

RESET ADD AND SUBTRACT

REPRODUCTION

A. PURPOSE

1. TO TEST THE RESET ADD CIRCUITRY
2. TO TEST THE RESET SUBTRACT CIRCUITRY

NOTE: A RESET ADD OR RESET SUBTRACT INSTRUCTION (1) PLACES AN APPROPRIATE SIGN (IN STANDARD FORM) IN THE UNITS POSITION OF THE ACCUMULATOR; (2) MOVES BLANKS OR NUMERICAL PORTIONS OF CHARACTERS IN THE A FIELD TO CORRESPONDING POSITIONS IN THE ACCUMULATOR; (3) INSERTS FILL-IN ZEROS IN THE ACCUMULATOR AFTER A WORD MARK IN THE A FIELD IS SENSED.

B. LOADING PROCEDURES

1. PLACE TEST IN 1402 READ HOPPER AND DEPRESS LOAD KEY.
2. NO SELECTION DIGIT IS REQUIRED WHEN TEST IS RUN FROM TAPE.

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 SAME DETAIL CARD
OFF TO CONTINUE
 - E. ON TO STOP ON ERROR
OFF TO PRINT ERROR

2. COUNTER

A COUNTER (LOCATION 967-970) IS USED TO ALLOW THE PROGRAM TO REPEAT 90 TIMES FOR EACH DETAIL CARD. WHEN SENSE SWITCH C IS ON, ONLY ONE CORRECT PRINTOUT OCCURS PER DETAIL CARD. AN ERROR TEST IS MADE EACH TIME THE PROGRAM IS REPEATED. AN ERROR PRINTOUT OCCURS FOR EACH FAILURE.

D. TEST PROCEDURE

INFORMATION IN THE DETAIL CARD IS LOADED INTO THE PRINT AREA FOR PRINTING PURPOSES. COLUMN 72 IS TESTED FOR AN "A" OR AN "S" TO DETERMINE WHICH ROUTINE IS TO BE USED (RESET ADD OR RESET SUBTRACT). IF COLUMN DOES NOT CONTAIN AN "A" OR AN "S", THE PROGRAM HALTS AND BRANCHES BACK TO THE HALT.

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DIAGNOSTIC FUNCTION TEST
REPRODUCTION

COLUMN 10 IS THEN TESTED FOR A BLANK TO DETERMINE WHETHER A 5-CHARACTER A FIELD WITH A 10-CHARACTER B FIELD IS TO BE USED OR WHETHER A SINGLE CHARACTER A FIELD AND A SINGLE CHARACTER B FIELD IS TO BE USED.

IN EITHER CASE THE RESULT IS COMPARED TO THE RESULT SHOULD BE FIELD.

E. STOPS

543 IN STORAGE ADDRESS REGISTER: WRONG DETAIL CARDS OR BRANCH ON CHARACTER EQUAL CIRCUITRY FAILED.

920 IN STORAGE ADDRESS REGISTER: ERROR WITH SENSE E ON.

F. PRINTOUTS

I. CORRECT

A FIELD	B FIELD	RESULT SHOULD BE	RESULT IS
01234		000000123D	000000123D A
5678Z		000005678I	000005678I A
_AKTM		00000 123M	00000 123M A
T		C	C A
01234		000000123M	000000123M S
5678Z		000005678R	000005678R S
_AKTM		00000 123D	00000 123D S
I		L	L S

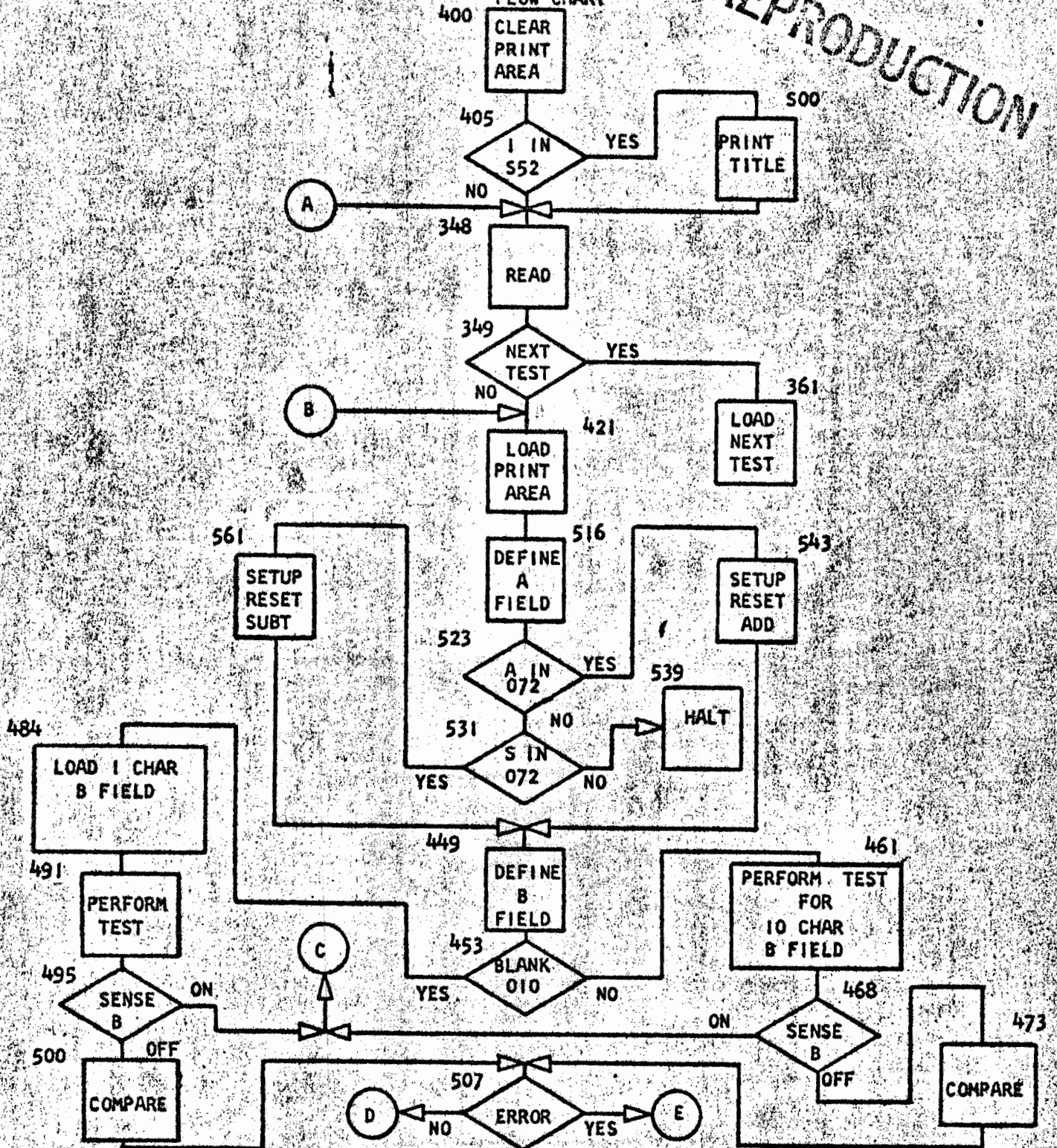
G. COMMENTS

THE BRANCH INSTRUCTION AT LOCATION 927 CAN BE CHANGED MANUALLY TO CAUSE THE PROGRAM TO LOOP AS FEW AS 1 OR AS MANY AS 9,000 TIMES PER DETAIL CARD. THE PROGRAM CALLS FOR 90 LOOPS PER CARD.

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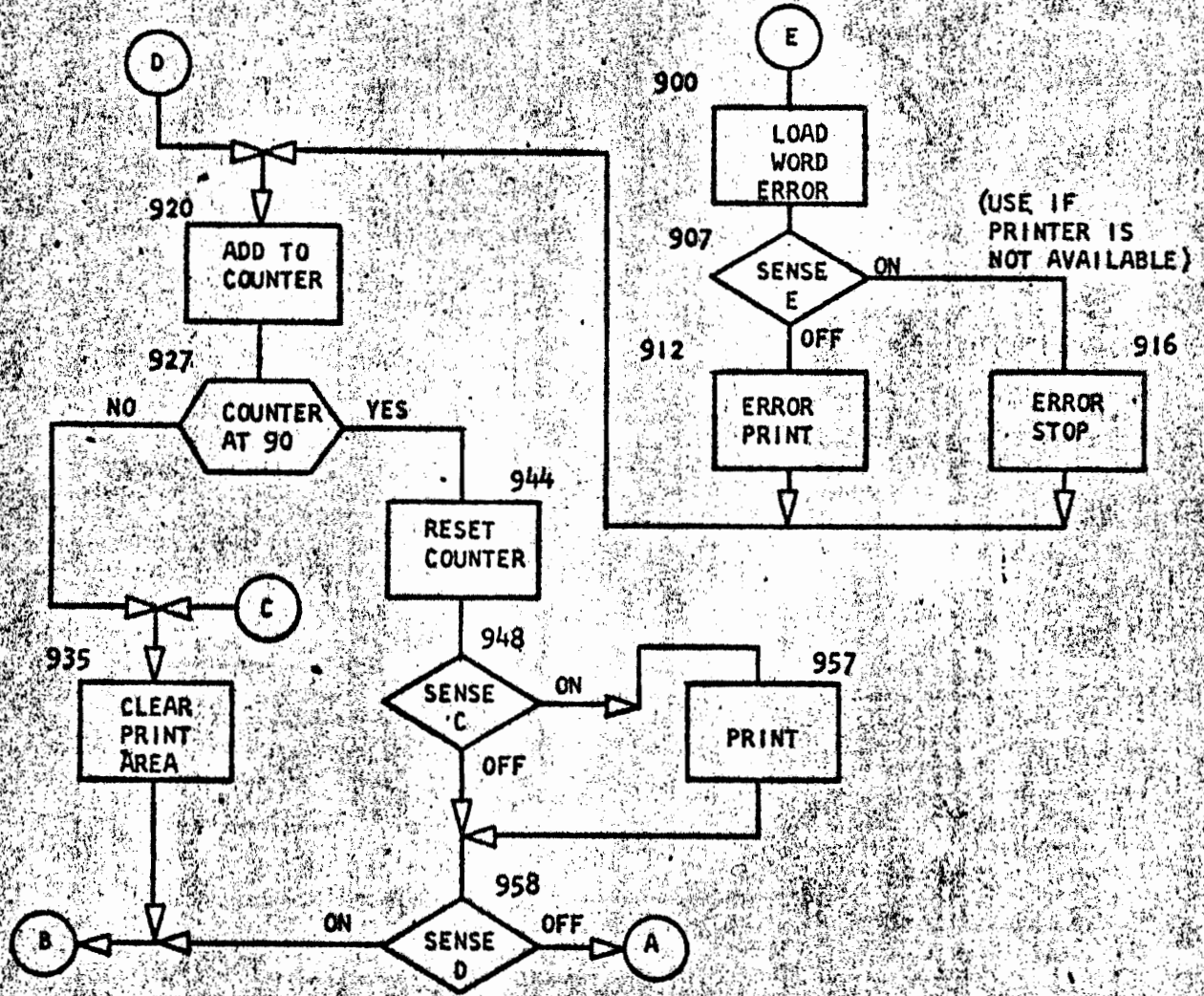
REPRODUCTION

RESET ADD AND SUBTRACT
FLOW CHART



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DIAGNOSTIC FUNCTION TEST

REPRODUCTION

PROGRAM LISTING FOR USE WITH FLOW CHART

RESET ADD + SUB

03308

INSTRUCTION

ADDRESS	OP	A	B	REMARKS
377	377	B	389	USE WHEN TESTS ARE RUN FROM TAPE
385	385	B	588	..
389	389	N	000	..
393	393	M	360 392	..
400	400	/	332	START TEST
404	404	/		..
405	405	B	500 5521	BR TO TITLE PRINT ROUTINE IF 1 IN 552
413	413	/	080	CLEAR READ AREA
417	417	B	348	BRANCH TO PROGRAM CHAINING ROUTINE
421	421	.	001 078	LOAD PRINT AREA
428	428	L	080 299	..
435	435	L	072 272	..
442	442	B	516	GO TO 516
449	449	.	261	DEFINE B FIELD
453	453	B	484 010	GO DO 1 CHARACTER FIELD
461	461	+	210 270	*DO RESET ADD OR RESET SUBTRACT
468	468	B	935 B	LOOP ON SW B
473	473	C	270 250	COMPARE B FIELD TO CORRECT RESULT
480	480	B	507	GO TEST RESULT OF OPERATION
484	484	L	201 261	LOAD 1 CHARACTER B FIELD
491	491	+	261	*DO RESET ADD OR RESET SUBTRACT
495	495	B	935 B	LOOP ON SW B
500	500	C	261 241	COMPARE B FIELD TO CORRECT RESULT
507	507	B	900 /	BRANCH ERROR
512	512	B	920	GO TO CORRECT ROUTINE
516	516	.	206 241	DEFINE A FIELD AND COMPARE FIELD
523	523	B	543 072A	GO DO RESET ADD
531	531	B	561 072S	GO DO RESET SUBTRACT
539	539	.	539	NEITHER -- WRONG DETAIL CARD
543	543	L	971 461	SETUP RESET ADD
550	550	L	971 491	..
557	557	B	449	GO DO RESET ADD
561	561	M	972 461	SETUP RESET SUBTRACT
568	568	M	972 491	..
575	575	B	449	GO DO RESET SUBTRACT
579	579	.		*AN ASTERISK MEANS INSTRUCTION CHANGES
900	900	L	114 285	BEGIN ERROR PRINT ROUTINE
907	907	B	916 E	E ON TO ERROR STOP
912	912	2	920	ERROR PRINT
916	916	.	920	ERROR STOP
920	920	A	920 970	ADD ONE TO OPERATION COUNTER
927	927	B	944 9699	BRANCH AFTER 90 OPERATIONS

SS

SS

SS

C FOR TA

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1907 DATA PROCESSING SYSTEM
DIAGNOSTIC FUNCTION TEST

REPRODUCTION

935 935 / 332
 939 939 /
 940 940 B 421
 944 944 S 970
 948 948 B 957 C
 953 953 B 958
 957 957 2
 958 958 B 421 D
 963 963 B 348
 967 967 0 00+
 971 971 +
 972 972 -
 1110 /10 E RRO R
 1115 /15
 1120 /20 A FI ELD
 1140 /40 B FI ELD
 1160 /60 R ESU LT SHOULD BE
 1180 /80 R ESU LT IS

CLEAR PRINT AREA
 **
 BRANCH TO REPEAT
 RESET OPERATION COUNTER
 C ON FOR CORRECT PRINT SS
 BRANCH TO SENSE D
 PRINT CORRECT RESULTS
 D ON TO REPEAT SS
 BRANCH TO PROG. CHAINING ROUTINE
 OPERATION COUNTER
 RESET ADD OP CODE
 RESET SUBTRACT OP CODE
 CONSTANTS
 **
 **
 **
 **
 **

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1401 DATA PROCESSING SYSTEM
DIAGNOSTIC FUNCTION TEST

PART NO. 451413
SHEET 7 OF 8
BLOCK NO. 03308

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	RESET ADD + SUB	0330B00A
.008015,022029,033033N	1001	SET WORDMARK CARD	0330B 02
L067367,340344,348349,357361	1001,008012,0011001	1B361080A8421/340080	0330B 03
L069404,377385,389393,400404	1001	B389 BS88N000M360392/332/	0330B 04
L069441,413417,421428,435442	1001BS00SS21/080B348,	001078L080299L072272	0330B 05
L070479,449453,461468,473480	10018516	,2618484010 P210270B935BC270250	0330B 06
L068515,484491,495500,507512	1001B507L201261P2618935BC2612418900/B920		0330B 07
L066549,523531,539543,543543	1001,2062418543072AB561072S.539L971461		0330B 08
L061578,557561,568575,579579	1001L9714918449M972461M9724918449		0330B 09
L071938,907912,916920,927935	1001L/14285B916E2920.920A920970B9449699/332		0330B 10
L056962,940944,948953,957958	1001/B421S970B957C89582B4210		0330B 11
L042972,967971,972972,972972	1001B348000PPM		0330B 12
L065/39□/07/07,/10/15,/20/40	1001 ERROR A FIELD		0330B 13
L072/79,/60/80,/80/80,/80/80	1001B FIELD RESULT SHOULD BE		0330B 14
L070S17,S00S01,S05S12,S13S17	1001RESULT IS 2,049L0772772/2772		0330B 15
L059S44,S25S29,S36S37,S41S45	1001□/40/60□/80L/892702/2702413		0330B 16
/333080N	CLEAR WORDMARK CARD		0330B 17
.019027,031,0380428031T98GB400L046352BW048S88	RESET ADD + SUB		0330B 18

DETAIL CARDS

01234	000000123D	A0330B 19
5678Z	000005678I	A0330B 20
AKTM	00000 123M	A0330B 21
EOXH	00000 567H	A0330B 22
IM,2	00000 90#□	A0330B 23
Z		
	C	A0330B 24
	P	A0330B 25
	I	A0330B 26
	.	A0330B 27
01234	000000123M	S0330B 28
5678Z	000005678R	S0330B 29
AKTM	00000 123D	S0330B 30
EOXH	00000 567Q	S0330B 31
IM,2	00000 90#.	S0330B 32
Z		
	L	S0330B 33
	G	S0330B 34

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DIAGNOSTIC FUNCTION TEST

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S03308 35
S03308 3

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