

REPRODUCTION

COMPRESSED TAPE READ AND EXPAND

A. PURPOSE OF TEST

TO TEST THE COMPRESSED TAPE READ AND EXPAND (MOVE AND INSERT ZEROS) CIRCUITRY BY READING AND EXPANDING TWO NUMERICAL WORDS WRITTEN ON TAPE FROM DETAIL CARDS IN A SIMULATED 7070 MODE, AND AN ALPHABETIC WORD. THE FOLLOWING ERROR ROUTINES ARE EMPLOYED.

- 1. TAPE WRITE ERROR
- 2. COMPRESSED TAPE READ ERROR
- 3. EXPAND (COMPARE) ERROR

B. LOADING 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 1270

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 PROGRAM FOR INDIVIDUAL RECORD
OFF TO CONTINUE
- E ON TO STOP ON ERROR
OFF TO PRINT ERROR
- G ON TO OMIT STORE B STAR INSTRUCTION
OFF TO CONTINUE

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ENG. CHG. NO.	110378	110378B	117628	TA 1976			

DM

DIAGNOSTIC FUNCTION TEST

PART NO. 451461
SHEET 2 OF 7
BLOCK NO. 5330C

D. TEST PROCEDURE

REPRODUCTION

A CARD COUNTER IS USED TO PERFORM THE PROGRAM FOR EACH DETAIL CARD TEN TIMES BEFORE PROCEEDING WITH THE NEXT CARD. THE COMPRESSED RECORD (TWO NUMERICAL WORDS PRECEDED BY A DELTA Δ, AND AN ALPHABETIC WORD PRECEDED BY A DELTA, ARE LOADED INTO LOCATIONS 205-215. THE COMPRESSED TAPE RECORD IS WRITTEN AND CHECKED. IF ERROR, THE PROGRAM BRANCHES TO AN ERROR PRINT ROUTINE TO LOAD THE WORDS "TAPE WRITE ERROR."

IF NO TAPE WRITE ERROR, THE RECORD IS BACKSPACED AND A READ COMPRESSED TAPE AND STORE B-STAR INSTRUCTIONS ARE NORMALLY EXECUTED WITH SENSE SWITCH G OFF. THE ADDRESS IN THE B ADDRESS REGISTER SHOULD BE 240 (UNITS POSITION OF THE COMPRESSED TAPE RECORD) AND IS MOVED BY THE STORE B-STAR INSTRUCTION TO LOCATIONS 560-562. THESE LOCATIONS ARE THE A ADDRESS OF THE EXPAND INSTRUCTION (X) STORED BY THE PROGRAM IN LOCATION 559. IF SENSE SWITCH G IS ON, THE STORE B-STAR INSTRUCTION IS BY-PASSED AND 240 IS ENTERED IN LOCATIONS 560-562 BY A MOVE INSTRUCTION.

A TEST IS THEN MADE FOR A TAPE READ ERROR. IF ERROR THE PROGRAM BRANCHES TO AN ERROR PRINT ROUTINE TO LOAD THE WORDS "COMPRESSED TAPE READ ERROR".

E. STOPS - SENSE E ON

STORAGE ADDRESS REGISTER

690	ERROR-TAPE WRITE
694	HALT-CHECK WRITE ERROR
750	ERROR-COMPRESSED TAPE READ
777	ERROR-EXPAND

F. PRINTOUTS

1. CORRECT

<u>WRITE A FIELD ON TAPE</u>	<u>READ A-FIELD FROM TAPE</u>	<u>RESULT SHOULD BE</u>	<u>RESULT IS</u>
Δ 55B222K Δ CX	Δ 55B222K Δ DX	Δ 0000055B00222K CX	Δ 0000055B00222K Δ CX
Δ 444D33L Δ CX	Δ 444D33L Δ CX	Δ 0000444D00033L CX	Δ 0000444D00033L Δ CX
Δ 3333C4M Δ CX	Δ 3333C4M Δ CX	Δ 0003333C00004M CX	Δ 0003333C00004M Δ CX

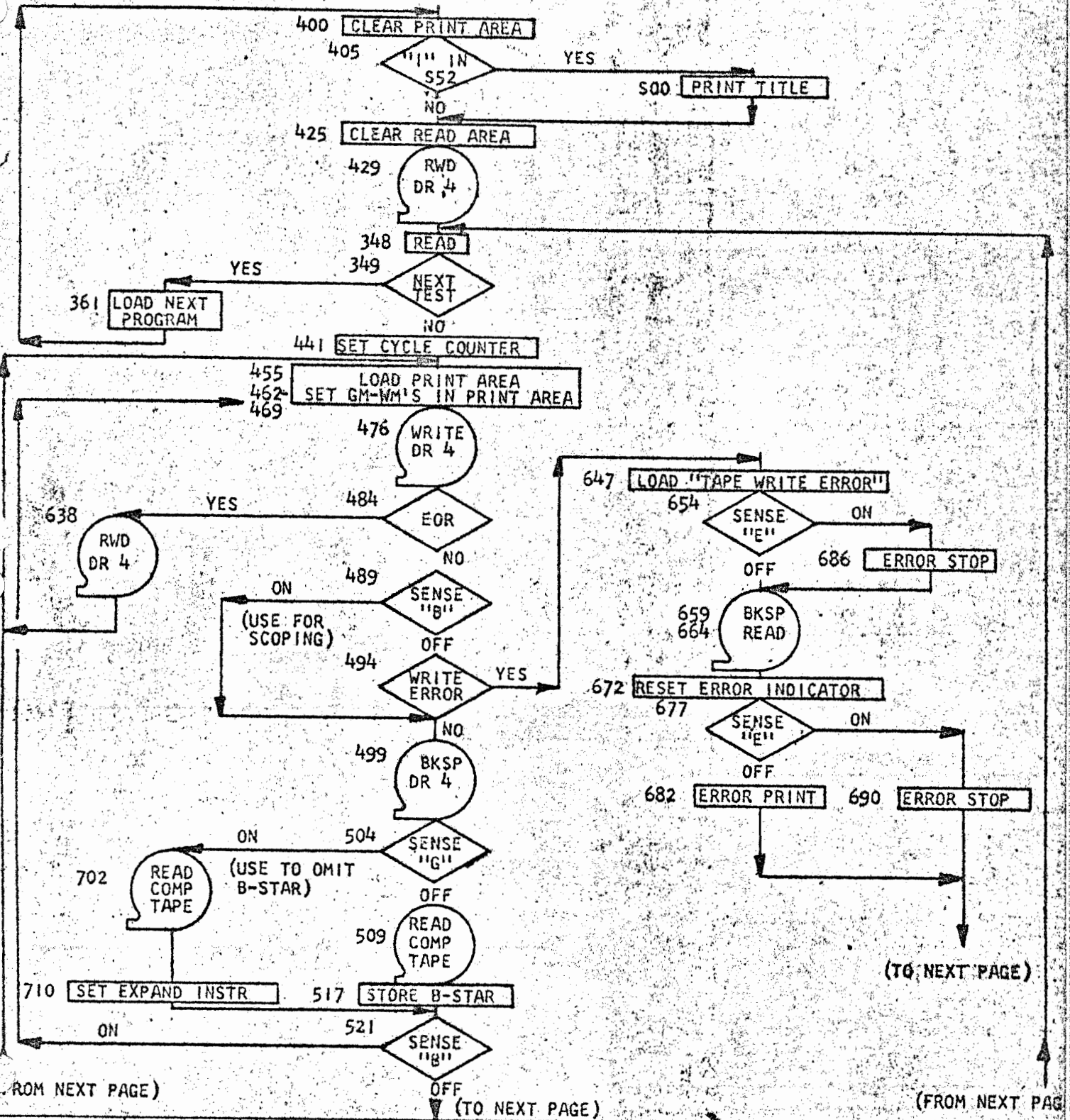
2. ERROR

Δ 55B222K Δ CX	Δ 55B222K Δ CX	TAPE WRITE ERROR COMPRESSED TAPE READ ERROR Δ 0003333C00004M Δ CX 3333C4M Δ CX ERROR
Δ 444D33L Δ CX	Δ 444D33L Δ CX	
Δ 3333C4M Δ CX	Δ 3333C4M Δ CX	

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DIAGNOSTIC FUNCTION TEST REPRODUCTION

FLOW CHART COMPRESSED TAPE READ AND EXPAND



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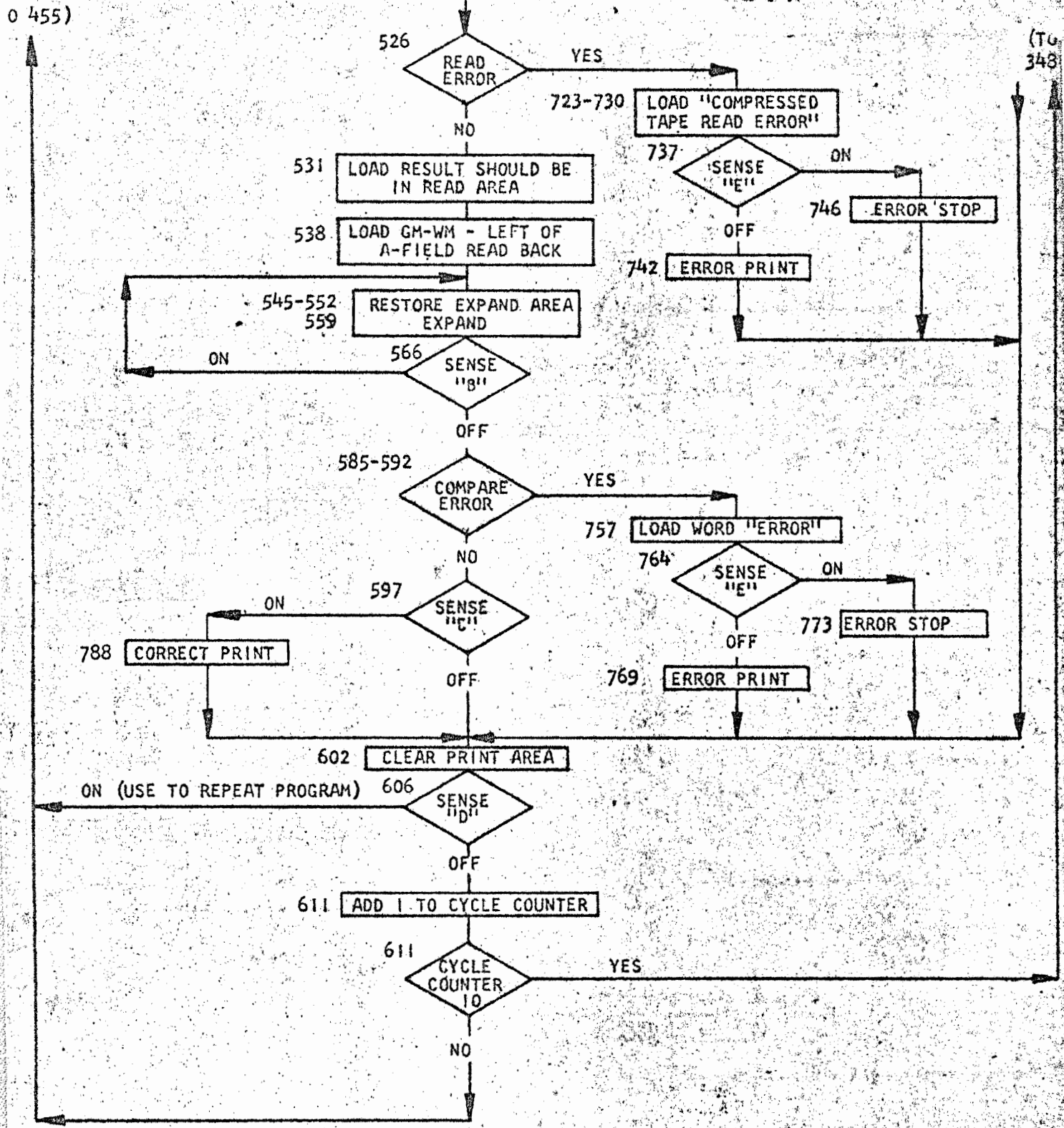
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DIAGNOSTIC FUNCTION TEST

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 SHEET 16 of 19
 BLOCK NO. 5330C

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PROGRAM LISTING FOR USE WITH FLOW CHART

COMPRESSED TAPE RD.+ EX. 5330C

INSTRUCTION ADDRESS	OP	A	B	REMARKS	
377	377	B	389 5701	USE WHEN TESTS ARE RUN FROM TAPE	
385	385	B	588	..	
389	389	N	000	..	
393	393	M	360 392	..	
400	400	/	332	CLEAR PRINT	
404	404	/		..	
405	405	B	500 5521	BR TO TITLE PRINT IF 1 IN 1252	
413	413	B	425	BRANCH	
421	421	B	441	BRANCH	
425	425	/	080	CLEAR CARD READ AREA	
429	429	U	%U4 R	REWIND DRIVE 4	
434	434	B	348	BR TO PROGRAM CHAINING ROUTINE	
441	441	L	793 151	RESET CYCLE COUNTER	
448	448	,	005 048	LOAD PRINT AREA	
455	455	L	015 215	..	
462	462	L	S50 242	SET GM WM IN LOC 242	
469	469	L	S50 216	SET GM WM IN 216	
476	476	M	%U4 205W	WRITE TAPE	
484	484	B	638 K	BRANCH IF END OF REEL	
489	489	B	499 B	SENSE SWITCH B	SS
494	494	B	647 L	BRANCH IF TAPE WRITE ERROR	
499	499	U	%U4 B	BACKSPACE DRIVE 4	
504	504	B	702 G	G ON TO OMIT STORE B-STAR	SS
509	509	M	%C4 229R	READ COMPRESSED TAPE	
517	517	H	562	STORE B-STAR	SS
521	521	B	469 B	SENSE SWITCH B	
526	526	B	723 L	BRANCH IF TAPE READ ERROR	
531	531	L	066 266	LOAD PRINT AREA	
538	538	L	S50 228	LOAD GM WM LEFT OF A-FIELD	
545	545	L	811 286	RESTORE EXPAND AREA	
552	552	,	269 277	..	
559	559	X	XXX 286	*EXPAND, X 240 286	
566	566	B	545 B	SENSE SWITCH B	SS
571	571	B	269 277	BRANCH IF EXPAND ERROR	
578	578	N	000 000	..	
585	585	C	286 266	..	
592	592	B	757 /	..	
597	597	B	788 C	C ON FOR CORRECT PRINT	SS
602	602	/	299	CLEAR PRINT AREA	
606	606	B	455 D	D ON TO OMIT CYCLE COUNT	SS
611	611	A	611 151	ADD ONE TO CYCLE COUNTER	
618	618	B	348 1501	READ NEXT FACTOR IF TENTH CYCLE	
626	626	B	455	USE SAME FACTOR IF NOT TENTH CYCLE	

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1401 DATA PROCESSING SYSTEM
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638	638	U	%U4	R	REWIND DRIVE 4	
643	643	B	455		BRANCH	
647	647	M	834	291	MOVE COMMENT TO PRINT	
654	654	B	686	E	E ON TO ERROR STOP	SS
659	659	U	%U4	B	BACKSPACE DRIVE 4	
664	664	M	%U4	229R	READ TAPE ERROR RECORD	
672	672	B	677	L	RESET TAPE ERROR INDICATOR	
677	677	B	690	E	E ON TO ERROR STOP	SS
682	682	2	602		ERROR PRINT	
686	686	.	659		ERROR STOP	
690	690	.	602		ERROR STOP	
694	694				WORD MARK	
702	702	M	%C4	229R	READ COMPRESSED TAPE	
710	710	M	818	562	SET 240 IN EXPAND INSTRUCTION	
717	717	B	521		BRANCH	
723	723	M	860	274	MOVE COMMENT TO PRINT	
730	730	M	850	291		
737	737	B	746	E	E ON TO ERROR STOP	
742	742	2	602		COMP. TAPE RD. ERROR PRINT	
746	746	.	602		COMP. TAPE RD. ERROR STOP	
750	750				WORD MARK	
757	757	M	865	291	MOVE COMMENT TO PRINT	
764	764	B	773	E	E ON TO ERROR STOP	SS
769	769	2	602		EXPAND ERROR PRINT	
773	773	.	602		EXPAND ERROR STOP	
777	777				WORD MARK	
788	788	2	602		CORRECT PRINT	
792	792				WORD MARK AND BLANKS	
816	816	2	40		CONSTANT	
819	819	T	APE	WRITE ERROR		
835	835	T	APE	READ ERROR		
851	851	C	OMP	RESSED		
861	861	E	RRO	R		
1120	120	W	RIT	E A-FIELD ON TAP		
1140	140	E		READ A-FIELD FRO		
1160	160	M	TA	PE RESULT SHOU		
1180	180	L	D	B E RESULT IS		
1250	550				GROUP MARK WORD MARK IN LOC 1250	

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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	COMPRESSED TAPE RD.+ EX.	5330C00A
,008015,022029,033033N	1001	SET WORDMARK CARD	5330C 02
L067367,340344,348349,357361	1001,008012,0011001	1B361080A8421/340080	5330C 03
L069404,377385,389393,400404	1001	B389S701BS88N000M360392/332/	5330C 04
L068440,413421,425429,434441	1001	1B500S521B425 B441/080U4RB348	5330C 05
L067475,448455,462469,476476	1001	L793151,005048L015215LS50242LS50216	5330C 06
L065508,484489,494499,504509	1001	M4205WB638KB499BB647LUZU48B702G	5330C 07
L068544,517521,526531,538545	1001	M4229RH562B469BB723LL066266LS50228	5330C 08
L072584,552559,566571,578585	1001	L811286,269277XXXX286B5458269277N000000	5330C 09
L065617,592597,602606,611618	1001	C286266B757/B788C/299B455DA611151	5330C 10
L068653,626638,643647,654654	1001	B3481501B455 UZU4RB455M834291	5330C 11
L068689,659664,672677,682686	1001	B686EUZU4BMZU4229RB677LB690E2602.659	5330C 12
L072729,694702,710717,723730	1001.602	M4229RM818562B521 M860274	5330C 13
L071768,737742,746750,757764	1001	M850291B746E2602.602 M865291B773E	5330C 14
L072808,773777,788792,792792	1001	2602	5330C 15
L072848,809809,816819,835835	1001	240TAPE WRITE ERROR	TAPE READ ERR5330C 16
L072888,849849,851861,861861	1001	ORCOMPRESSED	ERROR 5330C 17
L072/59,/40/60,/60/60,/60/60	1001	WRITE A-FIELD ON TAPE	READ A-FIELD FRO5330C 18
L072/99,/80S00,S00S00,S00S00	1001	M TAPE RESULT SHOULD BE	RESULT IS5330C 19
L057S24,S01S05,S12S13,S17S18	1001	2,049L0772772/27722/40/60	5330C 20
L058S50,S29S36,S37S41,S45S50	1001	2/80L/992802/2802413	5330C 21
/333080N		M CLEAR WORDMARK CARD	5330C 22
,019027,031,0380428031T98GB400L046352B04BS88		M COMPRESSED TAPE RD.+ EX.	5330C 23

DETAIL CARDS

D55E222KDCX		D0000055E00222KDCXG	5330C 24
E E		E M	
D444D33LDCX		D0000444D00033LDCXG	5330C 25
E E		E M	
D3333C4MDCX		D0003333C00004MDCXG	5330C 26
E E		E M	
D222228NDCX		D0022222800000NDCXG	5330C 27
E E		E M	
D2222280D00		D00222228000000D00G	5330C 28
E E		E M	
D22222BPD A		D0022222800000PD AG	5330C 29
E E		E M	
D22222BQD		D0022222800000QD G	5330C 30
E E		E M	

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