2

```

0520	7040	CHA	
0521	7440	SEA	
0522	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 2

0523	7200	CLA	
0524	1032	TAD K5777	/OPERAND 1
0525	1034	TAD K2000	/OPERAND 2
0526	7040	CHA	
0527	7440	SEA	
0530	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 3

0531	7200	CLA	
0532	1031	TAD K6777	/OPERAND 1
0533	1032	TAD K1000	/OPERAND 2
0534	7040	CHA	
0535	7440	SEA	
0536	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 4

0537	7200	CLA	
0540	1030	TAD K7377	/OPERAND 1
0541	1031	TAD K0400	/OPERAND 2
0542	7040	CHA	
0543	7440	SEA	
0544	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 5

0545	7200	CLA	
0546	1047	TAD K7577	/OPERAND 1
0547	1030	TAD K0200	/OPERAND 2
0550	7040	CHA	
0551	7440	SEA	
0552	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 6

0553	7200	CLA	
0554	1046	TAD K7677	/OPERAND 1
0555	1027	TAD K0100	/OPERAND 2
0556	7040	CHA	
0557	7440	SEA	
0560	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 7

0561	7200	CLA	
0562	1045	TAD K7737	/OPERAND 1
0563	1026	TAD K0040	/OPERAND 2
0564	7040	CHA	
0565	7440	SEA	
0566	7402	HLT	

/TAD ERROR
/AC SHOULD EQUAL 0000

/TAD TEST 8

0567	7200	CLA	
0570	1044	TAD K7757	/OPERAND 1
0571	1025	TAD K0020	/OPERAND 2
0572	7040	CMA	
0573	7440	SZA	
0574	7402	HLT	/TAD ERROR
			/AC SHOULD EQUAL 0000

/TAD TEST 9

0575	7200	CLA	
0576	1043	TAD K7767	/OPERAND 1
0577	1024	TAD K0010	/OPERAND 2
0600	7040	CMA	
0601	7440	SZA	
0602	7402	HLT	/TAD ERROR
			/AC SHOULD EQUAL 0000

/TAD TEST 10

0603	7200	CLA	
0604	1042	TAD K7773	/OPERAND 1
0605	1023	TAD K0004	/OPERAND 2
0606	7040	CMA	
0607	7440	SZA	
0610	7402	HLT	/TAD ERROR
			/AC SHOULD EQUAL 0000

/TAD TEST 11

0611	7200	CLA	
0612	1041	TAD K7775	/OPERAND 1
0613	1022	TAD K0002	/OPERAND 2
0614	7040	CMA	
0615	7440	SZA	
0616	7402	HLT	/TAD ERROR

/TAD TEST 12

0617	7200	CLA	
0620	1040	TAD K7776	/OPERAND 1
0621	1021	TAD K0001	/OPERAND 2
0622	7040	CMA	
0623	7440	SZA	
0624	7402	HLT	/TAD ERROR
			/AC SHOULD EQUAL 0000

/TAD TEST 13

0625	7200	CLA	
0626	7100	CLL	
0627	1036	TAD K4000	/OPERAND 1
0630	1036	TAD K4000	/OPERAND 2
0631	7430	SZL	
0632	7440	SZA	
0633	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000
			/LINK SHOULD BE EQUAL ONE.

/TAD TEST 14

0634	7200	CLA
0635	7100	CLL

0636	1097	TAD K6000	/OPERAND 1
0637	1034	TAD K2000	/OPERAND 2
0640	7430	SEL	
0641	7440	SEA	
0642	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

/TAD TEST 15

0643	7200	CLA	
0644	7100	CLL	
0645	1060	TAD K7000	/OPERAND 1
0646	1032	TAD K1000	/OPERAND 2
0647	7430	SEL	
0650	7440	SEA	
0651	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0500 /LINK SHOULD EQUAL ONE

/TAD TEST 16

0652	7200	CLA	
0653	7100	CLL	
0654	1061	TAD K7400	/OPERAND 1
0655	1031	TAD K0400	/OPERAND 2
0656	7430	SEL	
0657	7440	SEA	
0660	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

/TAD TEST 17

0661	7200	CLA	
0662	7100	CLL	
0663	1062	TAD K7600	/OPERAND 1
0664	1030	TAD K0200	/OPERAND 2
0665	7430	SEL	
0666	7440	SEA	
0667	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

/TAD TEST 18

0670	7200	CLA	
0671	7100	CLL	
0672	1101	TAD K7700	/OPERAND 1
0673	1027	TAD K0100	/OPERAND 2
0674	7430	SEL	
0675	7440	SEA	
0676	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

/TAD TEST 19

0677	7200	CLA
0700	7100	CLL

0701	1063	TAD K7740	/OPERAND 1
0702	1026	TAD K0040	/OPERAND 2
0703	7430	SEL	
0704	7440	SEA	
0705	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

/TAD TEST 20

0706	7200	CLA
------	------	-----

0707	7100	CLL	
0710	1064	TAD K7760	/OPERAND 1
0711	1025	TAD K0020	/OPERAND 2
0712	7430	SZL	
0713	7440	SZA	
0714	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000

/LINK SHOULD EQUAL ONE

/TAD TEST 21

0715	7200	CLA	
0716	7100	CLL	
0717	1065	TAD K7770	/OPERAND 1
0720	1024	TAD K0010	/OPERAND 2
0721	7430	SZL	
0722	7440	SZA	/TAD ERROR AC SHOULD EQUAL 0000
0723	7402	HLT	/LINK SHOULD EQUAL ONE

/TAD TEST 22

0724	7200	CLA	
0725	7100	CLL	
0726	1066	TAD K7774	/OPERAND 1
0727	1023	TAD K0004	/OPERAND 2
0730	7430	SZL	
0731	7440	SZA	
0732	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000

/LINK SHOULD EQUAL ONE

/TAD TEST 23

0733	7200	CLA	
0734	7100	CLL	
0735	1040	TAD K7776	/OPERAND 1
0736	1022	TAD K0002	/OPERAND 2
0737	7430	SZL	
0740	7440	SZA	
0741	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000

/LINK SHOULD EQUAL ONE

/TAD TEST 24

0742	7200	CLA	
0743	7100	CLL	
0744	1054	TAD K7777	/OPERAND 1
0745	1021	TAD K0001	/OPERAND 2
0746	7430	SZL	
0747	7440	SZA	
0750	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000

/LINK SHOULD EQUAL ONE

/TAD TEST 25

0751	7200	CLA	
0752	7100	CLL	
0753	7020	CML	
0754	1036	TAD K4000	/OPERAND 1
0755	1036	TAD K4000	/OPERAND 2
0756	7420	SNL	
0757	7440	SZA	
0760	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000

/LINK SHOULD EQUAL ZERO

/TAD TEST 26

0761	7200	CLA	
0762	7100	CLL	
0763	1053	TAD K3777	/OPERAND 1
0764	1034	TAD K2000	/OPERAND 2
0765	1034	TAD K2000	/OPERAND 3
0766	7040	CMA	
0767	7420	SNL	
0770	7440	SZA	
0771	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/TAD TEST 27

0772	7200	CLA	
0773	7100	CLL	
0774	1052	TAD K5777	/OPERAND 1
0775	1032	TAD K1000	/OPERAND 2
0776	1032	TAD K1000	/OPERAND 3
0777	7040	CMA	
1000	7420	SNL	
1001	7440	SZA	/TAD ERROR AC SHOULD EQUAL 0000
1002	7402	HLT	/LINK SHOULD EQUAL ZERO

/TAD TEST 28

1003	7200	CLA	
1004	7100	CLL	
1005	1051	TAD K6777	/OPERAND 1
1006	1031	TAD K0400	/OPERAND 2
1007	1031	TAD K0400	/OPERAND 3
1010	7040	CMA	
1011	7420	SNL	
1012	7440	SZA	
1013	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/TAD TEST 29

1014	7200	CLA	
1015	7100	CLL	
1016	1050	TAD K7377	/OPERAND 1
1017	1030	TAD K0200	/OPERAND 2
1020	1030	TAD K0200	/OPERAND 3
1021	7040	CMA	
1022	7420	SNL	
1023	7440	SZA	
1024	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/TAD TEST 30

1025	7200	CLA	
1026	7100	CLL	
1027	1047	TAD K7577	/OPERAND 1
1030	1027	TAD K0100	/OPERAND 2
1031	1027	TAD K0100	/OPERAND 3
1032	7040	CMA	
1033	7420	SNL	
1034	7440	SZA	
1035	7402	HLT	/TAD ERROR, AC SHOULD EQUAL 0000

/LINK SHOULD EQUAL ZERO

/TAD TEST 31

1036	7200	CLA
1037	7100	CLL
1040	1046	TAD K7677
1041	1026	TAD K0040
1042	1026	TAD K0040
1043	7040	CMA
1044	7420	SNL
1045	7440	SEA
1046	7402	HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/TAD TEST 32

1047	7200	CLA
1050	7100	CLL
1051	1045	TAD K7737
1052	1025	TAD K0020
1053	1025	TAD K0020
1054	7040	CMA
1055	7420	SNL
1056	7440	SEA
1057	7402	HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/TAD TEST 33

1060	7200	CLA
1061	7100	CLL
1062	1044	TAD K7757
1063	1024	TAD K0010
1064	1024	TAD K0010
1065	7040	CMA
1066	7420	SNL
1067	7440	SEA
1070	7402	HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/TAD TEST 34

1071	7200	CLA
1072	7100	CLL
1073	1043	TAD K7767
1074	1023	TAD K0004
1075	1023	TAD K0004
1076	7040	CMA
1077	7420	SNL
1100	7440	SEA
1101	7402	HLT

/OPERAND 1
/OPERAND 2
/OPERAND 3

/TAD ERROR, AC SHOULD EQUAL 0000
/LINK SHOULD EQUAL ZERO

/TAD TEST 35

1102	7200	CLA
1103	7100	CLL
1104	1042	TAD K7773
1105	1022	TAD K0002
1106	1022	TAD K0002
1107	7040	CMA
1110	7420	SNL

/OPERAND 1
/OPERAND 2
/OPERAND 3

```

1111 7540      SEA
1112 7402      HLT
                /TAD ERROR, AC SHOULD EQUAL 0000
                /LINK SHOULD EQUAL ZERO

```

```

                /TAD TEST 36
1113 7200      CLA
1114 7100      CLL
1115 1041      TAD K7773      /OPERAND 1
1116 1021      TAD K0001      /OPERAND 2
1117 1021      TAD K0001      /OPERAND 3
1120 7040      CMA
1121 7420      SNL
1122 7430      SZL
1123 7402      HLT
                /TAD ERROR, AC SHOULD EQUAL 0000
                /LINK SHOULD EQUAL ZERO

```

```

                /RAR TEST 1
1124 7200      CLA
1125 7100      CLL
1126 1021      TAD K0001      /ROTATE PATTERN
1127 7010      RAR
1130 7420      SNL
1131 7402      HLT
                /RAR FAILED, LINK DROPPED A BIT
                /LINK SHOULD EQUAL A ONE

```

```

                /RAR TEST 2
1132 7200      CLA
1133 7100      CLL
1134 1020      TAD K0000      /ROTATE PATTERN
1135 7010      RAR
1136 7440      SEA
1137 7402      HLT
                /RAR FAILED, AC PICKED UP A BIT
                /A ONE IN AC EQUALS THE PICKED UP BIT

```

```

                /RAR TEST 3
1140 7200      CLA
1141 7100      CLL
1142 1020      TAD K0000      /ROTATE PATTERN
1143 7010      RAR
1144 7430      SZL
1145 7402      HLT
                /RAL FAILED, LINK PICKED UP A BIT
                /LINK SHOULD EQUAL ZERO

```

```

                /RAR TEST 4
1146 7200      CLA
1147 7100      CLL
1150 7020      CHL
1151 1020      TAD K0000      /ROTATE PATTERN
1152 7010      RAR
1153 7430      SZL
1154 7402      HLT
                /RAR LINK PICKED UP A BIT
                /LINK SHOULD EQUAL ZERO

```

```

                /RAR TEST 5
1155 7200      CLA
1156 7100      CLL
1157 7020      CHL

```

1160	1054	TAD K7777	/ROTATE PATTERN
1161	7010	RAR	
1162	7040	CMA	
1163	7440	SZA	
1164	7402	HLT	

/RAR FAILED AC DROPPED A BIT
/A ONE IN AC EQUALS THE DROPPED BIT

/RAR TEST 6

1165	7200	CLA	
1166	7100	CLL	
1167	7020	CML	
1170	1020	TAD K0000	/ROTATE PATTERN
1171	7010	RAR	
1172	1053	TAD K3777	
1173	7040	CMA	
1174	7450	SNA	
1175	7430	SZL	
1176	7402	HLT	

/RAR FAILED AC AND LINK
/SHOULD EQUAL 0000

/RAR TEST 7

1177	7200	CLA	
1200	7100	CLL	
1201	1036	TAD K4000	/ROTATE PATTERN
1202	7010	RAR	
1203	1052	TAD K5777	
1204	7040	CMA	
1205	7450	SNA	
1206	7430	SZL	
1207	7402	HLT	

/RAR FAILED AC AND LINK SHOULD
/EQUAL 0000

/RAR TEST 8

1210	7200	CLA	
1211	7100	CLL	
1212	1034	TAD K2000	/ROTATE PATTERN
1213	7010	RAR	
1214	1051	TAD K6777	
1215	7040	CMA	
1216	7450	SNA	
1217	7430	SZL	
1220	7402	HLT	

/RAR FAILED AC AND LINK SHOULD
/EQUAL 0000

/RAR TEST 9

1221	7200	CLA	
1222	7100	CLL	
1223	1032	TAD K1000	/ROTATE PATTERN
1224	7010	RAR	
1225	1050	TAD K7377	
1226	7040	CMA	
1227	7450	SNA	
1230	7430	SZL	
1231	7402	HLT	

/RAR FAILED AC AND LINK SHOULD
/EQUAL 0000

/RAR TEST 10

1232	7200	CLA	
1233	7100	CLL	
1234	1031	TAD K0400	/ROTATE PATTERN
1235	7010	RAR	
1236	1047	TAD K7577	
1237	7040	CMA	
1240	7450	SNA	
1241	7430	SZL	
1242	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

/RAR TEST 11

1243	7200	CLA	
1244	7100	CLL	
1245	1030	TAD K0200	/ROTATE PATTERN
1246	7010	RAR	
1247	1046	TAD K7677	
1250	7040	CMA	
1251	7450	SNA	
1252	7430	SZL	
1253	7402	HLT	/RAR FAILED AC AND LINK /EQUAL 0000

/RAR TEST 12

1254	7200	CLA	
1255	7100	CLL	
1256	1027	TAD K0100	/ROTATE PATTERN
1257	7010	RAR	
1260	1049	TAD K7737	
1261	7040	CMA	
1262	7450	SNA	
1263	7430	SZL	
1264	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

/RAR TEST 13

1265	7200	CLA	
1266	7100	CLL	
1267	1026	TAD K0040	/ROTATE PATTERN
1270	7010	RAR	
1271	1044	TAD K7757	
1272	7040	CMA	
1273	7450	SNA	
1274	7430	SZL	
1275	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

PAUSE

/INSTRUCTION TEST 1

/TAPE 2

/RAR TEST 14

1276	7200	CLA	
1277	7100	CLL	
1300	1025	TAD K0020	/ROTATE PATTERN
1301	7010	RAR	
1302	1043	TAD K7767	
1303	7040	CMA	
1304	7450	SNA	
1305	7430	SZL	
1306	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

/RAR TEST 15

1307	7200	CLA	
1310	7100	CLL	
1311	1024	TAD K0010	/ROTATE PATTERN
1312	7010	RAR	
1313	1042	TAD K7773	
1314	7040	CMA	
1315	7450	SNA	
1316	7430	SZL	
1317	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

/RAR TEST 16

1320	7200	CLA	
1321	7100	CLL	
1322	1023	TAD K0004	/ROTATE PATTERN
1323	7010	RAR	
1324	1041	TAD K7775	
1325	7040	CMA	
1326	7450	SNA	
1327	7430	SZL	
1330	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

/RAR TEST 17

1331	7200	CLA	
1332	7100	CLL	
1333	1022	TAD K0002	/ROTATE PATTERN
1334	7010	RAR	
1335	1040	TAD K7776	
1336	7040	CMA	
1337	7450	SNA	
1340	7430	SZL	
1341	7402	HLT	/RAR FAILED AC AND LINK /SHOULD EQUAL 0000

/RAR TEST 18

1342	7200	CLA	
1343	7100	CLL	
1344	1021	TAD K0001	/ROTATE PATTERN
1345	7010	RAR	
1346	1054	TAD K7777	
1347	7040	CMA	

1350	7450	SNA	
1351	7420	SNL	
1352	7402	HLT	/RAR FAILED AC AND LINK
			/SHOULD EQUAL 0000

/RTR TEST 1

1353	7200	CLA	
1354	7100	CLL	
1355	1022	TAC K0002	/ROTATE PATTERN
1356	7012	RTR	
1357	7420	SNL	
1360	7402	HLT	/RTR FAILED LINK DROPPED
			/A BIT LINK SHOULD EQUAL A ONE

/RTR TEST 2

1361	7200	CLA	
1362	7100	CLL	
1363	1020	TAD K0000	/ROTATE PATTERN
1364	7012	RTR	
1365	7440	SZA	
1366	7402	HLT	/RTR FAILED AC PICKED UP A BIT
			/A ONE IN AC EQUALS THE PICKED UP BIT

/RTR TEST 3

1367	7200	CLA	
1370	7100	CLL	
1371	1020	TAD K0000	/ROTATE PATTERN
1372	7012	RTR	
1373	7430	SZL	
1374	7402	HLT	/RTR LINK PICKED UP A BIT
			/LINK SHOULD EQUAL ZERO

/RTR TEST 4

1375	7200	CLA	
1376	7100	CLL	
1377	7020	CML	
1400	1020	TAD K0000	/ROTATE PATTERN
1401	7012	RTR	
1402	7430	SZL	
1403	7402	HLT	/RTR LINK PICKED UP A BIT
			/LINK SHOULD EQUAL ZERO

/RTR TEST 5

1404	7200	CLA	
1405	7100	CLL	
1406	7020	CML	
1407	1054	TAD K7777	/ROTATE PATTERN
1410	7012	RTR	
1411	7040	CMA	
1412	7440	SEA	
1413	7402	HLT	/RTR AC DROPPED A BIT A ONE IN
			/AC EQUALS THE DROPPED BIT

/RTR TEST 6

1414	7200	CLA	
1415	7100	CLL	
1416	7020	CML	
1417	1020	TAD K0000	/ROTATE PATTERN
1420	7012	RTR	

1421	1052	TAD K5777	
1422	7040	CMA	
1423	7450	SNA	
1424	7430	SZL	
1425	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 7

1426	7200	CLA	
1427	7100	CLL	
1430	1036	TAD K4000	/ROTATE PATTERN
1431	7012	RTR	
1432	1051	TAD K6777	
1433	7040	CMA	
1434	7450	SNA	
1435	7430	SZL	
1436	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 8

1437	7200	CLA	
1440	7100	CLL	
1441	1034	TAD K2000	/ROTATE PATTERN
1442	7012	RTR	
1443	1050	TAD K7377	
1444	7040	CMA	
1445	7450	SNA	
1446	7430	SZL	
1447	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 9

1450	7200	CLA	
1451	7100	CLL	
1452	1032	TAD K1000	/ROTATE PATTERN
1453	7012	RTR	
1454	1047	TAD K7577	
1455	7040	CMA	
1456	7450	SNA	
1457	7430	SZL	
1460	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 10

1461	7200	CLA	
1462	7100	CLL	
1463	1031	TAD K0400	/ROTAATE PATTERN
1464	7012	RTR	
1465	1046	TAD K7677	
1466	7040	CMA	
1467	7450	SNA	
1470	7430	SZL	
1471	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 11

1472	7200	CLA	
1473	7100	CLL	

1474	1030	TAD K0200	/ROTATE PATTERN
1475	7012	RTR	
1476	1045	TAD K7737	
1477	7040	CMA	
1500	7450	SNA	
1501	7430	SZL	
1502	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 12

1503	7200	CLA	
1504	7100	CLL	
1505	1027	TAD K0100	/ROTATE PATTERN
1506	7012	RTR	
1507	1044	TAD K7757	
1510	7040	CMA	
1511	7450	SNA	
1512	7430	SZL	
1513	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 13

1514	7200	CLA	
1515	7100	CLL	
1516	1026	TAD K0040	/ROTATE PATTERN
1517	7012	RTR	
1520	1043	TAD K7767	
1521	7040	CMA	
1522	7450	SNA	
1523	7430	SZL	
1524	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 14

1525	7200	CLA	
1526	7100	CLL	
1527	1025	TAD K0020	/ROTATE PATTERN
1530	7012	RTR	
1531	1042	TAD K7773	
1532	7040	CMA	
1533	7450	SNA	
1534	7430	SZL	
1535	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 15

1536	7200	CLA	
1537	7100	CLL	
1540	1024	TAD K0010	/ROTATE PATTERN
1541	7012	RTR	
1542	1041	TAD K7775	
1543	7040	CMA	
1544	7450	SNA	
1545	7430	SZL	
1546	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 16

1547	7300	CLA CLL	
1550	1023	TAD K0004	/ROTATE PATTERN
1551	7012	RTR	
1552	1040	TAD K7776	
1553	7040	CMA	
1554	7450	SNA	
1555	7430	SZL	
1556	7402	HLT	/RTR FAILED AC AND LINK /SHOULD EQUAL 0000

/RTR TEST 17

1557	7200	CLA	
1560	7100	CLL	
1561	1022	TAD K0002	/ROTATE PATTERN
1562	7012	RTR	
1563	7450	SNA	
1564	7420	SNL	
1565	7402	HLT	/RTR FAILED. AC SHOULD EQUAL /0000, LINK SHOULD EQUAL ONE

/RTR TEST 18

1566	7200	CLA	
1567	7100	CLL	
1570	1021	TAD K0001	/ROTATE PATTERN
1571	7012	RTR	
1572	1053	TAD K3777	
1573	7040	CMA	
1574	7450	SNA	
1575	7430	SZL	
1576	7402	HLT	/RTR FAILED. AC AND LINK /SHOULD BE ZERO

/RAL TEST 1

1577	7200	CLA	
1600	7100	CLL	
1601	1036	TAD K4000	/ROTATE PATTERN
1602	7004	RAL	
1603	7430	SZL	
1604	7440	SZA	
1605	7402	HLT	/RAL FAILED. AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE.

/RAL TEST 2

1606	7200	CLA	
1607	7100	CLL	
1610	1020	TAD K0000	/ROTATE PATTERN
1611	7004	RAL	
1612	7420	SNL	
1613	7440	SZA	
1614	7402	HLT	/RAL FAILED. AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/RAL TEST 3

1615	7200	CLA	
1616	7100	CLL	
1617	7020	CML	

1620	1020	TAD K0000	/ROTATE PATTERN. LINK#1
1621	7004	RAL	
1622	7430	SZL	
1623	7402	HLT	/RAL FAILURE. AC SHOULD EQUAL 0001 /LINK SHOULD EQUAL ZERO

/RAL TEST 4

1624	7200	CLA	
1625	7100	CLL	
1626	7020	CML	
1627	1034	TAD K7777	/ROTATE PATTERN. LINK#1
1630	7004	RAL	
1631	7040	CMA	
1632	7440	SEA	
1633	7402	HLT	/RAL FAILURE. LINK SHOULD EQUAL ONE /AC SHOULD EQUAL 0000

/RAL TEST 5

1634	7200	CLA	
1635	7100	CLL	
1636	1034	TAD K2000	/ROTATE PATTERN
1637	7004	RAL	
1640	1053	TAD K3777	
1641	7040	CMA	
1642	7450	SNA	
1643	7430	SZL	
1644	7402	HLT	/RAL FAILURE. AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ONE

/RAL TEST 6

1645	7200	CLA	
1646	7100	CLL	
1647	1032	TAD K1000	/ROTATE PATTERN
1650	7004	RAL	
1651	1052	TAD K5777	
1652	7040	CMA	
1653	7440	SEA	
1654	7402	HLT	/RAL FAILURE. AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/RAL TEST 7

1655	7200	CLA	
1656	7100	CLL	
1657	1031	TAD K0400	/ROTATE PATTERN
1660	7004	RAL	
1661	1051	TAD K6777	
1662	7040	CMA	
1663	7450	SNA	
1664	7430	SZL	
1665	7402	HLT	/RAL FAILURE. AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL ZERO

/RAL TEST 8

1666	7200	CLA	
1667	7100	CLL	
1670	1030	TAD K0200	/ROTATE PATTERN
1671	7004	RAL	

1672	1050	TAD K7377	
1673	7040	CMA	
1674	7450	SNA	
1675	7430	SZL	/RAL FAILURE AC SHOULD EQUAL 0000
1676	7402	HLT	/LINK SHOULD EQUAL ZERO

/RAL TEST 9

1677	7200	CLA	
1700	7100	CLL	
1701	1027	TAD K0100	/ROTATE PATTERN
1702	7004	RAL	
1703	1047	TAD K7577	
1704	7040	CMA	
1705	7450	SNA	
1706	7430	SZL	/RAL FAILURE AC SHOULD EQUAL 0000
1707	7402	HLT	/LINK SHOULD EQUAL ZERO

/RAL TEST 10

1710	7200	CLA	
1711	7100	CLL	
1712	1026	TAD K0040	/ROTATE PATTERN
1713	7004	RAL	
1714	1046	TAD K7677	
1715	7040	CMA	
1716	7450	SNA	
1717	7430	SZL	/RAL FAILURE AC SHOULD EQUAL 0000
1720	7402	HLT	/LINK SHOULD EQUAL A ZERO

/RAL TEST 11

1721	7200	CLA	
1722	7100	CLL	
1723	1025	TAD K0020	/ROTATE PATTERN
1724	7004	RAL	
1725	1045	TAD K7737	
1726	7040	CMA	
1727	7450	SNA	
1730	7430	SZL	/RAL FAILURE AC SHOULD EQUAL 0000
1731	7402	HLT	/LINK SHOULD EQUAL A ZERO

/RAL TEST 12

1732	7200	CLA	
1733	7100	CLL	
1734	1024	TAD K0010	/ROTATE PATTERN
1735	7004	RAL	
1736	1044	TAD K7757	
1737	7040	CMA	
1740	7450	SNA	
1741	7430	SZL	/RAL FAILURE AC SHOULD EQUAL 0000
1742	7402	HLT	/LINK SHOULD EQUAL A ZERO

/RAL TEST 13

1743	7200	CLA	
1744	7100	CLL	
1745	1023	TAD K0004	/ROTATE PATTERN
1746	7004	RAL	
1747	1043	TAD K7767	

1730	7000	CMA	
1731	7430	SNA	
1732	7430	SZL	/RAL FAILED AC SHOULD EQUAL 0000
1733	7402	HLT	/LINK SHOULD EQUAL A ZERO

/RAL TEST 14

1734	7200	CLA	
1735	7100	CLL	
1736	1022	TAD K0002	/ROTATE PATTERN

1737	7004	RAL	
1740	1042	TAD K7773	
1741	7040	CMA	
1742	7450	SNA	
1743	7430	SZL	/RAL FAILED AC SHOULD EQUAL 0000
1744	7402	HLT	/LINK SHOULD EQUAL A ZERO

/RAL TEST 15

1745	7200	CLA	
1746	7100	CLL	
1747	1021	TAD K0001	/ROTATE PATTERN

1748	7004	RAL	
1749	1041	TAD K7775	
1750	7040	CMA	
1751	7450	SNA	
1752	7430	SZL	/RAL FAILED AC SHOULD EQUAL 0000
1753	7402	HLT	/LINK SHOULD EQUAL ZERO

/RAL TEST 16

1754	7200	CLA	
1755	7100	CLL	
2000	7020	CML	
2001	7004	RAL	
2002	1040	TAD K7776	
2003	7040	CMA	
2004	7450	SNA	
2005	7430	SZL	
2006	7402	HLT	/RAL FAILED AC SHOULD EQUAL 0000
			/LINK SHOULD EQUAL ZERO

/RTL TEST 1

2007	7200	CLA	
2010	7100	CLL	
2011	1034	TAD K2000	
2012	7006	RTL	
2013	7420	SNL	
2014	7402	HLT	/RTL LINK DROPPED A BIT
			/LINK SHOULD EQUAL A ONE

/RTL TEST 2

2015	7200	CLA	
2016	7100	CLL	
2017	1020	TAD K0000	/ROTATE PATTERN
2020	7006	RTL	
2021	7440	SEA	
2022	7402	HLT	/RTL AC PICKED UP A BIT

/A ONE IN AC EQUALS THE PICKED UP

/RTL TEST 3

2023	7200	CLA	
------	------	-----	--

2024 7100 CLL
 2025 1020 TAD K0000
 2026 7006 RTL
 2027 7430 SEL
 2030 7402 HLT

/ROTATE PATTERN

/RTL LINK PICKED UP A BIT
 /LINK SHOULD EQUAL ZERO

/RTL TEST 4

2031 7200 CLA
 2032 7100 CLL
 2033 7020 CML
 2034 1020 TAD K0000
 2035 7006 RTL
 2036 7430 SEL
 2037 7402 HLT

/ROTATE PATTERN

/RTL FAILURE. LINK PICKED UP A BIT
 /LINK SHOULD EQUAL A ZERO

/RTL TEST 5

2040 7200 CLA
 2041 7100 CLL
 2042 7020 CML
 2043 1054 TAD K7777
 2044 7006 RTL
 2045 7040 CMA
 2046 7440 SEA
 2047 7402 HLT

/ROTATE PATTERN

/RTL FAILURE. DROPPED A BIT

/RTL TEST 6

2050 7200 CLA
 2051 7100 CLL
 2052 1036 TAD K0000
 2053 7006 RTL
 2054 1040 TAD K7776
 2055 7040 CMA
 2056 7430 SNA
 2057 7430 SEL
 2060 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD EQUAL 0000

/RTL TEST 7

2061 7200 CLA
 2062 7100 CLL
 2063 1034 TAD K2000
 2064 7006 RTL
 2065 7430 SNA
 2066 7420 SNL
 2067 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
 /EQUAL 0000

/RTL TEST 8

2070 7200 CLA
 2071 7100 CLL
 2072 1032 TAD K1000
 2073 7006 RTL
 2074 1053 TAD K3777
 2075 7040 CMA
 2076 7450 SNA
 2077 7430 SEL
 2100 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD

/EQUAL 0000

/RTL TEST 9

2101	7200	CLA
2102	7100	CLL
2103	1031	TAD K0400
2104	7006	RTL
2105	1092	TAD K5777
2106	7040	CMA
2107	7450	SNA
2110	7430	SZL
2111	7402	HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
/EQUAL ZERO

/RTL TEST 10

2112	7200	CLA
2113	7100	CLL
2114	1030	TAD K0200
2115	7006	RTL
2116	1051	TAD K6777
2117	7040	CMA
2120	7450	SNA
2121	7430	SZL
2122	7402	HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/RTL TEST 11

2123	7200	CLA
2124	7100	CLL
2125	1027	TAD K0100
2126	7006	RTL
2127	1050	TAD K7377
2130	7040	CMA
2131	7450	SNA
2132	7450	SZL
2133	7402	HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/RTL TEST 12

2134	7200	CLA
2135	7100	CLL
2136	1026	TAD K0040
2137	7006	RTL
2140	1047	TAD K7577
2141	7040	CMA
2142	7450	SNA
2143	7450	SZL
2144	7402	HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/RTL TEST 13

2145	7200	CLA
2146	7100	CLL
2147	1025	TAD K0000
2150	7006	RTL
2151	1046	TAD K7677

/ROTATE PATTERN

2152 7040 CMA
2153 7450 SNA
2154 7430 SZL
2155 7402 HLT

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/RTL TEST 14

2156 7200 CLA
2157 7100 CLL
2160 1024 TAD K0010
2161 7006 RTL
2162 1045 TAD K7737
2163 7040 CMA
2164 7450 SNA
2165 7430 SZL
2166 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD

/RTL TEST 15

2167 7200 CLA
2170 7100 CLL
2171 1023 TAD K0004
2172 7006 RTL
2173 1044 TAD K7757
2174 7040 CMA
2175 7450 SNA
2176 7430 SZL
2177 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK SHOULD
/EQUAL 0000

/RTL TEST 16

2200 7200 CLA
2201 7100 CLL
2202 1022 TAD K0002
2203 7006 RTL
2204 1043 TAD K7767
2205 7040 CMA
2206 7450 SNA
2207 7430 SZL
2210 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTL TEST 17

2211 7200 CLA
2212 7100 CLL
2213 1021 TAD K0001
2214 7006 RTL
2215 1042 TAD K7773
2216 7040 CMA
2217 7450 SNA
2220 7430 SZL
2221 7402 HLT

/ROTATE PATTERN

/RTL FAILED AC AND LINK
/SHOULD EQUAL 0000

/RTL TEST 18

2222 7200 CLA
2223 7100 CLL
2224 7020 CML
2225 7006 RTL

2226 1041 YAD K7773
 2227 7040 CMA
 2230 7450 SNA
 2231 7430 SEL
 2232 7402 HLT

/RTL FAILED AC AND LINK
 /SHOULD EQUAL 0000

/BSW TEST 1

2233 7200 CLA
 2234 7100 CLL
 2235 7040 CMA
 2236 7002 BSW
 2237 7040 CMA
 2240 7420 SNL
 2241 7440 SEA
 2242 7402 HLT

/AC=7777
 /SWAP BYTES AC SHOULD EQUAL 7777

/DID LINK SET?

/BSW FAILED
 /AC AND LINK SHOULD=0000

/BSW TEST 2

2243 7200 CLA
 2244 7100 CLL
 2245 7020 CHL
 2246 7002 BSW
 2247 7400 SNA
 2250 7420 SNL
 2251 7402 HLT

/LINK=1
 /SWAP BYTES AC SHOULD EQUAL 0000

/BSW CAUSED THE LINK
 /TO ROTATE

/BSW TEST 3

2252 7200 CLA
 2253 7100 CLL
 2254 1101 YAD K7700
 2255 7002 BSW
 2256 1101 YAD K7700
 2257 7040 CMA
 2260 7420 SNL
 2261 7440 SEA
 2262 7402 HLT

/AC=7700
 /SWAP BYTES AC SHOULD EQUAL 0077
 /AC=7777
 /AC=0000

/BSW FAILED AC AND LINK
 /SHOULD=0000

/BSW TEST 4

2263 7200 CLA
 2264 7100 CLL
 2265 1074 YAD K0077
 2266 7002 BSW
 2267 1074 YAD K0077
 2270 7040 CMA
 2271 7420 SNL
 2272 7440 SEA
 2273 7402 HLT

/AC=0077
 /SWAP BYTES AC SHOULD EQUAL 7700
 /AC=7777

/BSW FAILED AC AND LINK
 /SHOULD=0000

/BSW TEST 5

2274 7300 CLA CLL
 2275 1104 YAD K0770
 2276 7002 BSW
 2277 1104 YAD K0770
 2300 7040 CMA

/SWAP BYTES AC SHOULD EQUAL 7007

2301 7420
2302 7440
2303 7402

SNL
SZA
HLT

/BSW FAILED AC AND LINK
/SHOULD EQUAL 0000

/BSW TEST 6

2304 7320
2305 1105
2306 7002
2307 1105
2310 7040
2311 7430
2312 7440
2313 7402

CLA CLL CML
TAD K7007
BSW
TAD K7007
CMA
SZL
SZA
HLT

/SWAP BYTES AC SHOULD EQUAL 0770

/BSW FAILED AC
/SHOULD EQUAL 0000 AND LINK=1

/BSW TEST 7

2314 7200
2315 7100
2316 1102
2317 7002
2320 1102
2321 7040
2322 7420
2323 7440
2324 7402

CLA
CLL
TAD K5225
BSW
TAD K5225
CMA
SNL
SZA
HLT

/AC=5225
/SWAP BYTES AC SHOULD EQUAL 2552
/AC=7777

/BSW FAILED AC AND LINK
/SHOULD=0000

/BSW TEST 8

2325 7200
2326 7100
2327 1103
2330 7002
2331 1103
2332 7040
2333 7420
2334 7440
2335 7402

CLA
CLL
TAD K2552
BSW
TAD K2552
CMA
SNL
SZA
HLT

/AC=2552
/SWAP BYTES AC SHOULD EQUAL 5225
/AC=7777

/BSW FAILED AC AND LINK
/SHOULD=0000

/GROUP 1 OPERATE TEST 1

2336 7200
2337 7100
2340 7040
2341 7020
2342 7300
2343 7420
2344 7440
2345 7402

CLA
CLL
CMA
CML
CLA CLL
SNL
SZA
HLT

/CLEAR AC
/CLEAR LINK
/AC EQUALS 7777
/LINK EQUALS ONE
/TEST COMBINATION

/CLA CLL FAILED, LINK SHOULD BE 0
/AC SHOULD EQUAL 0000

/GROUP 1 OPERATE TEST 2

2346 7200
2347 1056
2350 7240
2351 7040
2352 7440
2353 7402

CLA
TAD K2525
CLA CMA
CMA
SZA
HLT

/AC EQUALS 0000
/AC EQUALS 2525
/TEST COMBINATION
/CLA CMA ERROR, AC SHOULD

/BE 0000

/GROUP 1 OPERATE TEST 3

2354	7200	CLA	
2355	7100	CLL	
2356	7040	CMA	/AC=7777 LINK=1
2357	7140	CLL CMA	/TEST COMBINATION
2360	7420	SNL	
2361	7440	SZA	
2362	7402	HLT	/CLL CMA FAILED. AC AND LINK

/SHOULD BE ZERO

/GROUP 1 OPERATE TEST 4

2363	7100	CLL	
2364	7020	CML	/LINK=1
2365	7200	CLA	
2366	7040	CMA	/AC=7777
2367	7340	CLA CMA CLL	/TEST COMBINATION
2370	7040	CMA	
2371	7420	SNL	
2372	7440	SZA	
2373	7402	HLT	/CLA CMA CLL FAILED. AC AND

/LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 5

2374	7200	CLA	
2375	7100	CLL	/LINK=0
2376	7040	CMA	/AC=7777
2377	7220	CLA CML	/TEST COMBINATION
2400	7430	SZL	
2401	7440	SZA	
2402	7402	HLT	/CLA CML FAILED. AC SHOULD EQUAL

/0000. LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 6

2403	7100	CLL	
2404	7020	CML	/LINK=1
2405	7120	CLL CML	/TEST COMBINATION
2406	7420	SNL	
2407	7402	HLT	/CLL CML FAILED

/LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 7

2410	7100	CLL	/LINK=0
2411	7120	CLL CML	/TEST COMBINATION
2412	7420	SNL	
2413	7402	HLT	/CLL CML FAILED.

/LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 8

2414	7120	CLL CML	/LINK=1
2415	7240	CLA CMA	/AC=7777
2416	7320	CLA CLL CML	/TEST COMBINATION
2417	7430	SZL	
2420	7440	SZA	
2421	7402	HLT	/CLA CLL CML FAILED. LINK SHOULD

/BE 1, AC SHOULD BE ZERO

/GROUP 1 OPERATE TEST 9

2422	7340	CLA CLL CMA	/LINK=0, AC=7777
------	------	-------------	------------------

2423	7320	CLA CLL CML	/TEST COMBINATION
2424	7430	SZL	
2425	7440	SZA	
2426	7402	HLT	/CLA CLL CML FAILED, LINK SHOULD /BE 1, AC SHOULD BE ZERO

/GROUP 1 OPERATE TEST 10

2427	7340	CLA CLL CMA	/AC=7777, LINK=0
2430	7060	CMA CML	/TEST COMBINATION
2431	7430	SZL	
2432	7440	SZA	
2433	7402	HLT	/CMA CML FAILED, AC SHOULD BE /0000 LINK SHOULD EQUAL ONE.

/GROUP 1 OPERATE TEST 11

2434	7300	CLA CLL	/AC AND LINK=0
2435	1056	TAD K2525	/AC=2525
2436	7340	CLA CMA CLL	/TEST COMBINATION
2437	7040	CMA	
2440	7420	SNL	
2441	7440	SZA	
2442	7402	HLT	/CLA CMA CML FAILED, AC SHOULD BE /0000, LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 12

2443	7300	CLL CLA	/AC AND LINK=0
2444	1056	TAD K2525	/AC=2525
2445	7160	CLL CMA CML	/TEST COMBINATION
2446	1056	TAD K2525	
2447	7040	CMA	
2450	7430	SZL	
2451	7440	SZA	
2452	7402	HLT	/CLL CMA CML FAILED, AC SHOULD BE /0000, LINK SHOULD EQUAL ONE

/GROUP 1 OPERATE TEST 13

2453	7300	CLA CLL	
2454	7020	CML	/AC=0000, LINK=1
2455	7160	CLL CMA CML	/TEST COMBINATION
2456	7040	CMA	
2457	7430	SZL	
2460	7440	SZA	
2461	7402	HLT	/CLL CMA CML FAILED, AC SHOULD /BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 14

2462	7300	CLA CLL	
2463	1056	TAD K2525	/AC=2525, LINK=0
2464	7360	CLA CLL CMA CML	/TEST COMBINATION
2465	7040	CMA	
2466	7430	SZL	
2467	7440	SZA	
2470	7402	HLT	/CLA CLL CMA CML FAILED, AC SHOULD /BE 0000 LINK SHOULD EQUAL ONE.

/GROUP 1 OPERATE TEST 15

2471	7320	CLA CLL CML	
------	------	-------------	--

2472	1055	TAD K5252	/AC=5252, LINK=1
2473	7360	CLA CLL CMA CML /TEST COMBINATION	
2474	7040	CMA	
2475	7430	SEL	
2476	7440	SEA	
2477	7402	HLT	/CLA CLL CMA CML FAILED. AC SHOULD /BE 000. LINK SHOULD EQUAL ONE

/GROUP 1 OPERATE TEST 16

2500	7200	CLA	
2501	1056	TAD K2525	/AC=2525
2502	7201	CLA IAC	/TEST COMBINATION
2503	1040	TAD K7776	
2504	7040	CMA	
2505	7440	SEA	
2506	7402	HLT	/CLA IAC FAILED /AC SHOULD EQUAL 0000

/GROUP 1 OPERATE TEST 17

2507	7320	CLL CML CLA	
2510	1040	TAD K7776	/AC=7776, LINK=1
2511	7101	CLL IAC	/TEST COMBINATION
2512	7040	CMA	
2513	7420	SNL	
2514	7440	SEA	
2515	7402	HLT	/CLL IAC FAILED. AC AND LINK /SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 18

2516	7320	CLA CLL CML	
2517	1056	TAD K2525	/AC=2525 LINK=1
2520	7301	CLA CLL IAC	/TEST COMBINATION
2521	1040	TAD K7776	
2522	7040	CMA	
2523	7420	SNL	
2524	7440	SEA	
2525	7402	HLT	/CLA CLL IAC FAILED. AC AND LINK /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 19

2526	7300	CLA CLL	/AC=0 LINK=0
2527	7041	CMA IAC	/TEST COMBINATION
2530	7430	SEL	
2531	7440	SEA	
2532	7402	HLT	/CMA IAC FAILED. AC SHOULD EQUAL /0000. LINK SHOULD EQUAL ONE

/GROUP 1 OPERATE TEST 20

2533	7300	CLA CLL	
2534	1056	TAD K2525	/AC=2525 LINK=0
2535	7241	CLA CMA IAC	/TEST COMBINATION
2536	7430	SEL	
2537	7440	SEA	
2540	7402	HLT	/CLA CMA IAC FAILED. AC SHOULD /EQUAL 0000. LINK SHOULD BE ONE.

/GROUP 1 OPERATE TEST 21

2541	7320	CLL CLA CML	/AC=0000 LINK=1
2542	1021	TAD K0001	/AC=0001

```

2543 7141      CLL CMA IAC / /TEST COMB ION
2544 7040      CMA
2545 7420      SNL
2546 7440      SZA
2547 7402      HLT
                        /CLL CMA IAC FAILED, AC SHOULD BE
                        /0000 LINK SHOULD BE 0

```

/GROUP 1 OPERATE TEST 22

```

2550 7320      CLA CLL CML
2551 1056      TAD K2525 /AC=2525 LINK=1
2552 7341      CLA CLL CMA IAC /TEST COMBINATION
2553 7430      SZL
2554 7440      SZA
2555 7402      HLT
                        /CLA CLL CMA IAC FAILED, AC SHOULD BE
                        /0000. LINK SHOULD BE ONE

```

/GROUP 1 OPERATE TEST 23

```

2556 7300      CLA CLL
2557 1055      TAD K5252 /AC=5252 LINK=0
2560 7341      CLA CLL CMA IAC /TEST COMBINATION
2561 7430      SZL
2562 7440      SZA
2563 7402      HLT
                        /CLA CLL CMA IAC FAILED AC SHOULD
                        /BE 0000, LINK SHOULD BE ONE

```

/GROUP 1 OPERATE TEST 24

```

2564 7300      CLA CLL
2565 1040      TAD K7776 /AC=7776 LINK=0
2566 7021      CML IAC /TEST COMBINATION
2567 7040      CMA
2570 7430      SZL
2571 7440      SZA
2572 7402      HLT
                        /CML IAC FAILED AC SHOULD BE
                        /0000. LINK SHOULD BE ONE

```

/GROUP 1 OPERATE TEST 25

```

2573 7320      CLA CLL CML
2574 1040      TAD K7776 /AC =7776 LINK=1
2575 7021      CML IAC /TEST COMBINATION
2576 7040      CMA
2577 7420      SNL
2600 7440      SZA
2601 7402      HLT
                        /CML IAC FAILED, AC SHOULD BE
                        /0000. LINK SHOULD BE ZERO

```

/GROUP 1 OPERATE TEST 26

```

2602 7300      CLA CLL
2603 1056      TAD K2525 /AC=2525 LINK=0
2604 7221      CLA CML IAC /TEST COMBINATION
2605 1040      TAD K7776
2606 7040      CMA
2607 7430      SZL
2610 7440      SZA
2611 7402      HLT
                        /CLA CML IAC FAILED, AC SHOULD BE
                        /0000. LINK SHOULD EQUAL ONE

```

/GROUP 1 OPERATE TEST 27

```

2612 7320      CLA CLL CML /AC=2000 LINK=1
2613 1040      TAD K7776 /AC=7776

```

2614	7121	CLL CML IAC	/TEST COMBINATION
2615	7040	CMA	
2616	7432	SZL	
2617	7440	SEA	
2620	7402	HLT	/CLL CML IAC FAILURE. AC SHOULD BE /0000. LINK SHOULD EQUAL ONE.

/GROUP 1 OPERATE TEST 28

2621	7300	CLA CLL	
2622	1040	TAD K7776	/AC=7776 LINK=0
2623	7121	CLL CML IAC	/TEST COMBINATION
2624	7040	CMA	
2625	7430	SZL	
2626	7440	SEA	
2627	7402	HLT	/CLL CML IAC FAILED. AC SHOULD /BE 0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 29

2630	7300	CLA CLL	
2631	1056	TAD K2525	/AC=2525. LINK=0
2632	7321	CLA CLL CML IAC	/TEST COMBINATION
2633	1040	TAD K7776	
2634	7040	CMA	
2635	7430	SZL	
2636	7440	SEA	
2637	7402	HLT	/CLA CLL CML IAC FAILED. AC SHOULD /BE 0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 30

2640	7320	CLA CLL CML	
2641	1056	TAD K2525	/AC=2525 LINK=1
2642	7321	CLA CLL CML IAC	/TEST COMBINATION
2643	1040	TAD K7776	
2644	7040	CMA	
2645	7430	SZL	
2646	7440	SEA	
2647	7402	HLT	/CLA CLL CML IAC FAILED. AC SHOULD /BE 0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 31

2650	7300	CLA CLL	
2651	1021	TAD K0001	/AC=0001 LINK=0
2652	7061	CMA CML IAC	/TEST COMBINATION
2653	7040	CMA	
2654	7430	SZL	
2655	7440	SEA	
2656	7402	HLT	/CMA CML IAC FAILED. AC SHOULD /BE 0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 32

2657	7320	CLA CLL CML	
2660	1021	TAD K0001	/AC=0001 LINK=1
2661	7061	CMA CML IAC	/TEST COMBINATION
2662	7040	CMA	
2663	7420	SNL	
2664	7440	SEA	

2665 7402 HLT /CMA CML IAC FAILURE. AC SHOULD BE
/0000. LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 33

2666 7300 CLA CLL /AC=0000 LINK=0
2667 1056 TAD K2525 /AC=2525
2670 7261 CLA CMA CML IAC /TEST COMBINATION
2671 7420 SNL
2672 7430 SZL
2673 7402 HLT /CLA CMA CML IAC FAILED. AC SHOULD
/BE 0000. LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 34

2674 7320 CLA CLL CML
2675 1056 TAD K2525 /AC=2525 LINK=1
2676 7261 CLA CMA CML IAC /TEST COMBINATION
2677 7430 SZL
2700 7440 SZA
2701 7402 HLT /CLA CMA CML IAC FAILED. AC SHOULD
/BE 0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 35

2702 7300 CLA CLL
2703 1021 TAD K0001 /AC=0001 LINK=0
2704 7161 CLL CMA CML IAC /TEST COMBINATION
2705 7040 CMA
2706 7430 SZL
2707 7440 SZA
2710 7402 HLT /CLL CMA CML IAC FAILED. AC SHOULD BE
/0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 36

2711 7320 CLA CLL CML
2712 1021 TAD K0001 /AC=0001 LINK=1
2713 7161 CLL CMA CML IAC /TEST COMBINATION
2714 7040 CMA
2715 7430 SZL
2716 7440 SZA
2717 7402 HLT /CLL CMA CML IAC FAILED. AC SHOULD BE
/0000. LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 37

2720 7300 CLA CLL
2721 1056 TAD K2525 /AC=2525 LINK=0
2722 7361 CLA CLL CMA CML IAC /TEST COMBINATION
2723 7420 SNL
2724 7440 SZA
2725 7402 HLT /CLA CLL CMA CML IAC FAILURE AC AND
/LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 38

2726 7360 CLA CMA CLL CML /AC=7777 LINK=1
2727 7210 CLA RAR /TEST COMBINATION
2730 1053 TAD K3777
2731 7040 CMA
2732 7420 SNL
2733 7440 SZA
2734 7402 HLT /CLA RAR FAILED. LINK AND
/AC SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 39

2735	7360	CLA CMA CLL CML	/AC=7777 LINK=1
2736	7204	CLA RAL	/TEST COMBINATION
2737	1040	TAD K7776	
2740	7040	CMA	
2741	7420	SNL	
2742	7440	SZA	
2743	7402	HLT	/CLA RAL FAILED LINK AND /AC SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 40

2744	7360	CLA CMA CLL CML	/AC=7777 LINK =1
2745	7212	CLA RTR	/TEST COMBINATION
2746	1052	TAD K5777	
2747	7040	CMA	
2750	7420	SNL	
2751	7440	SZA	
2752	7402	HLT	/CLA RTR FAILED. AC AND /LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 41

2753	7360	CLA CMA CLL CML	/AC=7777, LINK=1
2754	7206	CLA RTL	/TEST COMBINATION
2755	1041	TAD K7775	
2756	7040	CMA	
2757	7420	SNL	
2760	7440	SZA	
2761	7402	HLT	/CLA RTL FAILED. AC AND LINK /SHOULDBE ZERO

/GROUP 1 OPERATE TEST 42

2762	7320	CLA CLL CML	
2763	1026	TAD K0040	/AC=0040 LINK=1
2764	7110	CLL RAR	/TEST COMBINATION
2765	1044	TAD K7757	
2766	7040	CMA	
2767	7420	SNL	
2770	7440	SZA	
2771	7402	HLT	/CLL RAR FAILED. AC AND LINK /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 43

2772	7320	CLA CLL CML	
2773	1026	TAD K0040	/AC=0040 LINK=1
2774	7104	CLL RAL	/TEST COMBINATION
2775	1046	TAD K7677	
2776	7040	CMA	
2777	7420	SNL	
3000	7440	SZA	
3001	7402	HLT	/CLL RAL FAILED. AC AND LINK /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 44

3002	7320	CLA CLL CML	
3003	1026	TAD K0040	/AC=0040 LINK=1
3004	7112	CLL RTR	/TEST COMBINATION

3005	1043	TAD K7767	
3006	7040	CMA	
3007	7420	SNL	
3010	7440	SZA	
3011	7402	HLT	/CLL RTR FAILED. AC AND LINK /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 45

3012	7320	CLA CLL CML	
3013	1026	TAD K0040	/AC=0040 LINK=1
3014	7106	CLL RTL	/TEST COMBINATION
3015	1047	TAD K7577	
3016	7040	CMA	
3017	7420	SNL	
3020	7440	SZA	
3021	7402	HLT	/CLL RTL FAILED. AC AND LINK /SHOULD BE ZERO

/GROUP 1 OPERATE TEST 46

3022	7360	CLA CLL CML CMA	/AC=7777 LINK=1
3023	7310	CLL CLA RAR	/TEST COMBINATION
3024	7420	SNL	
3025	7440	SZA	
3026	7402	HLT	/CLL CLA RAR FAILED AC AND /LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 47

3027	7360	CLA CMA CLL CML	/AC=7777 LINK=1
3030	7304	CLL CLA RAL	/TEST COMBINATION
3031	7420	SNL	
3032	7430	SZL	
3033	7402	HLT	/CLL CLA RAL FAILED. AC AND /LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 48

3034	7360	CLA CMA CLL CML	/AC=7777 LINK=1
3035	7312	CLA CLL RTR	/TEST COMBINATION
3036	7420	SNL	
3037	7440	SZA	
3040	7402	HLT	/CLA CLL RTL FAILED. AC AND /LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 49

3041	7360	CLA CMA CLL CML	/AC=7777 LINK=1
3042	7306	CLA CLL RTL	/TEST COMBINATION
3043	7420	SNL	
3044	7440	SZA	
3045	7402	HLT	/CLA CLL RTL FAILED. AC AND /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 50

3046	7300	CLA CLL	/AC=0000 LINK=0
3047	7030	CML RAR	/TEST COMBINATION
3050	1053	TAD K3777	
3051	7040	CMA	
3052	7420	SNL	
3053	7440	SZA	
3054	7402	HLT	/CML RAR FAILED. AC AND LINK /SHOULD BE ZERO

```

/GROUP 1 OPERATE TEST 51
3055 7300      CLA CLL      /AC=0000 LINK=0
3056 7024      CML RAL      /TEST COMBINATION
3057 1040      TAD K7776
3060 7040      CMA
3061 7420      SNL
3062 7440      SZA
3063 7402      HLT          /CML RAL FAILED, AC AND LINK
                             /SHOULD BE ZERO.

```

```

/GROUP 1 OPERATE TEST 52
3064 7300      CLA CLL      /AC=0000 LINK=0
3065 7032      CML RTR      /TEST COMBINATION
3066 1052      TAD K5777
3067 7040      CMA
3070 7420      SNL
3071 7440      SZA
3072 7402      HLT          /CML RTR FAILED, AC AND LINK
                             /SHOULD EQUAL ZERO

```

```

/GROUP 1 OPERATE TEST 53
3073 7300      CLA CLL      /AC=0000 LINK=0
3074 7026      CML RTL      /TEST COMBINATION
3075 1041      TAD K7775
3076 7040      CMA
3077 7420      SNL
3100 7440      SZA
3101 7402      HLT          /CML RTL FAILED, AC AND LINK
                             /SHOULD EQUAL ZERO

```

```

/GROUP 1 OPERATE TEST 54
3102 7300      CLA CLL
3103 1055      TAD K5252      /AC=5252 LINK=0
3104 7230      CLA CML RAR    /TEST COMBINATION
3105 1053      TAD K3777
3106 7040      CMA
3107 7420      SNL
3110 7440      SZA
3111 7402      HLT          /CLA CML RAR FAILED, AC AND

```

PAUSE

```

/INSTRUCTION TEST - 1
/GROUP 1 OPERATE TEST 55
/TAPE 3

```

```

3112 7300      CLA CLL
3113 1055      TAD K5252      /AC=5252 LINK=0
3114 7224      CLA CML RAL    /TEST COMBINATION
3115 1040      TAD K7776
3116 7040      CMA
3117 7420      SNL
3120 7440      SZA
3121 7402      HLT          /CLA CML RAL FAILED, AC AND
                             /LINK SHOULD BE ZERO

```

```

/GROUP 1 OPERATE TEST 56
3122 7300      CLA CLL

```

3123	1055	TAD K5252	/AL 52 LINK=0
3124	7232	CLA CML RTR	/TEST COMBINATION
3125	1052	TAD K5777	
3126	7040	CMA	
3127	7420	SNL	
3130	7440	SZA	
3131	7402	HLT	/CLA CML RTR FAILED, AC AND /LINK SHOULD BE ZERO

/GROUP 1 OPERATE TEST 57

3132	7300	CLA CLL	
3133	1055	TAD K5252	/AC=5252 LINK=0
3134	7226	CLA CML RTL	/TEST COMBINATION
3135	1041	TAD K7775	
3136	7040	CMA	
3137	7420	SNL	
3140	7440	SZA	
3141	7402	HLT	/CLA CML RTL FAILED, AC AND /LINK SHOULD EQUAL ZERO

/GROUP 1 OPERATE TEST 58

3142	7300	CLA CLL	/AC=0000 LINK=0
3143	7130	CLL CML RAR	/TEST COMBINATION
3144	7004	RAL	
3145	7430	SZL	
3146	7440	SZA	
3147	7402	HLT	/CLL CML RAR FAILED, AC SHOULD /BE 0000 LINK SHOULD BE 1

/GROUP 1 OPERATE TEST 59

3150	7320	CLA CLL CML	/AC=0000 LINK=1
3151	7130	CLL CML RAR	/TEST COMBINATION
3152	7004	RAL	
3153	7430	SZL	
3154	7440	SZA	
3155	7402	HLT	/CLL CML RAR FAILED, AC SHOULD BE /0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 60

3156	7300	CLA CLL	/AC=0000 LINK=0
3157	7124	CLL CML RAL	/TEST COMBINATION
3160	7010	RAR	
3161	7430	SZL	
3162	7440	SZA	
3163	7402	HLT	/CLL CML RAL FAILED, AC SHOULD /EQUAL 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 61

3164	7320	CLA CLL CML	/AC=0000 LINK=1
3165	7124	CLL CML RAL	/TEST COMBINATION
3166	7010	RAR	
3167	7430	SZL	
3170	7440	SZA	
3171	7402	HLT	/CLL CML RAL FAILED, AC SHOULD /EQUAL 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 62

3172	7300	CLA CLL	/AC=0000 LINK=0
3173	7132	CLL CML RTR	/TEST COMBINATION

3174	7006	RTL	
3175	7430	SZL	
3176	7440	SZA	
3177	7402	HLT	/CLL CML RTR FAILED. AC SHOULD /BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 63

3200	7320	CLA CLL CML	/AC=0000 LINK=1
3201	7132	CLL CML RTR	/TEST COMBINATION
3202	7006	RTL	
3203	7430	SZL	
3204	7440	SZA	
3205	7402	HLT	/CLL CML RTR FAILED. AC SHOULD /BE 0000 LINK SHOULD BE ONE,

/GROUP 1 OPERATE TEST 64

3206	7300	CLA CLL	/AC=0000 LINK=0
3207	7126	CLL CML RTL	/TEST COMBINATION
3210	7012	RTR	
3211	7430	SZL	
3212	7440	SZA	
3213	7402	HLT	/CLL CML RTL FAILED. AC SHOULD /BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 65

3214	7320	CLA CLL CML	/AC=0000 LINK=1
3215	7126	CLL CML RTL	/TEST COMBINATION
3216	7012	RTR	
3217	7430	SZL	
3220	7440	SZA	
3221	7402	HLT	/CLL CML RTL FAILED. AC SHOULD /BE 0000, LINK SHOULD BE A ONE.

/GROUP 1 OPERATE TEST 66

3222	7300	CLA CLL	
3223	1055	TAD K0252	/AC=5252 LINK=0
3224	7330	CLA CLL CML RAR	/TEST COMBINATION
3225	7004	RAL	
3226	7430	SZL	
3227	7440	SZA	
3230	7402	HLT	/CLA CLL CML RAR FAILED. AC SHOULD /BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 67

3231	7320	CLA CLL CML	
3232	1056	TAD K2525	/AC=2525 LINK=1
3233	7330	CLA CLL CML RAR	/TEST COMBINATION
3234	7004	RAL	
3235	7430	SZL	
3236	7440	SZA	
3237	7402	HLT	/CLA CLL CML RAR FAILED. AC SHOULD /BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 68

3240	7300	CLA CLL	
3241	1056	TAD K2525	/AC=2525 LINK=0
3242	7324	CLA CLL CML RAL	/TEST COMBINATION

3243	7010	RAR	
3244	7430	SZL	
3245	7440	SZA	
3246	7402	HLT	/CLA CLL CML RAL FAILED. AC SHOULD /BE 0000, LINK SHOULD BE ONE

/GROUP 1 OPERATE TEST 69

3247	7320	CLA CLL CML	
3250	1055	TAD K5252	/AC=5252 LINK=1
3251	7324	CLA CLL CML RAL	/TEST COMBINATION
3252	7010	RAR	
3253	7430	SZL	
3254	7440	SZA	
3255	7402	HLT	/CLA CLL CML RAL FAILED. AC SHOULD /BE 0000 LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 70

3256	7300	CLA CLL	
3257	1056	TAD K2525	/AC=2525 LINK=0
3260	7332	CLA CLL CML RTR	/TEST COMBINATION
3261	7006	RTL	
3262	7430	SZL	
3263	7440	SZA	
3264	7402	HLT	/CLA CLL CML RTR FAILED. AC SHOULD /BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 71

3265	7320	CLA CLL CML	
3266	1055	TAD K5252	/AC=5252 LINK=1
3267	7332	CLA CLL CML RTR	/TEST COMBINATION
3270	7006	RTL	
3271	7430	SZL	
3272	7440	SZA	
3273	7402	HLT	/CLA CLL CML RTR FAILED. AC SHOULD /BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 72

3274	7300	CLL CLA	
3275	1056	TAD K2525	/AC=2525 LINK=0
3276	7326	CLA CLL CML RTL	/TEST COMBINATION
3277	7012	RTR	
3300	7430	SZL	
3301	7440	SZA	
3302	7402	HLT	/CLA CLL CML RTL FAILED. AC SHOULD /BE 0000, LINK SHOULD BE A ZERO

/GROUP 1 OPERATE TEST 73

3303	7320	CLL CLA CML	
3304	1055	TAD K5252	/AC=5252 LINK=1
3305	7326	CLA CLL CML RTL	/TEST COMBINATION
3306	7012	RTR	
3307	7430	SZL	
3310	7440	SZA	
3311	7402	HLT	/CLA CLL CML RTL FAILED. AC SHOULD /BE 0000, LINK SHOULD BE A ONE

/GROUP 1 OPERATE TEST 74

3312	7300	CLA CLL	
3313	1054	TAD K7777	/TEST PATTERN

```
3314 7041      CIA          /AC EQUALS 0001
3315 1040      TAD K7776
3316 7040      CMA
3317 7420      SNL
3320 7440      SZA          /CIA FAILED AC SHOULD EQUAL 0000
3321 7402      HLT          /LINK SHOULD EQUAL A ZERO
/GROUP 1 OPERATE TEST 75
3322 7300      CLA CLL
3323 1040      TAD K7776          /TEST PATTERN
3324 7041      CIA          /AC EQUALS 0002
3325 1041      TAD K7775
3326 7040      CMA
3327 7420      SNL
3330 7440      SZA          /CIA FAILED AC SHOULD EQUAL 0000
3331 7402      HLT          /LINK SHOULD EQUAL A ZERO
```

```
/GROUP 1 OPERATE TEST 76
3332 7300      CLA CLL
3333 1066      TAD K7774          /TEST PATTERN
3334 7041      CIA          /AC EQUALS 0004
3335 1042      TAD K7773
3336 7040      CMA
3337 7420      SNL
3340 7440      SZA          /CIA FAILED AC SHOULD EQUAL 0000
3341 7402      HLT          /LINK SHOULD EQUAL ZERO
```

```
/GROUP 1 OPERATE TEST 77
3342 7300      CLA CLL
3343 1065      TAD K7770          /TEST PATTERN
3344 7041      CIA          /AC EQUALS 0010
3345 1043      TAD K7767
3346 7040      CMA
3347 7420      SNL
3350 7440      SZA
3351 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
```

```
/GROUP 1 OPERATE TEST 78
3352 7300      CLA CLL
3353 1064      TAD K7760          /TEST PATTERN
3354 7041      CIA          /AC EQUALS 0020
3355 1044      TAD K7757
3356 7040      CMA
3357 7420      SNL
3360 7440      SZA
3361 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
/ LINK SHOULD EQUAL ZERO
```

```
/GROUP 1 OPERATE TEST 79
3362 7300      CLA CLL
3363 1063      TAD K7740          /TEST PATTERN
3364 7041      CIA
3365 1045      TAD K7737          /AC EQUALS 0040
3366 7040      CMA
3367 7420      SNL
3370 7440      SZA
3371 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
/ LINK SHOULD EQUAL ZERO
```

```

/GROUP 1 OPERATE TEST 80
3372 7300      CLA CLL
3373 1101      TAD K7700      /TEST PATTERN
3374 7041      CIA          /AC EQUALS 0100
3375 1046      TAD K7677
3376 7040      CMA
3377 7420      SNL
3400 7440      SEA
3401 7402      HLT          /CIA FAILED A SHOULD EQUAL 0000
                          /LINK SHOULD EQUAL ZERO

```

```

/GROUP 1 OPERATE TEST 81
3402 7300      CLA CLL
3403 1062      TAD K7600      /TEST PATTERN
3404 7041      CIA          /AC EQUALS 0200
3405 1047      TAD K7577
3406 7040      CMA
3407 7420      SNL
3410 7440      SEA
3411 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
                          /LINK SHOULD EQUAL ZERO

```

```

/GROUP 1 OPERATE TEST 82
3412 7300      CLA CLL
3413 1061      TAD K7400      /TEST PATTERN
3414 7041      CIA          /AC EQUALS 0400
3415 1050      TAD K7377
3416 7040      CMA
3417 7420      SNL
3420 7440      SEA
3421 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
                          /LINK SHOULD EQUAL ZERO

```

```

/GROUP 1 OPERATE TEST 83
3422 7300      CLA CLL
3423 1060      TAD K7000      /TEST PATTERN
3424 7041      CIA          /AC EQUALS 1000
3425 1051      TAD K6777
3426 7040      CMA
3427 7420      SNL
3430 7440      SEA
3431 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
                          /LINK SHOULD EQUAL ZERO

```

```

/GROUP 1 OPERATE TEST 84
3432 7300      CLA CLL
3433 1057      TAD K6000      /TEST PATTERN
3434 7041      CIA          /AC EQUALS 2000
3435 1052      TAD K5777
3436 7040      CMA
3437 7420      SNL
3440 7440      SEA
3441 7402      HLT          /CIA FAILED AC SHOULD EQUAL 0000
                          /LINK SHOULD EQUAL ZERO

```

/GROUP 1 OPERATE TEST 85

3442	7300	CLA CLL	
3443	1006	TAD K0000	/TEST PATTERN
3444	7041	CIA	/AC EQUALS 4000
3445	1003	TAD K3777	
3446	7040	CMA	
3447	7420	SNL	
3450	7440	SZA	
3451	7402	HLT	/CIA FAILED AC SHOULD EQUUA 000 /LINK SHOULD EQUALL ZERO
/GROUP 1 OPERATE TEST 86			
3452	7300	CLA CLL	
3453	1020	TAD K0000	/TEST PATTERN
3454	7041	CIA	/AC EQUALS 0000, LINK EQUALS A ONE
3455	7450	SNA	
3456	7420	SNL	
3457	7402	HLT	/CIA FAILED AC SHOULD EQUAL 0000 /LINK SHOULD EQUAL A ONE
/GROUP OPERATE TEST 87			
3460	7340	CLA CMA CLL	/AC=7777,L=0
3461	7311	CLA CLL IAC RAR	/AC=0,L=1
3462	7430	SZL	
3463	7440	SZA	
3464	7402	HLT	/ERROR; LINC NOT SET OR /AC NOT 0
/GROUP 1 OPERATE TEST 88			
3465	7360	CLA CMA CLL CML	/AC=7777,L=1
3466	7305	CLA CLL IAC RAL	/AC=2,L=0
3467	7430	SZL	
3470	7402	HLT	/ERROR; LINC NOT 0
3471	7041	CMA IAC	
3472	1022	TAD K0002	
3473	7440	SZA	
3474	7402	HLT	/ERROR AC NOT=2
/GROUP 1 OPERATE TEST 89			
3475	7320	CLA CLL CML	/AC=0,L=1
3476	7313	CLA CLL IAC RTR	/AC=4000,L=0
3477	7430	SZL	
3500	7402	HLT	/ERROR; LINC NOT 0
3501	7500	SMA	
3502	7402	HLT	/ERROR; AC NOT 4000
/GROUP 1 OPERATE TEST 90			
3503	7360	CLA CMA CLL CML	/AC=7777,L=1
3504	7307	CLA CLL IAC RTL	/AC=4,LINC=0
3505	7430	SZL	
3506	7402	HLT	/ERROR; LINC NOT 0
3507	7041	CMA IAC	
3510	1023	TAD K0004	
3511	7440	SZA	
3512	7402	HLT	/ERROR; AC NOT 4

/GROUP 1 OPERATE TEST 91

3513	7300	CLA CLL	/AC=0, L=0
3514	7331	CLA CLL CML IAC RAR	/AC=4000, L=1
3515	7520	SMA SNL	
3516	7402	HLT	/ERROR: AC NOT 4000 OR /LINC NOT 1

/GROUP 1 OPERATE TEST 92

3517	7300	CLA CLL	/AC=0, L=0
3520	7345	CLA CMA CLL IAC RAL	/AC=0001, L=0
3521	7430	SZL	
3522	7402	HLT	/LINC NOT=0
3523	7041	CMA IAC	
3524	1021	TAD K0001	
3525	7440	SZA	
3526	7402	HLT	/AC NOT 0001

/GROUP 1 OPERATE TEST 93

3527	7360	CLA CMA CLL CML	/AC=7777, L=1
3530	7373	CLA CMA CLL CML IAC RTR	/AC=0, L=0
3531	7440	SZA	
3532	7402	HLT	/ERROR;
3533	7430	SZL	
3534	7402	HLT	/ERROR;

/GROUP 1 OPERATE TEST 94

3535	7332	CLA CLL CML RTR	/L=0 AC=2000
3536	7006	RTL	/L=1 AC=0000
3537	7430	SZL	
3540	7440	SZA	
3541	7402	HLT	/CLA CLL CML RTR OR RTL FAILED

/GROUP 1 OPERATE TEST 95

3542	7360	CLA CMA CLL CML	
3543	7342	CLA CLL CMA BSW	/AC=7777 LINK=0
3544	7040	CMA	
3545	7420	SNL	
3546	7440	SZA	
3547	7402	HLT	/7742 FAILED

/GROUP 1 OPERATE TEST 96

3550	7360	CLA CMA CLL CML	
3551	7303	CLA CLL IAC BSW	/AC=0100 LINK=0
3552	1046	TAD K7677	/AC=7777
3553	7040	CMA	/AC=0000
3554	7420	SNL	
3555	7440	SZA	
3556	7402	HLT	/7703 FAILED

/GROUP 1 OPERATE TEST 97

3557	7360	CLA CMA CLL CML	
3560	7343	CLA CLL CMA IAC BSW	/AC=0000 LINK=1
3561	7430	SZL	

3562 7440 SZA
 3563 7402 HLT /7743 FAILED

/GROUP 1 OPERATE TEST 98

3564 7360 CLA CMA CLL CML
 3565 7363 CLA CLL CMA CML IAC BSW /AC=0000 LINK=0
 3566 7420 SNL
 3567 7440 SZA
 3570 7402 HLT /7763 FAILED

/GROUP 1 OPERATE TEST 99

3571 7300 CLA CLL
 3572 1033 TAD K1234
 3573 7063 CMA CML IAC BSW /AC=4465 L=1
 3574 1035 TAD K3312
 3575 7040 CMA
 3576 7430 SEL
 3577 7440 SZA
 3600 7402 HLT /7063 FAILED

/GROUP 1 OPERATE TEST 100

3601 7332 CLA CLL CML RTR /AC=2000 L=1
 3602 7063 CMA CML IAC BSW /AC=0060 L=1
 3603 1037 TAD K7717 /AC=7777 L=1
 3604 7040 CMA
 3605 7430 SEL
 3606 7440 SZA
 3607 7402 HLT /7063 FAILED

/GROUP 2 OPERATE TEST 1

3610 7240 CLA CMA /AC=7777
 3611 7700 CLA SMA /TEST COMBINATION
 3612 7402 HLT /CLA SMA DID NOT SKIP
 /AC SHOULD BE 0000
 3613 7440 SZA
 3614 7402 HLT /CLA SMA DID NOT CLEAR AC
 /AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 2

3615 7240 CLA CMA /AC=7777
 3616 7640 CLA SZA /TEST COMBINATION
 3617 7440 SZA
 3620 7402 HLT /CLA SZA SKIPPED OR AC NOT
 /CLEARED TO 0000

/GROUP 2 OPERATE TEST 3

3621 7240 CLA CMA /AC=7777
 3622 7540 SMA SZA /TEST COMBINATION
 3623 7402 HLT /SMA SZA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 7777

/GROUP 2 OPERATE TEST 4

3624 7200 CLA /AC=0000
 3625 7540 SMA SZA /TEST COMBINATION
 3626 7402 HLT /SMA SZA SHOULD HAVE SKIPPED
 /AC SHOULD EQUAL 0000

```

/ GROUP 2 OPERATE TEST 5
3627 7200      CLA
3630 1053      TAD K3777      /AC=3777
3631 7540      SMA SZA      /TEST COMBINATION
3632 7450      SNA
3633 7402      HLT      /SMA SZA SHOULD NOT HAVE SKIPPED
                        /AC SHOULD EQUAL 3777

```

```

/ GROUP 2 OPERATE TEST 6
3634 7240      CLA CMA      /AC=7777
3635 7740      CLA SMA SZA  /TEST COMBINATION
3636 7402      HLT      /CLA SMA SZA SHOULD HAVE SKIPPED
                        /AC SHOULD BE 0000
3637 7440      SZA
3640 7402      HLT      /AC WAS NOT CLEARED
                        /AC SHOULD BE 0000

```

```

/ GROUP 2 OPERATE TEST 7
3641 7200      CLA      /AC=0000
3642 7740      CLA SMA SZA /TEST COMBINATION
3643 7402      HLT      /CLA SMA SZA SHOULD HAVE SKIPPED
                        /AC SHOULD BE 0000
3644 7440      SZA
3645 7402      HLT      /AC WAS NOT CLEARED
                        /AC SHOULD BE 0000

```

```

/ GROUP 2 OPERATE TEST 8
3646 7200      CLA
3647 1053      TAD K3777      /AC=3777
3650 7740      CLA SMA SZA  /TEST COMBINATION
3651 7440      SZA
3652 7402      HLT      /SMA SZA DID NOT SKIP OR AC
                        /NOT CLEARED TO 0000

```

```

/ GROUP 2 OPERATE TEST 9
3653 7300      CLL CLA      /LINK=0
3654 1055      TAD K5252      /AC=5252
3655 7620      CLA SNL      /TEST COMBINATION
3656 7440      SZA
3657 7402      HLT      /SNL SKIPPED OR AC NOT CLEARED
                        /AC AND LINK SHOULD EQUAL ZERO

```

```

/ GROUP 2 OPERATE TEST 10
3660 7320      CLA CLL CML
3661 1056      TAD K2525      /AC=2525 LINK=1
3662 7620      CLA SNL      /TEST COMBINATION
3663 7402      HLT      /SNL DID NOT SKIP
                        /LINK SHOULD EQUAL ONE
3664 7440      SZA
3665 7402      HLT      /CLA SNL DID NOT CLEAR AC
                        /AC SHOULD EQUAL 0000

```

```

/ GROUP 2 OPERATE TEST 11
3666 7300      CLA CLL      /AC=0000 LINK=0
3667 7520      SMA SNL      /TEST COMBINATION

```

3670	7440	SZA	
3671	7402	HLT	/SMA SNL SKIPPED, AC AND LINK
			/SHOULD EQUAL ZERO
/GROUP 2 OPERATE TEST 12			
3672	7320	CLA CLL CML	/AC=0000 LINK=1
3673	7520	SMA SNL	/TEST COMBINATION
3674	7402	HLT	/SNL SHOULD HAVE SKIPPED, LINK = 1
/GROUP 2 OPERATE TEST 13			
3675	7300	CLA CLL	
3676	1036	TAD K4000	/AC=4000 LINK=0
3677	7520	SMA SNL	/TEST COMBINATION
3700	7402	HLT	/SMA SHOULD HAVE SKIPPED
			/AC=4000
/GROUP 2 OPERATE TEST 14			
3701	7320	CLA CLL CML	
3702	1036	TAD K4000	/AC=4000 LINK=1
3703	7520	SMA SNL	/TEST COMBINATION
3704	7402	HLT	/SMA SNL SHOULD HAVE SKIPPED
			/AC=4000 LINK=1
/GROUP 2 OPERATE TEST 15			
3705	7300	CLA CLL	/AC=0000 LINK=0
3706	7720	CLA SMA SNL	/TEST COMBINATION
3707	7440	SZA	
3710	7402	HLT	/SMA SNL SKIPPED, AC AND LINK
			/SHOULD BE ZERO
/GROUP 2 OPERATE TEST 16			
3711	7320	CLA CLL CML	/AC=0000 LINK=1
3712	7720	CLA SMA SNL	/TEST COMBINATION
3713	7402	HLT	/SNL SHOULD HAVE SKIPPED
			/LINK=1
3714	7440	SZA	
3715	7402	HLT	/CLA SMA SNL DID NOT CLEAR AC
			/AC SHOULD EQUAL ZERO
/GROUP 2 OPERATE TEST 17			
3716	7300	CLA CLL	
3717	1036	TAD K4000	/AC=4000 LINK=0
3720	7720	CLA SMA SNL	/TEST COMBINATION
3721	7402	HLT	/SMA SHOULD HAVE SKIPPED
			/AC SHOULD EQUAL 0000 LINK=0
3722	7440	SZA	
3723	7402	HLT	/CLA SMA SNL DID NOT CLEAR AC
			/AC SHOULD EQUAL 0000
/GROUP 2 OPERATE TEST 18			
3724	7320	CLA CLL CML	
3725	1036	TAD K4000	/AC=4000 LINK=1
3726	7720	CLA SMA SNL	/TEST COMBINATION
3727	7402	HLT	/CLA SMA SNL SHOULD HAVE SKIPPED
			/AC SHOULD BE 0000 LINK=1
3730	7440	SZA	
3731	7402	HLT	/CLA SMA SNL DID NOT CLEAR AC
			/AC SHOULD BE 0000 LINK=1
/GROUP 2 OPERATE TEST 19			
3732	7300	CLA CLL	/AC=0000 LINK=0

```

3733 7460      SZA SNL      /TEST COMB /ION
3734 7402      HLT          /SZA SNL DID NOT SKIP
                          /AC=0000

```

/GROUP 2 OPERATE TEST 20

```

3735 7320      CLL CLA CML  /AC=0000 LINK=1
3736 7460      SZA SNL      /TEST COMBINATION
3737 7402      HLT          /SZA SNL DID NOT SKIP
                          /AC=0000 LINK=1

```

/GROUP 2 OPERATE TEST 21

```

3740 7300      CLA CLL
3741 1031      TAD K0400      /AC=0400 LINK=0
3742 7460      SZA SNL      /TEST COMBINATION
3743 7450      SNA
3744 7402      HLT          /SZA SNL SKIPPED
                          /AC=0400 LINK=0

```

/GROUP 2 OPERATE TEST 22

```

3745 7320      CLA CLL CML
3746 1026      TAD K0040      /AC=0040 LINK=1
3747 7460      SZA SNL      /TEST COMBINATION
3750 7402      HLT          /SZA SNL SHOULD HAVE SKIPPED
                          /LINK=1

```

/GROUP 2 OPERATE TEST 23

```

3751 7300      CLA CLL      /AC=0000 LINK=0
3752 7660      CLA SZA SNL   /TEST COMBINATION
3753 7402      HLT          /CLA SZA SNL SHOULD HAVE SKIPPED
                          /AC AND LINK SHOULD EQUAL ZERO
3754 7440      SZA
3755 7402      HLT          /CLA SZA SNL DID NOT CLEAR AC
                          /AC SHOULD BE 0000

```

/GROUP 2 OPERATE TEST 24

```

3756 7320      CLA CLL CML  /AC=0000 LINK=1
3757 7660      CLA SZA SNL   /TEST COMBINATION
3760 7402      HLT          /CLA SZA SNL SHOULD HAVE SKIPPED
                          /AC=0000 LINK=1
3761 7440      SZA
3762 7402      HLT          /CLA SZA SNL DID NOT CLEAR AC
                          /AC SHOULD EQUAL 0000

```

/GROUP 2 OPERATE TEST 25

```

3763 7320      CLA CLL CML
3764 1030      TAD K0200      /AC=0200 LINK=1
3765 7660      CLA SZA SNL   /TEST COMBINATION OR
3766 7402      HLT          /CLA SZA SNL SHOULD HAVE SKIPPED
                          /LINK=1
3767 7440      SZA
3770 7402      HLT          /CLA SZA SNL DID NOT CLEAR AC
                          /AC SHOULD EQUAL 0000

```

/GROUP 2 OPERATE TEST 26

```

3771 7300      CLA CLL
3772 1034      TAD K2000      /AC=2000 LINK=0
3773 7660      CLA SZA SNL   /TEST COMBINATION
3774 7440      SZA
3775 7402      HLT          /CLA SZA SNL FAILED. AC AND
                          /LINK SHOULD EQUAL ZERO

```

```

/GROUP 2 OPERATE TEST 27
3776 7300      CLA CLL      /AC=0000 LINK=0
3777 7560      SMA SZA SNL   /TEST COMBINATION
4000 7402      HLT           /SMA SZA SNL SHOULD HAVE SKIPPED
                               /AC=0000 LINK=0

/GROUP 2 OPERATE TEST 28
4001 7320      CLA CLL CML
4002 1053      TAD K3777     /AC=3777 LINK=1
4003 7560      SMA SZA SNL   /TEST COMBINATION
4004 7402      HLT           /SMA SZA SNL SHOULD HAVE SKIPPED
                               /AC=3777 LINK=1

/GROUP 2 OPERATE TEST 29
4005 7300      CLA CLL
4006 1036      TAD K4000     /AC=4000 LINK=0
4007 7560      SMA SZA SNL   /TEST COMBINATION
4010 7402      HLT           /SMA SZA SNL SHOULD HAVE SKIPPED
                               /AC=4000 LINK=0

/GROUP 2 OPERATE TEST 30
4011 7300      CLA CLL
4012 1053      TAD K3777     /AC=3777 LINK=0
4013 7560      SMA SZA SNL   /TEST COMBINATION
4014 7450      SNA
4015 7402      HLT           /SMA SZA SNL SHOULD NOT HAVE
                               /SKIPPED, AC=3777 LINK=0

/GROUP 2 OPERATE TEST 31
4016 7300      CLA CLL      /AC=0000 LINK=0
4017 7760      CLA SMA SZA SNL /TEST COMBINATION
4020 7402      HLT           /CLA SMA SZA SNL SHOULD HAVE SKIPPED
                               /AC SHOULD EQUAL 0000

4021 7440      SZA
4022 7402      HLT           /AC NOT ZERO AFTER CLA SMA SZA SNL
                               /AC SHOULD BE 0000 LINK=0

/GROUP 2 OPERATE TEST 32
4023 7320      CLA CLL CML
4024 1053      TAD K3777     /AC=3777 LINK=1
4025 7760      CLA SMA SZA SNL /TEST COMBINATION
4026 7402      HLT           /CLA SMA SZA SNL DID NOT SKIP
                               /AC SHOULD BE 0000 LINK=1

4027 7440      SZA
4030 7402      HLT           /CLA SMA SZA SNL DID NOT CLEAR AC
                               /AC SHOULD EQUAL 0000 LINK=1

/GROUP 2 OPERATE TEST 33
4031 7300      CLA CLL
4032 1036      TAD K4000     /AC=4000 LINK=0
4033 7760      CLA SMA SZA SNL /TEST COMBINATION
4034 7402      HLT           /CLA SMA SZA SNL SHOULD HAVE SKIPPED
                               /AC SHOULD BE 0000. LINK=0

4035 7440      SZA
4036 7402      HLT           /CLA SMA SZA SNL DID NOT CLEAR AC
                               /AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 34

```

```

4037 7300      CLA CLL
4040 1053      TAD K3777          /AC=3777 LINK=0
4041 7760      CLA SMA SZA SNL /TEST COMBINATION
4042 7440      SZA
4043 7402      HLT          /CLA SMA SZA SNL FAILED, AC
                          /SHOULD BE ZERO, LINK=0

/GROUP 2 OPERATE TEST 35
4044 7300      CLA CLL          /AC=0000 LINK=0
4045 7410      SKP          /TEST INSTRUCTION
4046 7402      HLT          /SKIP FAILED
                          /AC AND LINK EQUAL ZERO

/GROUP 2 OPERATE TEST 36
4047 7320      CLA CLL CML      /AC=0000 LINK=1
4050 7410      SKP          /TEST INSTRUCTION
4051 7402      HLT          /SKIP FAILED
                          /AC=0000 LINK=1

/GROUP 2 OPERATE TEST 37
4052 7320      CLA CLL CML
4053 1053      TAD K3777          /AC=3777 LINK=1
4054 7410      SKP          /TEST INSTRUCTION
4055 7402      HLT          /SKIP FAILED
                          /AC=3777 LINK=1

/GROUP 2 OPERATE TEST 38
4056 7300      CLA CLL
4057 1053      TAD K3777          /AC=3777 LINK=0
4060 7410      SKP          /TEST INSTRUCTION
4061 7402      HLT          /SKIP FAILED
                          /AC=3777 LINK=0

/GROUP 2 OPERATE TEST 39
4062 7200      CLA
4063 1053      TAD K3777          /AC=3777
4064 7710      CLA SPA          /TEST COMBINATION
4065 7402      HLT          /CLA SPA DID NOT SKIP, AC
                          /SHOULD BE ZERO

4066 7440      SZA
4067 7402      HLT          /CLA SPA DID NOT CLEAR AC
                          /AC SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 40
4070 7200      CLA
4071 1036      TAD K4000          /AC=4000
4072 7710      CLA SPA          /TEST COMBINATION
4073 7440      SZA
4074 7402      HLT          /CLA SPA FAILED, AC SHOULD
                          /EQUAL 0000

/GROUP 2 OPERATE TEST 41
4075 7240      CLA CMA          /AC=7777
4076 7650      CLA SNA          /TEST COMBINATION
4077 7402      HLT          /CLA SNA DID NOT SKIP
                          /AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 42
4100 7200      CLA          /AC=0000
4101 7650      CLA SNA          /TEST COMBINATION
4102 7440      SZA

```

4103 7402 HLT /CLA SNA FAIL
/AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 43

4104 7200 CLA /AC=0000
4105 7550 SPA SNA /TEST COMBINATION (AND)
4106 7440 SZA
4107 7402 HLT /SPA SNA SKIPPED
/AC=0000

/GROUP 2 OPERATE TEST 44

4110 7200 CLA
4111 1053 TAD K3777 /AC=3777
4112 7550 SPA SNA /TEST COMBINATION (AND)
4113 7402 HLT /SPA SNA FAILED TO SKIP
/AC=3777

/GROUP 2 OPERATE TEST 45

4114 7200 CLA
4115 1036 TAD K4000 /AC=4000
4116 7550 SPA SNA /TEST COMBINATION (AND)
4117 7450 SNA
4120 7402 HLT /SPA SNA SKIPPED.
/AC=4000

/GROUP 2 OPERATE TEST 46

4121 7200 CLA /AC=0000
4122 7750 CLA SPA SNA /TEST COMBINATION (AND)
4123 7440 SZA
4124 7402 HLT /CLA SPA SNA FAILED.
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 47

4125 7200 CLA
4126 1053 TAD K3777 /AC=3777
4127 7750 CLA SPA SNA /TEST COMBINATION (AND)
4130 7402 HLT /CLA SPA SNA DID NOT SKIP
/AC SHOULD BE 0000
4131 7440 SZA
4132 7402 HLT /CLA SPA SNA DID NOT CLEAR THE AC
/AC SHOULD EQUAL 0000

/GROUP 2 OPERATE TEST 48

4133 7200 CLA
4134 1036 TAD K4000 /AC=4000
4135 7750 CLA SPA SNA /TEST COMBINATION (AND)
4136 7440 SZA
4137 7402 HLT /CLA SPA SNA FAILED
/AC SHOULD EQUAL ZERO

PAUSE

/INSTRUCTION TEST - TAPE 4

/GROUP 2 OPERATE TEST 49

4140 7300 CLA CLL
4141 1055 TAD K5252 /AC=5252 LINK=0
4142 7630 CLA SZL /TEST COMBINATION

4143 7402 HLT /CLA SZL NOT SKIP
/AC AND LINK SHOULD BE 0
4144 7440 SZA
4145 7402 HLT /CLA SZL DID NOT CLEAR AC
/AC SHOULD BE ZERO. LINK=0

/GROUP 2 OPERATE TEST 50

4146 7360 CLA CLL CML CMA /AC=7777 LINK=1
4147 7630 CLA SZL /TEST COMBINATION (AND)
4150 7440 SZA
4151 7402 HLT /CLA SZL FAILED. AC SHOULD
/BE 0000. LINK=1

/GROUP 2 OPERATE TEST 51

4152 7300 CLA CLL
4153 1053 TAD K3777 /AC=3777 LINK=0
4154 7530 SPA SZL /TEST COMBINATION (AND)
4155 7402 HLT /SPA SZL DID NOT SKIP
/AC=3777 LINK=0

/GROUP 2 OPERATE TEST 52

4156 7320 CLA CLL CML
4157 1053 TAD K3777 /AC=3777 LINK=1
4160 7530 SPA SZL /TEST COMBINATION (AND)
4161 7450 SNA
4162 7402 HLT /SPA SZL SKIPPED
/AC=3777 LINK=1

/GROUP 2 OPERATE TEST 53

4163 7300 CLA CLL
4164 1036 TAD K4000 /AC=4000 LINK=0
4165 7530 SPA SZL /TEST COMBINATION (AND)
4166 7500 SMA
4167 7402 HLT /SPA SZL SKIPPED
/AC=4000 LINK=0

/GROUP 2 OPERATE TEST 54

4170 7300 CLA CLL
4171 1053 TAD K3777 /AC=3777 LINK=0
4172 7730 CLA SPA SZL /TEST COMBINATION (AND)
4173 7402 HLT /CLA SPA SZL SHOULD HAVE SKIPPED
/AC SHOULD BE 0000. LINK=0
4174 7440 SZA
4175 7402 HLT /CLA SPA SZL DID NOT CLEAR THE AC
/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 55

4176 7320 CLA CLL CML
4177 1053 TAD K3777 /AC=3777 LINK=1
4200 7730 CLA SPA SZL /TEST COMBINATION (AND)
4201 7440 SZA
4202 7402 HLT /CLA SPA SZL FAILED
/AC SHOULD EQUAL 0000 LINK=1

/GROUP 2 OPERATE TEST 56

4203 7300 CLA CLL
4204 1036 TAD K4000 /AC=4000 LINK=0
4205 7730 CLA SPA SZL /TEST COMBINATION (AND)
4206 7440 SZA

```

4207 7302      HLT      /CLA SPA SZL FAILED
                        /AC SHOULD EQUAL 0000 LINK=0
/GROUP 2 OPERATE TEST 57
4210 7300      CLA CLL
4211 1036      TAD K4000      /AC=4000 LINK=0
4212 7470      SNA SZL      /TEST COMBINATION (AND)
4213 7402      HLT      /SNA SZL DID NOT SKIP
                        /AC = 4000 LINK=0
/GROUP 2 OPERATE TEST 58
4214 7320      CLA CLL CML
4215 1036      TAD K4000      /AC=4000 LINK=1
4216 7470      SNA SZL      /TEST COMBINATION (AND)
4217 7420      SNL
4220 7402      HLT      /SNA SZL SKIPPED
                        /AC=4000 LINK=1
/GROUP 2 OPERATE TEST 59
4221 7300      CLA CLL      /AC=0000 LINK=0
4222 7470      SNA SZL      /TEST COMBINATION (AND)
4223 7430      SZL
4224 7402      HLT      /SNA SZL SKIPPED
                        /AC=0000 LINK=0
/GROUP 2 OPERATE TEST 60
4225 7320      CLA CLL CML
4226 1036      TAD K4000      /AC=4000 LINK=1
4227 7670      CLA SNA SZL  /TEST COMBINATION (AND)
4230 7440      SZA
4231 7402      HLT      /CLA SNA SZL FAILED. AC SHOULD
                        /BE 0000. LINK=1
/GROUP 2 OPERATE TEST 61
4232 7300      CLA CLL
4233 1036      TAD K4000      /AC=4000 LINK=0
4234 7670      CLA SNA SZL  /TEST COMBINATION (AND)
4235 7402      HLT      /CLA SNA SZL DID NOT SKIP
                        /AC SHOULD BE 0000. LINK=0
4236 7440      SZA
4237 7402      HLT      /CLA SNA SZL DID NOT CLEAR AC
                        /AC AND LINK SHOULD BE ZERO
/GROUP 2 OPERATE TEST 62
4240 7300      CLA CLL      /AC=0000 LINK=0
4241 7670      CLA SNA SZL  /TEST COMBINATION (AND)
4242 7440      SZA
4243 7402      HLT      /CLA SNA SZL FAILED. AC SHOULD
                        /BE 0000. LINK=0
/GROUP 2 OPERATE TEST 63
4244 7300      CLA CLL
4245 1053      TAD K3777      /AC=3777 LINK=0
4246 7570      SPA SNA SZL  /TEST COMBINATION (AND)
4247 7402      HLT      /SPA SNA SZL DID NOT SKIP
                        /AC=3777 LINK=0
/GROUP 2 OPERATE TEST 64
4250 7320      CLA CLL CML
4251 1053      TAD K3777      /AC=3777 LINK=1
4252 7570      SPA SNA SZL  /TEST COMBINATION (AND)

```

4253 7420 SNL
 4254 7402 HLT /SPA SNA SZL SKIPPED
 /AC=3777 LINK=1

/GROUP 2 OPERATE TEST 65
 4255 7300 CLA CLL /AC=0000 LINK=0
 4256 7570 SPA SNA SZL /TEST COMBINATION (AND)
 4257 7430 SZL
 4260 7402 HLT /SPA SNA SZL SKIPPED
 /AC=0000 LINK=0

/GROUP 2 OPERATE TEST 66
 4261 7300 CLA CLL
 4262 1036 TAD K4000 /AC=4000 LINK=0
 4263 7570 SPA SNA SZL /TEST COMBINATION (AND)
 4264 7430 SZL
 4265 7402 HLT /SPA SNA SZL SKIPPED
 /AC=4000 LINK=0

/GROUP 2 OPERATE TEST 67
 4266 7300 CLA CLL
 4267 1053 TAD K3777 /AC=3777 LINK=0
 4270 7770 CLA SPA SNA SZL /TEST COMBINATION (AND)
 4271 7402 HLT /CLA SPA SNA SZL DID NOT SKIP
 /AC AND LINK SHOULD BE ZERO
 4272 7440 SZA
 4273 7402 HLT /CLA SPA SNA SZL DID NOT CLEAR AC
 /AC AND LINK SHOULD BE ZERO

/GROUP 2 OPERATE TEST 68
 4274 7320 CLA CLL CML
 4275 1053 TAD K3777 /AC=3777 LINK=1
 4276 7770 CLA SPA SNA SZL /TEST COMBINATION (AND)
 4277 7440 SZA
 4300 7402 HLT /CLA SPA SNA SZL FAILED. AC SHOULD
 /BE 0000, LINK SHOULD EQUAL ONE

/GROUP 2 OPERATE TEST 69
 4301 7300 CLA CLL
 4302 1036 TAD K4000 /AC=4000 LINK=0
 4303 7770 CLA SPA SNA SZL /TEST COMBINATION (AND)
 4304 7440 SZA
 4305 7402 HLT /CLA SPA SNA SZL FAILED. AC SHOULD
 /BE 0000, LINK SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 70
 4306 7300 CLA CLL /AC=0000 LINK=0
 4307 7770 CLA SPA SNA SZL /TEST COMBINATION (AND)
 4310 7440 SZA
 4311 7402 HLT /CLA SPA SNA SZL FAILED. AC AND
 /LINK SHOULD BE ZERO.

/GROUP 2 OPERATE TEST 71
 4312 7200 CLA
 4313 1055 TAD K5252 /AC=5252
 4314 7604 CLA OSR /TEST COMBINATION
 4315 7040 CMA
 4316 7440 SZA
 4317 7402 HLT /CLA OSR FAILED

/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 72

4320	7200	CLA	
4321	1036	TAD K4000	/AC=4000
4322	7504	SMA OSR	/TEST COMBINATION
4323	7402	HLT	/SMA OSR FAILED TO SKIP
			/AC SHOULD BE 7777
4324	7040	CMA	
4325	7440	SZA	
4326	7402	HLT	/SMA OSR FAILED
			/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 73

4327	7200	CLA	/AC=0000
4330	7444	SZA OSR	/TEST COMBINATION
4331	7402	HLT	/SZA OSR FAILED TO SKIP
			/AC SHOULD BE 0000
4332	7040	CMA	
4333	7440	SZA	
4334	7402	HLT	/SZA OSR FAILED
			/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 74

4335	7320	CLL CML CLA	/LINK=1
4336	7424	SNL OSR	/TEST COMBINATION
4337	7402	HLT	/SNL OSR FAILED TO SKIP
			/AC SHOULD BE 7777
4340	7040	CMA	
4341	7440	SZA	
4342	7402	HLT	/SNL OSR FAILED
			/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 75

4343	7300	CLA CLL	
4344	1053	TAD K3777	/AC=3777 LINK=0
4345	7764	CLA SMA SZA SNL OSR	/TEST COMBINATION
4346	7450	SNA	
4347	7402	HLT	/CLA SMA SZA SNL OSR FAILED
			/AC SHOULD BE 7777. LINK=0
4350	7040	CMA	
4351	7440	SZA	
4352	7402	HLT	/CLA SMA SZA SNL OSR FAILED
			/AC SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 76

4353	7200	CLA	/AC=0000
4354	7414	SKP OSR	/TEST COMBINATION
4355	7402	HLT	/SKP OSR DID NOT SKIP
			/AC SHOULD BE 7777
4356	7040	CMA	
4357	7440	SZA	
4360	7402	HLT	/SKP OSR FAILED
			/AC SHOULD EQUAL ZERO

/GROUP 2 OPERATE TEST 77

4361	7200	CLA	/AC=0000
------	------	-----	----------

4362	7514	SPA OSR	/TEST COMBINATION
4363	7402	HLT	/SPA OSR DID NOT SKIP
			/AC SHOULD EQUAL 7777
4364	7040	CMA	
4365	7440	SZA	
4366	7402	HLT	/SPA OSR FAILED.
			/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 78

4367	7200	CLA	
4370	1031	TAD K0400	/AC=0400
4371	7454	SNA OSR	/TEST COMBINATION
4372	7402	HLT	/SNA OSR DID NOT SKIP
			/AC SHOULD BE 7777
4373	7040	CMA	
4374	7440	SZA	
4375	7402	HLT	/SNA OSR FAILED
			/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 79

4376	7300	CLA CLL	/LINK=0 AC=0000
4377	7434	SZL OSR	/TEST COMBINATION
4400	7402	HLT	/SZL OSR DID NOT SKIP
			/AC SHOULD BE 7777
4401	7040	CMA	
4402	7440	SZA	
4403	7402	HLT	/SZL OSR FAILED
			/AC SHOULD BE 0000

/GROUP 2 OPERATE TEST 80

4404	7300	CLA CLL	
4405	1053	TAD K3777	/AC=3777 LINK=0
4406	7774	CLA SPA SNA SZL OSR	/TEST COMBINATION (AND)
4407	7402	HLT	/ABOVE MESS DID NOT SKIP
			/AC SHOULD BE 7777
4410	7040	CMA	
4411	7440	SZA	
4412	7402	HLT	/CLA SPA SNA SZL OSR FAILED
			/AC SHOULD BE 0000

/MQ OPERATE TEST 1

4413	7360	CLA CMA CLL CML	/AC=7777 LINK=1
4414	7601	CLAE	/AC=0000 LINK=1
4415	7430	SZL	
4416	7440	SZA	
4417	7402	HLT	/7601 FAILED

/MQ OPERATE TEST 2

4420	7360	CLA CLL CMA CML	/AC=7777 L=1
4421	7401	NOPE	/AC=7777 L=1 (NOP)
4422	7040	CMA	
4423	7430	SZL	
4424	7440	SZA	
4425	7402	HLT	/7401 FAILED

/MQ OPERATE TEST 3

4426	7360	CLA CMA CLL CML	/AC=7777 LINK=1
------	------	-----------------	-----------------

4427	7421	MQL	/AC=0000 LINK=1
4430	7430	SZL	
4431	7440	SZA	
4432	7402	HLT	/MQL DID NOT CLEAR AC

/MQ OPERATE TEST 4

4433	7300	CLA CLL	
4434	7421	MQL	/MQ=0000, AC=0000
4435	7040	CMA	/AC=7777
4436	7501	MQA	/AC=7777, MQ=0000
4437	7040	CMA	/AC=0000
4440	7420	SNL	
4441	7440	SZA	
4442	7402	HLT	/MQ DID NOT EQUAL 0000 OR MQA FAILED

/MQ OPERATE TEST 5

4443	7340	CLA CMA CLL	
4444	7421	MQL	/MQ=7777, AC=0000
4445	7501	MQA	/AC=7777, MQ=7777
4446	7040	CMA	
4447	7420	SNL	
4450	7440	SZA	
4451	7402	HLT	/MQ DID NOT EQUAL 7777 OR MQA FAILED

/MQ OPERATE TEST 6

4452	7601	CLAE	/CLEAR AC
4453	1055	TAD K5252	
4454	7421	MQL	/MQ=5252, AC=0000
4455	1056	TAD K2525	
4456	7501	MQA	/AC=7777, MQ=5252
4457	7040	CMA	
4460	7440	SZA	
4461	7402	HLT	/MQ DID NOT EQUAL 5252 OR MQA FAILED

/MQ OPERATE TEST 7

4462	7360	CLA CMA CLL CML	
4463	7421	MQL	/MQ=7777, AC=0000
4464	7040	CMA	/AC=7777
4465	7621	CAM	/AC AND MQ.=0000
4466	7440	SZA	
4467	7402	HLT	/AC SHOULD EQUAL 0000
4470	7501	MQA	/AC=0000, MQ=0000
4471	7430	SZL	
4472	7440	SZA	
4473	7402	HLT	/CAM DID NOT CLEAR MQ /OR LINK WAS CLEARED

/MQ OPERATE TEST 8

4474	7601	CLAE	/CLEAR AC
4475	7421	MQL	/MQ=0000 AC=0000
4476	7040	CMA	
4477	7701	ACL	/AC=0000 MQ=0000
4500	7440	SZA	
4501	7402	HLT	/ACL FAILED

4502	7501	MQA	/AL 000 MQ=0000
4503	7440	SZA	
4504	7402	HLT	/MQ SHOULD EQUAL 0000

/MQ OPERATE TEST 9

4505	7240	CLA CMA	
4506	7421	SQL	/MQ=7777 AC=0000
4507	7701	ACL	/AC=7777 MQ=7777
4510	7040	CMA	
4511	7440	SZA	
4512	7402	HLT	/ACL FAILED
4513	7501	MQA	/AC=7777, MQ=7777
4514	7040	CMA	
4515	7440	SZA	
4516	7402	HLT	/MQ SHOULD EQUAL 7777

/MQ OPERATE TEST 10

4517	7601	CLAE	/CLEAR AC
4520	1055	TAD K5252	
4521	7421	SQL	/MQ=5252 AC=0000
4522	1056	TAD K2525	
4523	7701	ACL	/AC=5252 MQ=5252
4524	1056	TAD K2525	
4525	7040	CMA	
4526	7440	SZA	
4527	7402	HLT	/ACL FAILED
4530	7501	MQA	/AC=5252 MQ=5252
4531	1056	TAD K2525	
4532	7040	CMA	
4533	7440	SZA	
4534	7402	HLT	/MQ SHOULD EQUAL 5252

/MQ OPERATE TEST 11

4535	7601	CLAE	/CLEAR AC
4536	1058	TAD K2525	
4537	7421	SQL	/MQ=2525 AC=0000
4540	1055	TAD K5252	
4541	7701	ACL	/AC=2525 MQ=2525
4542	1055	TAD K5252	
4543	7040	CMA	
4544	7440	SZA	
4545	7402	HLT	/ACL FAILED
4546	7501	MQA	/AC=2525 MQ=2525
4547	1055	TAD K5252	
4550	7040	CMA	
4551	7440	SZA	
4552	7402	HLT	/MQ SHOULD EQUAL 2525

/MQ OPERATE TEST 12

4553	7621	CAM	/MQ=0000 AC=0000
4554	7040	CMA	/AC=7777
4555	7521	SWP	/MQ=7777 AC=0000
4556	7440	SZA	
4557	7402	HLT	/AC SHOULD EQUAL 0000

4560	7701	ACL	/AC=7777	MQ=7777
4561	7040	CMA		
4562	7440	SZA		
4563	7402	HLT	/MQ SHOULD EQUAL	7777

/MQ OPERATE TEST 13

4564	7621	CAM	/MQ=0000	AC=0000
4565	7040	CMA		
4566	7421	MQL	/MQ=7777	AC=0000
4567	7521	SWP	/MQ=0000	AC=7777
4570	7040	CMA		
4571	7440	SZA		
4572	7402	HLT		
4573	7701	ACL	/AC=0000	MQ=0000
4574	7440	SZA		
4575	7402	HLT	/MQ SHOULD EQUAL	0000

/MQ OPERATE TEST 14

4576	7621	CAM	/MQ=0000	AC=0000
4577	1055	TAD K5252		
4600	7421	MQL	/MQ=5252	AC=0000
4601	1056	TAD K2525		
4602	7521	SWP	/MQ=2525	AC=5252
4603	1056	TAD K2525		
4604	7040	CMA		
4605	7440	SZA		
4606	7402	HLT	/SWP FAILED	
4607	7701	ACL	/AC=2525	MQ=2525
4610	1055	TAD K5252		
4611	7040	CMA		
4612	7440	SZA		
4613	7402	HLT	/SWP FAILED	MQ SHOULD EQUAL 2525

/MQ OPERATE TEST 15

4614	7621	CAM	/MQ=0000	AC=0000
4615	1056	TAD K2525		
4616	7421	MQL	/MQ=2525	AC=0000
4617	1055	TAD K5252	/AC=5252	
4620	7521	SWP	/MQ=5252	AC=2525
4621	1055	TAD K5252		
4622	7040	CMA		
4623	7440	SZA		
4624	7402	HLT	/SWP FAILED	
4625	7701	ACL	/AC=5252	MQ=5252
4626	1056	TAD K2525		
4627	7040	CMA		
4630	7440	SZA		
4631	7402	HLT	/SWP FAILED	MQ SHOULD EQUAL 5252

/MQ OPERATE TEST 16

4632	7621	CAM	/MQ=0000	AC=0000
4633	7040	CMA	/AC=7777	
4634	7721	CLAE SWP	/AC=0000	MQ=0000
4635	7440	SZA		

4636 7482
4637 7701
4640 7440
4641 7402

HLT
ACL
SZA
HLT

/C SWP FAILED AC SHOULD (JAL 0000
/AC=0000 MQ=0000
/CLAE SWP FAILED MQ SHOULD EQUAL 0000

/MQ OPERATE TEST 17

4642 7621
4643 7040
4644 7421
4645 7721
4646 7040
4647 7440
4650 7402
4651 7701
4652 7440
4653 7402

CAM
CMA
MQL
CLAE SWP
CMA
SZA
HLT
ACL
SZA
HLT

/MQ=0000 AC=0000
/MQ=7777 AC=0000
/AC=7777 MQ=0000
/CLAE SWP FAILED
/AC=0000 MQ=0000
/CLAE SWP FAILED MQ SHOULD EQUAL 0000

/MQ OPERATE TEST 18

4654 7621
4655 1056
4656 7421
4657 1055
4660 7721
4661 1055
4662 7040
4663 7440
4664 7402
4665 7701
4666 7440
4667 7402

CAM
TAD K2525
MQL
TAD K5252
CLAE SWP
TAD K5252
CMA
SZA
HLT
ACL
SZA
HLT

/MQ=0000 AC=0000
/MQ=2525 MQ=0000
/AC=5252
/AC=2525 MQ=0000

/CLAE FAILED
/AC=0000 MQ=0000

/CLAE FAILED MQ SHOULD EQUAL 0000

/AND TEST 1

4670 7200
4671 0054
4672 7440
4673 7402

CLA
AND K7777
SZA
HLT

/AND FAILED AC SHOULD
/BE 0000

/AND TEST 2

4674 7240
4675 0020
4676 7440
4677 7402

CLA CMA
AND K0000
SZA
HLT

/AND FAILED
/AC SHOULD EQUAL 0000

/AND TEST 3

4700 7320
4701 1054
4702 0054
4703 7040
4704 7430
4705 7440
4706 7402

CLA CLL CML
TAD K7777
AND K7777
CMA
SZL
SZA
HLT

/AC=7777 LINK=1

/AND FAILED. AC SHOULD BE
/0000. LINK SHOULD EQUAL ONE

/AND TEST 4

4707	7300	CLA CLL	
4710	1056	TAD K2525	/AC=2525 LINK=0
4711	0055	AND K5252	
4712	7420	SNL	
4713	7440	SZA	
4714	7402	HLT	/AND FAILED. AC SHOULD BE

/0000. LINK SHOULD BE 0

/AND TEST 5

4715	7300	CLA CLL	
4716	1055	TAD K5252	/AC=5252 LINK=0
4717	0056	AND K2525	
4720	7420	SNL	
4721	7440	SZA	
4722	7402	HLT	/AND FAILED. AC SHOULD BE

/0000. LINK SHOULD BE 0

/AND TEST 6

4723	7300	CLA CLL	
4724	1040	TAD K7776	/AC=7776 LINK=0
4725	0055	AND K5252	/TEST INSTRUCTION
4726	7041	CIA	/AC=2526
4727	1055	TAD K5252	/AC=0000 LINK=1
4730	7430	SZL	
4731	7440	SZA	
4732	7402	HLT	/AND FAILURE. AC SHOULD BE

/0000. LINK SHOULD BE ONE

/AND TEST 7

4733	7300	CLA CLL	
4734	1056	TAD K2525	/AC=2525 LINK=0
4735	0056	AND K2525	/TEST INSTRUCTION
4736	7041	CIA	/AC=5253
4737	1056	TAD K2525	/AC=0000 LINK = 1
4740	7430	SZL	
4741	7440	SZA	
4742	7402	HLT	/AND FAILED. AC SHOULD BE

/0000. LINK SHOULD BE ONE,

/CHECK FOR BELL

4743	7200	CLA	
4744	1107	TAD BLCNT	
4745	7001	IAC	
4746	3107	DCA BLCNT	
4747	1107	TAD BLCNT	
4750	7640	SZA CLA	
4751	5147	JMP START+3	
4752	1110	TAD BLCON	
4753	3107	DCA BLCNT	

/RING BELL

4754	1106	TAD BEL	
4755	6046	TLS	
4756	6041	TSF	
4757	5356	JMP .-1	
4760	6042	TCF	

/PDP-8/F INSTRUCTION TEST 1

PAL10 V141

8-MAR-71

13:53

PAGE 1-63

4761 5147

JMP START+3

3

4000	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4100	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4200	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4300	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4400	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4500	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4600	11111111	11111111	11111111	11111111	11111111	11111111	11111111	11111111
4700	11111111	11111111	11111111	11111111	11111111	11111111	11000000	00000000

5000
5100

5200
5300

5400
5500

5600
5700

6000
6100

6200
6300

6400
6500

6600
6700

7000
7100

7200
7300

7400
7500

7600
7700

ACL	7701	K7677	0046
BEGIN	0200	K7700	0131
BEL	0106	K7717	0037
BLCNT	0107	K7737	0045
BLCON	0110	K7740	0063
BSW	7002	K7757	0044
CAM	7621	K7760	0064
CLAE	7601	K7767	0043
CLL1	0446	K7770	0065
CLL11	0452	K7773	0042
CMLT1	0456	K7774	0066
HALT	0006	K7775	0041
K0000	0020	K7776	0040
K0001	0021	K7777	0054
K0002	0022	MQA	7501
K0003	0067	SQL	7421
K0004	0023	NOOP	0007
K0007	0070	NOPE	7401
K0010	0024	START	0144
K0017	0072	SWP	7521
K0020	0025		
K0037	0073		
K0040	0026		
K0067	0071		
K0077	0074		
K0100	0027		
K0177	0075		
K0200	0030		
K0377	0076		
K0400	0031		
K0770	0104		
K0777	0077		
K1000	0032		
K1234	0033		
K1777	0100		
K2000	0034		
K2525	0056		
K2552	0103		
K3312	0035		
K3777	0053		
K4000	0036		
K5225	0102		
K5252	0055		
K5777	0052		
K6000	0057		
K6777	0051		
K7000	0060		
K7007	0105		
K7377	0050		
K7400	0061		
K7577	0047		
K7600	0062		

ERRORS DETECTED: 0

LINKS GENERATED: 0

RUN-TIME: 26 SECONDS

2K CORE USED

(

(

(

(

(

,