

LOAD TAPE

REPRODUCTION

A. PURPOSE OF TEST

TO TEST THE LOAD TAPE CIRCUITRY BY TRANSFERRING FROM STORAGE TO TAPE TWELVE 15-CHARACTER RECORDS DEVELOPED BY THE PROGRAM. EACH RECORD WRITTEN ON TAPE IS READ BACK INTO STORAGE AND COMPARED.

B. LOAD PROCEDURES

1. WHEN RUNNING TEST FROM CARDS:

- A. SET WORKING TAPE DRIVE TO 4
- B. PLACE TEST IN 1402 READ HOPPER AND DEPRESS LOAD KEY.

2. WHEN RUNNING TEST FROM TAPE.

- A. SET WORKING TAPE DRIVE TO 4
- B. ENTER A 1 IN 1268

C. PROGRAM CONTROL

1. SENSE SWITCHES

- B ON TO REPEAT FOR SCOPING  
OFF TO CONTINUE
- C ON TO PRINT CORRECT RESULTS  
OFF TO CONTINUE
- D ON TO REPEAT FOR INDIVIDUAL RECORD  
OFF TO CONTINUE
- E ON TO STOP ON ERROR  
OFF TO PRINT ERROR
- G ON TO REPEAT ENTIRE TEST  
OFF TO CONTINUE

D. TEST PROCEDURE

THE TWELVE 15-CHARACTER RECORDS LISTED BELOW ARE DEVELOPED BY THE PROGRAM FROM A TABLE STORED IN LOCATIONS /01-/13 (1101-1113):

TABLE

AAKT4E0X8I-,@

RECORD 1  
RECORD 2

AAAAAAAAAAAAAAAA  
AKAKAKAKAKAKAKA

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ENG. CNO. NO.	110378	110378A	117628	TA 1976			



# DIAGNOSTIC FUNCTION TEST

PART NO. 451455  
 SHEET 2 OF 9  
 BLOCK NO. 5050D

## D. (CONTINUED)

# REPRODUCTION

### TABLE

AAKT4EOX8T-,@

RECORD 3	KTKTKTKTKTKTK
RECORD 4	T4T4T4T4T4T4T
RECORD 5	4E4E4E4E4E4E4
RECORD 6	E0E0E0E0E0E0E
RECORD 7	OXOXOXOXOXOXO
RECORD 8	X8X8X8X8X8X8X
RECORD 9	8I8I8I8I8I8I8
RECORD 10	I-I-I-I-I-I-I-I
RECORD 11	-.-.H-.-.-.-.-
RECORD 12	..@..@..@..@..@

NOTE: EACH RECORD IS STORED IN LOCATIONS 208-222 AND IS FOLLOWED BY A GROUP MARK-WORD MARK (‡) IN LOCATION 223

THE FIRST SET OF INSTRUCTIONS EXTRACTS THE FIRST TWO CHARACTERS (AA) FROM THE TABLE AND BY A SERIES OF INSTRUCTIONS BUILDS IT UP TO A 15-CHARACTER RECORD. ALL A'S. THIS RECORD IS THEN WRITTEN ON TAPE BY A LOAD TAPE (WRITE) INSTRUCTION. THE RECORD IS THEN BACKSPACED AND READ BACK BY A LOAD TAPE (READ) INSTRUCTION INTO AN AREA OF STORAGE THAT HAS TWO PRE-SET WORD MARKS.

THE RECORD READ BACK INTO STORAGE IS COMPARED WITH THE STORED RECORD FROM WHICH IT WAS WRITTEN IN THE FOLLOWING MANNER:

1. THE TWO 15-CHARACTER RECORDS AND THE GROUP MARKS ARE COMPARED BY EXECUTING THREE COMPARE INSTRUCTIONS. THESE INSTRUCTIONS ALSO CHECK THAT THE TWO PRE-SET WORD MARKS IN THE READ AREA WERE REMOVED BY THE LOAD TAPE INSTRUCTIONS.
2. TESTS ARE MADE TO INSURE THAT THE THREE WORD MARKS IN THE WRITE AREA WERE TRANSFERRED TO THE READ AREA BY THE LOAD TAPE INSTRUCTIONS.

THE PROCEDURE FOR RECORDS 2 THROUGH 12 IS THE SAME AS FOR RECORD 1. AFTER THE LAST RECORD (12) HAS BEEN PROCESSED, THE PASS COUNTER IS INCREASED TO TWO AND THE WHOLE PROGRAM IS REPEATED UNTIL THE PASS COUNTER REACHES 10, INDICATING THE END OF THE TEST. THE COMPLETE TEST (10 PASSES) MAY BE REPEATED AS OFTEN AS DESIRED BY SETTING SENSE SWITCH G TO THE ON POSITION.

## E. STOPS

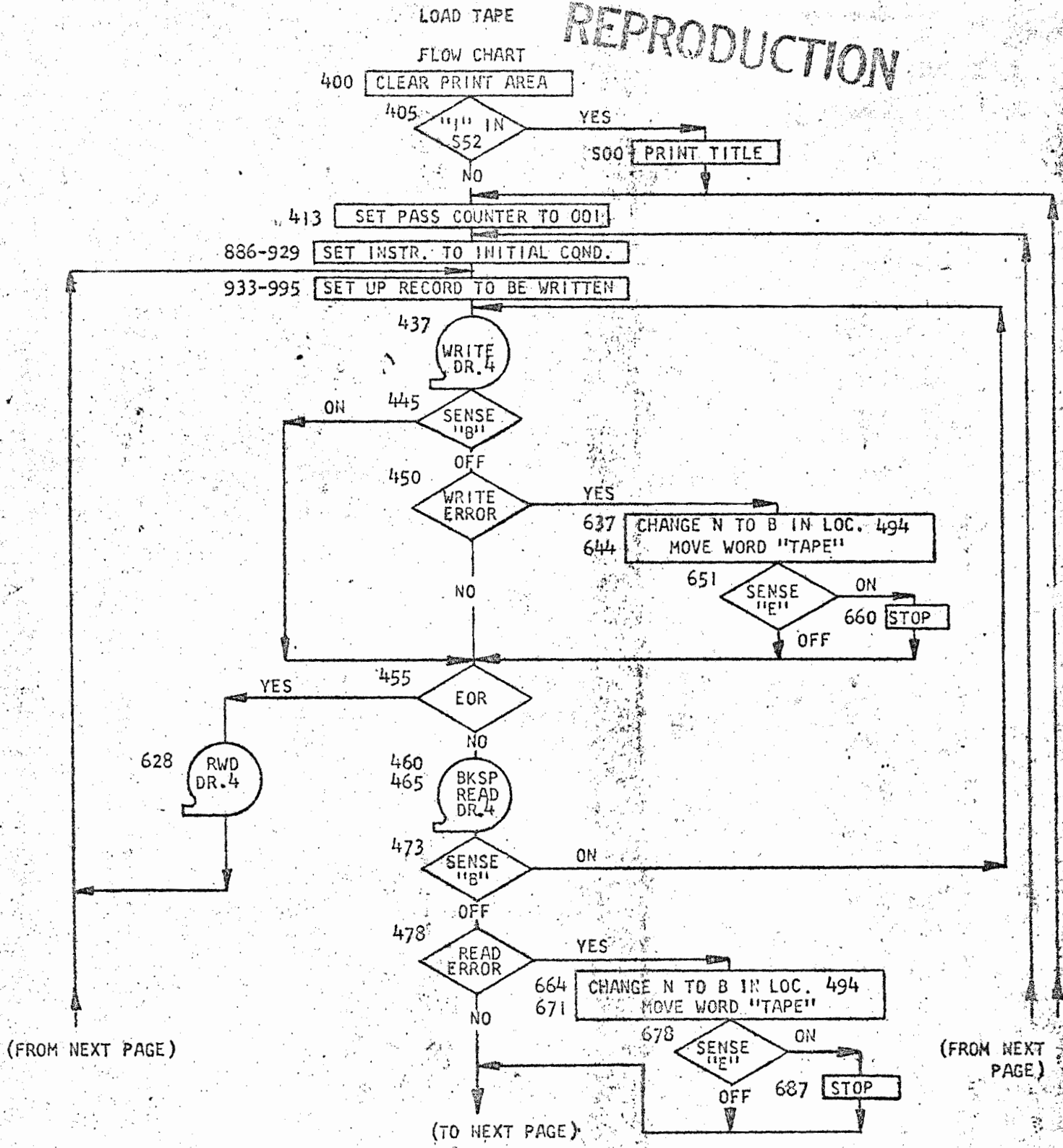
STORAGE ADDRESS REGISTER	TYPE OF ERRORS	ERROR IDENT.	LOCATION
664	TAPE WRITE	"T"	227
698	TAPE READ	"T"	264
725	COMPARE	"C"	272

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DIAGNOSTIC FUNCTION TEST

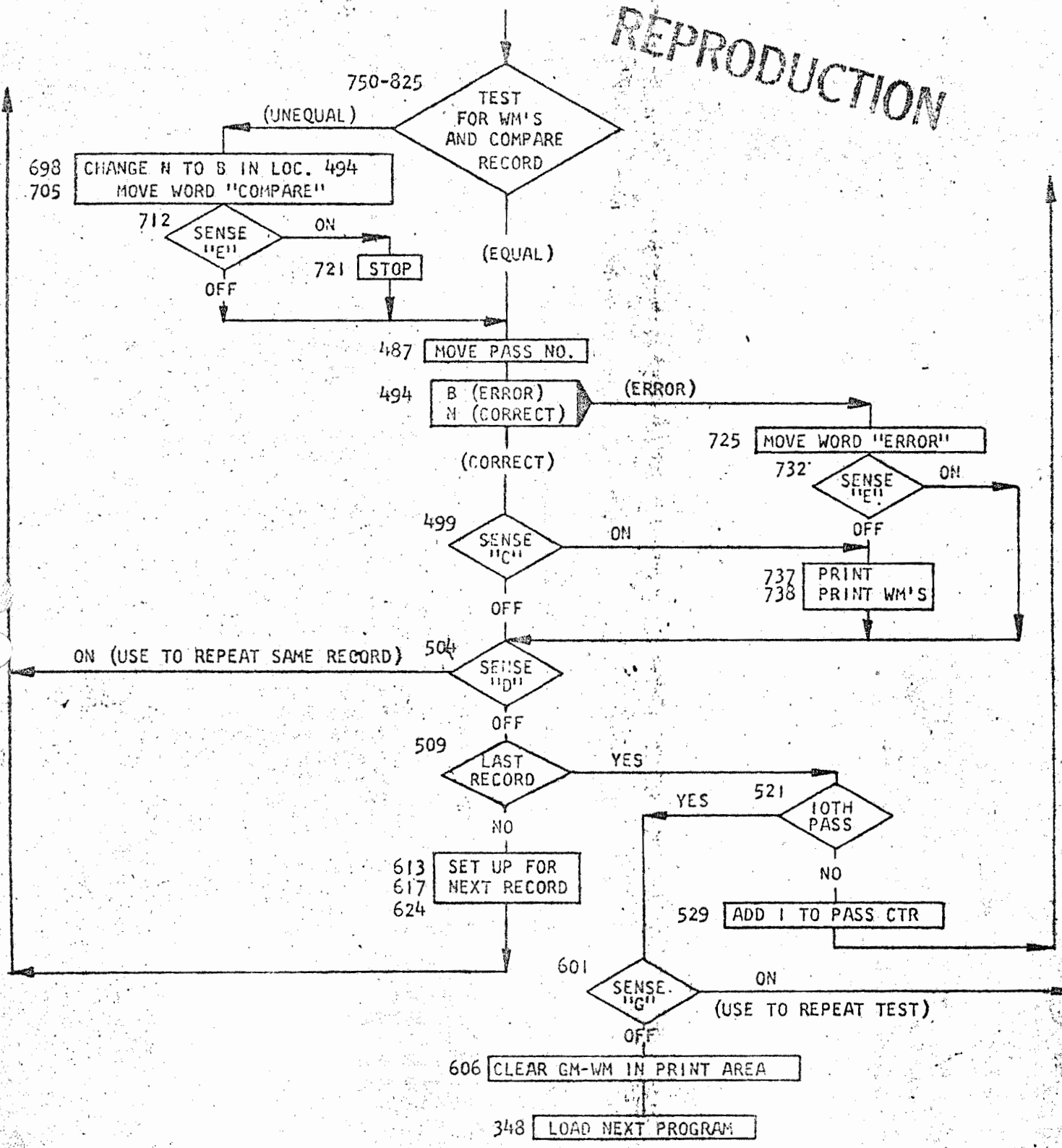
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1401 DATA PROCESSING SYSTEM  
DIAGNOSTIC FUNCTION TEST

PART NO. 451455  
SHEET 6 OF 9  
BLOCK NO. 5050D

REPRODUCTION

PROGRAM LISTING FOR USE WITH FLOW CHART

LOAD TAPE

5050D

INSTRUCTION ADDRESS	OP	A	B	REMARKS
377	377	B	400 5681	USE WHEN TESTS ARE RUN FROM TAPE
385	385	B	588	
400	400	/	332	START TEST
404	404	/		
405	405	B	500 5521	BR TO TITLE PRINT ROUTINE IF 1 IN 552
413	413	M	*04 *07	SET PASS COUNTER TO 001
420	420	N	000 0	NOP
425	425	.	199	SET WM IN 199
429	429	B	886	BR TO SET MOD INSTR TO INITIAL COND.
437	437	L	%U4 208W	WRITE 15 CHARACTER RECORD
445	445	B	455 B	B ON TO SCOPE SS
450	450	B	637 L	BRANCH IF WRITE ERROR
455	455	B	628 K	BRANCH IF END OF REEL
460	460	U	%U4 B	BACKSPACE
465	465	L	%U4 245R	READ BACK SAME 15 CHARACTER RECORD
473	473	B	437 B	B ON TO SCOPE SS
478	478	B	664 L	BRANCH IF READ ERROR
483	483	B	750	BRANCH TO TEST FOR ERROR BY COMPARING
487	487	Z	*07 203	MOVE PASS NUMBER
494	494	N	725	*NOP IF NO ERRORS - BRANCH IF ANY ERRORS
499	499	B	737 C	C ON TO CORRECT ROUTINE SS
504	504	B	933 D	D ON TO REPEAT SAME RECORD SS
509	509	C	944 *10	TEST IF LAST RECORD HAS BEEN WRITTEN
516	516	B	613 /	BRANCH IF NOT LAST RECORD
521	521	B	601 *061	BRANCH IF END OF 10TH PASS
529	529	A	*00 *07	ADD 1 TO PASS COUNTER
536	536	B	886	BRANCH TO START NEXT PASS
601	601	B	413 G	G ON TO REPEAT TEST SS
606	606	/	348 299	BRANCH TO READ NEXT PROGRAM
613	613	.	942	ADD 1 TO MOVE INSTR TO SET UP NEXT RECORD TO BE WRITTEN
617	617	A	*00 944	
624	624	B	933	BRANCH TO SET UP NEXT RECORD
628	628	U	%U4 R	REWIND
633	633	B	933	BRANCH TO SET UP SAME RECORD
637	637	L	405 494	CHANGE NOP TO BRANCH
644	644	M	*88 230	MOVE TAPE WRITE ERROR COMMENT
651	651	B	660 E	E ON TO ERROR STOP SS
656	656	B	455	BRANCH TO TEST FOR END OF REEL
660	660	.	455	ERROR STOP IF TAPE WRITE ERROR
664	664	L	405 494	CHANGE NOP TO BRANCH
671	671	M	*88 267	MOVE TAPE READ ERROR COMMENT
678	678	B	687 E	E ON TO ERROR STOP SS
683	683	B	750	BRANCH TO TEST FOR ERROR BY COMPARING

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687	687	.	750		ERROR STOP IF TAPE READ ERROR
698	698	L	405	494	CHANGE NOP TO BRANCH
705	705	M	#95	278	MOVE COMPARE ERROR COMMENT
712	712	B	721	E	E ON TO ERROR STOP SS
717	717	B	487		BRANCH TO MOVE PASS NUMBER
721	721	.	487		ERROR STOP IF ERROR DETECTED BY COMPARE
725	725	M	/00	285	MOVE WORD ERROR TO PRINT
732	732	B	504	E	E OFF TO ERROR PRINT SS
737	737	2			PRINT
738	738	2	□		PRINT WORD MARKS
740	740	B	504		BRANCH TO SENSE D
750	750	□	260	223	TEST FOR ERROR BY COMPARING
757	757	C	260	223	''
764	764	B	698	/	''
769	769	C	258	221	''
776	776	B	698	/	''
781	781	C	252	215	''
788	788	B	698	/	''
793	793	V	805	2591	TEST FOR WORD MARKS
801	801	B	698		''
805	805	V	817	2531	''
813	813	B	698		''
817	817	V	487	2451	''
825	825	B	698		''
886	886	M	#14	910	SET MODIFIED INSTR TO INITIAL COND
893	893	M	#18	944	''
900	900	□	908	/13	SET WORD MARKS THROUGHOUT TABLE
907	907	.	/01	908	''
914	914	V	933	/131	''
922	922	A	#00	910	''
929	929	B	900		''
933	933	/	299		CLEAR PRINT AREA
937	937	□	942		SET UP 15 CHARACTER RECORD TO BE
941	941	M	/02	209	* WRITTEN ON TAPE
948	948	L			''
949	949	M	209	211	''
956	956	M	211	215	''
963	963	L	214	222	''
970	970	.	222		''
974	974	L	S50	223	''
981	981	M	/40	494	CHANGE ERROR BRANCH TO NOP
988	988	.	246	258	SET WORD MARKS IN TAPE READ AREA
995	995	B	437		BRANCH TO WRITE TAPE
1000	#00	I	000	1	CONSTANT
1005	#05	X	XX		PASS COUNTER FOR NO. OF TEST PASSES
1008	#08	/	13,	/01M/02	CONSTANT
1085	#85	T	APE		CONSTANTS FOR PRINTOUTS
1089	#89	C	OMP	ARE	''
1096	#96	E	RRO	R	''
1101	/01	A	AKT	4EOX81-,@	CONSTANTS FOR TAPE RECORDS
1120	/20	P	ASS	RECORD WRITTE	CONSTANTS FOR HEADINGS
1140	/40	N		TYPE OF ERRORS	''

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1401 DATA PROCESSING SYSTEM  
DIAGNOSTIC FUNCTION TEST

PART NO. 451455  
SHEET 8 OF 9  
BLOCK NO. 50500

REPRODUCTION

1160 /60 RECORD READ BACK ..  
1180 /80 TYPE OF ERRORS ..  
1250 S50 GROUP MARK IN S50

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REPRODUCTION

TABLE OF UNPRINTABLE CHARACTERS

LP-LEFT PARENTHESIS	12 5 8	SE-SEMICOLON	11 6 8	DE-DELTA	11 7 8
WS-WORD SEPARATOR	0 5 8	LT-LESS THAN	12 6 8	PZ-PLUS ZERO	12 0
TS-TAPE SEGMENT MARK	0 7 8	GT-GREATER THAN	6 8	TM-TAPE MARK	7 8
GM-GROUP MARK	12 7 8	MZ-MINUS ZERO	11 0	CO-COLON	5 8
RP-RIGHT PARENTHESIS	11 5 8	AP-APOSTROPHE	0 6 8		

,008015,022029,033033N	1001	LOAD TAPE	5050D 0A
,008015,022029,033033N	1001	SET WORDMARK CARD	5050D 02
L067367,340344,348349,3573611001,0C8012,00110011B361080AB348/340080			5050D 03
L069404,377385,400404,4054051001	B400S681BS88	/332/	5050D 04
L072444,413420,425429,4374451001BS00S521M#04#07N0000,199B886		LZU4208W	5050D 05
L070482,450455,460465,4734781001B455B8637LB628KUZU48LZU4245RB4378B664L			5050D 06
L070520,487494,499504,5095161001B750Z+07203N725	B737CB933DC944+108613/		5050D 07
L072560,529536,536536,5365361001B601#061A#00#07B886			5050D 08
L068636,606613,617624,6286331001B413G/348299,942A#009448933UZU4RB933			5050D 09
L066670,644651,656660,6646711001L405494M#88230B660EB455.455L405494			5050D 10
L066704,678683,687698,7057051001M#88267B687EB750.750		L405494	5050D 11
L065737,712717,721725,7327371001M#95278B721EB487.487M/002858504E2			5050D 12
L070775,740750,757764,76977610012#B504		#260223C260223B698/C258221	5050D 13
L069812,781788,793801,8058131001B698/C252215B698/V8052591B698V8172531			5050D 14
L072852,817825,825825,8258251001B698V4872451B698			5050D 15
L068921,893900,907914,9229221001M#14910M#18944#908/13,/01908V933/131			5050D 16
L066955,929933,937941,9489491001A#00910B900/299#942M/02209LM209211			5050D 17
L071994,963970,974981,9889951001M211215L214222,222LS50223M/40494,246258			5050D 18
L072#34,#00#05,#08#08,#08#081001B437	10001XXX/13,/01M/02		5050D 19
L067/19,#89#96,/01/20,/20/201001TAPECOMPAREERRORAAKT4EOX81-,@			5050D 20
L072/59,/40/60,/60/60,/60/601001PASS	RECORD WRITTEN	TYPE OF ERRORS	5050D 21
L072/99,/80S00,S00S00,S00S001001	RECORD READ BACK	TYPE OF ERRORS	5050D 22
L057S24,S01S05,S12S13,S17S1810012,049L0772772/2772#40/60			5050D 23
L058S50,S29S36,S37S41,S45S501001#80L/992802/2802413		G	5050D 24
/333080N		M	
,019027,031,038042B031T98GB400L046352BW04BS88		CLEAR WORDMARK CARD	5050D 25
		LOAD TAPE	5050D 26

M

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