TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

PROGRAM PRINTOUT OF TEST TAPE E

(4931-00-687-8514)

FOR

COMPUTER, GUN DIRECTION, M18

(FADAC)

(1220-00-448-0131)

HEADQUARTERS, DEPARTMENT OF THE ARMY   MAY 1981
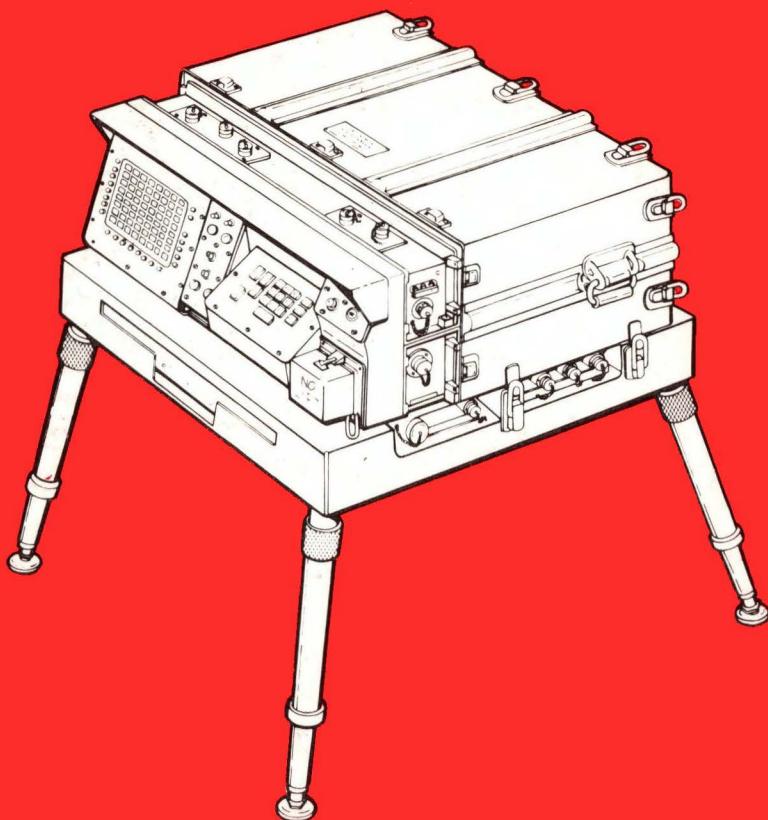
WARNING
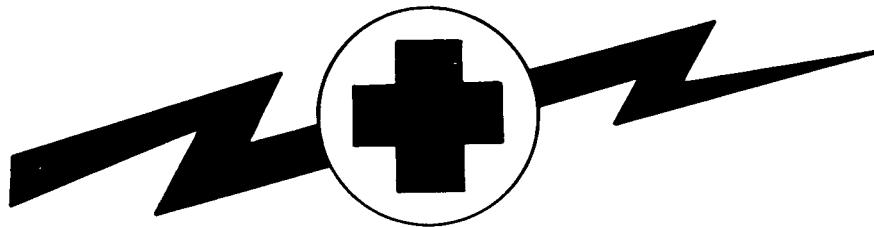
HIGH VOLTAGE

is used in the operation of this equipment.

DEATH ON CONTACT

may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment after the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections of 220-volt ac input connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death.

For artificial respiration, refer to FM 21-11.

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TEST TAPE E PROGRAM PRINTOUT

FOR

COMPUTER, GUN DIRECTION, M18

(FADAC)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Armament Materiel Readiness Command, ATTN: DRSAR-MAS, Rock Island, IL 61299. A reply will be furnished to you.

CHAPTER 1
INTRODUCTION

1-1. SCOPE

These instructions provide information and guidance for personnel responsible for direct support and general support maintenance of the gun direction computer M18 (FADAC). These instructions provide the current complete test tape E program printout. This prinout corresponds to the information in the associated punched tape used in semiautomatic and manual isolation of malfunctions in the FADAC.

1-2. REFERENCES

a. For a general description of the FADAC and its operation and maintenance, refer to TM 9-1220-221-10-1, TM 9-1220-221-10-2, TM 9-1220-221-20&P, and TM 9-1220-221-34/1.

b. TM 9-1220-221-34/1 contains a list of references, including supply manuals, technical manuals, and other available publications applicable to the FADAC, its support equipment, and associated kits and equipment.

1-3. TAPE CARTRIDGE ASSEMBLY

a. Description and Identification. Punched paper tape is supplied in a tape cartridge 8 inches high, 9 inches wide, and 1-1/2 inches deep. The cartridge is equipped with an adjustable filler to accommodate tapes of various lengths. A number on the cartridge identifies the assembly. The tape is identified by a number printed at the start and finish of the tape.

b. Nature of Tests. When run in association with the signal data reproducer AN/GSQ-64 (SDR) and the computer logic unit test set AN/GSM-70 (FALT), the tapes provide a test of circuits within the FADAC. The circuits tested are noted in the tape program printout listed in chapter 3.

c. Assemblies Tested. If the tape stops when running a test and an error indicator flashes on the FALT, the printout should be consulted. The printout indicates the possible malfunctioning assembly or assemblies according to the test number (marker number) being performed when the error occurred.

CHAPTER 2
DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE
USING TAPE-PROGRAMMED TEST TAPE E

2-1. SUPPORT EQUIPMENT

a. **Controls and Indicators.** A complete description of the controls and indicators of the SDR and the FALT, including control box C-4020/GSM-70, is found in the operation and organizational maintenance manuals for these units.

b. **General Operation.**

(1) A semiautomatic tape-programmed test for the purpose of malfunction isolation may be performed. Load the tape cartridge assembly containing the test tape in the SDR. Connect the equipment in accordance with the instructions on the decal on top of the light shield of the FALT.

(2) Follow instructions given in TM 9-1220-221-20 & P, or as specified in chapter 3. The equipment may then be energized and the tape run by moving the OPERATE control on the FALT to RESET, then to TAPE. In direct support and general support maintenance shops, this will normally be done with the control box C-4020 mounted on the half-hinge on the right side of the FALT and connected using the cable provided in the control box case.

(3) When the test detects an improper result (malfunction), the tape automatically stops, an ERROR lamp on the FALT flashes, and a marker number and index number are displayed. The corresponding marker number is then determined from the printout. The test in process is determined by counting the number of columns on the printout which have occurred since the last marker number, up to the index number displayed. The step in the test process which resulted in an error is then known. The test may be repeated by moving the OPERATE control to MAN (manual) and entering the commands, using the control box.

CAUTION

No attempt should be made by field maintenance personnel to replace defective components on the circuit boards. Not only can replacement of components have a detrimental effect on the operation of the circuit involved, but indiscriminate use of a soldering iron can cause further damage to the circuits as well as surrounding components. Defective boards should be forwarded through normal supply channels to depot shops for repair.

(4) Alternate tests may be commanded by manual operation of the control box. The etched circuit board in the board (slot) number indicated by the printout may then be removed and replaced by a spare. The test may then be rerun.

(5) If the program continues beyond the former point of error, it may be assumed that the replacement board has cleared the trouble.

(6) For a detailed discussion of the operation and analysis in a typical situation, see TM 9-1220-221-34/1.

c. **Control Box C-4020/GSM-70.** The test tape may be run while the control box is attached to the FALT. The operator may insert commands and generate measurements by means of manual operation of the control box. For detailed procedures, refer to TM 9-4931-204-34/1.

2-2. ORGANIZATION OF THE PROGRAM PRINTOUT

a. Glossary of Special Terms and Abbreviations. Special terms and abbreviations, together with an explanation of their meaning, are listed in chapter 3.

b. Reading the Program Printout.

(1) **General instructions.** The printout is organized in 10 columns. The instructions are self-explanatory. The number on a line by itself indicates the marker number. To determine test progress, the MARKER-INDEX number is read from the FALT display. The marker number is then found in the printout (see chapter 3). All columns are read from left to right up to the index number displayed. That term in the column so determined is the command, action, or measurement in progress when the tape is stopped. Characters or other information not aligned vertically with the 10 columns are not counted in making a determination.

(2) **Example.** The ERROR indicator of the FALT flashes and the MARKER-BOARD #1 reads 345 and the INDEX-BOARD #2 reads 110. Turn to page 3–122 where marker 345 is. Find marker 345. Find the eleventh row of terms. Follow it over to the tenth term where you will find the term 1SF, which is the command in progress when the tape stopped.

CHAPTER 3
TEST TAPE E PROGRAM PRINTOUT

Section I. INTRODUCTION

3-1. GENERAL

Section III represents the printout of tape-programmed test B. Identification information with possible revision letters or dates is given in the opening lines of the listing, together with connection information and instructions. Check identification information in the printout against identification information on the tape. The printout must correspond to identification information on the start and finish ends of the tape.

3-2. SPECIAL TERMS AND ABBREVIATIONS

a. The words "tape reader" refer to the SDR.

b. The words "Manual Entry Unit" refer to the control box C-4020/GSM-70.

c. Numbers separated by a hyphen (e.g., 015-034) refer to a marker and index number combination.

d. Symbols followed by a hyphen (e.g., B1-) refer to the complement or inversion of the logic symbol; sometimes referred to in printed text as the prime, or followed by a prime (').

e. The words "shorting cable" refer to the branched wiring harness. This harness has three plugs marked P10, P16, and P17 which fit corresponding receptacles on the FADAC. The harness is stored in the rear cover and is part of the FALT.

f. The words "mechanical tape reader" refer to the punched tape reader located on the lower right corner of the main control panel of the FADAC. The tape sensing lever of this reader rides high when tape is present. When tape is not present, the tape sensing lever roller wheel falls into a slot. In this manner, electrical circuits within the reader sense the presence or absence of tape. It is possible to place a short piece of tape underneath the tape sensing lever in such a way that it is not engaged by the sprocket teeth and will not move when the sprocket teeth turn. In this way, the electrical equivalent of the continuous presence of tape for an indefinite period may be simulated. If, however, the short piece of tape used is of improper width or too thick so that tape sensing lever rides abnormally high, the equivalent of excessive tape tension is simulated, which activates certain inhibit circuits.

Section II. OPERATOR INSTRUCTIONS

3-3. INITIAL FALT SETUPS FOR FADAC TESTING

a. CONFIDENCE TEST switch in OFF position.

b. TEST NORMAL indicator lamp is lit.

c. DELAY START switch is OFF position.

d. PROGRAM SKIP A, B, and C switches in OFF position.

e. WR SW switch in OFF position.

f. HOMING SELECT switch in MARKER INDEX position.

g. HOMING switch in OFF position.

h. MARGINAL TEST switch in OFF position.

i. PRESET STOP switch in NORM position.

3-4. INITIAL FADAC SETUPS FOR FALT TESTING

a. The memory cable plugs P2 thru P8 are connected to the memory.

b. The FALT cables shall be connected to FADAC as follows:
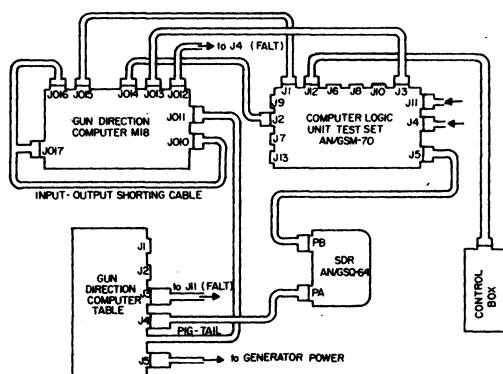
(1) FALT J4 to FADAC J12.

(2) FALT J3 to FADAC J13.

(3) FALT J2 to FADAC J14.

(4) FALT J1 to FADAC J15.

c. Depress matrix buttons A and 1.

d. Depress weapon type button 1.

e. Depress battery button A.

f. The input-output shorting cable shall be connected between J10, J16, and J17 of FADAC.

g. Energize the SDR, FALT, and FADAC in that order.

h. Check both internal and external voltages using the VOLTAGE MONITOR. Ensure that MARGINAL TEST switch on FADAC is in OFF position when checking external voltage with VOLTAGE MONITOR.

i. Start the tape reader.

Section III. TEST TAPE E PROGRAM PRINTOUT

Following is a list of codes used to indicate what associated equipment is to be replaced when an error occurs.

001	PROG TEST test button		013	TRANSIENT neon lamp
002	SET UP button		014	PARITY neon lamp
003	RECALL button		015	ERROR neon lamp
004	SEND button		016	COMPUTE neon lamp
005	COMPUTE button		017	TRIG neon lamp
006	TRIG button		018	NO SOLUTION neon lamp
007	RECEIVE button		019	IN-OUT neon lamp
008	RESET button		020	Keyboard neon lamp
009	Matrix		021	SM neon lamp
010	Keyboard		022	PWR READY neon lamp
011	Mechanical reader		023	Nixie tube
012	Shorting cable		024	Memory

Flip-flop logic tests on logic for AP, D, C3, C7, nixie indicator tests, write switches, read switches, memory plugs, MW1, MW0, and memory.

Start the tape reader.

Tape stops	Marker number									
	005	Logic test for flip-flop AP, one side. Logic for AP is on boards 321, 320, 319, 318. AP or test, one side.								
		OSA	AX	06	03	D	AK	04	MN	TO	C5
		02	K	CL7	DC	TSO	CR5	CR2	C2	B6	B4
		C3	IX	B2	B1	OE18	1SA	1E18	1TF	AP	01
		.	.	.	.	.	.	.	.	.	.
		1SA	AP	AC	TP	TX	C4	K	E	05	CR5
		04	D	MN	03	AK	C3	C5	02	C7	D1
		NX	CL7	06	CR4	CR3	CR6	TSO	A0	L0	B3
		OE18	1SA	1E18	1TF	AP	01	.	.	.	.
		OSA	C4	K	E	05	TP	AC	TX	AK	04
		MN	TO	C5	02	CL7	DC	AX	TSO	CR5	CR2
		C2	B6	B4	C3	IX	B2	B1	OE18	1SA	1E18
		1TF	AP	02	.	.	.	.	.	.	.
		1SA	AP	06	03	D	AX	CR5	04	TX	AC
		MN	AK	C3	C5	02	C7	D1	NX	CL7	CR4
		CR3	CR6	TSO	A0	L0	B3	OE18	1SA	1E18	1TF
		AP	02	.	.	.	.	.	.	.	.

006	OSA	CR5	K	E	05	04	D	TX	AC	TP
	AK	MN	TO	C5	02	CL7	DC	AX	TSO	CR2
	C2	B6	B4	C3	IX	B2	B1	OE18	1SA	1E18
	1TF	AP	03	.	.	.	.	.	.	.
	1SA	AP	06	03	AX	C4	TP	MN	AK	C3
	C5	02	C7	D1	NX	CL7	CR4	CR3	CR6	TSO
	AO	LO	B3	OE18	1SA	1E18	1TF	AP	03	.
	.	.	.	.	.	.	.	.	.	
	OSA	MN	K	E	05	03	AC	TX	D	TO
	C5	02	CL7	DC	AX	TSO	CR5	CR2	C2	B6
	B4	C3	IX	B2	B1	OE18	1SA	1E18	1TF	AP
	04	.	.	.	.	.	.	.	.	.
	1SA	AP	AK	06	04	TP	AX	C4	CR5	D
	TX	C3	C5	02	C7	D1	NX	CL7	CR4	CR3
	CR6	TSO	AO	LO	B3	OE18	1SA	1E18	1TF	AP
	04	.	.	.	.	.	.	.	.	.
007	OSA	AK	K	E	05	03	AC	TX	D	TO
	C5	02	CL7	DC	AX	TSO	CR5	CR2	C2	B6
	B4	C3	IX	B2	B1	OE18	1SA	1E18	1TF	AP
	05	.	.	.	.	.	.	.	.	.
	1SA	AP	MN	06	04	TP	AX	C4	CR5	D
	TX	C3	C5	02	C7	D1	NX	CL7	CR4	CR3
	CR6	TSO	AO	LO	B3	OE18	1SA	1E18	1TF	AP
	05	.	.	.	.	.	.	.	.	.
	OSA	C3	C5	K	E	05	04	03	02	AC
	D	AK	MN	CL7	DC	AX	TSO	CR5	CR2	C2
	B6	B4	IX	B2	B1	OE18	1SA	1E18	1TF	AP
	06	.	.	.	.	.	.	.	.	.
	1SA	AP	06	TX	TP	TO	AX	C4	CR5	D
	MN	AK	C7	D1	NX	CL7	CR4	CR3	CR6	TSO
	AO	LO	B3	OE18	1SA	1E18	1TF	AP	06	.
	.	.	.	.	.	.	.	.	.	.

Tape stops	Marker number										
	008	OSA	C7	K	E	05	04	03	02	AC	D
		AK	MN	CL7	DC	AX	TSO	CR5	CR2	C2	B6
		B4	C3	IX	B2	B1	OE18	1SA	1E18	1TF	AP
		07	.	.	.	.	.	.	.	.	.
		1SA	AP	C5	06	TX	TP	TO	AX	C4	CR5
		D	MN	AK	C3	D1	NX	CL7	CR4	CR3	CR6
		TSO	A0	L0	B3	OE18	1SA	1E18	1TF	AP	07.
		.	.	.	.	.	.	.	.	.	
		OSA	MN	AX	K	E	05	04	03	AC	TX
		D	AK	TO	C5	CL7	DC	TSO	CR5	CR2	C2
		B6	B4	C3	IX	B2	B1	OE18	1SA	1E18	1TF
		AP	08	.	.	.	.	.	.	.	.
		1SA	AP	06	02	TP	C4	CR5	D	TX	AK
		C3	C5	C7	D1	NX	CL7	CR4	CR3	CR6	TSO
		A0	L0	B3	OE18	1SA	1E18	1TF	AP	08	.
		.	.	.	.	.	.	.	.	.	.
	009	OSA	D1	AK	AC	TP	TX	06	03	D	04
		MN	C5	02	DC	AX	TSO	CR5	CR2	C2	B6
		B4	C3	IX	B2	B1	OE18	1SA	1E18	1TF	AP
		09	.	.	.	.	.	.	.	.	.
		1SA	AP	K	CL7	TO	AX	C4	E	05	TP
		CR5	04	D	TX	MN	03	C3	C5	02	C7
		NX	06	CR4	CR3	CR6	TSO	A0	L0	B3	OE18
		1SA	1E18	1TF	AP	09	.	.	.	.	.
		OSA	NX	AK	CL7	AC	TP	TX	06	03	04
		MN	TO	C5	02	DC	AX	TSO	CR5	CR2	C2
		B6	B4	C3	IX	B2	B1	OE18	1SA	1E18	1TF
		AP	10	.	.	.	.	.	.	.	.
		OSA	AP	K	D	AX	C4	E	05	TP	CR5
		04	TX	MN	03	C3	C5	02	C7	D1	06
		CR4	CR3	CR6	TSO	A0	L0	B3	OE18	1SA	1E18
		1TF	AP	10	.	.	.	.	.	.	.

010	OSA	MN	AX	AK	K	E	AC	TP	D	04
	C5	02	CL7	TS0	CR5	CR2	C2	B6	B4	C3
	IX	B2	B1	0E18	1SA	1E18	1TF	AP	11	.
	.	.	.					.	.	
	1SA	AP	TX	T0	06	03	DC	C4	05	TP
	CR5	04	D	C3	C5	02	C7	D1	NX	CL7
	CR4	CR3	CR6	TS0	A0	L0	B3	0E18	1SA	1E18
	1TF	AP	11	.	.	.	.	.	.	.
	OSA	MN	K	E	AC	TP	D	04	C5	02
	CL7	TS0	CR5	CR2	C2	B6	B4	C3	IX	B2
	B1	0E18	1SA	1E18	1TF	AP	12	.	.	.
	1SA	AP	AX	AK	TX	T0	06	03	DC	C4
	05	TP	CR5	04	D	C3	C5	02	C7	D1
	NX	CL7	CR4	CR3	CR6	TS0	A0	L0	B3	0E18
	1SA	1E18	1TF	AP	12	.	.	.	.	.
011	OSA	AX	K	E	AC	TP	D	04	C5	02
	CL7	TS0	CR5	CR2	C2	B6	B4	C3	IX	B2
	B1	0E18	1SA	1E18	1TF	AP	13	.	.	.
	1SA	AP	MN	AK	TX	T0	06	03	DC	C4
	05	TP	CR5	04	D	C3	C5	02	C7	D1
	NX	CL7	CR4	CR3	CR6	TS0	A0	L0	B3	0E18
	1SA	1E18	1TF	AP	13	.	.	.	.	.
	OSA	AK	K	E	AC	TP	D	04	C5	02
	CL7	TS0	CR5	CR2	C2	B6	B4	C3	IX	B2
	B1	0E18	1SA	1E18	1TF	AP	14	.	.	.
	1SA	AP	MN	AX	TX	T0	06	03	DC	C4
	05	TP	CR5	04	D	C3	C5	02	C7	D1
	NX	CL7	CR4	CR3	CR6	TS0	A0	L0	B3	0E18
	1SA	1E18	1TF	AP	14	.	.	.	.	.
	OSA	AX	C3	K	E	06	05	04	03	02
	AC	TP	TX	D	AK	MN	T0	C5	CL7	DC
	CR5	CR2	C2	B6	B4	IX	B2	B1	0E18	ISA
	1E18	1TF	AP	15	.	.	.	.	.	.

Tape stops	Marker number									
	012	ISA	AP	TSO	C4	TP	CR5	D	TX	AC	MN
		AK	C5	C7	D1	NX	CL7	CR4	CR3	CR6	AO
		LO	B3	OE18	1SA	1E18	1TF	AP	15	.	.
		OSA	CR4	CR3	TX	K	E	06	05	04	03
		02	AC	TP	D	AK	MN	TO	C5	CL7	DC
		AX	TSO	C2	B6	B4	C3	IX	B2	B1	OE18
		1SA	1E18	1TF	AP	16	.	.	.	.	
		1SA	AP	CR5	CR2	AX	C4	TP	D	AC	MN
		AK	C3	C5	C7	D1	NX	CL7	CR6	TSO	AO
		LO	B3	OE18	1SA	1E18	1TF	AP	16	.	.
		OSA	CR6	CR5	CR3	TX	K	E	06	05	04
		03	02	AC	TP	D	AK	MN	TO	C5	CL7
		DC	AX	TSO	CR2	C2	B6	B4	C3	IX	B2
		B1	OE18	1SA	1E18	1TF	AP	17	.	.	.
		1SA	AP	AX	C4	TP	D	AC	MN	AK	C3
		C5	C7	D1	NX	CL7	CR4	TSO	AO	LO	B3
		OE18	1SA	1E18	1TF	AP	17	.	.	.	.
	013	OSA	C4	AC	TSO	K	E	06	05	04	03
		02	TP	D	AK	MN	C5	CL7	DC	AX	CR5
		CR2	C2	B6	B4	C3	IX	B2	B1	OE18	1SA
		1E18	1TF	AP	18	.	.	.	.	.	.
		1SA	AP	TX	TO	AX	TP	CR5	D	MN	AK
		C3	C5	C7	D1	NX	CL7	CR4	CR3	CR6	AO
		LO	B3	OE18	1SA	1E18	1TF	AP	18	.	.
		OSA	AO	K	E	06	05	04	03	02	AC
		D	AK	MN	TO	CL7	DC	AX	TSO	CR5	CR2
		IX	B2	B1	OE18	1SA	1E18	1TF	AP	19	.
		.									
		1SA	AP	C5	C2	B6	B4	TP	TX	C3	AX
		C4	CR5	D	AC	MN	AK	C7	D1	NX	CL7
		CR4	CR3	CR6	TSO	LO	B3	OE18	1SA	1E18	1TF
		AP	19	.	.	.	.	.	.	.	.
	014	OSA	LO	C5	K	E	06	05	04	03	02
		AC	D	AK	MN	TO	CL7	DC	AX	TSO	CR5
		CR2	IX	B2	B1	OE18	1SA	1E18	1TF	AP	20
		.									
		1SA	AP	C2	B6	B4	TP	TX	C3	AX	C4
		CR5	D	AC	MN	AK	C7	D1	NX	CL7	CR4
		CR3	CR6	TSO	AO	B3	OE18	1SA	1E18	1TF	AP
		20	.	.	.	.	.	.	.	.	.
		OSA	AX	B3	K	E	06	05	04	03	02
		AC	TP	TX	AK	MN	TO	C5	CL7	DC	TSO
		CR5	CR2	C2	C3	OE18	1SA	1E18	1TF	AP	21

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        1SA        AP        IX        B6        B4        B2        B1        D         C4        TP
        CR5        TX        AC        MN        AK        C3        C5        C7        D1        NX
        CL7        CR4       CR3       CR6       TS0       A0        L0        0E18      1SA       1E18
        1TF        AP        21        .         .         .         .         .         .         .

015     AP and test, one side.

016     1SA        AP        AX        AC        TP        TX        C4        K         E         05
        CR5        04        MN        C3        C5        02        C7        D1        NX        CR4
        CR3        CR6       A0        L0        B3        0E18      1SA       1E18      OTF       AP
        .       01 AX        .         .         .
        1SA        AP        TP        TX        C4        K         E         05        CR5       04
        MN         C3        C5        02        C7        D1        NX        CR4       CR3       CR6
        A0         L0        B3        0E18      1SA       1E18      OTF       AP              01  AC-
        .       05 AKA       .
        1SA        AP        AC        TX        C4        K         E         05        CR5       04
        MN         C3        C5        02        C7        D1        NX        CR4       CR3       CR6
        A0         L0        B3        0E18      1SA       1E18      OTF       AP        .     01  TP-
        1SA        AP        AC        TP        C4        K         E         05        CR5       04
        MN         C3        C5        02        C7        D1        NX        CR4       CR3       CR6
        A0         L0        B3        0E18      1SA       1E18      OTF       AP        .     01  TXA-
        1SA        AP        C4        06        03        D         AX        CR5       04        MN
        C3         C5        02        C7        D1        NX        CR4       CR3       CR6       A0
        L0         B3        0E18      1SA       1E18      OTF       AP        .      02 C4        .      05
        AKA        .         .         .         .         .         .         .

017     1SA        AP        K         E         05        AX        CR5       04        MN        C3
        C5         02        C7        D1        NX        CR4       CR3       CR6       A0        L0
        B3         0E18      1SA       1E18      OTF       AP        .      02 OMDL      .      05 AKA
        1SA        AP        K         E         05        D         AX        CR5       04        MN
        C3         C5        02        C7        D1        NX        CR4       CR3       CR6       A0
        L0         B3        0E18      1SA       1E18      OTF       AP        .      02 OMDL      OMD
        .       05 AKA       .      10 KIOC      .         .         .
        1SA        AP        K         06        03        D         AX        CR5       04        MN
        C3         C5        02        C7        D1        NX        CR4       CR3       CR6       A0
        L0         B3        0E18      1SA       1E18      OTF       AP        .      02 OMDL      OMD
        K          .      05 AKA       .      10 KIOC      .         .
        1SA        AP        E         06        03        D         AX        CR5       04        MN
        C3         C5        02        C7        D1        NX        CR4       CR3       CR6       A0
        L0         B3        0E18      1SA       1E18      OTF       AP        .      02 OMDL      OMD
        E          .      05 AKA       .         .         .         .         .
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Tape stops	Marker number											

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Tape     Marker
stops    number

         018    1SA    AP         03      D       AX      CR5        04      MN      C3     C5
                02     C7         D1      NX      CR4     CR3        CR6     AO      LO     B3         05
                0E18   1SA        1E18    OTF     AP      .      02  OMDL    OMD     06-    .          05
                AKA    .          .       .       .       .          .       .       .      .
                1SA    AP         05      06      03      D          AX      CR5     04     MN
                C3     C5         02      C7      D1      NX         CR4     CR3     CR6    AO
                LO     B3         0E18    1SA     1E18    OTF        AP      .    02 OMDL   OMD
                05     .      05  AKA     .       .       .          .       .       .      .
                1SA    AP         06      D       AX      CR5        04      MN      C3     C5
                02     C7         D1      NX      CR4     CR3        CR6     AO      LO     B3
                0E18   1SA        1E18    OTF     AP      .      02  OMDL    OMD     03-    .          05
                AKA    .          .       .       .       .          .       .       .      .
                1SA    AP         TP      06      03      D          AX      CR5     04     MN
                C3     C5         02      C7      D1      NX         CR4     CR3     CR6    AO
                LO     B3         0E18    1SA     1E18    OTF        AP      .    02 TPB    .          05
                AKA    .          .       .       .       .          .       .       .      .

         019    1SA    AP         CR5     06      03      AX         C4      MN      C3     C5
                02     C7         D1      NX      CR4     CR3        CR6     AO      LO     B3
                0E18   1SA        1E18    OTF     AP      .      03  CR5     .    05 AKA    .
                1SA    AP         K       E       05      04         D       AX      C4     MN
                C3     C5         02      C7      D1      NX         CR4     CR3     CR6    AO
                LO     B3         0E18    1SA     1E18    OTF        AP      .    03 ODO    .          05
                AKA    .      10  KIOC    .       .       .          .       .       .      .
                1SA    AP         K       E       05      04         AX      C4      MN     C3
                C5     02         C7      D1      NX      CR4        CR3  03 CR6     AO      LO
                B3     0E18       1SA     1E18    OTF     AP         .    03 ODO     OD      .         05
                AKA    .          .       .       .       .          .       .       .      .
                1SA    AP         K       06      03      AX         C4      MN      C3     C5
                02     C7         D1      NX      CR4     CR3        CR6     AO      LO     B3
                0E18   1SA        1E18    OTF     AP      .      03  ODO     OD      K      .          05
                AKA    .          .       .       .       .          .       .       .      .

         020    1SA    AP         E       06      03      AX         C4      MN      C3     C5
                02     C7         D1      NX      CR4     CR3        CR6     AO      LO     B3
                0E18   1SA        1E18    OTF     AP      .      03  ODO     OD      E      .          05
                AKA    .          .       .       .       .          .       .       .      .
                1SA    AP         03      AX      C4      MN         C3      C5      02     C7
                D1     NX         CR4     CR3     CR6     AO         LO      B3      0E18   1SA
                1E18   OTF        AP      .    03 ODO     OD         06-     .    05 AKA    .
                1SA    AP         05      06      03      AX         C4      MN      C3     C5
                02     C7         D1      NX      CR4     CR3        CR6     AO      LO     B3
                0E18   1SA        1E18    OTF     AP      .      03  ODO     OD      05     .          05
                AKA    .          .       .       .       .          .       .       .      .
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	1SA	AP	04	06		03	AX	C4	MN	C3	C5	·
	02	C7	D1	NX		CR4	CR3	CR6	AO	LO	B3	
	OE18	1SA	1E18	OTF		AP	·	03 ODO	OD	04	·	05
	AKA	·	·	·		·		·	·	·	·	
021	1SA	AP	06	AX	C4	MN	C3	C5	02	C7		
	D1	NX	CR4	CR3	CR6	AO	LO	B3	OE18	1SA		
	1E18	OTF	AP	·	03 ODO	OD	03-	·	05 AKA			
	1SA	AP	K	06	03	AX	C4	MN	C3	C5		
	02	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3		
	OE18	1SA	1E18	OTF	AP	·	03 ODO	KD3	K	·	05	
	AKA	·	·	·	·		·	·	·	·		
	1SA	AP	D	06	03	AX	C4	MN	C3	C5		
	02	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3		
	OE18	1SA	1E18	OTF	AP	·	03 ODO	KD3	D	·	02	
	OMDL	OMD	K	·	05 AKA	·		·	·	·		
	1SA	AP	TX	06	03	AX	C4	MN	C3	C5		
	02	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3		
	OE18	1SA	1E18	OTF	AP	·	03 TX	·	05 AKA	·		
	1SA	AP	AC	06	03	AX	C4	MN	C3	C5		
	02	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3		
	OE18	1SA	1E18	OTF	AP	·	03 AC	·	·	·		
022	1SA	AP	MN	AK	06	04	TP	AX	C4	CR5		
	C3	C5	02	C7	D1	NX	CR4	CR3	CR6	AO		
	LO	B3	OE18	1SA	1E18	OTF	AP	·	04 MNA	·	05	
	AKA	·	·	·	·	·	·	·	·			
	1SA	AP	06	04	TP	AX	C4	CR5	C3	C5		
	02	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3		
	OE18	1SA	1E18	OTF	AP	·	04 AK-	·	05 MNA-	MN-		
	1SA	AP	K	E	05	03	AK	AX	C4	CR5		
	C3	C5	02	C7	D1	NX	CR4	CR3	CR6	AO		
	LO	B3	OE18	1SA	1E18	OTF	AP	·	04 OF	·		
	1SA	AP	K	AK	06	04	TP	AX	C4	CR5		
	C3	C5	02	C7	D1	NX	CR4	CR3	CR6	AO		
	LO	B3	OE18	1SA	1E18	OTF	AP	·	04 OF	K06-		
	K	·	·	·	·	·	·		·	·		
	1SA	AP	E	AK	06	04	TP	AX	C4	CR5		
	C3	C5	02	C7	D1	NX	CR4	CR3	CR6	AO		
	LO	B3	OE18	1SA	1E18	OTF	AP	·	04 OF	K06-		
	E	·	·	·	·	·	·		·	·		

Tape stops	Marker number

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023    1SA   AP   AK   04   TP   AX       C4   CR5    C3   C5
       02    C7   D1   NX   CR4  CR3       CR6  AO     LO   B3
       OE18  1SA  1E18 OTF  AP   .     04  OF   K06-   06-  .
       1SA   AP   05   AK   06   04        TP   AX     C4   CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    04 OF  05A
       1SA   AP   05   AK   06   04        TP   AX     C4   CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    04 OF  05A
       05    .    .    .    .    .                .          .
       1SA   AP   AK   06   TP   AX        C4   CR5    C3   C5
       02    C7   D1   NX   CR4  CR3       CR6  AO     LO   B3
       OE18  1SA  1E18 OTF  AP   .     04  OF   04B-   .   08 MAX3
       1SA   AP   AK   06   TP   AX        C4   CR5    C3   C5
       02    C7   D1   NX   CR4  CR3       CR6  AO     LO   B3
       OE18  1SA  1E18 OTF  AP   .     04  OF   04B-   04-  .

024    1SA   AP   03   AK   06   04        TP   AX     C4   CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    04 OF  03A
       1SA   AP   03   AK   06   04        TP   AX     C4   CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    04 OF  03A
       03    .    .    .    .    .                .          .
       1SA   AP   AK   06   04   AX        C4   CR5    C3   C5
       02    C7   D1   NX   CR4  CR3       CR6  AO     LO   B3
       OE18  1SA  1E18 OTF  AP   .     04  OF   TPA-   TP-  .
       1SA   AP   AC   AK   06   04        TP   AX     C4   CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    04 AC  .
       1SA   AP   06   04   TP   AX        C4   CR5    C3   C5
       02    C7   D1   NX   CR4  CR3       CR6  AO     LO   B3
       OE18  1SA  1E18 OTF  AP   .     05  MNA- .   04 MNA   MN

025    1SA   AP   K    E    05   03   MN   AX   C4     CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    05 OF  .
       1SA   AP   AC   MN   06   04        TP   AX     C4   CR5
       C3    C5   02   C7   D1   NX        CR4  CR3    CR6  AO
       LO    B3   OE18 1SA  1E18 OTF  AP   .    05 AC  .
       1SA   AP   C3   06   TX   TP   TO   AX   C4     CR5
       MN    C7   D1   NX   CR4  CR3       CR6  AO     LO   B3
       OE18  1SA  1E18 OTF  AP   .     06  C3   .    05 AKA   .   14
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      TOX-          .       .         .       .          .        .          .        .          .
      1SA    AP     C5      06        TX      TP         TO       AX         C4       CR5
      MN     C7     D1      NX        CR4     CR3    06  CR6      AO     05  LO.      B3
      OE18   1SA    1E18    OTF       AP      :      06 C5       .      05  AKA      .     07
      OX     .   14 TOX-            .         .          .        .          .        .
      1SA    AP     K       E         05      04         03       02         TO       AX
      C4     CR5    MN      C7        D1      NX         CR4      CR3        CR6      AO
      LO     B3     OE18    1SA       1E18    OTF        AP       .      06  OX       .     05
      AKA    .      .       .         .       .          .        .          .        .

026   1SA    AP     K       06        TX      TP         TO       AX         C4       CR5
      MN     C7     D1      NX        CR4     CR3        CR6      AO         LO       B3
      OE18   1SA    1E18    OTF       AP      .      06  OX       K      05  .        AKA
      .   14 TOX-           .         .       .          .        .          .        .
      1SA    AP     E       06        TX      TP         TO       AX         C4       CR5
      MN     C7     D1      NX        CR4     CR3        CR6      AO         LO       B3
      OE18   1SA    1E18    OTF       AP      .      06  OX       E      05  .        AKA
      .   14 TOX-           .         .       .          .        .          .        .
      1SA    AP     TX      TP        TO      AX         C4       CR5        MN       C7
      D1     NX     CR4     CR3       CR6     AO         LO       B3         OE18     1SA
      1E18   OTF    AP      .     06  OX      06-    05  .        AKA        .     14 TOX-
      .   18 TOX-   TX-               .       .          .        .          .        .
      1SA    AP     05      06        TX      TP         TO       AX         C4       CR5
      MN     C7     D1      NX        CR4     CR3        CR6      AO         LO       B3
      OE18   1SA    1E18    OTF       AP      .      06  OX       05     05  .        AKA
      .   14 TOX-           .         .       .          .        .          .        .

027   1SA    AP     03      06        TX      TP         TO       AX         C4       CR5
      MN     C7     D1      NX        CR4     CR3        CR6      AO         LO       B3
      OE18   1SA    1E18    OTF       AP      .      06  OX       03     05  .        AKA
      .   14 TOX-           .         .       .          .        .          .        .
      1SA    AP     02      06        TX      TP         TO       AX         C4       CR5
      MN     C7     D1      NX        CR4     CR3        CR6      AO         LO       B3
      OE18   1SA    1E18    OTF       AP      .      06  OX       02     05  .        AKA
      .   08 MAX3   .    14 TOX-      .       .          .        .          .        .
      1SA    AP     06      TP        TO      AX         C4       CR5        MN       C7
      D1     NX     CR4     CR3       CR6     AO         LO       B3         OE18     1SA
      1E18   OTF    AP      .     06  OX      TX-    05  .        AKA
      1SA    AP     06      TX        TO      AX         C4       CR5        MN       C7
      D1     NX     CR4     CR3       CR6     AO         LO       B3         OE18     1SA
      1E18   OTF    AP      .     06  OX      TP-    05  .        AKA        .     14 TOX-
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Tape stops	Marker number										
	028	1SA	AP	06	TX	TP	AX	C4	CR5	MN	C7
		D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18	1SA
		1E18	OTF	AP	.	06 TOA-	.	05 AKA			
		1SA	AP	AC	06	TX	TP	TO	AX	C4	CR5
		MN	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3
		0E18	1SA	1E18	OTF	AP	.	06 AC	.	01 AC	. 14
		TOX-	.								
		1SA	AP	C7	C5	06	TX	TP	TO	AX	C4
		CR5	MN	C3	D1	NX	CR4	CR3	CR6	AO	LO
		B3	0E18	1SA	1E18	OTF	AP	.	07 C7	.	05 AKA
		. 14	TOX-	.							
		1SA	AP	06	TX	TP	TO	AX	C4	CR5	MN
		C3	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	07 C5-	.	05 AKA	.	06 OX
		. 14	TOX-	.	.	.	.	.			.
	029	1SA	AP	C5	06	TX	TP	AX	C4	CR5	MN
		C3	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	07 TOA-	.	05 AKA	.	.
		1SA	AP	AC	C5	06	TX	TP	TO	AX	C4
		CR5	MN	C3	D1	NX	CR4	CR3	CR6	AO	LO
		B3	0E18	1SA	1E18	OTF	AP	.	07 AC	.	01 AC
		. 14	TOX-	.	.	.	.	.			
		1SA	AP	MN	06	02	TP	C4	CR5	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	08 MAX3	MN	.	05 AKA	.
		1SA	AP	AX	06	02	TP	C4	CR5	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	08 MAX3	AX	.	.	.
		1SA	AP	K	E	05	04	03	C4	CR5	C3
		C5	C7	D1	NX	CR4	CR3	CR6	AO	LO	B3
		0E18	1SA	1E18	OTF	AP	.	08 OLP	.	.	.
	030	1SA	AP	K	E	02	TP	C4	CR5	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	08 OLP	K06-	.	.	.
		1SA	AP	K	06	02	TP	C4	CR5	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	08 OLP	K06-	K	.	.
		1SA	AP	E	06	02	TP	C4	CR5	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	0E18
		1SA	1E18	OTF	AP	.	08 OLP	K06-	E	.	.
		1SA	AP	02	TP	C4	CR5	C3	C5	C7	D1
		NX	CR4	CR3	CR6	AO	LO	B3	0E18	1SA	1E18

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            OTF      AP       .     08  OLP     K06-       06-                  .            .            .            .
            1SA      AP       05        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  OLP        05A        .            .            .

    031     1SA      AP       05        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  OLP        05A       05            .            .
            1SA      AP       04        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  OLP        04B        .        04  MNA          .      05
            MNA-      .        .         .       .          .          .         .            .            .
            1SA      AP       04        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  OLP        04B       04            .            .
            1SA      AP       03        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  OLP        03A        .        03  0D0          KD3
            1SA      AP       03        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  OLP        03A       03            .        03  0D0
            KD3       .        .         .       .          .          .         .            .            .

    032     1SA      AP       06        TP      C4         CR5        C3        C5           C7           D1
            NX       CR4      CR3       CR6     A0         L0         B3        0E18         1SA          1E18
            OTF      AP       .     08  OLP     02-         .          .         .            .            .
            1SA      AP       06        02      C4         CR5        C3        C5           C7           D1
            NX       CR4      CR3       CR6     A0         L0         B3        0E18         1SA          1E18
            OTF      AP       .     08  OLP     TPA-        .          .         .            .            .
            1SA      AP       06        02      C4         CR5        C3        C5           C7           D1
            NX       CR4      CR3       CR6     A0         L0         B3        0E18         1SA          1E18
            OTF      AP       .     08  OLP     TPA-       TP-         .         .            .            .
            1SA      AP       AC        06      02         TP         C4        CR5          C3           C5
            C7       D1       NX        CR4     CR3        CR6        A0        L0           B3           0E18
            1SA      1E18     OTF       AP       .     08  AC          .    01  TXA-         .            .
            1SA      AP       D1        K       CL7        TO         AX        C4           E            05
            CR5      04       MN        C3      C5         02         C7        NX           CR4          CR3
            CR6      A0       L0        B3      0E18       1SA        1E18      OTF          AP           .      09
            D1        .   05  AKA       .        .          .          .         .            .            .
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Tape stops	Marker number											
	033	1SA	AP	AK	CL7	TO	AX	C4	E		05	CR5
		04	MN	C3	C5	02	C7	NX	CR4		CR3	CR6
		AO	LO	B3	OE18	1SA	1E18	OTF	AP	.	09	KAK1
		1SA	AP	CL7	TO	AX	C4	E	05		CR5	04
		MN	C3	C5	02	C7	NX	CR4	CR3		CR6	AO
		LO	B3	OE18	1SA	1E18	OTF	AP	.	09	KAK1	KC-
		.	05	AKA	.	.	.	.	.		.	.
		1SA	AP	CL7	TO	AX	C4	E	05		CR5	04
		MN	C3	C5	02	C7	NX	CR4	CR3		CR6	AO
		LO	B3	OE18	1SA	1E18	OTF	AP	.	09	KAK1	KC-
		K-	.	05	AKA	.	.	.	.	.	.	.
		1SA	AP	K	TO	AX	C4	E	05		CR5	04
		MN	C3	C5	02	C7	NX	CR4	CR3		CR6	AO
		LO	B3	OE18	1SA	1E18	OTF	AP	.	09	CL7-	.	05
		AKA	.	.	.	.	.	.	.		.	.
	034	1SA	AP	K	CL7	AX	C4	E	05		CR5	04
		MN	C3	C5	02	C7	NX	CR4	CR3		CR6	AO
		LC	B3	OE18	1SA	1E18	OTF	AP	.	09	TOA-	.	05
		AKA	.	.	.	.	.	.	.		.	.
		1SA	AP	AC	K	CL7	TO	AX	C4	E		05
		CR5	04	MN	C3	C5	02	C7	NX	CR4		CR3
		CR6	AO	LO	B3	OE18	1SA	1E18	OTF	AP	.	09
		AC	.	.	.	.	.	.	.		.	
		1SA	AP	NX	K	D	AX	C4	E		05	CR5
		04	MN	C3	C5	02	C7	D1	CR4		CR3	CR6
		AO	LO	B3	OE18	1SA	1E18	OTF	AP	.	10	NX
		.	05	AKA	.	.	.	.	.		.	.
		1SA	AP	AK	AX	C4	E	05	CR5		04	MN
		C3	C5	02	C7	D1	CR4	CR3	CR6		AO	LO
		B3	OE18	1SA	1E18	OTF	AP	.	10	KIOC	KIO	.
	035	1SA	AP	D	AX	C4	E	05	CR5		04	MN
		C3	C5	02	C7	D1	CR4	CR3	CR6		AO	LO
		B3	OE18	1SA	1E18	OTF	AP	.	10	KIOC	KIO	K-
		.	05	AKA	.	.	.	.	.		.	.
		1SA	AP	K	AX	C4	E	05	CR5		04	MN
		C3	C5	02	C7	D1	CR4	CR3	CR6		AO	LO
		B3	OE18	1SA	1E18	OTF	AP	.	10	KIOC	KIO	D-
		.	05	AKA	.	.	.	.	.		.	.
		1SA	AP	AK	K	D	AX	C4	E		05	CR5
		04	MN	C3	C5	02	C7	D1	CR4		CR3	CR6
		AO	LO	B3	OE18	1SA	1E18	OTF	AP	.	10	KIOC
		KIO	AK	.	.	.	.	.	.		.	.

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         1SA      AP       AC       K        D        AX       C4       E            05       CR5
         04       MN       C3       C5       02       C7       D1       CR4          CR3      CR6
         A0       LO       B3       0E18     1SA      1E18     OTF      AP        .  10       AC

036      1SA      AP       AK       TX       TO       06       03       DC           C4       05
         CR5      04       C3       C5       02       C7       D1       NX           CR4      CR3
         CR6      A0       LO       B3       0E18     1SA      1E18     OTF          AP    .   11
         AKA      .    04  OF       .    08  OLP      .    12  MAX2     .    13  MAX1    .
         1SA      AP       06       03       DC       C4       05       CR5          04       C3
         C5       02       C7       D1       NX       CR4      CR3      CR6          A0       LO
         B3       0E18     1SA      1E18     OTF      AP       .    11  TOX-      .  08       OLP
         1SA      AP       TO       06       03       DC       C4       05           CR5      04
         C3       C5       02       C7       D1       NX       CR4      CR3          CR6      A0
         LO       B3       0E18     1SA      1E18     OTF      AP       .    11       TOX-     TX-
         .    08  OLP      .        .        .        .        .            .        .

037      1SA      AP       TX       06       03       DC       C4       05           CR5      04
         C3       C5       02       C7       D1       NX       CR4      CR3          CR6      A0
         LO       B3       0E18     1SA      1E18     OTF      .AP      .    11       TOX-     TO-
         .    08  OLP      .        .        .        .        .            .        .
         1SA      AP       K        E        AC       TX       TO       C4           05       CR5
         04       C3       C5       02       C7       D1       NX       CR4          CR3      CR6
         A0       LO       B3       0E18     1SA      1E18     OTF      AP        .  11       0A
         01   0A  .        .        .        .        .            .        .
         1SA      AP       K        E        TX       TO       03       DC           C4       05
         CR5      04       C3       C5       02       C7       D1       NX           CR4      CR3
         CR6      A0       LO       B3       0E18     1SA      1E18     OTF          AP    .   11
         0A       K06-     .    08  OLP      .        .        .            .        .
         1SA      AP       K        TX       TO       06       03       DC           C4       05
         CR5      04       C3       C5       02       C7       D1       NX           CR4      CR3
         CR6      A0       LO       B3       0E18     1SA      1E18     OTF          AP    .   11
         0A       K06-     K        .    08  OLP      .        .            .        .

038      1SA      AP       E        TX       TO       06       03       DC           C4       05
         CR5      04       C3       C5       02       C7       D1       NX           CR4      CR3
         CR6      A0       LO       B3       0E18     1SA      1E18     OTF          AP    .   11
         0A       K06-     E        .    08  OLP      .        .            .        .
         1SA      AP       TX       TO       03       DC       C4       05           CR5      04
         C3       C5       02       C7       D1       NX       CR4      CR3          CR6      A0
         LO       B3       0E18     1SA      1E18     OTF      AP       .    11       0A       K06-
         06-      .    08  OLP      .        .        .        .            .        .
         1SA      AP       TX       TO       06       DC       C4       05           CR5      04
         C3       C5       02       C7       D1       NX       CR4      CR3          CR6      A0
         LO       B3       0E18     1SA      1E18     OTF      AP       .    11       0A       03A-
         .    08  OLP      .        .        .        .        .            .        .
         1SA      AP       TX       TO       06       DC       C4       05           CR5      04
         C3       C5       02       C7       D1       NX       CR4      CR3          CR6      A0
         LO       B3       0E18     1SA      1E18     OTF      AP       .    11       0A       03A-
         03-      .    08  OLP      .        .        .        .            .        .
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Tape stops	Marker number

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039   1SA    AP    AC    TX    TO    06    03    DC    C4    05
      CR5    04    C3    C5    02    C7    D1    NX    CR4   CR3
      CR6    A0    L0    B3    0E18  1SA   1E18  OTF   AP    .    11
      0A     AC    .  01 0A    AC    .     .     .     .
      1SA    AP    TX    TO    06    03    C4    05    CR5   04
      C3     C5    02    C7    D1    NX    CR4   CR3   CR6   A0
      L0     B3    0E18  1SA   1E18  OTF   AP    .  11 0A    DC-
      .   08 OLP   .     .     .     .     .     .
      1SA    AP    MN    AX    AK    TX    TO    06    03    DC
      C4     05    CR5   04    C3    C5    02    C7    D1    NX
      CR4    CR3   CR6   A0    L0    B3    0E18  14 1SA 1E18  OTF
      AP     .  12 MAX2  MN    .  13 MAX1  .  14 MAX0  .
      1SA    AP    AK    TX    TO    06    03    DC    C4    05
      CR5    04    C3    C5    02    C7    D1    NX    CR4   CR3
      CR6    A0    L0    B3    0E18  1SA   1E18  OTF   AP    .    12
      MAX2   AX-   .  04 OF    .  08 OLP   .  11 MAX3  .  13 MAX1

040   1SA    AP    AX    TX    TO    06    03    DC    C4    05
      CR5    04    C3    C5    02    C7    D1    NX    CR4   CR3
      CR6    A0    L0    B3    0E18  1SA   1E18  OTF   AP    .    12
      AK-    .  11 MAX3  MN    .  14 MAX0  .     .     .
      1SA    AP    AX    AK    06    03    DC    C4    05    CR5
      04     C3    C5    02    C7    D1    NX    CR4   CR3   CR6
      A0     L0    B3    0E18  1SA   1E18  OTF   AP    .  12 TOX-
      .   04 OF    .     .     .     .     .     .     .
      1SA    AP    AK    TX    TO    06    03    DC    C4    05
      CR5    04    C3    C5    02    C7    D1    NX    CR4   CR3
      CR6    A0    L0    B3    0E18  1SA   1E18  OTF   AP    .    13
      MAX1   MN-   .  04 OF    .  08 OLP   .  11 MAX3  .  12 MAX2
      1SA    AP    AX    MN    AK    TX    TO    06    03    DC
      C4     05    CR5   04    C3    C5    02    C7    D1    NX
      CR4    CR3   CR6   A0    L0    B3    0E18  1SA   1E18  OTF
      AP     .  13 MAX1  AX    .  12 MAX2  .  14 MAX0  .     .

041   1SA    AP    MN    TX    TO    06    03    DC    C4    05
      CR5    04    C3    C5    02    C7    D1    NX    CR4   CR3
      CR6    A0    L0    B3    0E18  1SA   1E18  OTF   AP    .    13
      AK-    .  05 AKA   .  11 MAX3  MN    .  14 MAX0  .
      1SA    AP    MN    AK    06    03    DC    C4    05    CR5
      04     C3    C5    02    C7    D1    NX    CR4   CR3   CR6
      A0     L0    B3    0E18  1SA   1E18  OTF   AP    .  13 TOX-
      1SA    AP    AX    TX    TO    06    03    DC    C4    05
      CR5    04    C3    C5    02    C7    D1    NX    CR4   CR3
      CR6    A0    L0    B3    0E18  1SA   1E18  OTF   AP    .    14
      MAX0   MN-   .  11 MAX3  MN    .  12 MAX2  .     .     .
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        1SA    AP    MN       TX     TO     06     03     DC     C4     05
        CR5    04    C3       C5     02     C7     D1     NX     CR4    CR3
        CR6    A0    LO       B3     0E18   1SA    1E18   OTF    AP     .      14
        MAX0   AX-   .    05  AKA    AK     .   11 MAX3   MN     .   13 MAX1

042     1SA    AP    AK       MN     AX     TX     TO     06     03     DC
        C4     05    CR5      04     C3     C5     02     C7     D1     NX
        CR4    CR3   CR6      A0     LO     B3     0E18   1SA    1E18   OTF
        AP     .  14 AKA      .  12  MAX2   .   13 MAX1   .      .      .
        1SA    AP    AX       TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  AX     .   05 AKA    .      .      .      .
        1SA    AP    C3       TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  C3     .   05 AKA    .      .      .      .
        1SA    AP    C4       CR5    MN     C5     C7     D1     NX     CR4
        CR3    CR6   A0       LO     B3     0E18   1SA    1E18   OTF    AP
        .   15 TSO-  .    05  AKA    .      .      .      .      .      .
        1SA    AP    K        E      06     05     04     03     02     TSO
        C4     CR5   MN       C5     C7     D1     NX     CR4    CR3    CR6
        A0     LO    B3       0E18   1SA    1E18   OTF    AP     .   15 OY
        .   05 AKA   .        .      .      .      .      .      .      .

043     1SA    AP    K        TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  OY     K      .   05 AKA    .      .      .
        1SA    AP    E        TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  OY     E      .   05 AKA    .      .      .
        1SA    AP    06       TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  OY     06     .   05 AKA    .      .      .
        1SA    AP    05       TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  OY     05     .   05 AKA    .      .      .
        1SA    AP    04       TSO    C4     CR5    MN     C5     C7     D1
        NX     CR4   CR3      CR6    A0     LO     B3     0E18   1SA    1E18
        OTF    AP    .    15  OY     04     .   05 AKA    .      .      .
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Tape stops	Marker number										
	044	1SA	AP	03	TSO	C4	CR5	MN	C5	C7	D1
		NX	CR4	CR3	CR6	AO	LO	B3	OE18	1SA	1E18
		OTF	AP	.	15 OY	03	.	05 AKA	.	.	.
		1SA	AP	02	TSO	C4	CR5	MN	C5	C7	D1
		NX	CR4	CR3	CR6	AO	LO	B3	OE18	1SA	1E18
		OTF	AP	.	15 OY	02	.	05 AKA	.	.	.
		1SA	AP	CR4	CR5	CR2	AX	C4	MN	C3	C5
		C7	D1	NX	CR6	AO	LO	B3	OE18	1SA	1E18
		OTF	AP	.	16 CR4	.	05 AKA	.	.	.	.
		1SA	AP	CR2	AX	C4	MN	C3	C5	C7	D1
		NX	CR6	AO	LO	B3	OE18	1SA	1E18	OTF	AP
		.	16 CR5-	.	03 ODO	.	05 AKA	.	17 TX		
		1SA	AP	CR3	CR5	CR2	AX	C4	MN	C3	C5
		C7	D1	NX	CR6	AO	LO	B3	OE18	1SA	1E18
		OTF	AP	.	16 CR3	.	05 AKA	.	.	.	.
	045	1SA	AP	CR5	AX	C4	MN	C3	C5	C7	D1
		NX	CR6	AO	LO	B3	OE18	1SA	1E18	OTF	AP
		.	16 CR2-	.	05 AKA	.	.	.	.	.	.
		1SA	AP	TX	CR5	CR2	AX	C4	MN	C3	C5
		C7	D1	NX	CR6	AO	LO	B3	OE18	1SA	1E18
		OTF	AP	.	16 TX	.	05 AKA	.	.	.	.
		1SA	AP	CR6	AX	C4	MN	C3	C5	C7	D1
		NX	CR4	AO	LO	B3	OE18	1SA	1E18	OTF	AP
		.	17 CR6	.	03 ODO	.	05 AKA	.	.	.	.
		1SA	AP	CR5	AX	C4	MN	C3	C5	C7	D1
		NX	CR4	AO	LO	B3	OE18	1SA	1E18	OTF	AP
		.	17 CR5	.	05 AKA	.	.	.	.	.	.
		1SA	AP	CR3	AX	C4	MN	C3	C5	C7	D1
		NX	CR4	AO	LO	B3	OE18	1SA	1E18	OTF	AP
		.	17 CR3	.	03 ODO	.	05 AKA	.	.	.	.
	046	1SA	AP	C4	TX	TO	AX	CR5	MN	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	OE18
		1SA	1E18	OTF	AP	.	18 C4	.	05 AKA	.	14 AKA
		1SA	AP	AC	TX	TO	AX	CR5	MN	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	OE18
		1SA	1E18	OTF	AP	.	18 AC	.	02 OMDL	.	14 AKA
		1SA	AP	TSO	TX	TO	AX	CR5	MN	C3	C5
		C7	D1	NX	CR4	CR3	CR6	AO	LO	B3	OE18
		1SA	1E18	OTF	AP	.	18 TSO	.	02 OMDL	.	05 AKA
		.	14 AKA	.	.	.	.	.	.	.	.

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        1SA     AP      AX      CR5     MN      C3      C5      C7      D1      NX
        CR4     CR3     CR6     A0      LO      B3      OE18    1SA     1E18    OTF
        AP      .    18 TOX-    .    02 OMDL    .    05 AKA     .               .       NX      OTF
        1SA     AP      A0      C5      C2      B6      B4      TP      TX      C3
        AX      C4      CR5     MN      C7      D1      NX      CR4        19 CR3     CR6
        LO      B3      OE18    1SA     1E18    OTF     AP      .    19 A0      .    05
        AKA     .       .       .       .       .       .       .

047     1SA     AP      C2      B6      B4      TP      TX      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6        05 LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 C5-     .    05 AKA     .    20
        TO1C    .       .       .       .       .       .       .
        1SA     AP      C5      B6      B4      TP      TX      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6        05 LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 C2-     .    05 AKA     .
        1SA     AP      C5      C2      AX      C4      CR5     MN      C7      D1
        NX      CR4     CR3     CR6     LO      B3      OE18    1SA     1E18    OTF
        AP      .    19 TO1C    .    05 AKA     .       .       .       .
        1SA     AP      C5      C2      TP      TX      C3      AX      C4      CR5
        MN      C7      D1      NX      CR4        19 CR3     CR6     LO      B3      OE18
        1SA     1E18    OTF     AP      .    19 TO1C    B64-    .    05 AKA     .
        1SA     AP      C5      C2      B4      TP      TX      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6     LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 TO1C    B64-    B6-     .    05
        AKA     .       .       .       .       .       .       .

048     1SA     AP      C5      C2      B6      TP      TX      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6     LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 TO1C    B64-    B4-     .    05
        AKA     .       .       .       .                   .
        1SA     AP      C5      C2      B6      B4      TX      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6     LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 TO1C    TPA-    .    05 AKA
        1SA     AP      C5      C2      B6      B4      TX      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6     LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 TO1C    TPA-    TP-     .    05
        AKA     .       .       .       .                   .
        1SA     AP      C5      C2      B6      B4      TP      C3      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6     LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 TO1C    TX-     .    05 AKA
        1SA     AP      C5      C2      B6      B4      TP      TX      AX      C4
        CR5     MN      C7      D1      NX      CR4     CR3     CR6     LO      B3
        OE18    1SA     1E18    OTF     AP      .    19 TO1C    C3-     .    05 AKA
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Tape stops	Marker number												
	049	1SA	AP	LO	C2	B6	B4	TP		TX		C3		AX
		C4	CR5	MN	C7	D1	NX	CR4		CR3		CR6		AO
		B3	OE18	1SA	1E18	OTF	AP	.	20	LO		.	05	AKA
		1SA	AP	C5	C2	B6	B4	TP		TX		C3		AX
		C4	CR5	MN	C7	D1	NX	CR4		CR3		CR6		AO
		B3	OE18	1SA	1E18	OTF	AP	.	20	C5		.	05	AKA
		.	19. T01C	.	.		.							
		1SA	AP	B6	B4	TP	TX	C3		AX		C4		CR5
		MN	C7	D1	NX	CR4	CR3	CR6		AO		B3		OE18
		1SA	1E18	OTF	AP	.	20	C2-		.	05	AKA		.
		1SA	AP	AX	IX	B6	B4	B2		B1		D		C4
		CR5	MN	C3	C5	C7	D1	NX		CR4		CR3		CR6
		AO	LO	OE18	1SA	1E18	OTF	AP		.	21	AX		. 05
		AKA	.	.	.	.		.		.				
		1SA	AP	B6	B4	B2	B1	D		C4		CR5		MN
		C3	C5	C7	D1	NX	CR4	CR3		CR6		AO		LO
		OE18	1SA	1E18	OTF	AP	.	21		IX-		.	05	AKA .
	050	1SA	AP	B3	IX	C4	CR5	MN		C3		C5		C7
		D1	NX	CR4	CR3	CR6	AO	LO		OE18		1SA		1E18
		OTF	AP	.	21	QT1	.	05	AKA	.		.		.
		1SA	AP	IX	B2	B1	D	C4		CR5		MN		C3
		C5	C7	D1	NX	CR4	CR3	CR6		AO		LO		OE18
		1SA	1E18	OTF	AP	.	21	QT1		B64-		.	05	AKA .
		1SA	AP	IX	B4	B2	B1	D		C4		CR5		MN
		C3	C5	C7	D1	NX	CR4	CR3		CR6		AO		LO
		OE18	1SA	1E18	OTF	AP	.	21		QT1	B64-	B6-		. 05
		AKA	.	.	.	.		.		.		.		
		1SA	AP	IX	B6	B2	B1	D		C4		CR5		MN
		C3	C5	C7	D1	NX	CR4	CR3		CR6		AO		LO
		OE18	1SA	1E18	OTF	AP	.	21		QT1	B64-	B4-		. 05
		AKA	.	.	.	.		.		.		.		
		1SA	AP	B3	IX	B6	B4	D		C4		CR5		MN
		C3	C5	C7	D1	NX	CR4	CR3		CR6		AO		LO
		OE18	1SA	1E18	OTF	AP	.	21		QT1	BL4	.	05	AKA
	051	1SA	AP	B3	IX	B6	B4	B2		B1		D		C4.
		CR5	MN	C3	C5	C7	D1	NX		CR4		CR3		CR6
		AO	LO	OE18	1SA	1E18	OTF	AP		.	21	QT1		BL4
		B3	.	05	AKA									
		1SA	AP	IX	B6	B4	B1	D		C4		CR5		MN
		C3	C5	C7	D1	NX	CR4	CR3		CR6		AO		LO
		OE18	1SA	1E18	OTF	AP	.	21		QT1	BL4	B2-		. 05
		AKA	.	.	.	.		.		.		.		.

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1SA   AP    IX    B6    B4    B2    D        C4    CR5   MN
C3    C5    C7    D1    NX    CR4   CR3      CR6   A0    LO
OE18  1SA   1E18  OTF   AP    .   21 QT1     BL4   B1-   .    05
AKA   .     .     .     .     .     .        .     .     .
```

052   Logic test for flip-flop AP, zero side.   Logic for AP is on boards 321, 320, 319, 318.
AP or test, zero side.

```
OSA   AP    TO    AX    AC    TX    TP    C4    03    04
CR5   MN    AK    C3    C7    C5    02    D1    K     CL7
NX    DC    TS0   CR4   CR2   CR6   A0    C2    B6    B4
LO    IX    B2    B1    OE18  OSA   1E18  OTF   AP    01
.     .     .     .     .     .     .     .     .     .
1SA   D     06    K     E     05    TP    TX    AC    04
03    MN    AK    C5    02    CL7   AX    C3    CR3   CR5
CR2   TS0   B3    OE18  OSA   1E18  OTF   AP    01    .
.     .     .     .     .     .     .     .     .     .
OSA   AP    D     06    C4    03    04    CR5   MN    AK
C3    C7    C5    02    D1    K     CL7   NX    TO    DC
TS0   CR4   CR2   CR6   A0    C2    B6    B4    LO    IX
B2    B1    OE18  OSA   1E18  OTF   AP    02    .     .
1SA   AX    AC    TX    TP    TO    K     E     05    04
03    MN    AK    C5    02    CL7   C3    06    CR3   CR5
CR2   TS0   B3    OE18  OSA   1E18  OTF   AP    02    .
.     .     .     .     .     .     .     .     .     .
```

053
```
OSA   AP    K     E     05    TP    AX    AC    TX    04
CR5   MN    AK    C3    C7    C5    02    D1    CL7   NX
TO    DC    TS0   CR4   CR2   CR6   A0    C2    B6    B4
LO    IX    B2    B1    OE18  OSA   1E18  OTF   AP    03
.     .     .     .     .     .     .     .     .     .
1SA   C4    06    03    D     TO    TX    AC    04    MN
AK    C5    02    CL7   AX    C3    CR3   CR5   CR2   TS0
B3    OE18  OSA   1E18  OTF   AP    03    .     .     .
OSA   AP    K     E     05    TX    AC    D     AX    TP
C4    CR5   MN    AK    C3    C7    C5    02    D1    CL7
NX    TO    DC    TS0   CR4   CR2   CR6   A0    C2    B6
B4    LO    IX    B2    B1    OE18  OSA   1E18  OTF   AP
04
1SA   06    04    03    TO    TP    MN    AK    C5    02
CL7   AX    C3    CR3   CR5   CR2   TS0   B3    OE18  OSA
1E18  OTF   AP    04    .     .     .     .     .     .
```

Tape stops	Marker number										
	054	OSA	AP	K	E	05	04	TX	AC	D	AX
		TP	C4	MN	AK	C3	C7	C5	02	D1	CL7
		NX	TO	DC	TSO	CR4	CR2	CR6	A0	C2	B6
		B4	LO	IX	B2	B1	0E18	OSA	1E18	OTF	AP
		05	.	.	.	.	.	.	.	.	.
		1SA	CR5	06	03	TO	TP	MN	AK	C5	02
		CL7	AX	C3	CR3	CR2	TSO	B3	0E18	OSA	1E18
		OTF	AP	05	.	.	.	.	.	.	.
		OSA	AP	K	E	05	03	AC	D	AX	TX
		C4	CR5	C3	C7	C5	02	D1	CL7	NX	TO
		DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4	LO
		IX	B2	B1	0E18	OSA	1E18	OTF	AP	06	.
		.	.	.	.	.	.	.	.	.	.
		1SA	MN	AK	06	04	TP	TO	TX	C5	02
		CL7	AX	C3	CR3	CR5	CR2	TSO	B3	0E18	OSA
		1E18	OTF	AP	06	.	.	.	.	.	.
	055	OSA	AP	MN	AK	K	E	05	03	AC	D
		AX	TX	C4	CR5	C3	C7	C5	02	D1	CL7
		NX	TO	DC	TSO	CR4	CR2	CR6	A0	C2	B6
		B4	LO	IX	B2	B1	0E18	OSA	1E18	OTF	AP
		07	.	.	.	.	.	.	.	.	.
		1SA	06	04	TP	TO	TX	C5	02	CL7	AX
		C3	CR3	CR5	CR2	TSO	B3	0E18	OSA	1E18	OTF
		AP	07	.	.	.	.	.	.	.	.
		OSA	AP	C5	K	E	05	04	03	02	AC
		D	AX	C4	CR5	MN	AK	C7	D1	CL7	NX
		TO	DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4
		LO	IX	B2	B1	0E18	OSA	1E18	OTF	AP	08
		.	.	.	.	.	.	.	.	.	.
		1SA	C3	06	TX	TP	TO	MN	AK	CL7	AX
		CR3	CR5	CR2	TSO	B3	0E18	OSA	1E18	OTF	AP
		08	.	.	.	.	.	.	.	.	.
	056	OSA	AP	K	E	05	04	03	02	AC	D
		AX	C4	CR5	MN	AK	C3	D1	CL7	NX	TO
		DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4	LO
		IX	B2	B1	0E18	OSA	1E18	OTF	AP	09	.
		.	.	.	.	.	.	.	.	.	.
		1SA	C7	C5	06	TX	TP	TO	MN	AK	CL7
		AX	C3	CR3	CR5	CR2	TSO	B3	0E18	OSA	1E18
		OTF	AP	09	.	.	.	.	.	.	.
		OSA	AP	K	E	05	04	03	AC	D	AX
		TX	C4	CR5	AK	C3	C7	C5	D1	CL7	NX
		TO	DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4
		LO	IX	B2	B1	0E18	OSA	1E18	OTF	AP	10

	1SA	MN	06	02	TP	TO	TX	AK	C5	CL7
	AX	C3	CR3	CR5	CR2	TSO	B3	0E18	OSA	1E18
	OTF	AP	10	.	.	.	.	.	.	.
057	OSA	AP	K	E	05	04	03	AC	D	TX
	C4	CR5	MN	AK	C3	C7	C5	D1	CL7	NX
	TO	DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4
	LO	IX	B2	B1	0E18	OSA	1E18	OTF	AP	11
	1SA	AX	06	02	TP	TO	TX	MN	AK	C5
	CL7	C3	CR3	CR5	CR2	TSO	B3	0E18	OSA	1E18
	OTF	AP	11	.	.	.	.	.	.	.
	OSA	AP	AK	AC	D	06	AX	TX	TP	C4
	03	04	CR5	MN	C3	C7	C5	02	NX	TO
	DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4	LO
	IX	B2	B1	0E18	OSA	1E18	OTF	AP	12	.
	1SA	D1	K	CL7	TO	E	05	TP	TX	04
	03	MN	C5	02	AX	C3	06	CR3	CR5	CR2
	TSO	B3	0E18	OSA	1E18	OTF	AP	12	.	.
058	OSA	AP	AK	CL7	AC	06	AX	TX	TP	C4
	03	04	CR5	MN	C3	C7	C5	02	D1	TO
	DC	TSO	CR4	CR2	CR6	A0	C2	B6	B4	LO
	IX	B2	B1	0E18	OSA	1E18	OTF	AP	13	.
	1SA	NX	K	D	TO	E	05	TP	TX	04
	03	MN	C5	02	AX	C3	06	CR3	CR5	CR2
	TSO	B3	0E18	OSA	1E18	OTF	AP	13	.	.
	OSA	AP	MN	AX	K	E	AC	D	TP	C4
	04	CR5	C3	C7	C5	02	D1	CL7	NX	TSO
	CR4	CR2	CR6	A0	C2	B6	B4	LO	IX	B2
	B1	0E18	OSA	1E18	OTF	AP	14	.	.	.
	1SA	AK	TX	TO	06	03	DC	05	TP	04
	C5	02	CL7	C3	CR3	CR5	CR2	TSO	B3	0E18
	OSA	1E18	OTF	AP	14	.	.	.	.	.

Tape stops	Marker number										
	059	OSA	AP	MN	AK	K	E	AC	D	TP	C4
		04	CR5	C3	C7	C5	02	D1	CL7	NX	TSO
		CR4	CR2	CR6	A0	C2	B6	B4	LO	IX	B2
		B1	OE18	OSA	1E18	OTF	AP	15	.	.	.
		1SA	AX	TX	TO	06	03	DC	05	TP	04
		C5	02	CL7	C3	CR3	CR5	CR2	TSO	B3	OE18
		OSA	1E18	OTF	AP	15	.	.	.	.	.
		OSA	AP	AX	AK	K	E	AC	D	TP	C4
		04	CR5	C3	C7	C5	02	D1	CL7	NX	TSO
		CR4	CR2	CR6	A0	C2	B6	B4	LO	IX	B2
		B1	OE18	OSA	1E18	OTF	AP	16	.	.	.
		1SA	MN	TX	TO	06	03	DC	05	TP	04
		C5	02	CL7	C3	CR3	CR5	CR2	TSO	B3	OE18
		OSA	1E18	OTF	AP	16	.				
		OSA	AP	K	E	AC	D	TP	C4	04	CR5
		C3	C7	C5	02	D1	CL7	NX	TSO	CR4	CR2
		CR6	A0	C2	B6	B4	LO	IX	B2	B1	OE18
		OSA	1E18	OTF	AP	17	.	.	.	.	.
	060	1SA	MN	AX	AK	TX	TO	06	03	DC	05
		TP	04	C5	02	CL7	C3	CR3	CR5	CR2	TSO
		B3	OE18	OSA	1E18	OTF	AP	17	.	.	.
		OSA	AP	C3	K	E	06	05	04	03	02
		D	AC	TX	TP	C4	CR5	MN	AK	C7	C5
		D1	CL7	NX	TO	DC	CR4	CR2	CR6	A0	C2
		B6	B4	LO	IX	B2	B1	OE18	OSA	1E18	OTF
		AP	18	.		.	.				
		1SA	AX	TSO	TO	TP	TX	AC	MN	AK	C5
		CL7	CR3	CR5	CR2	B3	OE18	OSA	1E18	OTF	AP
		18		.	.	.			.		.
		OSA	AP	CR3	TX	K	E	06	05	04	03
		02	D	AX	AC	TP	C4	MN	AK	C3	C7
		C5	D1	CL7	NX	TO	DC	TSO	CR6	A0	C2
		B6	B4	LO	IX	B2	B1	OE18	OSA	1E18	OTF
		AP	19	.	.	.	.				
	061	1SA	CR4	CR5	CR2	TO	TP	AC	MN	AK	C5
		CL7	AX	C3	TSO	B3	OE18	OSA	1E18	OTF	AP
		19	.	.	.	.	.		.		.
		OSA	AP	CR5	CR3	TX	K	E	06	05	04
		03	02	D	AX	AC	TP	C4	MN	AK	C3
		C7	C5	D1	CL7	NX	TO	DC	TSO	CR4	CR2
		A0	C2	B6	B4	LO	IX	B2	B1	OE18	OSA

	1E18	OTF	AP	20	.	.	.	.	.	.
	1SA	CR6	TO	TP	AC	MN	AK	C5	CL7	AX
	C3	CR2	TSO	B3	0E18	OSA	1E18	OTF	AP	20
	OSA	AP	CR3	CR2	TX	K	E	06	05	04
	03	02	D	AX	AC	TP	C4	MN	AK	C3
	C7	C5	D1	CL7	NX	TO	DC	TSO	CR4	CR6
	A0	C2	B6	B4	LO	IX	B2	B1	0E18	OSA
	1E18	OTF	AP	21	.	.	.	.	.	.
062	1SA	CR5	TO	TP	AC	MN	AK	C5	CL7	AX
	C3	TSO	B3	0E18	OSA	1E18	OTF	AP	21	.
	OSA	AP	AC	TSO	K	E	06	05	04	03
	02	D	AX	TP	CR5	MN	AK	C3	C7	C5
	D1	CL7	NX	DC	CR4	CR2	CR6	A0	C2	B6
	B4	LO	IX	B2	B1	0E18	OSA	1E18	OTF	AP
	22	.	.	.	.	.	.	.	.	.
	1SA	C4	TX	TO	TP	MN	AK	C5	CL7	AX
	C3	CR3	CR5	CR2	B3	0E18	OSA	1E18	OTF	AP
	22	.	.	.	.	.	.	.	.	.
	OSA	AP	K	E	06	05	04	03	02	D
	AX	AC	C4	CR5	MN	AK	C7	D1	CL7	NX
	TO	DC	TSO	CR4	CR2	CR6	LO	IX	B2	B1
	0E18	OSA	1E18	OTF	AP	23	.	.	.	.
063	1SA	A0	C5	C2	B6	B4	TP	TX	C3	TO
	AC	MN	AK	CL7	AX	CR3	CR5	CR2	TSO	B3
	0E18	OSA	1E18	OTF	AP	23	.	.	.	.
	OSA	AP	C5	K	E	06	05	04	03	02
	D	AX	AC	C4	CR5	MN	AK	C7	D1	CL7
	NX	TO	DC	TSO	CR4	CR2	CR6	A0	IX	B2
	B1	0E18	OSA	1E18	OTF	AP	24	.	.	.
	1SA	LO	C2	B6	B4	TP	TX	C3	TO	AC
	MN	AK	CL7	AX	CR3	CR5	CR2	TSO	B3	0E18
	OSA	1E18	OTF	AP	24	.	.	.	.	.
	OSA	AP	B3	K	E	06	05	04	03	02
	AC	TX	TP	C4	CR5	MN	AK	C3	C7	C5
	D1	CL7	NX	TO	DC	TSO	CR4	CR2	CR6	A0
	C2	LO	0E18	OSA	1E18	OTF	AP	25	.	.
	1SA	AX	IX	B6	B4	B2	B1	D	TO	TP
	TX	AC	MN	AK	C5	CL7	C3	CR3	CR5	CR2
	TSO	0E18	OSA	1E18	OTF	AP	25	.	.	.

Tape stops	Marker number												

064 AP and test, zero side.

```
         1SA     06      K       E       05      C5      02      CR3     B3      0E18
         0SA     1E18    1TF     AP      .   01  DA-     .   04  OM      .   07  AKA
         1SA     D       K       E       05      C5      02      CR3     B3      0E18
         0SA     1E18    1TF     AP      .   01  06-     .   04  OM      .   07  AKA
              13 KIOC    .               .               .               .
         1SA     TO      D       06      K       E       05      C5      02      CR3
         B3      0E18    0SA     1E18    1TF     AP      .   01  TOB     .   04  OM
         .    07 AKA     .    13 KIOC    .               .               .
         1SA     AC      TX      TP      TO      K       E       05      C5      02
         CR3     B3      0E18    0SA     1E18    1TF     AP      .   02  AX-     .
         1SA     AX      TX      TP      TO      K       E       05      C5      02
         CR3     B3      0E18    0SA     1E18 15 1TF     AP      .   02  AC-     .   07
         AKA     .    11 OLP     K06-    .    15 TOX-    .               .
         1SA     AX      AC      TO      K       E       05      C5      02      CR3
         B3      0E18    0SA     1E18    1TF     AP      .   02  TXP-    .               .
```

065

```
         1SA     AX      AC      TP      TO      K       E       05      C5      02
         CR3     B3      0E18    0SA     1E18    1TF     AP      .   02  TXP-    TX-
         1SA     AX      AC      TX      TO      K       E       05      C5      02
         CR3     B3      0E18    0SA     1E18    1TF     AP      .   02  TXP-    TPA-
         .    15 TOX-    .               .               .               .
         1SA     AX      AC      TX      TO      K       E       05      C5      02
         CR3     B3      0E18    0SA     1E18    1TF     AP      .   02  TXP-    TPA-
         TP-     .    15 TOX-    .               .               .
         1SA     06      03      D       TO      C5      02      CR3     B3      0E18
         0SA     1E18    1TF     AP      .   03  C4-     .   01  TOB     .   04  OM
         .    05 CR5-    .    07  AKA    .               .               .
         1SA     K       E       05      C4      TO      C5      02      CR3     B3
         0E18    0SA     1E18    1TF     AP      .   03  OMDL    .   04  OM      .   07
         AKA     .               .               .               .
         1SA     K       E       05      C4      D       TO      C5      02      CR3
         B3      0E18    0SA     1E18    1TF     AP      .   03  OMDL    OMD     .   04
         OM      .    07  AKA    .    13  KIOC   .               .               .
```

066

```
         1SA     K       C4      06      03      D       TO      C5      02      CR3
         B3      0E18    0SA     1E18    1TF     AP      .   03  OMDL    OMD     K
         .    01  TOB    .    04  OM     .    07  AKA    .    13  KIOC   .
         1SA     E       C4      06      03      D       TO      C5      02      CR3
         B3      0E18    0SA     1E18    1TF     AP      .   03  OMDL    OMD     E
         .    01  TOB    .    04  OM     .    07  AKA    .               .
         1SA     C4      03      D       TO      C5      02      CR3     B3      0E18
         0SA     1E18    1TF     AP      .   03  OMDL    OMD     06-     .   04  OM
         .    07  AKA    .               .               .               .
```

```
         1SA        05        C4        06        03        D         TO           C5        02           CR3
         B3         0E18      OSA       1E18      1TF       AP        .        03  OMDL      OMD          05
         .       01 TOB       .      04 OM        .      07 AKA       .            .         .            .
         1SA        C4        06        D         TO        C5        02           CR3       B3           0E18
         OSA        1E18      1TF      AP         .      03 OMDL      OMD      03-  .         .       01   TOB
         .       04 OM        .      07 AKA       .            .           .       .         .            .

067      1SA        TP        C4        06        03        D         TO           C5        02           CR3
         B3         0E18      OSA       1E18      1TF       AP        .        03  TPB       .       01   TOB
         .       04 OM        .      05 CR5-      .      07 AKA       .            .         .            .
         1SA        K         06        04        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        04  OM        K         .       07   AKA
         1SA        E         06        04        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        04  OM        E         .       07   AKA
         1SA        04        03        TO           C5        02           CR3       B3        0E18       OSA
         1E18       1TF       AP        .      04  OM        06-          .       07 AKA       .            .
         1SA        05        06        04        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        04  OM        05        .       07   AKA
         1SA        06        03        TO           C5        02           CR3       B3        0E18       OSA
         1E18       1TF       AP        .      04  OM        04-          .       05 AC        .       07   AKA
         1SA        06        04        TO           C5        02           CR3       B3        0E18       OSA
         1E18       1TF       AP        .      04  OM        03-          .       07 AKA       .            .

068      1SA        TX        06        04        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        04  TXC       .       07 AKA       .
         1SA        AC        06        04        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        04  AC        02           CR3       B3
         1SA        K         E         05        04        CR5       TO           C5        02           CR3
         B3         0E18      OSA       1E18      1TF       AP        .        05  OD        .       04   OM
         .       07 AKA       .            .         .            .
         1SA        K         CR5       06        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        05  OD        K         .       04   OM
         .       07 AKA       .            .         .            .
         1SA        E         CR5       06        03        TO           C5        02           CR3       B3
         0E18       OSA       1E18      1TF       AP        .        05  OD        E         .       04   OM
         .       07 AKA       .            .         .            .
         1SA        CR5       03        TO           C5        02           CR3       B3        0E18       OSA
         1E18       1TF       AP        .      05  OD        06-          .       04 OM        .       07   AKA
```

Tape stops	Marker number																
	069	1SA		05		CR5		06		03		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.		05	OD		05		.		04	OM
		.	07	AKA		.		.		.		.		.		.		.		.
		1SA		CR5		06		TO		C5		02		CR3		B3		0E18		OSA
		1E18		1TF		AP		.	05	OD		03-		.	04	OM		.	07	AKA
		1SA		TX		CR5		06		03		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	05	TX		.	07	AKA
		1SA		AK		06		04		TP		TO		C4		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	06	MNA-		.	04	OM		.	07
		AKA		.		.		.		.		.		.		.		.		.
		1SA		MN		06		04		TP		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	06	AK-		.	04	OM		.	07
		MNA		MN		.	10	OLP		.		.		.		.		.		.
	070	1SA		K		E		05		03		MN		AK		TO		C5		02
		CR3		B3		0E18		OSA		1E18		1TF		AP		.	06	OF		.	04
		OM		.	10	OLP		.		.		.		.		.		.		.
		1SA		K		MN		AK		06		04		TP		TO		C5		02
		CR3		B3		0E18		OSA		1E18		1TF		AP		.	06	OF		K06-
		K		.	04	OM		.	10	OLP		.		.		.		.		.
		1SA		E		MN		AK		06		04		TP		TO		C5		02
		CR3		B3		0E18		OSA		1E18		1TF		AP		.	06	OF		K06-
		E		.	04	OM		.	10	OLP		.		.		.		.		.
		1SA		MN		AK		04		TP		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	06	OF		K06-		06-		.	04
		OM		.	10	OLP		.		.		.		.		.		.		.
		1SA		05		MN		AK		06		04		TP		TO		C5		02
		CR3		B3		0E18		OSA		1E18		1TF		AP		.	06	OF		05A
		.	04	OM		.	10	OLP		.		.		.		.		.		.
	071	1SA		05		MN		AK		06		04		TP		TO		C5		02
		CR3		B3		0E18		OSA		1E18		1TF		AP		.	06	OF		05A
		05		.	04	OM		.	10	OLP		.		.		.		.		.
	072	1SA		MN		AK		06		04		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	06	OF		TPA-		TP-		.	04
		OM		.	10	OLP		.		.		.		.		.		.		.
		1SA		AC		MN		AK		06		04		TP		TO		C5		02
		CR3		B3		0E18		OSA		1E18		1TF		AP		.	06	AC		.
		1SA		MN		06		04		TP		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	07	MNA		.	04	OM		.	06
		MNA-		MN-		.	10	OLP		.		.		.		.		.		.
		1SA		K		E		05		03		TO		C5		02		CR3		B3
		0E18		OSA		1E18		1TF		AP		.	07	OF		.	04	OM		.
		1SA		AC		06		04		TP		TO		C5		02		CR3		B3

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            OE18    OSA     1E18    1TF     AP      .     07 AC      .         .       .
            1SA     06      TX      TP      TO    07 CR3    B3        OE18      OSA     1E18
            1TF     AP      .    08 C3-     .     07 AKA     .         .         .       .
            1SA     C5      C3      06      TX      TP      TO    07 CR3    B3     09 OE18
            OSA     1E18    1TF     AP      .    08 C5      .    07 AKA     .     09 OX

073         1SA     K       E       05      04      03      02    08 C3      TO      CR3
            B3   07 OE18    OSA     1E18    1TF     AP      .    08 OX      .    04 OM
            .    07 AKA     .       .
            1SA     K       C3      06      TX      TP      TO      CR3    07 B3      OE18
            OSA     1E18    1TF     AP      .    08 OX      K       .    07 AKA      .
            1SA     E       C3      06      TX      TP      TO      CR3      B3      OE18
            OSA     1E18    1TF     AP      .    08 OX      E       .    07 AKA      .
            1SA     C3      TX      TP      TO      CR3     B3      OE18     OSA     1E18
            1TF     AP      .    08 OX      06-     .    07 AKA     .    22 TOX-     TO-
            1SA     05      C3      06      TX      TP      TO      CR3      B3      OE18
            OSA     1E18    1TF     AP      .    08 OX      05      .    07 AKA      .
            1SA     03      C3      06      TX      TP      TO      CR3      B3      OE18
            OSA     1E18    1TF     AP      .    08 OX      03      .    07 AKA      .

074         1SA     02      C3      06      TX      TP      TO      CR3      B3      OE18
            OSA     1E18    1TF     AP      .    08 OX      02      .    07 AKA      .    10
            OLP     .    11 OLP     K06-    .       CR3     B3      OE18     OSA     1E18
            1SA     C3      06      TP      TO      CR3     B3      OE18     OSA     1E18
            1TF     AP      .    08 OX      TX-     .    04 OM      .    07 AKA      .
            1SA     C3      06      TX      TO      CR3     B3      OE18     OSA     1E18
            1TF     AP      .    08 OX      TP-     .    07 AKA     .
            1SA     AC      C3      06      TX      TP      TO      CR3      B3      OE18
            OSA     1E18    1TF     AP      .    08 AC      .    02 TXP-     TX-
            1SA     C5      06      TX      TP      TO      CR3      B3      OE18     OSA
            1E18    1TF     AP      .    09 C7-     .    07 AKA     CR3      B3      OE18   OSA
            1SA     C7      06      TX      TP      TO      CR3      B3      OE18     OSA
            1E18    1TF     AP      .    09 C5-     .    07 AKA     .    08 OX
            1SA     AC      C7      C5      06      TX      TP      TO      CR3      B3
            OE18    OSA     1E18    1TF     AP      .    09 AC      .    02 TXP-     TX-
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Tape stops	Marker number																
	075	1SA	06	02	TP		TO	C5		CR3	B3		OE18		OSA		
		1E18	1TF	AP	.	10	MNA-	.	04	OM	.	07	AKA		.		11
		OLP	K06-	.			.			.			.		.		
		1SA	K	E	MN		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	K06-		.	04	OM		
		1SA	K	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	K06-		K		.		04
		OM	.	.			.			.			.		.		
		1SA	E	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	K06-		E		.		04
		OM	.	.			.			.			.		.		
		1SA	MN	02	TP		TO	C5		CR3	B3		OE18		OSA		
		1E18	1TF	AP	.	10	OLP	K06-		06-	.	04	OM		.		
		1SA	05	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	05A		.	04	OM		
	076	1SA	05	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	05A		05		.		04
		OM	.	.			.			.			.		.		
		1SA	04	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	04B		.	04	OM		
		.	06	MNA-	MN-		.	07	MNA	MN	.		.		.		
		1SA	04	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	04B		04		.		04
		OM	.	.			.			.			.		.		
		1SA	03	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	03A		.	04	OM		
		.	05	CR5-	.		.			.			.		.		
		1SA	03	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	OLP	03A		03		.		04
		OM	.	05	CR5-		.			.			.		.		
	077	1SA	MN	06	TP		TO	C5		CR3	B3		OE18		OSA		
		1E18	1TF	AP	.	10	OLP	02-		.	04	OM			.		.
		1SA	MN	06	02		TO	C5		CR3	B3		OE18		OSA		
		1E18	1TF	AP	.	10	OLP	TPA-		.	04	OM			.		.
		1SA	MN	06	02		TO	C5		CR3	B3		OE18		OSA		
		1E18	1TF	AP	.	10	OLP	TPA-	TP-	.	04	OM			.		
		1SA	AC	MN	06		02	TP		TO	C5		CR3		B3		
		0E18	OSA	1E18	1TF		AP	.	10	AC	.		.		.		
		1SA	06	02	TP		TO	C5		CR3	B3		OE18		OSA		
		1E18	1TF	AP	.	11	AX-	.	04	OM	.	07	AKA		.		10

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     OLP    .        .        .        .        .              .         .          .
     1SA    K        E        05       04       03       AX    TO        C5          CR3
     B3     OE18     OSA      1E18     1TF      AP       .     11 OLP     .      04  OM
     .   07 AKA      .        .        .               .          .          .
     1SA    AC       AX       06       02       TP      TO        C5          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    11 AC         .      02  TXP-       .

078  1SA    K        CL7      TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    12 D1-        .      04  OM          .    07
     AKA    .        .        .        .               .          .          .
     1SA    AK       D1       CL7      TO       E       05         C5          02          CR3
     B3     OE18     OSA      1E18     1TF      AP       .    12 KAK1         .      04  OM
     1SA    D1       CL7      TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    12 KAK1      KC-         .      04  OM
     .   07 AKA      .        .        .               .          .          .          .
     1SA    D1       CL7      TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18    ·1TF      AP       .    12 KAK1      KC-         K-         .    04
     OM     .    07 AKA      .        .               .          .          .          .
     1SA    D1       K        TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    12 CL7-       .      04  OM          .    07
     AKA             .        .        .               .          .          .
     1SA    AC       D1       K        CL7      TO       E         05          C5          02
     CR3    B3       OE18     OSA      1E18     1TF      AP        .      12  AC          .

079  1SA    K        D        TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    13 NX-        .      04  OM          .    07
     AKA    .        .        .               .          .          .
     1SA    AK       NX       TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    13 KIOC      KIO         .      04  OM
     1SA    NX       D        TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    13 KIOC      KIO        K-         .    04
     OM     .    07 AKA      .        .               .          .          .
     1SA    NX       K        TO       E        05       C5        02          CR3        B3
     OE18   OSA      1E18     1TF      AP       .    13 KIOC      KIO        D-         .    04
     OM     .    07 AKA      .        .               .          .          .
     1SA    AK       NX       K        D        TO       E         05          C5          02
     CR3    B3       OE18     OSA      1E18     1TF      AP        .      13  KIOC        KIO
     AK     .    04 OM       .        .               .          .          .
     1SA    AC       NX       K        D        TO       E         05          C5          02
     CR3    B3       OE18     OSA      1E18     1TF      AP        .      13  AC          .
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Tape stops	Marker number

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080   1SA   MN    AK    TX    TO    06    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    .     14  MAX3
      MN    .   06 OF    .   10 OLP   .   16 MAX1   .   17 MAX0   .
      1SA   AX    AK    TX    TO    06    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    05    .   14 MAX3
      AX    .   11 OLP   K06-   .  15 MAX2   .   17 MAX0   .
      1SA   TX    TO    06    03    DC    05    C5    02        CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 AK-    .   07 AKA
      .   15 MAX2   .   16 MAX1   .     .     .     .
      1SA   AK    06    03    DC    05    C5    02    CR3       B3
      0E18  OSA   1E18  1TF   AP    .   14 TOX-   .   01 DA-    .   04
      OM    .     .     .     .     .     .     .     .

081   1SA   AK    TO    06    03    DC    05    C5    02        CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 TOX-  TX-    .   04
      OM    .     .     .     .     .     .     .
      1SA   AK    TX    06    03    DC    05    C5    02        CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 TOX-  TO-    .   01
      DA-   .     .     .     .     .     .     .
      1SA   K     E     AC    AK    TX    TO    05    C5        02
      CR3   B3    0E18  OSA   1E18  1TF   AP    .   14 OA
      1SA   K     E     AK    TX    TO    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    .   14 OA
      K06-  .     .     .     .     .     .     .
      1SA   K     AK    TX    TO    06    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    .   14 OA
      K06-  K     .     .     .     .     .     .
      1SA   E     AK    TX    TO    06    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    .   14 OA
      K06-  E     .     .     .     .     .     .

082   1SA   AK    TX    TO    03    DC    05        C5    02    CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 OA    K06-  06-
      1SA   AK    TX    TO    06    DC    05        C5    02    CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 OA    03A-   .
      1SA   AK    TX    TO    06    DC    05        C5    02    CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 OA    03A-  03-
      1SA   AC    AK    TX    TO    06    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    .   14 OA
      AC    .     .     .     .     .     .
      1SA   AK    TX    TO    06    03    05        C5    02    CR3
      B3    0E18  OSA   1E18  1TF   AP    .   14 OA    DC-    .
      1SA   MN    AX    TX    TO    06    03    DC    05        C5
      02    CR3   B3    0E18  OSA   1E18  1TF   AP    .   15 MAX2
      MN    .   10 OLP   .  11 OLP   K06-   .   16 MAX1   .   17 MAX0
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      1SA     TX     TO         06      03      DC         05      C5      02      CR3
      B3      0E18   0SA        1E18    1TF     AP      15 MAX2    AX-        .   07
      AKA     AK        .    14 MAX3       .  16 MAX1       .       .       .

083   1SA     AK     AX      TX      TO      06      03      DC      05      C5
      02      CR3    B3      0E18    0SA     1E18    1TF     AP       .   15 AKA
          11  OLP    K06-       . 14 MAX3       . 17 MAX0       .       .       .
      1SA     TX     TO      06      03      DC      05      C5      02      CR3
      B3      0E18   0SA     1E18    1TF     AP       .   16 MAX1   MN-        .   07
      AKA     AK        . 14 MAX3       . 15 MAX2       .       .       .
      1SA     AX     MN      TX      TO      06      03      DC      05      C5
      02      CR3    B3      0E18    0SA     1E18    1TF     AP       .   16 MAX1
      AX         . 10 OLP        . 11 OLP    K06-       .   15 MAX2       .   17 MAX0
      1SA     AK     MN      TX      TO      06      03      DC      05      C5
      02      CR3    B3      0E18    0SA     1E18    1TF     AP       .   16 AKA
          06  OF         . 10 OLP        . 14 MAX3       .   17 MAX0       .
      1SA     MN     06      03      DC      05      C5      02      CR3     B3
      0E18    0SA    1E18    1TF     AP       .   16 TOX-       .   01 DA-        .   04
      OM         . 10 OLP        .       .       .       .       .       .

084   1SA     AX     AK      TX      TO      06      03      DC      05      C5
      02      CR3    B3      0E18    0SA     1E18    1TF     AP       .   17 MAX0
      MN-        . 11 OLP    K06-       . 14 MAX3       .   15 MAX2       .
      1SA     MN     AK      TX      TO      06      03      DC      05      C5
      02      CR3    B3      0E18    0SA     1E18    1TF     AP       .   17 MAX0
      AX-        . 06 OF         . 10 OLP        . 14 MAX3       .   16 MAX1       .
      1SA     MN     AX      TX      TO      06      03      DC      05      C5
      02      CR3    B3      0E18    0SA     1E18    1TF     AP       .   17 AK-
          10  OLP        . 11 OLP    K06-       . 15 MAX2       .   16 MAX1       02
      1SA     MN     AX      AK      06      03      DC      05      C5      02
      CR3     B3     0E18    0SA     1E18    1TF     AP       .   17 TOX-       .   01
      DA-        . 04 OM         . 06 OF         . 10 OLP       .   11 OLP    K06-
      1SA     TS0    TO      C5      CR3     B3          0E18    0SA     1E18    1TF
      AP         . 18 AX-        . 04 OM         . 07 AKA       .       .
      1SA     C3     AX      TS0     TO      C5          CR3     B3      0E18    0SA
      1E18    1TF    AP         . 18 C3          . 04 OM         .   07 AKA       .   11
      OLP     K06-       .       .       .       .       .       .       .
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Tape stops	Marker number

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085   1SA   AX        TO    C5        CR3    B3        OE18         OSA        1E18    1TF
      AP    .    18   TSO-  .    04   OM     .    07   AKA    .    11   OLP    KO6-
      1SA   K         E     06        05     04        03           02         AX      TSO
      TO    C5        CR3   B3        OE18        07   OSA    1E18       11   1TF    AP    .   18
      OY    .    04   OM    .    07   AKA    .    11   OLP    KO6-    .
      1SA   K         AX    TSO       TO     C5        CR3    B3          OE18    OSA
      1E18  1TF       AP    .    18   OY     K         .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .
      1SA   E         AX    TSO       TO     C5        CR3    B3          OE18    OSA
      1E18  1TF       AP    .    18   OY     E         .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .
      1SA   06        AX    TSO       TO     C5        CR3    B3          OE18    OSA
      1E18  1TF       AP    .    18   OY     06        .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .
      1SA   05        AX    TSO       TO     C5        CR3    B3          OE18    OSA
      1E18  1TF       AP    .    18   OY     05        .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .

086   1SA   04        AX    TSO       TO     C5        CR3          B3      OE18    OSA
      1E18  1TF       AP    .    18   OY     04        .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .
      1SA   03        AX    TSO       TO     C5        CR3          B3      OE18    OSA
      1E18  1TF       AP    .    18   OY     03        .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .
      1SA   02        AX    TSO       TO     C5        CR3          B3      OE18    OSA
      1E18  1TF       AP    .    18   OY     02        .    04   OM     .    07   AKA
      .    11   OLP   KO6-  .         .      .          .      .          .       .
      1SA   CR5       CR2   TO        C5     B3        OE18         OSA     1E18    1TF
      AP    .    19   CR4-  .    04   OM     .    05   OD     .    07   AKA     .    21
      CR5-  .         .     .         .      .          .      .          .       .
      1SA   CR4       CR2   TO        C5     B3        OE18         OSA     1E18    1TF
      AP    .    19   CR5-  .    04   OM     .    07   AKA    .    20   CR6-    .
      1SA   CR3       CR4   CR5       CR2    TO        C5           B3      OE18    OSA
      1E18  1TF       AP    .    19   CR3    .    04   OM     .    05   OD      .    07
      AKA   .         .     .         .      .          .      .          .       .

087   1SA   TX        CR4   CR5       CR2    TO        C5           B3      OE18    OSA
      1E18  1TF       AP    .    19   TX     .    07   AKA    .    22   TOX-    TX-
      1SA   CR3       CR6   TO        C5     B3        OE18         OSA     1E18    1TF
      AP    .    20   CR3   .    04   OM     .    07   AKA    .          .       .
      1SA   TX        CR6   TO        C5     B3        OE18         OSA     1E18    1TF
      AP    .    20   TX    .    07   AKA    .    22   TOX-   TX-    .       .
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      1SA     CR3       CR5       T0        C5     B3    ·       0E18      0SA       1E18     1TF
      AP      .    21   CR3       .    04   0M     .         05  0D        .    07   AKA      .
      1SA     CR2       CR5       T0        C5     B3          0E18      0SA       1E18     1TF
      AP      .    21   CR2       .    04   0M     .         05  0D        .    07   AKA      .         19
      CR4-         .         .         .      .              .         .         .        .

088   1SA     TX        CR5       T0        C5     B3          0E18      0SA       1E18     1TF
      AP      .    21   TXC       .    07   AKA    .         22  T0X-      TX-       .        .
      1SA     TX        T0        C5        CR3    B3          0E18      0SA       1E18     1TF
      AP      .    22   C4-       .    07   AKA    .             .         .         .        .
      1SA     AC        C4        TX        T0     C5          CR3       B3        0E18     0SA
      1E18    1TF       AP        .    22   AC     .         03  0MDL      .         .        .
      1SA     TS0       C4        TX        T0     C5          CR3       B3        0E18     0SA
      1E18    1TF       AP        .    22   TS0    .         03  0MDL      .    07   AKA      .         18
      AX-          .         .         .      .              .         .         .        .
      1SA     C4        C5        CR3       B3     0E18        0SA       1E18      1TF      AP
      .    22 T0X-      .    03   0MDL      .    04 0M          .    07   AKA       .        .
      1SA     C5        C2        B6        B4     TP     TX      C3        T0       CR3
      B3      0E18      0SA       1E18      1TF    AP     .   23  A0-       .    07   AKA
      .    22 T0X-      TX-       .         .      .      .         .         .        .
      1SA     A0        C2        B6        B4     TP     TX      C3        T0       CR3
      B3      0E18      0SA       1E18      1TF    AP     .   23  C5-       .    07   AKA
      .    08 0X        .    22   T0X-      TX-    .   24 T01C      B64-      .        .

089   1SA     A0        C5        B6        B4     TP     TX      C3        T0       CR3
      B3      0E18      0SA       1E18      1TF    AP     .   23  C2-       .    07   AKA
      .    22 T0X-      TX-       .         .      .      .         .         .        .
      1SA     A0        C5        C2        T0     CR3    B3        0E18      0SA      1E18
      1TF     AP        .    23   T01C      .    04 0M     .    07   AKA       .        .
      1SA     A0        C5        C2        TP     TX     C3        T0       CR3      B3
      0E18    0SA       1E18      1TF       AP     .   23 T01C      B64-      .    07   AKA
      .    22 T0X-      TX-       .         .      .      .         .         .        .
      1SA     A0        C5        C2        B4     TP     TX        C3        T0       CR3
      B3      0E18      0SA       1E18      1TF    AP     .    23   T01C      B64-     B6-
      .    07 AKA       .    22   T0X-      TX-    .         .         .        .
      1SA     A0        C5        C2        B6     TP     TX        C3        T0       CR3
      B3      0E18      0SA       1E18      1TF    AP     .    23   T01C      B64-     B4-
      .    07 AKA       .    22   T0X-      TX-    .         .         .        .
      1SA     A0        C5        C2        B6     B4     TX        C3        T0       CR3
      B3      0E18      0SA       1E18      1TF    AP     .    23   T01C      TPA-      .        07
      AKA          .    22   T0X-      TX-    .      .         .        .
```

Tape stops	Marker number

```
090   1SA    A0        C5       C2        B6     B4      TX         C3     TO       CR3
      B3     0E18      0SA      1E18      1TF    AP      .       23 T01C   TPA-     TP-
      .   07 AKA       .     22 TOX-      TX-    .                   .      .        .
      1SA    A0        C5       C2        B6     B4      TP         C3     TO       CR3
      B3     0E18   07 0SA      1E18      1TF    AP      .       23 T01C   TX-      .     04
      OM     .      07 AKA      .         .      .       TP         TX     TO       CR3
      1SA    A0        C5       C2        B6     B4      TP         TX     TO       CR3
      B3     0E18      0SA      1E18      1TF    AP      .       23 T01C   C3-      .     07
      AKA    .      22 TOX-     TX-       .      .                   .      .        .
      1SA    C2        B6       B4        TP     TX         C3         TO     CR3     B3
      0E18   0SA       1E18     1TF       AP     .       24 LO-        .   07 AKA     .     08
      OX     .      22 TOX-     TX-       .      .                     .      .
      1SA    C5        LO       C2        B6     B4      TP      TX        C3     TO
      CR3    B3        0E18     0SA       1E18   1TF     AP      .      24 C5     .     07
      AKA    .      22 TOX-     TX-       .   23 T01C    B64-            .      .      .

091   1SA    LO        B6       B4        TP     TX         C3     TO       CR3     B3
      0E18   0SA       1E18     1TF       AP     .       24 C2-    .     07 AKA     .     08
      OX     .      22 TOX-     TX-       .                        .      .
      1SA    LO        C2       TO        CR3    B3         0E18   0SA      1E18    1TF
      AP     .      24 T01C     .      04 OM     .       07 AKA    TO       C5      CR3
      1SA    IX        B6       B4        B2     B1         D      TO       C5      CR3
      0E18   0SA       1E18     1TF       AP     .       25 AX-    .     04 OM      .     07
      AKA    .                  .                  .                      .      .
      1SA    AX        B6       B4        B2     B1         D      TO       C5      CR3
      0E18   0SA       1E18     1TF       AP     .       25 IX-    .     04 OM      .     07
      AKA    .      11 OLP      K06-      .   18 AX-                .      .          .
      1SA    B3        AX       IX        TO     C5         CR3    0E18     0SA     1E18
      1TF    AP        .     25 QT1       .   04 OM         .   07 AKA      .    11 OLP
      K06-   .      18 AX-               .      .                  .
      1SA    AX        IX       B2        B1     D          TO     C5       CR3     0E18
      0SA    1E18      1TF      AP        .   25 QT1         B64-   .     04 OM      .     07
      AKA    .      11 OLP      K06-      .   18 AX-                .      .          .

092   1SA    AX        IX       B4        B2     B1         D      TO       C5      CR3
      0E18   0SA       1E18     1TF       AP     .       25 QT1    B64-     B6-     .     04
      OM     .      07 AKA      .      11 OLP    K06-    .      18 AX-       .       .
      1SA    AX        IX       B6        B2     B1         D      TO       C5      CR3
      0E18   0SA       1E18     1TF       AP     .       25 QT1    B64-     B4-     .     04
      OM     .      07 AKA      .      11 OLP    K06-    .      18 AX-       .       .
      1SA    B3        AX       IX        B6     B4         D      TO       C5      CR3
      0E18   0SA       1E18     1TF       AP     .       25 QT1    BL4      .    04 OM
      .   07 AKA       .      11 OLP      K06-   .       18 AX-    .         .       .
      1SA    B3        AX       IX        B6     B4         B2     B1       D       TO
      C5     CR3       0E18     0SA       1E18   1TF        AP     .     25 QT1     BL4
```

```
     B3        .    04 OM    .    07 AKA   .    11 OLP   K06-  .    18 AX-
     1SA   AX       IX     B6      B4     B1       D      TO     C5        CR3
     OE18  OSA      1E18   1TF     AP     .    25 QT1    BL4    B2-   .        04
     OM    .    07 AKA     .    11 OLP    K06-  .    18 AX-   .      .

093  1SA   AX       IX     B6      B4     B2       D      TO     C5        CR3
     OE18  OSA      1E18   1TF     AP     .    25 QT1    BL4    B1-   .        04
     OM    .    07 AKA     .    11 OLP    K06-  .    18 AX-   .      .

094  D or test, one side.  Logic for one side D is on board 231.
     OSA   IC       K      TP      OE18   1SA      1E18   1TF    D     .        01
     1SA   D        PS     OE18    1SA    1E18     1TF    D      .    01 .
     OSA   E        TP     OE18    1SA    1E18     1TF    D      .    02 .
     1SA   AK       D      K       OB3    OFLO     PE     PS     OE18  1SA
     1E18  1TF      D      .    02 .      .        .      .      .     .
     OSA   AK       OB3    PS      OE18   1SA      1E18   1TF    D     .        03
     1SA   D        E      IC      TP     E4       OE18   1SA    1E18  1TF
     D     .    03 .       .       .      1SA      .      .      .     .
     OSA   E        OFLO   E4      OE18   1SA      1E18   1TF    D     .        04
     1SA   D        K      PE      PS     OE18     1SA    1E18   1TF   D
     .    04  .       .       E4     OE18     1SA    1E18   1TF   D     .        05
     OSA   E        PE     E4      OE18   1SA      1E18   1TF    D     .        05
     1SA   D        K      OFLO    PS     OE18     1SA    1E18   1TF   D
     .    05  .       .       .      .        .      .      .     .

095  D and test, one side.
     1SA   D        E      IC      TP     E4       PS     OE18   1SA   1E18
     OTF   D        .    01 ICP    .    03 *TD    PS     .      .     .
     1SA   D        E      IC      OB3    OFLO     PE     PS     OE18  1SA
     1E18  OTF      D      .    02 KSU0   .    01 ICP    KDIC   IC    .        03
     *TD   PS       .      .       OFLO   PE       PS     OE18   1SA   1E18
     1SA   AK       D      .    02 OB3-   .    01 ICP    KDIC   K     .    03 *TD
     PS    .    04 OFLO    .    05 PE     .        OFLO   PE     TP    PS
     1SA   AK       D      K       OB3    OFLO     PE     PS     OE18
     1SA   1E18     OTF    D       .    02 TPB    .    03 *TD    PS    .        04
     OFLO  .    05 PE      .        OB3    E4       PS     OE18   1SA   1E18
     1SA   AK       D      K       OB3    E4       PS     OE18   1SA   1E18
     OTF   D        .    02 ERR-   .    01 ICP    KDIC   K      .    03 *TD
     PS    .    04 *ER     E4      .    05 *ER    E4     .      .     .
```

Tape stops	Marker number															

	096	1SA	D	E		IC	TP	E4	PS	0E18	1SA	1E18
		OTF	D	.	03	*TD	.	.	.	.	.	.
		1SA	D	E		IC	K	TP	PS	0E18	1SA	1E18
		OTF	D	.	04	KED2	.	03	*TD	PS	.	05	KED2	E
		1SA	D	E		IC	K	TP	PS	0E18	1SA	1E18
		OTF	D	.	05	KED2	.	03	*TD	PS	.	04	KED2	E
		1SA	AK	D		K	0B3	0FL0	E4	PS	0E18	1SA
		1E18	OTF	D	.	05	*ER	.	01	ICP	KDIC	K	.	02
		ERR-	PE-	.	03	*TD	PS	.	.	.	.	.

097   D or test, zero side. Logic for zero side D is on boards 231, 232. Logic for matrix 009 and/or shorting cable 012.

		OSA	TX	CR5	D	E	K	0E18	OSA	1E18	OTF
		D	.	01	.	.	.	.	.	.	.
		1SA	B2	CR6	0B5	05	04	03	0E18	OSA	1E18
		OTF	D	.	01	.	.	.	.	.	.
		OSA	TX	D	E	K	0B5	03	0E18	OSA	1E18
		OTF	D	.	02	.	.	.	.	.	.
		1SA	B2	06	0E18	OSA	1E18	OTF	D	.	02	.
		OSA	TX	CR7	CR6	D	E	K	0B5	06	05
		0E18	OSA	1E18	OTF	D	.	03	.	.	.
		1SA	B2	CR5	03	02	0E18	OSA	1E18	OTF	D
		.	03	.	.	.	.	.	.	.	.
		OSA	TX	D	E	K	0B5	06	05	04	03
		02	0E18	OSA	1E18	OTF	D	.	04	.	.	04	.
		1SA	B2	CR7	0E18	OSA	1E18	OTF	D	.	04	.
		OSA	D	OP3	OP1	TS0	0E18	OSA	1E18	OTF	D
		.	05	.	.	.	.	.	.	.	.

	098	1SA	AK	CP6	E	K	OP2	PE	PS	0E18	OSA
		1E18	OTF	D	.	05	.	.	.	.	.
		OSA	CP6	D	OP2	PS	0E18	OSA	1E18	OTF	D
		.	06	.	.	.	.	.	.	.	.
		1SA	AK	E	K	OP3	OP1	PE	TS0	0E18	OSA
		1E18	OTF	D	.	06	.	.	.	.	.

	099	D and test, zero side.
		1SA	B2	CR6	06	05	04	03	0E18	OSA	1E18
		1TF	D	.	01	0B5-	.	02	03	.	.	.
		1SA	AK	B2	CR6	K	0B5	OP2	06	05	04
		PE	PS	0E18	OSA	1E18	1TF	D	.	01	KA	.	02
		KA	K	.	05	EAK0	E-	.	06	EAK0	E-	.	.
		1SA	B2	05	04	0E18	OSA	1E18	1TF	D	.	02
		06-	.	01	0B5-	.	.	.	.	.	.

```
              1SA      AK        B2      K          OP2     06        PE      PS        0E18    OSA
              1E18     1TF       D       .     02   KA      .    05   EAKO    E-        .    06 EAKO
              E-       .                 .          05      03        0E18    OSA       1E18    1TF
              1SA      B2        CR5     06         05      03        0E18    OSA       1E18    1TF
              D        .    03   ORB     .     01   OB5-    .    02   03      .         .       D
              1SA      B2        CR6     03         02      0E18      OSA     1E18      1TF     D
              .    03  CR75      .     01 OB5-     .         .        .       .         .       .

       100    1SA      AK        B2      CR7    K          OP2    06           05       04      PE
              PS       0E18      OSA     1E18   1TF        D      .       04   OY       .    02 KA
              K        .    05   EAKO    E-     .     06   EAKO   E-           .        .
              1SA      B2        0E18    OSA    1E18       1TF    D            .    04  CR7-    .    01
              OB5-     .    02   06-     .      .          .      .            .
              1SA      AK        B2      CR7    E          OB5    OP2          PE       PS      0E18
              OSA      1E18      1TF     D      .     04   E      .       05   KD1      K-      .    06
              KD1      K-        .       .      .          .      .            .
              1SA      TX        CR7     0E18   OSA        1E18   1TF          D        .    04 TXF
              1SA      AK        B2      CP6    E          OB5    OP2          06       PE      PS
              0E18     OSA       1E18    1TF    D          .   05 KD1          .        .
              1SA      B2        CP6     K      OB5        OP2    06           PS       0E18    OSA
              1E18     1TF       D       .   05 EAKO       .   01 KA           K        .    02 KA
              K        .         .       .      .          .      .            .
              1SA      AK        CP6     E      K          OP3    OP2          PE       PS      0E18
              OSA      1E18      1TF     D      .     05   *GPW-  OP3          .    06  CP6     .

CH     101    1SA      AK        CP6     E          K      PE     PS           0E18     OSA     1E18
              1TF      D         .    05 *GPH-      OP2-   .   06 CP6          .        .       .
              1SA      AK        CP6     E          K      OP2    OP1          PE       PS      0E18
              OSA      1E18      1TF     D          .   05 *GPH-  OP1          .    06  CP6     .
              1SA      AK        CP6     E          K      OP2    PE           0E18     OSA     1E18
              1TF      D         .    05 *GPH-      PS-    .   06 CP6          .        .       .
```

1. Depress and hold COMPUTE button on the control panel.
2. Start the tape reader.

```
CH     102    1SA      AK        CP6     E          K      OP2    PE           PS       0E18    OSA
              1E18     1TF       D       .     05   *SU-   F14    .       06   CP6      .       .
```

Tape stops | **Marker number**

CH   103   Release the COMPUTE button. Start the tape reader.

```
1SA    AK     CP6    E      K    05  OP2    PE     06  TSO    PS     OE18
0SA    1E18   1TF    D      .    05  TSO    .      06  CP6    .      .
1SA    AK     B2     E      OB5      OP3    OP1    06  PE     TSO
0E18   0SA    1E18   1TF    D .      .      06  KD1    .      .      .
1SA    B2     K      OB5    OB3      OP1    06  TSO    OE18   OSA
1E18   1TF    D      .    06  EAKO   .    01  KA     K      .    02  KA
K      .      .      .      .        .      .      .      .      .      .
```

1. Depress matrix button 8.
2. Depress matrix button F.
3. Depress weapon type 1 button.
4. Depress battery A button.
5. Start the tape reader.

---

104   C3 or test, one side. Logic for one side C3 is on boards 227, 228, 332, 401, 402, 403, 404, 405.
Logic for matrix 009 and/or shorting cable 012.

```
OSA    TX     CR3    OE18   1SA    1E18   1TF    C3     .    01  .
1SA    B2     C3     ND     OE18   1SA    1E18   1TF    C3     .    01
OSA    TO     E      K      05     04     03     02     E1     PS
0E18   1SA    1E18   1TF    C3     .    02  .      .      .      .
1SA    TX     C3     D7     D5     D4     D3     06  TP     E2
E4     0E18   1SA    1E18   1TF    C3     .    02  .      .      .
OSA    B4     E      K      05     04     03     02     E4     OE18
1SA    1E18   1TF    C3     .    03  .      .      .      .      .
1SA    TO     TX     B6     B5     B3     B2     B1     C3     .    06
TP     0E18   1SA    1E18   1TF    C3     .    03  .      .      .
OSA    B4     B2     E      K      05     04     03     02     E4
0E18   1SA    1E18   1TF    C3     .    04  .      .      .      .
```

105
```
1SA    TO     TX     B6     B5     B3     B1     C3     06  TP
0E18   1SA    1E18   1TF    C3     .    04  .      .      .      .
OSA    B4     B2     B1     E      K      05     04     03     02
E4     0E18   1SA    1E18   1TF    C3     .    05  .      .      .
1SA    TO     TX     B6     B5     B3     C3     06  TP     OE18
1SA    1E18   1TF    C3     .    05  .      .      .      .      .
OSA    B4     B3     E      K      05     04     03     02     E4
0E18   1SA    1E18   1TF    C3     .    06  .      .      .      .
1SA    TO     TX     B6     B5     B2     B1     C3     06  TP
0E18   1SA    1E18   1TF    C3     .    06  .      .      .      .
```

CH   106   C3 and test, one side.

```
1SA    TO     TX     B6     B4     B2     B1     C3     D5     ND
OP1    06  TP     E2     OE18   1SA    1E18   OTF    C3     .    06
TRS    .    01  NDX-   TXF    TX     .    09  *F15   PS-    .      .
```

```
1SA    TO     TX     B6     B5     C3     ND        OP3    06        TP
PS     OE18   1SA    1E18   OTF    C3     .      06 BL4    .      01 NDX-
TXF    TX     .      .      .      .      .         .      .         .
```

1. Depress matrix button G.
2. Depress battery B button.
3. Start the tape reader

107   C7 or test, one side. Logic for one side C7 is on boards 206, 207, 208, 402, 403, 404, 405, 407.
Logic for matrix 009 and/or shorting cable 012.

```
OSA    TX     CR7    OE18   1SA    1E18   1TF    C7        .    01  .
1SA    B2     C7     ND     OE18   1SA    1E18   1TF    C7        .    01
OSA    B3     E      K      05     04     03     02     OE18   1SA
1E18   1TF    C7     .    02  .      .      .      .      .      .
1SA    TX     B6     B4     B2     B1     C7     06     TP     OE18
1SA    1E18   1TF    C7     .    02  .      .      .      .      .
OSA    B4     B1     E      K      05     04     03     02     OE18
1SA    1E18   1TF    C7     .    03  .      .      .      .      .
1SA    TX     B6     B5     B3     B2     C7     06     TP     OE18
1SA    1E18   1TF    C7     .    03  .      .      .      .      .
OSA    B4     B3     B1     E      K      05     04     03     02
OE18   1SA    1E18   1TF    C7     .    04  .      .      .      .
1SA    TX     B6     B5     B2     C7     06     TP     OE18   1SA
1E18   1TF    C7     .    04  .      .      .      .      .      .
```

```
108    OSA    B4     B3     B2     E      K      05     04     03     02
OE18   1SA    1E18   1TF    C7     .    05  .      .      .      .
1SA    TX     B6     B5     B1     C7     06     TP     OE18   1SA
1E18   1TF    C7     .    05  .      .      .      .      .      .
OSA    B5     E      K      05     04     03     02     OE18   1SA
1E18   1TF    C7     .    06  .      .      .      .      .      .
1SA    TX     B6     B3     B2     B1     C7     06     TP     OE18
1SA    1TF    C7     .    06  .      .      .      .      .      .
```

CH 109   C7 and test, one side.

```
1SA    TX     B6     B5     B4     B3     B2     B1     C7     D6
D3     ND     06     TP     E2     OE18   1SA    1E18   OTF    C7
.    06 TRC   .    01 NDX-   TXF    TX     .    02 T1   BL4    B3
1SA    C7     B6     06     TX     TP     OE18   1SA    1E18   OTF
C7     .    06 BLO   .      .      .      .      .      .      .
1SA    TX     B6     B4     B3     07 C7  D8     06     TP     OE18
1SA    1E18   OTF    C7     .    07 *F12  F12    .    10 TOP   B6
.    16 TLC   B6     .      .      .      .      .      .      .
```

1. Depress battery C button.
2. Start the tape reader.

Tape stops	Marker number

110 — C3 or test, one side. Logic for one side C3 is on boards 228, 227, 403. Logic for matrix 009.

```
OSA    B5     B1     E      K         05        04        03        02     E4
OE18   1SA    1E18   1TF    C3     .  07  .         .         .      .
1SA    T0     TX     B6     B3        B2        C3        06        TP     OE18
1SA    1E18   1TF    C3     .  07  .         .         .         .      .
```

CH   111 — C3 and test, one side.

```
1SA    T0     TX     B6     B5        B3        B2        C3        D7     D4
ND     06     TP     E2     OE18      1SA       1E18      OTF       C3     .  07
TRC    .  01  NDX-   TXF    TX     .  03  BL0       B1-       .  05  BL3
B2     .      .      .      .         .         .         .         .      .
1SA    T0     TX     B6     B3        B2        B1        C3        ND     06
TP     OE18   1SA    1E18   OTF       C3     .  07  BL1       .  01  NDX-
TXF    TX     .      .      .         .         .         .         .      .
```

1. Depress battery D button.
2. Start the tape reader.

112 — C7 or test, one side. Logic for one side C7 is on boards 206, 207, 208, 323, 404. Logic for matrix 009.

```
OSA    B5     B2     B1     E         K         05        04        03     02
OE18   1SA    1E18   1TF    C7     .  07  .         .         .      .
1SA    TX     B6     B3     C7        06        TP        OE18      1SA    1E18
1TF    C7     .  07  .         .         .         .         .      .
OSA    B5     B4     B3     B2        E         K         OP2       OP1    05
04     03     02     OE18   1SA       1E18      1TF       C7     .  08  .
1SA    TX     B6     B1     C7        OP3       06        TP        PS     OE18
1SA    1E18   1TF    C7     .  08  .         .         .         .      .
OSA    B6     D3     E      K         05        04        03        02     E2
OE18   1SA    1E18   1TF    C7     .  09  .         .         .      .
1SA    TX     B4     B3     B2        B1        C7        D6        06     TP
OE18   1SA    1E18   1TF    C7     .  09  .         .         .      .
OSA    B6     B2     B1     D8        D5        E         K         05     04
03     02     E2     OE18   1SA       1E18      1TF       C7     .  10  .
1SA    TX     B4     B3     C7        06        TP        OE18      1SA    1E18
1TF    C7     .  10  .         .         .         .         .      .
```

113

```
OSA    B6     B3     E      K         OP2       05        04        03     02
OE18   1SA    1E18   1TF    C7     .  11  .         .         .      .
1SA    TX     B4     B2     B1        C7        OP3       OP1       06     TP
PS     OE18   1SA    1E18   1TF       C7     .  11  .         .      .
OSA    B6     B4     B1     E         K         OP3       05        04     03
02     OE18   1SA    1E18   1TF       C7     .  12  .         .      .
1SA    TX     B5     B3     B2        C7        OP2       OP1       06     TP
PS     OE18   1SA    1E18   1TF       C7     .  12  .         .      .
```

```
          OSA    B6     B4     B3     B1     E      K      OP3    13   OP2    05
          04     03     02     OE18   1SA    1TF    C7     .           .      .
          1SA    TX     B5     B2     C7     OP1    06     TP          PS     OE18
          1SA    1E18   1TF    C7     .  13  .      .      K           .      05
          OSA    B6     B4     B3     B2     D4     E      K           05     04
          03     02     E2     OE18   1SA    1E18   1TF    C7     14   .      1E18
          1SA    TX     B5     B1     C7     06     TP     OE18        1SA    1E18
          1TF    C7     .  14  .      .      .      .      .           .      .
```

114
```
          OSA    B6     B5     D6     E      K      05     04     03     02
          E2     OE18   1SA    1E18   1TF    C7     .  15  .      .      .
          1SA    TX     B3     B2     B1     C7     D3     06     TP     OE18
          1SA    1E18   1TF    C7     .  15  .      .      .      .      .
          OSA    B6     B5     B2     B1     E      K      05     04     03
          02     E2     OE18   1SA    1E18   1TF    C7     .  16  .      .
          1SA    TX     B3     C7     D8     D5     06     TP     OE18   1SA
          1E18   1TF    C7     .  16  .      .      .      .      .
          OSA    B6     B5     B3     B2     E      K      05     04     03
          02     .      E7     .      .      .      .      .      .      .
          T      I      M      E      .      D      E      L      A      Y
          T      I      M      E      .      D      E      L      A      Y
          OE18   1SA    1E18   1TF    C7     .  17  .      .      .      .
          1SA    TX     B1     C7     06     TP     E6     .      .      .
          T      I      M      E      .      D      E      L      A      Y
          T      I      M      E      .      D      E      L      A      Y
          OE18   1SA    1E18   1TF    C7     .  17  .      .      .      .
```

115   C7 and test, one side.
```
          1SA    B6     B4     B2     B1     CR7    C7     ND     06     TP
          OE18   1SA    1E18   OTF    C7     .  01  CR7    .      .      .
          1SA    C7     D6     D5     D4     D3     E      K      05     04
          03     02     E2     .      E7     .      OE18   1SA    1E18   OTF
          C7     .  01  NDX-   .      .      .      .      .      .      .
          1SA    TX     B6     B4     B3     B2     C7     ND     06     TP
          OE18   1SA    1E18   OTF    C7          03 TRS   .  01  NDX-   TXF
          TX     .  06  BLO    B1-    .   07 BL3   B2      .      .      .
          1SA    TX     B6     B2     C7     ND     06     TP     OE18   1SA
          1E18   OTF    C7     .  04  TRS    .  01  NDX-   TXF    TX     .  02
          T1     BL4    B1-    .      .      .      OP2    OP1    06     TP
          1SA    TX     B6     B5     C7     ND     OP2    OP1    06     TP
          PS     OE18   1SA    1E18   OTF    C7     .  04  BL5    .  01  NDX-
          TXF    TX     .      .      .      .      .      .      .      .
          1SA    C7     B1     06     TX     TP     B5     B4     OE18   1SA
          1E18   OTF    C7     .  05  TRS    .      .      .      .      .
```

Tape stops	Marker number										

```
CH   116   1SA    TX     B6    B5          B3    C7    06    TP          OE18   1SA
           1E18   OTF    C7    .      05   BL6   .     .           C7     ND     06
           1SA    TX     B6    B4          B3    B2    B1          C7     ND     06
           TP     OE18   1SA   1E18   02   OTF   C7    .      06   *F10   F10    .    01
           NDX-   TXF    TX    .      02   T1    BL4   B3     .      09   T15    TOP
           B6     .      15    TLC    B6         .     .           .      .      .
           1SA    TX     B6    B5          B3    C7    D5    06          TP     E2
           OE18   1SA    1E18  OTF    C7    .    07    TRC   .      03    BL1    B2-
           1SA    C7     B6    06          TX    TP          OE18   1SA   1E18   OTF
           C7     .      07    BL3    .          .     .           .      .      .
```

1. Depress battery E button.
2. Start the tape reader

117   C3 or test, one side. Logic for one side C3 is on boards 208, 226, 227, 228. Logic for matrix 009.

```
           OSA    B5     B3    B2    B1     E     K     05          04     03
           02     E4     OE18  1SA   1E18   1TF   C3    .      08   .      .
           1SA    TO     TX    B6    C3     06    TP    OE18        1SA    1E18
           1TF    C3     .     08    .      .     .     .           .      .
           OSA    B5     B3    E     K      OP3   OP2   05          04     03
           02     E4     OE18  1SA   1E18   1TF   C3    .      09   .      .
           1SA    TO     TX    B6    B2     B1    C3    09     OP1  06     TP
           PS     OE18   1SA   1E18  1TF    C3    .     09     .    .      .
           OSA    B6     B1    D4    E      K     05          04    03     02
           E2     E4     OE18  1SA   1E18   1TF   C3    .      10   .      .
           1SA    TO     TX    B4    B3     B2    C3    D7          06     TP
           OE18   1SA    1E18  1TF   C3     .     10    .           .      .
           OSA    B6     B3    B2    E      K     OP1   05          04     03
           02     E4     OE18  1SA   1E18   1TF   C3    .      11   .      .
```

```
118   1SA    TO     TX     B4          B1     C3     OP3        OP2       06        TP
      PS     OE18   1SA    1E18        1TF    C3     .     11   .         .         .
      OSA    B6     B4     E           K      OP2    OP1        05    04  04        03
      02     E4     OE18   1SA         1E18   1TF    C3         .     12  .         .
      1SA    TO     TX     B5          B3     B2     B1         C3        OP3       06
      TP     PS     OE18   1SA         1E18   1TF    C3         .     12  .         .
      OSA    B6     B4     B2          E      K      OP3        OP1       05        04
      03     02     E4     OE18        1SA    1E18   1TF        C3        .     13  .
      1SA    TO     TX     B5          B3     B1     C3         OP2       06        TP
      PS     OE18   1SA    1E18        1TF    C3     .     13   .         .         .
      OSA    B6     B4     B2          B1     D3     E          K         05        04
      03     02     E2     E4          OE18   1SA    1E18       1TF       C3        .    14
      1SA    TO     TX     B5          B3     C3     06         TP        OE18      1SA
      1E18   1TF    C3     .     14    .      .      .          .         .         .

119   OSA    B6     B4     B3          D5     E      K          05        04        03
      02     E2     E4     OE18        1SA    1E18   1TF        C3        .     15  .
      1SA    TO     TX     B5          B2     B1     C3         06        TP        OE18
      1SA    1E18   1TF    C3          .      15     .          .         .         .
      OSA    B6     B5     B1          D7     E      K          05        04        03
      02     E2     E4     OE18        1SA    1E18   1TF        C3        .     16  .
      1SA    TO     TX     B3          B2     C3     D4         06        TP        OE18
      1SA    1E18   1TF    C3          .      16     .          .         .         .
      OSA    B6     B5     B3          B2     B1     E          K         05    17  04
      03     02     E4     OE18        1SA    1E18   1TF        C3        .     17  .
      1SA    TO     TX     C3          06     TP     E1         OE18      1SA       1E18
      1TF    C3     .     17      .    .      .      .          .         .         .

120   C3 and test, one side.
      1SA    B6     B5     B3          B2     B1     CR3        C3    01  ND        .    06
      TP     E4     OE18   1SA         1E18   OTF    C3         .     01  CR3       .
      1SA    TO     C3     D7          D5     D4     D3         E         K         05
      04     03     02     E2          OE18   1SA    1E18       OTF       C3        .    01
      NDX-   .      .      .           .      .      .          .         .         .
      1SA    TO     TX     B6          B4     B3     B2         B1        C3        ND
      06     TP     OE18   1SA         1E18   OTF    C3         .     03  TRS       .    01
      NDX-   TXF    TX     .     07    BL1    B1     .          .         .         .
      1SA    C3     TO     TX          06     TP     B6         B5        OE18      1SA
      1E18   OTF    C3     .     03    BL0    .      .          .         .
      1SA    TO     TX     B4          B3     B1     C3         06        TP        OE18
      1SA    1E18   OTF    C3          .      04     TRS        .         .         .
      1SA    TO     TX     B6          B5     C3     ND         OP3       TP        PS
      OE18   1SA    1E18   OTF         C3     .      04    BL2  .     01  NDX-      TXF
      TX     .      .      .           .      .      .          .         .
```

Tape stops	Marker number										
CH	121	1SA	T0	TX	B6	B4	B3	C3	D3	06	TP
		E2	OE18	1SA	1E18	OTF	C3	. 05	TRX	. 07	BL1
		B2-	. 08	BL7	B3	.	.	.	.	.	.
		1SA	T0	TX	B6	B5	C3	ND	OP3	06	TP
		PS	OE18	1SA	1E18	OTF	C3	. 05	BL3	. 01	NDX-
		TXF	TX	.	.	.	.	.	.	.	.
		1SA	T0	TX	B6	B5	C3	06	TP	OE18	1SA
		1E18	OTF	C3	. 08	TRC	. 05	BL3	B3-	.	.
		1SA	T0	TX	B6	B3	B2	B1	C3	ND	06
		TP	OE18	1SA	1E18	OTF	C3	. 08	BL7	. 01	NDX-
		TXF	TX	.	.	.	.	.	.	.	.

1. Depress matrix button 1.
2. Depress matrix button A.
3. Depress weapon type 2 button.
4. Start the tape reader.

	122	C7 and test, one side. Logic for one side C7 is on boards 206, 207, 208, 402, 403, 404, 405, 407. Logic for matrix 009 and/or shorting cable 012.									
		1SA	TX	B6	B4	B2	B1	C7	ND	OP3	06
		TP	PS	OE18	1SA	1E18	OTF	C7	. 02	*F2	F2
		. 01	NDX-	TXF	TX	. 06	BL0	B3-	. 08	BL6	B2
		1SA	TX	B6	B5	B3	B2	C7	D6	D5	D4
		D3	ND	06	TP	E2	.	E7	.	OE18	1SA
		1E18	OTF	C7	. 02	T1	. 01	NDX-	TXF	TX	. 03
		1SA	TX	B6	B5	B2	B1	C7	ND	06	TP
		OE18	1SA	1E18	OTF	C7	. 03	BL1	. 01	NDX-	TXF
		TX	. 02	T1	B64-	B4-	.	.	.	.	.
		1SA	TX	B6	B5	B2	C7	ND	OP1	06	TP
		PS	OE18	1SA	1E18	OTF	C7	. 04	*F6	F6	. 01
		NDX-	TXF	TX	. 03	BL1	B3-	. 13	TLS	B6	.
		1SA	TX	B6	B5	B1	C7	OP3	06	TP	PS
		OE18	1SA	1E18	OTF	C7	. 05	*F8	F8	. 08	TRC
		B5	. 14	TLS	B6	.	.	.	.	.	.

	123	1SA	TX	B6	B4	B1	C7	06	TP	E6	PS
		OE18	1SA	1E18	OTF	C7	. 08	*F14	OP3-	. 02	T1
		BL4	B2-	. 17	TLC	B6	.	.	.	.	.
		1SA	TX	B6	B4	B1	C7	OP3	OP2	06	TP
		E6	PS	OE18	1SA	1E18	OTF	C7	. 08	*F14	OP2
		. 02	T1	BL4	B2-	. 17	TLC	B6	.	.	.
		1SA	TX	B6	B4	B1	C7	OP3	OP1	06	TP
		E6	PS	OE18	1SA	1E18	OTF	C7	. 08	*F14	OP1
		. 02	T1	BL4	B2-	. 17	TLC	B6	.	.	.
		1SA	TX	B6	B5	B4	B1	C7	D4	OP3	06

```
         TP     E2        .        E7        .     PS     0E18   1SA      1E18   OTF
         C7     .     08 TRC       .     02 T1     BL4    B2-      .         .     .
         1SA    TX    B6       B3       B2       C7     ND     OP3      06     TP
         PS     0E18  1SA      1E18     OTF      C7     .      08 BL6     .     01 NDX-
         TXE    TX    .     03 TRS      B5-      .      .         .        .     .

  124    1SA    TX       B4       B3       B2       B1     C7     D6       D3     ND
         OP3    OP1      06       TP       PS       0E18   1SA    1E18     OTF    C7
         .   09 *F16     D3       .     01 ND-      TXF    TX     .     06 TRC    B6-
         .   11 T19      BL4      B3       .     15 *F28    D6     .         .     .
         1SA    TX       B4       B3       B2       B1     C7     ND       OP3    OP1
         06     TP       E2       PS       0E18     1SA    1E18   OTF      C7     .    09
         *F16   E2       .     01 NDX-     TXF      TX     .   06 TRC      B6-    .    11
         T19    BL4      B3       .     15 *F28     E2     .         .       .     .
         1SA    TX       B6       B4       B2       B1     C7     D6       D5     D4
         ND     06       TP       E7       0E18     1SA    1E18   OTF      C7     .    09
         T15    .     01 NDX-     TXF      TX       .   02 *F2     F2       .      .
         1SA    B4       B3       B2       B1       CR7    C7     D6       E      K
         05     04       03       02       0E18     1SA    1E18   OTF      C7     .    09
         OX     .        .        .        .        .      .         .       .
         1SA    TX       B4       B3       C7       D5     06     TP       0E18   1SA
         1E18   OTF      C7       .     10 *F18     D5     .      07 TRC    B6-    .    16
         *F30   D8-      .        .        .        .      .         .       .

  125    1SA    TX       B4       B3       C7       D8     06     TP       E2     0E18
         1SA    1E18     OTF      C7       .     10 *F18    E2     .      07 TRC   B6-
         .   16 *F30     E2       .        .        .      .         .       .
         1SA    TX       B6       B5       B3       C7     06     TP       0E18   1SA
         1E18   OTF      C7       .     10 TOP      .    03 BL1    B2-       .      .
         1SA    TX       B4       B2       B1       C7     D6     D3       ND     OP3
         OP1    06       TP       .        E7       .      0E18   1SA      1E18   OTF
         C7     .     10 BL3      .     01 NDX-     TXF    TX     .      02 T1     B64-
         B6-    .     11 *F20     PS-      .        .      .         .       .
         1SA    TX       B4       B2       B1       C7     ND     OP1      06     TP
         E6     PS       0E18     1SA      1E18     OTF    C7     .      11 *F20   09 OP3-
         .   01 NDX-     TXF      TX       .     02 T1     B64    B6-       .     09 T15
         BL0    B3-      .     15 BL0      B3-      .   17 BL6     B2         .
         1SA    TX       B4       B2       B1       C7     ND     OP3      OP2    OP1
         06     TP       E6       PS       0E18     1SA    1E18   OTF      C7     .    11
         *F20   OP2      .     01 NDX-     TXF      TX     .      02 T1     B64-   B6-
         .   09 T15      BL0      B3-      .     15 BL0    B3-    .      17 BL6    B2
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Tape stops   Marker number

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Tape    Marker
stops   number

        126   1SA    TX        B4       B2       B1       C7       ND       OP3       06        TP
              E6     PS        0E18     1SA      1E18     OTF      C7       .     11  *F20      OP1-
              .   01 NDX-      TXF      TX       .     02 T1       B64-     B6-       .     09  T15
              BLO    B3-       .     15 BLO      B3-      .     17 B16      B2        .         .
              1SA    TX        B6       B4       B2       B1       C7       D6        D5        D4
              D3     ND        OP3      OP1      06       TP       E2       .         E7        .
              PS     0E18      1SA      1E18     OTF      C7       .     11 T19       .     01  NDX-
              TXF    TX        .     02 *F2      F2       .        .         .         .
              1SA    TX        B5       B3       B2       C7       ND       OP3       OP2       OP1
              06     TP        PS       0E18     1SA      1E18     OTF      C7        .     12  *F22
              OP3    .     01  NDX-     TXF      TX       .     03 TRS      B6-       .         .
              1SA    TX        B5       B3       B2       C7       ND       OP1       06        TP
              PS     0E18      1SA      1E18     OTF      C7       .     12 *F22      OP2-      .    01
              NDX-   TXF       TX       .     03 TRS      B6-      .     13 BL5       B3        .

        127   1SA    TX        B5       B3       B2       C7       ND       OP2       06        TP
              PS     0E18      1SA      1E18     OTF      C7       .     12 *F22      OP1       .    01
              NDX-   TXF       TX       .     03 TRS      B6-
              1SA    TX        B5       B3       B2       C7       ND       OP2       OP1       06
              TP     0E18      1SA      1E18     OTF      C7       .     12 *F22      PS-       .    01
              NDX-   TXF       TX       .     03 TRS      B6-
              1SA    TX        B6       B5       B3       B2       C7       ND        OP2       OP1
              06     TP        PS       0E18     1SA      1E18     OTF      C7        .     12  TLS
              .   01 NDX-      TXF      TX       .     03 *F4      F4       .     04  BL5       B3
              1SA    TX        B5       B2       B1       C7       D4       ND        OP2       OP1
              06     TP        E2       PS       0E18     1SA      1E18     OTF       C7        .    12
              BL1    .     01  NDX-     TXF      TX       .         .
              1SA    TX        B5       B2       C7       ND       OP3      OP1       06        TP
              PS     0E18      1SA      1E18     OTF      C7       .     13 *F24      OP3       .    01
              NDX-   TXF       TX       .     04 TRS      B6-

        128   1SA    TX        B5       B2       C7       ND       OP2      OP1       06        TP
              PS     0E18      1SA      1E18     OTF      C7       .     13 *F24      OP2       .    01
              NDX-   TXF       TX       .     04 TRS      B6-      .     12 BL1       B3-       .
              1SA    TX        B5       B2       C7       ND       06       TP        PS        0E18
              1SA    1E18      OTF      C7       .     13 *F24     OP1-      .     01 NDX-      TXF
              TX     .     04  TRS      B6-
              1SA    TX        B5       B2       C7       ND       OP1      06        TP        0E18
              1SA    1E18      OTF      C7       .     13 *F24     PS-       .     01 NDX-      TXF
              TX     .     04  TRS      B6-
              1SA    TX        B6       B4       B2       C7       ND       OP1       06        TP.
              PS     0E18      1SA      1E18     OTF      C7       .     13 TLS       .     01  NDX-
              TXF    TX        .     02 T1       BL4      B1-      .
              1SA    TX        B5       B3       B2       C7       D4       ND        OP1       06
              TP     E2        PS       0E18     1SA      1E18     OTF      C7        .     13  BL5
              .   01 NDX-      TXF      TX       .     03 TRS      B6-      .     12 *F22      OP2-
```

```
129   1SA   TX        B5         B1       C7          D4         06    TP         E6    0E18
      1SA   1E18      OTF        C7    .  14 *F26      D4    .    05    TRS        B6-
      .  17 TLC       B5      .           C7          06    TP   E2    E6    0E18
      1SA   TX        B5         B1       C7          06    TP   E2    E6    0E18
      1SA   1E18      OTF        C7    .  14 *F26      E2    .    05    TRS        B6-
      .  17 TLC       B5      .  B1       C7           OP3  06    TP
      1SA   TX        B6         B4       B1    C7     OP3  06    TP
      E7    .         0E18       1SA      1E18  OTF    C7    .    14    TLS   .    02
      T1    BL4       B2-     .  08 *F14  PS-
      1SA   TX        B5         B3       B2    C7     ND    OP2        OP1   06
      TP    0E18      1SA        1E18     OTF   C7     .  14 BL6   .    01    NDX-
      TXF   TX     .  03 TRS     B6-   .         12 *F22 PS-
      1SA   TX        B4         B2       B1    C7     D5    D3         ND    OP3
      OP1   06        TP      .           E7    .      0E18  1SA        1E18  OTF
      C7    .      15 BLO    .  01 NDX-   TXF    TX     .     02   T1    B64-
      B6    .      11 *F20   PS-

130   1SA   IX        B6         B5       B3    C7     D8    D5         06    TP
      0E18  1SA       1E18       OTF      C7    .   16 TLC   .     03   BL1        B2
      1SA   TX        B4         B2       B1    C7     D8    D6         D5    D3
      ND    OP3       OP1        06       TP    .      E7    .          0E18  1SA
      1E18  OTF       C7      .  16 BL3   .   01 NDX-  TXF   TX    .     02
      T1    B64-      B6-     .  11 *F20  PS-   OP3    06    TP
      1SA   TX        B1         C7
      .     PS                                                            E7
      T     I         M          E     .        D     E     L          A     Y
      T     I         M          E     .        D     E     L          A     Y
      0E18  1SA       1E18       OTF      C7    .   17 *F32  .     08   TRC   .
      B6-   .      14 TLS       B5-    .         C7
      1SA   TX        B6         B4       B1    C7     D4    OP3        06    TP
      E2    E6
      T     I         M          E     .        D     E     L          A     Y
      0E18  1SA       1E18       OTF      C7    .   17 TLC   .     02   T1    BL4
      B2-   .      08 *F14      PS-

131   1SA   TX        B3         B2       B1    C7     D6    D5         D3    ND
      06    TP        E2         E6                    D     E     L          A     Y
      T     I         M          E     .        D     E     L          A     Y
      0E18  1SA       1E18       OTF      C7    .   17 BL6   .     01   NDX-  TXF
      TX    .      06 TRC       B6-
      1SA   B1        C7         E        K     ND     05    04         03    02
      E6
      T     I         M          E     .        D     E     L          A     Y
      T     I         M          E     .        D     E     L          A     Y
      0E18  1SA       1E18       OTF      C7    .   17 OX    .     01   NDX-  TXF
      B2-   .
```

Tape stops	Marker number	

```
132   C7 or test, zero side.  Logic for zero side C7 is on boards 207, 208.
      OSA      TX       C7       OE18     OSA      1E18     OTF      C7       .      01   .
      1SA      B2       CR7      ND       OE18     OSA      1E18     OTF      C7       .     01
      OSA      C7       E        K        05       04       03       02       OE18     OSA
      1E18     OTF      C7       .        02       .        .        .        .        .        .
      1SA      TX       C5       06       TP       OE18     OSA      1E18     OTF      C7
      .        02       .        .        .        .        .        .        .        .        .

CH  133   C7 and test, zero side.
      1SA      B2       C5       ND       06       TP       OE18     OSA      1E18     1TF
      C7       .    01  CR7-     .    02  OX       TX-      .        .        .        .
      1SA      CR7      E        K        05       04       03       02       OE18     OSA
      1E18     1TF      C7       .    01  NDX-     .        .        .        .        .
      1SA      C5       E        K        05       04       03       02       OE18     OSA
      1E18     1TF      C7       .    02  OX       .        .        .        OE18     1E18
      1SA      TX       B2       CR7      ND       06       TP       OE18     OSA      1E18
      1TF      C7       .    02  C5-      .    01  NDX-     TXF      TX       .        .

      1.  Depress battery D button.
      2.  Start the tape reader.

    135   C3 and test, one side.  Logic for one side C3 is on boards 226, 227, 228, 401, 402, 403, 404,
          405.  Logic for matrix 009.
      1SA      TX       B6       B5       B3       B2       B1       C3       D7       D5
      D4       D3       ND       06       TP       E2       OE18     1SA      1E18     OTF
      C3       .    02  *F1      E4-      .    01  NDX-     TXF      TX       .    03  *F3
      F3       .        .        .        .        .        .        .        .        .
      1SA      TO       TX       B6       B5       B3       B2       B1       C3       D7
      D5       D4       D3       ND       06       TP       E2       E4       OE18     1SA
      1E18     OTF      C3       .    02  TOA      .    01  NDX-     TXF      TX       .    03
      *F3      F3       .        .        .        .        .        .        .        .
      1SA      C3       TO       TX       06       TP       B6       B5       B2       B1
      OE18     1SA      1E18     OTF      C3       .    06  *F9      F9       .        .
      1SA      TO       TX       B6       B5       B3       B1       C3       OP2      06
      TP       PS       OE18     1SA      1E18     OTF      C3       .    04  *F5      F5
      .    03  BLO      B2-      .    05  BL3      B1       .    13  TLS      B6       .
      1SA      TO       TX       B6       B5       B3       C3       06       TP       OE18
      1SA      1E18     OTF      C3       .    05  *F7      F7       .    04  BL2      B1-
      .    14  TLS      B6       .        .        .        .        .        .

    136   1SA      TO       TX       B6       B4       B3       B2       C3       ND       06
      TP       OE18     1SA      1E18     OTF      C3       .    07  *F11     F11      .     01
      NDX-     TXF      TX       .        .        .        .        .        .
      1SA      TO       TX       B6       C3       06       TP       E1       OE18     1SA
      1E18     OTF      C3       .    08  *F13     F13      .    17  TLC      B6       .
```

```
        1SA     TO      TX      B6      B2      B1         C3      ND      OP3         OP1
        06      TP      PS      0E18    1SA     1E18    06 OTF     C3      .        09 *F15
        OP3     .    01 NDX-    TXF     TX      .       06 TRS     B5-     .           .
        1SA     TO      TX      B6      B2      B1         C3      ND      OP2         OP1
        06      TP      PS      0E18    1SA     1E18    06 OTF     C3      .        09 *F15
        OP2     .    01 NDX-    TXF     TX      .       06 TRS     B5-     .           .

137     1SA     TO      TX      B6      B2      B1         C3      ND      06          TP
        PS      0E18    1SA     1E18    OTF     C3         .    09 *F15    OP1-     .  01
        NDX-    TXF     TX      .    06 TRS     B5-        .       .
        1SA     TO      TX      B6      B5      B2         B1      C3.     D5          ND
        OP1     06      TP      E2      PS      0E18    1SA 1E18   OTF     C3
        .    09 TRC     .    01 NDX-    TXF     TX      06 .    *F9 F9     .
        1SA     TO      TX      B6      B3      B2         B1      C3      ND          OP1
        06      TP      PS      0E18    1SA     1E18    OTF        C3      .        09 BL4
        .    01 NDX-    TXF     TX      .       .          .       .
        1SA     TO      B6      B2      B1      CR3        C3      E       K           OP1
        05      04      03      02      PS      0E18    1SA 1E18   OTF     C3
        .    09 OX      .       .       .       .          .       .
        1SA     TO      TX      B4      B3      B2         C3      D7      D4          ND
        06      TP      0E18    1SA     1E18    OTF        C3      .    10 *F17        D4
        .    01 NDX-    TXF     TX      .    07 TRC        B6-     .    16 *F29        D7

138     1SA     TO      TX      B4      B3      B2         C3      ND      06          TP
        E2      0E18    1SA     1E18    07 OTF  C3         .    10 *F17    E2       .  01
        NDX-    TXF     TX      .    07 TRC     B6-        .    16 *F29    E2       .
        1SA     TO      TX      B6      B5      B3         B2      C3      D7          ND
        06      TP      0E18    1SA     1E18    OTF        C3      .    10 TOP      .  01
        NDX-    TXF     TX      .       .       .          .       .
        1SA     TO      TX      B5      B4      B2         B1      C3      D7          ND
        06      TP      0E18    1SA     15 1E18 OTF        C3      .    10 BL1      .  01
        NDX-    TXF     TX      .    15 TLS     B4         .       .
        1SA     TO      TX      B4      B1      C3         OP2     06      TP          E1
        PS      0E18    1SA     1E18    OTF     C3         .    11 *F19    OP3-     .  17
        BL7     B1      .       .       .       .          .       .
        1SA     TO      TX      B4      B1      C3         OP3     06      TP          E1
        PS      0E18    1SA     1E18    OTF     C3         .    11 *F19    OP2-     .  17
        BL7     B1      .       .       .       .          .       .
```

Tape stops **Marker number**

```
139   1SA    TO          TX       B4         B1         C3       OP3      OP2      OP1      06
      TP     E1          PS       OE18       1SA        1E18     OTF      C3        .    11 *F19
      OP1     .      17  BL7      B1          .          .        .        .
      1SA    TO          TX       B4         B1         C3       OP3      OP2      06       TP
      E1     OE18        1SA      1E18       OTF        C3        .   11  *F19     PS-       .   17
      BL7    B1           .        .          .          .        .
      1SA    TO          TX       B6         B5         B1       C3       OP3      OP2      06
      TP     PS          OE18     1SA        1E18       OTF      C3        .   11  TOP       .   04
      BL2    B3-          .    06 BL4        B2-         .
      1SA    TO          TX       B4         B3         B2       C3       D7       D4       ND
      OP3    OP2         06       TP         E2         PS       OE18     1SA      1E18     OTF
      C3      .      11  BL6       .     01  NDX-       TXF      TX        .   07  TRC      B6-
      1SA    TO          TX       B5         B3         B2       B1       C3       ND       06
      TP     PS          OE18     1SA        1E18       OTF      C3        .   12  *F21     OP3-
       .     01 NDX-     TXF      TX          .     03  TRS      B6-       .   15  BL4      B3

140    1SA    TO          TX       B5         B3         B2       B1       C3       ND       OP3
      OP2    06          TP       PS         OE18       1SA      1E18     OTF      C3        .   12
      *F21   OP2          .    01 NDX-       TXF        TX        .   03  TR5      B6-       .   15
      BL4    B3           .        .          .          .        .
      1SA    TO          TX       B5         B3         B2       B1       C3       ND       OP3
      OP1    06          TP       PS         OE18       1SA      1E18     OTF      C3        .   12
      *F21   OP1          .    01 NDX-       TXF        TX        .   03  TRS      B6-       .   15
      BL4    B3           .        .          .          .        .
      1SA    TO          TX       B5         B3         B2       B1       C3       ND       OP3
      06     TP          OE18     1SA        1E18       OTF      C3        .   12  *F21     PS-
       .     01 NDX-     TXF      TX          .     03  TRS      B6-       .   15  BL4      B3
      1SA    TO          TX       B6         B5         B3       B2       B1       C3       ND
      OP3    06          TP       PS         OE18       1SA      1E18     OTF      C3        .   12
      TLS     .      01  NDX-     TXF        TX          .   03  *F3      F3        .        .

141    1SA    TO          TX       B5         B2         B1       C3       D5       D3       ND
      OP3    06          TP       E2         PS         OE18     1SA      1E18     OTF      C3
       .     12 BLO       .    01 NDX-       TXF        TX        .   06  TRS      B6-       .
      1SA    TO          TX       B5         B3         B1       C3       OP3      OP2      06
      TP     PS          OE18     1SA        1E18       OTF      C3        .   13  *F23     OP3
       .     04 TRS      B6-       .     14  BL3        B1        .
      1SA    TO          TX       B5         B3         B1       C3       06       TP       PS
      OE18   1SA         1E18     OTF        C3          .   13  *F23     OP2       .   04  TRS
      B6-     .      14  BL3      B1          .
      1SA    TO          TX       B5         B3         B1       C3       OP2      OP1      06
      TP     PS          OE18     1SA        1E18       OTF      C3        .   13  *F23     OP1
       .     04 TRS      B6-       .     14  BL3        B1        .
      1SA    TO          TX       B5         B3         B1       C3       OP2      06       TP
      OE18   1SA         1E18     OTF        C3          .   13  *F23     PS-       .   04  TRS
      B6-     .      14  BL3      B1          .          .        .        .        .        .
```

```
142   1SA    TO     TX      B6      B5      B3      B1      C3       OP2      06
      TP     PS     0E18    1SA     1E18    0TF     C3      .     13 TLS      .     03
      BLO    B2-    .    04 *F5     F5      .    05 BL3     B1       .        .
      1SA    TO     TX      B5      B3      B2      B1      C3       D5       D3
      ND     OP2    06      TP      E2      PS      0E18    1SA      1E18     0TF
      C3     .   13 BL2     .    01 NDX-    TXF     TX      .     03 TRS      B6-
      1SA    TO     TX      B5      B3      C3      D3      OP2      06       TP
      PS     0E18   1SA     1E18    0TF     C3      .    14 *F25    D3       .     05
      TRS    B6-    .    13 BL2     B1-     .       .               TP       E2
      1SA    TO     TX      B5      B3      C3      OP2     06       TP       E2
      PS     0E18   1SA     1E18    0TF     C3      .    14 *F25    E2       .     05
      TRS    B6-    .    13 BL2     B1-     .       .               TP       0E18
      1SA    TO     TX      B6      B5      B3      C3               06       TP       0E18
      1SA    1E18   0TF     C3      .    14 TLS     .    04 BL2     B1-      .     05
      *F7    F7     .       .       .       .       .       .        .        .

143   1SA    TO     TX      B5      B3      B2      B1      C3       D5       ND
      OP3    06     TP      0E18    1SA     1E18    0TF     C3       .     14 BL3
      .   01 NDX-   TXF     TX      .    03 TRS     B6-     .     12 *F21    PS-
      1SA    TO     TX      B5      B2      B1      C3       D5      ND       OP3
      06     TP     PS      0E18    1SA     1E18    0TF     C3       .     15 *F27
      D5     .   01 NDX-    TXF     TX      .    06 TRS     B6-      .    12 BLO
      B3-    .      .       .       .       .       .       .        .
      1SA    TO     TX      B5      B2      B1      C3       ND       OP3      06
      TP     E2     PS      0E18    1SA     1E18    0TF     C3       .     15 *F27
      E2     .   01 NDX-    TXF     TX      .    06 TRS     B6-      .    12 BLO
      B3-    .      .       .       .       .       .       .        .
      1SA    TO     TX      B6      B5      B2      B1       C3       ND       06
      TP     0E18   1SA     1E18    0TF     C3      .     15 TLS      .    01 NDX-
      TXF    TX     .    06 *F9     F9      .       .        .        .
      1SA    TO     TX      B5      B3      B2      B1       C3       D3       ND
      OP3    06     TP      0E18    1SA     1E18    0TF     C3       .     15 BL4
      .   01 NDX-   TXF     TX      .    03 TRS     B6-      .    12 *F21    PS-

144   1SA    TO     TX      B6      B5      B3      B2       C3       D4       ND
      06     TP     0E18    1SA     1E18    0TF     C3       .     16 TLC      .     01
      NDX-   TXF    TX      .       .       .                D4       ND       06       TP
      1SA    TO     TX      B2      B1      C3       D4       ND       06·      TP
      0E18   1SA    1E18    0TF     C3      .     16 BL1      .    01 NDX-     TXF
      TX     .   15 TLS     B5-     .       .                OP3      OP2      06       TP      PS
      1SA    TO     TX      B4      C3      OP3      OP2      06       TP       PS
      0E18   1SA    1E18    0TF     C3      .     17 *SU      E1       .    08 TRC
      B6-    .   11 BL6     B1      .       .                          TP       E1
      1SA    TO     TX      B6      B5      C3       06       TP       E1       0E18
      1SA    1E18   0TF     C3      .     17 TLC      .    05 BL3      B3-      .
      1SA    TO     TX      B3      B2      C3       D7       D4       ND       06
      TP     E1     E2      0E18    1SA     1E18     0TF      C3       .     17 BL7
      .   01 NDX-   TXF     TX      .    07 TRC      B6-      .        .        .
```

Tape stops	Marker number														
	145	1SA	TO	C3	E	K	ND	05		04	03		02		
		E1	0E18	1SA	1E18	OTF	C3	.	17	OX	.	01	NDX-		
		TXF	B2-	.	.	.	.	.		.	.		.		

146 C3 or test, zero side. Logic for zero side C3 is on board 227.

```
         0SA      TX       C3        0E18    0SA      1E18     OTF      C3        .     01   .
         1SA      B2       CR3       ND      0E18     0SA      1E18     OTF      C3     .         01
         0SA      C5       C3        E       K        05       04       03       02     0E18
         0SA      1E18     OTF       C3       .   02  .        .        .        .      .
         1SA      TX       06        TP      0E18     0SA      1E18     OTF      C3      .        02
```

CH 147 C3 and test, zero side.

```
         1SA      B2       ND        06      TP       0E18     0SA      1E18     1TF     C3
         .    01  CR3-      .     02  OX      TX       .        .        .        .       .
         1SA      CR3      C5        E       K         05       04       03       02      0E18
         0SA      1E18     1TF       C3       .    01  NDX-     .        .        .       .
         1SA      E        K         05      04        03       02       0E18     0SA     1E18
         1TF      C3       .     02  OX       .        .        .        .       .
         1SA      TX       B2        CR3     C5        ND       06       TP       0E18    0SA
         1E18     1TF      C3        .   02  C5        .    01  NDX-     TXF      TX      .
```

NIXIE INDICATOR TESTS

The following group of tests causes each cathode of each nixie tube to be lighted at some time. There are 18 nixie tubes, and each has an associated neon tube. The neon tube with the sign nixie is never supposed to light. Every time the tape reader stops on a CH command, this listing will show how the nixie readout should look.

1. Depress battery A button.
2. Start the tape reader.

CH 148 Logic for nixie tests is on boards 406, 407, 408, 409, 023.

```
         0SA      DSP      D6        D5      D2       DA5       .        .        .       .

         [ ][ ][0][        ][        ][    3 2 1 ]
```

Start the tape reader.

CH 149

```
         0SA      DSP      X1        D6      D5       D2       DA5       .        .       .

         [ ][ ][ ][        ][    3 2 ][ 1 0    ]
```

Tape stops	Marker number									

Start the tape reader.

| CH | 171 | OSA X2 | DSP X1 | D8 . | D3 . | D2 . | D1 . | DA7 . | DA6 . | DA3 . | DA1 . |

Boxes: [E][ ][ ] [8 7 6 5] [ ] [ ]

Start the tape reader.

| CH | 172 | OSA | D8 | D5 | D4 | DA7 | DA6 | DA5 | DA3 | DA2 | DSP |

Boxes: [ ][ ][6] [ ] [ ] [9 8 7]

Start the tape reader.

| CH | 173 | 1SA DA1 | DSH X2 | PS XD | D7 . | D6 . | D3 . | D2 . | D1 . | DA8 . | DA4 . |

Boxes: [ ][ ][ ] [ ] [9 8] [7 6]

Start the tape reader.

| CH | 174 | 1SA DA1 | DSH X1 | PS XD | D7 . | D6 . | D3 . | D2 . | D1 . | DA8 . | DA4 . |

Boxes: [ ][ ][ ] [9] [8 7 6] [ ]

Start the tape reader.

| CH | 175 | 1SA DA1 | DSH XD | PS . | D7 . | D6 . | D3 . | D2 . | D1 . | DA8 . | DA4 . |

Boxes: [E][ ][ ] [9 8 7 6] [ ] [ ]

Start the tape reader.

| CH | 176 | 1SA DA6 | DSH DA5 | PS DA4 | X2 XD | X1 . | D7 . | D5 . | D3 . | D2 . | DA7 . |

Boxes: [ ][ ][7] [ ] [ ] [9 8]

Start the tape reader.

CH	177	1SA DA5	DSH DA4	PS XD	X2	D7	D5	D3	D2	DA7	DA6
					.	.	.	.	.	.	.

[ ][ ][ ] [   ] [9] [8 7]

Start the tape reader.

CH	178	1SA DA5	DSH DA4	PS XD	X1	D7	D5	D3	D2	DA7	DA6
					.	.	.	.	.	.	.

[ ][ ][ ] [   ] [9 8 7] [   ]
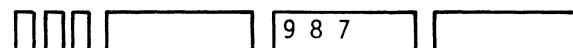
Start the tape reader.

CH	179	1SA DA4	DSH XD	PS	D7	D5	D3	D2	DA7	DA6	DA5
				.	.	.	.	.	.	.	.

[E][ ][ ] [9 8 7] [   ] [   ]

Start the tape reader.

CH	180	OSA	DSP	D8	D6	D5	D4	D2	DA8	DA5	DA4

[ ][ ][8] [   ] [   ] [9]

Start the tape reader.

CH	181	OSA DA4	DSP	X1	D8	D6	D5	D4	D2	DA8	DA5
			.	.	.	.	.	.	.	.	.

[ ][ ][ ] [   ] [   ] [9 8]

Start the tape reader.

CH	182	OSA X2	DSP	D8	D6	D5	D4	D2	DA8	DA5	DA4
			.	.	.	.	.	.	.	.	.

[ ][ ][ ] [   ] [9 8] [   ]

Start the tape reader.

CH	183	OSA X2	DSP X1	D8	D6	D5	D4	D2	DA8	DA5	DA4
				.	.	.	.	.	.	.

[E][ ][ ] [9 8] [   ] [   ]

Tape stops	Marker number									

Start the tape reader.

| CH | 184 | OSA DA1 | DSP | D8 | D7 | D4 | D2 | D1 | DA8 | DA6 | DA4 |

Start the tape reader.

| CH | 185 | OSA DA1 | DSP X1 | D8 | D7 | D4 | D2 | D1 | DA8 | DA6 | DA4 |

Start the tape reader.

| CH | 186 | 1SA X1 | DSH XD | PS | D6 | D5 | D3 | DA7 | DA5 | DA3 | DA2 |

Start the tape reader.

| CH | 187 | 1SA XD | DSH | PS | D6 | D5 | D3 | DA7 | DA5 | DA3 | DA2 |

Start the tape reader.

| CH | 188 | 1SA DA1 | DSH XD | PS | X2 | X1 | D6 | D2 | D1 | DA7 | DA3 |

Start the tape reader.

| CH | 189 | 1SA XD | DSH | PS | D6 | D2 | D1 | DA7 | DA3 | DA1 | X2 |

Tape stops	Marker number									

Start the tape reader.

| CH | 197 | 1SA | DSH | PS | X2 | D1 | DA6 | DA2 | DA1 | XD | . |

Start the tape reader.

| CH | 198 | 1SA | DSH | PS | X1 | D1 | DA6 | DA2 | DA1 | XD | . |
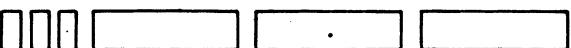
Start the tape reader.

| CH | 199 | 1SA | DSH | PS | D1 | DA6 | DA2 | DA1 | XD | . | . |

Start the tape reader.

| CH | 200 | OSA | DSP | D4 | D3 | D2 | D1 | DA8 | DA7 | DA6 | DA4 |
| | | DA3 | DA1 | . | . | . | . | . | . | . | . |
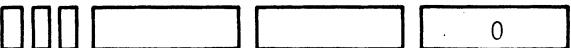
Start the tape reader.

| CH | 201 | 1SA | DSH | PS | X2 | D8 | D7 | D6 | D5 | DA5 | DA2 |
| | | XD | . | . | . | . | . | .. | . | . | . |

Start the tape reader.

| CH | 202 | 1SA | DSH | PS | X1 | D8 | D7 | D6 | D5 | DA5 | DA2 |
| | | XD | . | . | . | . | . | . | . | . | . |
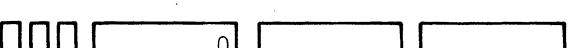
Start the tape reader.

| CH | 203 | 1SA | DSH | PS | D8 | D7 | D6 | D5 | DA5 | DA2 | .XD |

| CH | 216 | Logic for set-up buttons is on boards 401, 402, 403, 001. Logic for button switch is to replace button switch. |
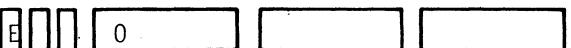
OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OTF	OB2	OB5
OB6	•	•	•	•	•	•	•	•	•

1. Depress the SET UP button.
2. Start the tape reader.

| CH | 217 | Logic for set-up buttons is on boards 401, 402, 403, 002. Logic for button switch is to replace button switch. |

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB2	OB5	OTF
OB6	•	•	•	•	•	•	•	•	•

1. Depress the SEND button.
2. Start the tape reader.

| CH | 218 | Logic for set-up buttons is on boards 401, 402, 403, 004. Logic for button switch is to replace button switch. |

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB2	OB6	OTF
OB5	•	•	•	•	•	•	•	•	•

1. Depress the COMPUTE button.
2. Start the tape reader.

| CH | 219 | Logic for set-up buttons is on boards 401, 402, 403, 005. Logic for button switch is to replace button switch. |

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB6	OTF	OB2
OB5	•	•	•	•	•	•	•	•	•

1. Depress the TRIG button.
2. Start the tape reader.

| CH | 220 | Logic for set-up buttons is on boards 401, 402, 403, 006. Logic for button switch is to replace button switch. |

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB2	OB5	OB6
•	•	•	•	•	•	•	•	•	•

1. Depress the RECEIVE button.
2. Start the tape reader.

Tape stops	Marker number	

CH 221 Logic for set-up buttons is on boards 401, 402, 403, 007. Logic for button switch is to replace button switch.

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB5	OB6	OTF
OB2	.	.	.	.	.	.	.	.	.

1. Depress the SM key.
2. Start the tape reader.

CH 222 Logic for set-up buttons is on boards, 401, 402, 403, 021. Logic for button switch is to replace button switch.

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB2	OTF	OB5
OB6	.	.	.	.	.	.	.	.	.

1. Depress the RECALL button.
2. Start the tape reader.

CH 223 Logic for set-up buttons is on boards 401, 402, 403, 003. Logic for button switch is to replace button switch.

OSA	TO	D	E1	OB2	TSO	OE18	BSC	IC	D
OB2	OB5	OB6	1E18	1TF	IC	D	OB5	OTF	OB2
OB6	.	.	.	.	.	.	.	.	.

1. Depress the RESET button.
2. Start the tape reader.

CH 224 Logic for set-up buttons is on boards 401, 402, 403, 406, 008. Logic for button switch is to replace button switch.

OSA	D	PE	OFLO	E	OE18	BSC	PE	OFLO	OTF
PE	OFLO	.	.	OSA	PE	E	OE18	BSC	D
1E18	1TF	D	.	.	OSA	OFLO	E	OE18	BSC
D	1E18	1TF	D	.	.	.	.	.	.

1. This test checks the OFF position of the SET UP and RESET buttons.
2. Start the tape reader.

CH 225 Logic for set-up buttons is on boards 401, 402, 403, 406, 002, 008. Logic for button switch is to replace button switch.

OSA	D	E1	TSO	OP3	OP1	OB2	OE18	BSC	IC
D	OB2	OB5	OB6	1E18	1TF	OB2	OTF	IC	D
OB5	OB6	.	.	OSA	D	PE	OFLO	E	OE18
BSC	PE	OFLO	1E18	1TF	PE	OFLO	.	.	OSA
PE	OFLO	E	OE18	BSC	D	1E18	OTF	D	.

Place the MARGINAL TEST switch in the ON position. The POWER READY lamp must be flashing.

Place the MARGINAL TEST switch in the OFF position. The POWER READY lamp must be lit and must not be flashing.

The following tests check the PARITY, ERROR, NO SOLUTION, COMPUTE, IN/OUT, and KEYBOARD lamps.

Start the tape reader.

CH   226   Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 014, 014, 016, 018, 019, 020.
OSA   .   .   .   .

If there are no errors:

1. The IN/OUT lamp must be lit.
2. The COMPUTE and KEYBOARD lamps must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

CH   227   Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 020.
OSA   04   OB6   OB5   AK   .   .   .   .   .

If there are no errors:

1. The IN/OUT and KEYBOARD lamps must be lit.
2. The COMPUTE lamp must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

CH   228   Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 016, 019.
OSA   OP3   OP2   K   AK   04   OB6   OB5   .   .

If there are no errors:

1. The COMPUTE lamp must be lit.
2. The IN/OUT and KEYBOARD lamps must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

Tape stops	Marker number	
CH	229	Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 014, 015.

OSA   OP3   OP1   K   CLC   OFLO   PE   .   .   .

If there are no errors:

1. The IN/OUT, COMPUTE, and KEYBOARD lamps must not be lit.
2. The PARITY and ERROR lamps must be flashing.
3. The NO SOLUTION lamp must be lit and not flashing.
4. Start the tape reader.

CH	230	Logic for terms is on boards 401, 402, 403, 404, 405. Logic for neon lamps is to replace neon 018.

OSA   OP3   OP2   OP1   D   AK   04   OB6   OB5   .

If there are no errors:

1. The IN/OUT, COMPUTE, and KEYBOARD lamps must not be lit.
2. The NO SOLUTION lamp must be flashing.
3. The PARITY and ERROR lamps must be lit and not flashing.
4. Start the tape reader.

CH	231	Logic for terms is on boards 401, 402, 403, 404, 405.

OSA   OP2   OP1   E   AK   04   OB6   OB5   .   .

If there are no errors:

1. The IN/OUT lamp must be lit.
2. The COMPUTE and KEYBOARD lamps must not be lit.
3. The PARITY, ERROR, and NO SOLUTION lamps must be lit and not flashing.
4. Start the tape reader.

CH	232	Logic for terms is on boards 401, 402, 403, 404, 405.

OSA   04   OB6   OB5   .   .   .   .   .   .

If there are no errors:

1. The KEYBOARD lamp must not be lit.
2. Start the tape reader.

```
CH    233    Logic for terms is on boards 401, 402, 403, 404, 405.
             OSA       AK        OB6       OB5      .        .        .        .        .        .

             If there are no errors:

             1.  The KEYBOARD lamp must not be lit.
             2.  Start the tape reader.

CH    234    Logic for terms is on boards 401, 402, 403, 404, 405.
             OSA       PS        AK        04        OB6       OB5       .        .        .        .

             If there are no errors:

             1.  The KEYBOARD lamp must not be lit.
             2.  Start the tape reader.

CH    235    Logic for terms is on boards 401, 402, 403, 404, 405.
             OSA       AK        04        OB5      .        .        .        .        .        .

             If there are no errors:

             1.  The KEYBOARD lamp must not be lit.
             2.  Start the tape reader.

CH    236    Logic for terms is on boards 401, 402, 403, 404, 405.
             OSA       AK        04        OB6      .        .        .        .        .  .      .

             If there are no errors:  The KEYBOARD indicator must not be lit.

             The following tests check the operation of the FADAC keyboard.  After starting the tape
             reader depress the 0 keyboard key.

             Start the tape reader.
```

Tape stops	Marker number									
CH	237	Logic for terms is to replace keyboard 010.								
		OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OTF	D8	D7	D4	D3	D2	D1	1TF	D6	D5

1. After starting the tape reader, depress keyboard key 1.
2. Start the tape reader.

CH 238 Logic for terms is to replace keyboard 010.

OSA	OB4	AK	O4	OB6	OB5	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

Tape stops	Marker number										
	238	--Cont									
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OTF	D7	D4	D3	D2	1TF	D8	D6	D5	D1

1. After starting the tape reader, depress keyboard key 2.
2. Start the tape reader.

Tape stops	Marker number										
CH	239	Logic for terms is to replace keyboard 010.									
		OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OTF	D7	D4	D3	D1	1TF	D8	D6	D5	D2

1. After starting the tape reader, depress keyboard key 3.
2. Start the tape reader.

Tape stops	Marker number								
CH	240	Logic for terms is to replace keyboard 010.							

```
OSA    OB4    AK     04     OB6    OB5    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA    OE18   1SA
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Tape stops	Marker number									
	241	--Cont								
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OTF	D7	D4	D2	D1	1TF	D8	D6	D5	D3

1. After starting the tape reader, depress keyboard key 4.
2. Start the tape reader.

Tape stops	Marker number									
CH	242	Logic for terms is to replace keyboard 010.								
		OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OET8	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OTF	D8	D7	D4	D2	1TF	D6	D5	D3	D1

1. After starting the tape reader, depress keyboard key 6.
2. Start the tape reader.

CH 243   Logic for terms is to replace keyboard 010.

OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OTF	D7	D4	1TF	D8	D6	D5	D3	D2	D1

1. After starting the tape reader, depress keyboard key 8.
2. Start the tape reader.

Tape stops	Marker number									
CH	245	Logic for terms is to replace keyboard 010.								
		OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OTF	D7	D3	D2	D1	1TF	D8	D6	D5	D4

1. After starting the tape reader, depress keyboard key 9.
2. Start the tape reader.

CH 246 Logic for terms is to replace keyboard 010.

OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

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OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OTF	D8	D7	D5	D4	D3	D2	1TF	D6	D1

1. After starting the tape reader, depress keyboard key +.
2. Start the tape reader.

CH 248 Logic for terms is to replace keyboard 010.

OSA	OB4	AK	04	OB6	OB5	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA

Tape stops	Marker number									
	248	--Cont								
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA	OE18	1SA
		OTF	D8	D7	D5	D4	D3	D1	1TF	D6	D2

1. After starting the tape reader, depress keyboard key CLEAR.
2. Start the tape reader.

```
253    Logic for terms is on boards 320, 324, 433.
       OSA     C7      1TA     CTB5    .       01  .           .           .           .       01  .
       1SA     MW1     MW0     CFSW    C6      C5      1TA         CTB5        01  MSU4        01  CFSU
       1SA     MW1     MW0     C7      C5      OTA     CTB5        .       01  MSU4        CFSU
       1SA     MW1     MW0     CFSW    C6      OTA     CTB5        .       01  MSU4        C5A-
       OSA     C7      C5      1TA     CTB6    .       01  .       .           .           .
       1SA     MW1     MW0     CFSW    C6      1TA     CTB6        .       01  .           .
       1SA     MW1     MW0     C7      OTA     CTB6        .       01  MSU5        CFSU        .
       1SA     MW1     MW0     CFSW    C6      C5      OTA         CTB6        .       01  MSU5
       C5A     .       .       .       .       .       01  .           .           .       .
       OSA     CFSW    C7      1TA     CTB7    .       01  .           .           .       .
       1SA     MW1     MW0     C6      C5      1TA     CTB7        .       01  .           .
       1SA     MW1     MW0     CFSW    C7      C5      OTA         CTB7        .       01  MSS4
       CFSS    .       .       .       .       .       .           .           .       .

254    Logic for terms is on boards 320, 324, 433.
       1SA     MW1     MW0     C6      OTA     CTB7        01      MSS4        C5A-        .
       OSA     CFSW    C7      C5      1TA     CTB8        .       01  .           .       .
       1SA     MW1     MW0     C6      1TA     CTB8        .       01  .           .       .
       1SA     MW1     MW0     CFSW    C7      OTA     CTB8        .       01  MSS5        CFSS
       1SA     MW1     MW0     C6      C5      OTA     CTB8        .       01  MSS5        C5A

255    Logic for terms is on boards 434, 437, 439.  Check memory plugs P3, P4, P7, P8.
       OSA     MW1     1TA     SS1     .       01  .           .           .           .       .
       1SA     MW0     C7      C6      C5      C4      C3          C2          PS      1TA
       SS1     .       01  .           .           .       .           .           .       .
       OSA     MW1     C5      1TA     SS1     .       02  .           .           .       .
       1SA     MW0     C7      C6      C4      C3      C2          PS          1TA     SS1
       .       02  .       .       .       .       .           .           .           .
       OSA     MW1     C6      1TA     SS1     .       03  .           .           .       .
       1SA     MW0     C7      C5      C4      C3      C2          PS          1TA     SS1
       .       03  .       .       .       .       .           .           .       .
       OSA     MW1     C6      C5      1TA     SS1     .       04  .           .       .
```

Tape stops	Marker number										

	256	Logic for terms is on boards 434, 437, 439. Check memory plugs P3, P4, P7, P8.									
		1SA	MWO	C7	C4	C3	C2	PS	.	1TA	SS1	.	04
		OSA	MW1	C7	1TA	SS1	.	05	.	.	PS	.	1TA
		1SA	MWO	CFSW	C6	C5	C4	C3	C2	PS	1TA
		SS1	.	05	.	.	.	.	.	.	.
		OSA	MW1	C7	C5	1TA	SS1	.	06	.	.	.
		1SA	MWO	CFSW	C6	C4	C3	C2	PS	1TA	SS1
		.	06	.	.	.	.	.	.	.	.
		OSA	MW1	CFSW	C7	1TA	SS1	.	07	.	.	.
		1SA	MWO	C6	C5	C4	C3	C2	PS	1TA	SS1
		.	07	.	.	.	.	.	.	.	.
		OSA	MW1	CFSW	C7	C5	1TA	SS1	.	1TA	SS1	.	08	.	.	.
		1SA	MWO	C6	C4	C3	C2	PS	1TA	SS1	.	08
		1SA	MWO	C5	C4	C3	C2	PS	OTA	SS1	.	01
		MSU0	.	02	MSU1	.	03	MSU2	.	04	MSU3	.	05	MSU4	.	06
		MSU5	.	07	MSS4	.	08	MSS5	.	OTA	SS1	.	08	MSLO	C430
		1SA	MW1	MWO	C6	C2	OTA	SS1	.	08	MSLO	C430

	257	Logic for terms is on boards 434, 437, 439. Check memory plugs P3, P4, P7, P8.									
		1SA	MW1	MWO	C6	C4	C3	PS	OTA	SS1	.	08
		MSLO	C2-	.	.	.	.	.	.	.	.
		OSA	MWO	1TA	SS2	.	01	.	.	.	.
		1SA	MW1	C7	C6	C5	C4	C3	C2	PS	1TA
		SS2	.	01	.	.	.	.	.	.	.
		OSA	MWO	C5	1TA	SS2	.	02	.	PS	1TA	SS2
		1SA	MW1	C7	C6	C4	C3	C2	PS	1TA	SS2
		.	02	.	.	.	.	.	.	.	.
		OSA	MWO	C6	1TA	SS2	.	03	.	.	.
		1SA	MW1	C7	C5	C4	C3	C2	PS	1TA	SS2
		.	03	.	.	.	.	.	.	.	.
		OSA	MWO	C6	C5	1TA	SS2	.	04	.	.	.
		1SA	MW1	C7	C4	C3	C2	PS	1TA	SS2	.	04
		OSA	MWO	C7	1TA	SS2	.	05	.	C2	PS	1TA
		1SA	MW1	CFSW	C6	C5	C4	C3	C2	PS	1TA
		SS2	.	05	.	.	.	.	.	.	.

	258	Logic for terms is on boards 434, 437, 439, 438. Check memory plugs P3, P4, P7, P8.									
		OSA	MWO	C7	C5	1TA	SS2	.	06	.	.	.
		1SA	MW1	CFSW	C6	C4	C3	C2	PS	1TA	SS2
		.	06	.	.	.	.	.	.	.	.
		OSA	MWO	CFSW	C7	1TA	SS2	.	07	.	.	.
		1SA	MW1	C6	C5	C4	C3	C2	PS	1TA	SS2
		.	07	.	.	.	.	.	.	.	.
		OSA	MWO	CFSW	C7	C5	1TA	.	08	.	.	.
		1SA	MW1	C6	C4	C3	C2	PS	1TA	SS2	.	08
		1SA	MW1	C5	C4	C3	C2	PS	OTA	SS2	.	01

```
MSU0        .   02  MSU1      .   03  MSU2      .   04  MSU3      .   05  MSU4      .   06
MSU5        .   07  MSS4      .   08  MSS5      .       .       .       .       .
1SA    MW1  MW0  C6   0TA   SS2   .    08  MSL0      .       .
OSA    MW1  C2   1TA  SS3   .    01   .         .       .       .
1SA    MW0  C7   C6   C5    C4   C3   PS        1TA     SS3
  .  01  .       .         .         .       .       .         .       .
OSA    MW1  C5   C2   1TA   SS3   .    02  .         .       .
1SA    MW0  C7   C6   C4    C3   PS   1TA       SS3     .   02
```

259   Logic for terms is on boards 434, 437, 438.   Check memory plugs P3, P4, P7, P8.

```
OSA    MW1  C6   C2   1TA   SS3   .    03  .         .
1SA    MW0  C7   C5   C4    C3   PS   1TA       SS3     .   03
OSA    MW1  C6   C5   C2    1TA  SS3   .    04  .       .
1SA    MW0  C7   C4   C3    PS   1TA  SS3       .   04  .
OSA    MW1  C7   C2   1TA   SS3   .    05  .       1TA
1SA    MW0  CFSW C6   C5    C4   C3   PS        1TA     SS3
  .  05  .       .         .         .       .       .         .       .
OSA    MW1  C7   C5   C2    1TA  SS3   .    06  .       .
1SA    MW0  CFSW C6   C4    C3   PS   1TA       SS3     .   06
OSA    MW1  CFSW C7   C2    1TA  SS3   .    07  .       .
1SA    MW0  C6   C5   C4    C3   PS   1TA       SS3     .   07
OSA    MW1  CFSW C7   C5    C2   1TA  SS3       .   08  .
1SA    MW0  C6   C4   C3    PS   1TA  SS3       .   08  .
1SA    MW0  C5   C4   C3    PS   0TA  SS3       .   01  MSU0
  .  02  MSU1      .   03  MSU2      .   04  MSU3      .   05  MSU4      .   06  MSU5
  .  07  MSS4      .   08  MSS5      .       .       .         .         .
```

260   Logic for terms is on boards 434, 437, 438, 439.   Check memory plugs P3, P4, P7, P8.

```
1SA    MW1  MW0  C6   0TA   SS3   .    08  MSL1      C430    .
1SA    MW1  MW0  C6   C4    C3   C2   PS        0TA     SS3
  .  08  MSL1 C2   .         .         .       .       .         .       .
OSA    MW0  C2   1TA  SS4   .    01   .         .       .       .
1SA    MW1  C7   C6   C5    C4   C3   PS        1TA     SS4
  .  01  .       .         .         .       .       .         .       .
OSA    MW0  C5   C2   1TA   SS4   .    02  .         .       .
1SA    MW1  C7   C6   C4    C3   PS   1TA       SS4     .   02
OSA    MW0  C6   C2   1TA   SS4   .    03  .         .       .
1SA    MW1  C7   C5   C4    C3   PS   1TA       SS4     .   03
OSA    MW0  C6   C5   C2    1TA  SS4   .    04  .       .
1SA    MW1  C7   C4   C3    PS   1TA  SS4       .   04  .
OSA    MW0  C7   C2   1TA   SS4   .    05  .       .
1SA    MW1  CFSW C6   C5    C4   C3   PS        1TA     SS4
  .  05  .       .         .         .       .       .         .       .
```

Tape stops	Marker number												

261

Logic for terms for indexes 001-100 is on boards 434, 438, 439.
Logic for terms for indexes 101-150 is on boards 433, 436, 437.
Check memory plugs P3, P4, P7, P8.

OSA		MW0	C7	C5	C2	1TA	SS4	.	06	.		.	
1SA		MW1	CFSW	C6	C4	C3	PS	1TA	SS4	.	06		
OSA		MW0	CFSW	C7	C2	1TA	SS4	.	07	.		.	
1SA		MW1	C6	C5	C4	C3	PS	1TA	SS4	.	07		
OSA		MW0	CFSW	C7	C5	C2	1TA	SS4	.	08	.		
1SA		MW1	C6	C4	C3	PS	1TA	SS4	.	08	.		
1SA		MW1	C5	C4	C3	PS	OTA	SS4	.	01	MSU0		
.	02	MSU1	.	03	MSU2	.	04	MSU3	.	05	MSU4	.	06	MSU5
.	07	MSS4	.	08	MSS5	.		.		.		.	
1SA		MW1	MW0	C6	C2	OTA	SS4	.	08	MSL1		.	
OSA		MW1	C3	1TA	SS5	.	01	.		.		.	
1SA		MW0	C7	C6	C5	C4	C2	PS	1TA	SS5		.	
.	01	.		.		.		.		.		.	
OSA		MW1	C5	C3	1TA	SS4	.	02	.		.		.
1SA		MW0	C7	C6	C4	C2	PS	1TA	SS5	.	02		

262

Logic for terms is on boards 433, 436, 437.   Check memory plugs P3, P4, P7, P8.

OSA		MW1	C6	C3	1TA	SS5	.	03	.		.		.
1SA		MW0	C7	C5	C4	C2	PS	1TA	SS5	.	03		
OSA		MW1	C6	C5	C3	1TA	SS5	.	04	.		.	
1SA		MW0	C7	C4	C2	PS	1TA	SS5	.	04	.		
OSA		MW1	C7	C3	1TA	SS5	.	05	.		.		
1SA		MW0	CFSW	C6	C5	C4	C2	PS	1TA	SS5			
.	05	.		.		.		.		.		.	
OSA		MW1	C7	C5	C3	1TA	SS5	.	06	.		.	
1SA		MW0	CFSW	C6	C4	C2	PS	1TA	SS5	.	06		
OSA		MW1	CFSW	C7	C3	1TA	SS5	.	07	.		.	
1SA		MW0	C6	C5	C4	C2	PS	1TA	SS5	.	07		
OSA		MW1	CFSW	C7	C5	C3	1TA	SS5	.	08	.		
1SA		MW0	C6	C4	C2	PS	1TA	SS5	.	08	.		
1SA		MW0	C5	C4	C2	PS	OTA	SS5	.	01	MSU0		
.	02	MSU1	.	03	MSU2	.	04	MSU3	.	05	MSU4	.	06	MSU5
.	07	MSS4	.	08	MSS5	.		.		.		.	
1SA		MW1	MW0	C6	C3	C2	OTA	SS5	.	08	MSL2		
C431		.		.		.		.		.		.	

263

Logic for terms is on boards 433, 436, 437, 439.   Check memory plugs P3, P4, P7, P8.

1SA		MW1	MW0	C6	C4	PS	OTA	SS5	.	08	MSL2		
C2-		.		.		.		.		.		.	
OSA		MW0	C3	1TA	SS6	.	01	.		.		.	
1SA		MW1	C7	C6	C5	C4	C2	PS	1TA	SS6			
.	01	.		.		.		.		.		.	

Tape stops	Marker number										

	266	Logic for terms is on boards 433, 435, 437, 439. Check memory plugs P3, P4, P7, P8.									
		1SA	MW1	MW0	C6	C3	OTA	SS7	.	08	MSL3	C431
		1SA	MW1	MW0	C6	C4	C2	PS	OTA	SS7	.	08
		MSL3	C2	.	.	.	.	.	01	.	.	.
		OSA	MW0	C3	C2	1TA	SS8	.	01	.	.	.
		1SA	MW1	C7	C6	C5	C4	PS	1TA	SS8	.	01
		OSA	MW0	C5	C3	C2	1TA	SS8	.	02	.	.
		1SA	MW1	C7	C6	C4	PS	1TA	SS8	.	02	.
		OSA	MW0	C6	C3	C2	1TA	SS8	.	03	.	.
		1SA	MW1	C7	C5	C4	PS	1TA	SS8	.	03	.
		OSA	MW0	C6	C5	C3	C2	1TA	SS8	.	04	.
		1SA	MW1	C7	C4	PS	1TA	SS8	.	04	.	.
		OSA	MW0	C7	C3	C2	1TA	SS8	.	05	.	.
		1SA	MW1	CFSW	C6	C5	C4	PS	1TA	SS8	.	05
		OSA	MW0	C7	C5	C3	C2	1TA	SS8	.	06	.

	267	Logic for terms is on boards 433, 435, 437, 439, 434. Check memory plugs P3, P4, P7, P8.									
		1SA	MW1	CFSW	C6	C4	PS	1TA	SS8	.	06	.
		OSA	MW0	CFSW	C7	C3	C2	1TA	SS8	.	07	.
		1SA	MW1	C6	C5	C4	PS	1TA	SS8	.	07	.
		OSA	MW0	CFSW	C7	C5	C3	C2	1TA	SS8	.	08
		1SA	MW1	C6	C4	PS	1TA	SS8	.	08	.	.
		1SA	MW1	C5	C4	PS	OTA	SS8	.	01	MSU0	.	02
		MSU1	.	03	MSU2	.	04	MSU3	.	05	MSU4	.	06	MSU5	.	07
		MSS4	.	08	MSS5	.	.	.	.	.	.
		1SA	MW1	MW0	C6	C3	C2	OTA	SS8	.	08	MSL3
		OSA	MW1	C4	1TA	SS9	.	01	.	.	.	.
		1SA	MW0	C7	C6	C5	C3	C2	PS	1TA	SS9
		.	01	.	.	.	1TA	SS9	.	.	.	.
		OSA	MW1	C5	C4	1TA	SS9	.	02	.	.	.
		1SA	MW0	C7	C6	C3	C2	PS	1TA	SS9	.	02

	268	Logic for terms is on boards 433, 434, 437. Check memory plugs P3, P4, P7, P8.									
		OSA	MW1	C6	C4	1TA	SS9	.	03	.	.	.
		1SA	MW0	C7	C5	C3	C2	PS	1TA	SS9	.	03
		OSA	MW1	C6	C5	C4	1TA	SS9	.	04	.	.
		1SA	MW0	C7	C3	C2	PS	1TA	SS9	.	04	.
		OSA	MW1	C7	C4	1TA	SS9	.	05	.	.	.
		1SA	MW0	CFSW	C6	C5	C3	C2	PS	1TA	SS9
		.	05	.	.	.	1TA	SS9	.	06	.	.
		OSA	MW1	C7	C5	C4	1TA	SS9	.	06	.	.
		1SA	MW0	CFSW	C6	C3	C2	PS	1TA	SS9	.	06
		OSA	MW1	CFSW	C7	C4	1TA	SS9	.	07	.	.
		1SA	MW0	C6	C5	C3	C2	PS	1TA	SS9	.	07
		OSA	MW1	CFSW	C7	C5	C4	1TA	SS9	.	08	.
		1SA	MW0	C6	C3	C2	PS	1TA	SS9	.	08	.

```
274   Logic for terms is on boards 433, 434, 437.  Check memory plugs P3, P4, P7, P8.
      OSA    MW1    C6     C5     C4     C3     1TA    SS13   .     04    .
      1SA    MW0    C7     C2     PS     1TA    SS13   .      04    .     .
      OSA    MW1    C7     C4     C3     1TA    SS13   .      05    .           .
      1SA    MW0    CFSW   C6     C5     C2     PS     1TA    SS13  .     05
      OSA    MW1    C7     C5     C4     C3     1TA    SS13   .     06    .
      1SA    MW0    CFSW   C6     C2     PS     1TA    SS13   .     06    .
      OSA    MW1    CFSW   C7     C4     C3     1TA    SS13   .     07    .
      1SA    MW0    C6     C5     C2     PS     1TA    SS13   .     07    .
      OSA    MW1    CFSW   C7     C5     C4     C3     1TA    SS13        08
      1SA    MW0    C6     C2     PS     1TA    SS13   .      08    .     .
      1SA    MW0    C5     C2     PS     0TA    SS13   .      01    MSU0  .     02
      MSU1   .   03  MSU2   .   04  MSU3   .   05  MSU4   .   06  MSU5   .   07
      MSS4   .   08  MSS5   .      .      .      .      .      .      .
      1SA    MW1    MW0    C6     C4     C3     C2     0TA    SS13   .     08
      MSL6   C433   .      .      .      .      .      .      .      .      .

275   Logic for terms is on boards 433, 434, 437, 439.  Check memory plugs P3, P4, P7, P8.
      1SA    MW1    MW0    C6     PS     0TA    SS13   .      08    MSL6  C2-
      OSA    MW0    C4     C3     1TA    SS14   .      01    .      .
      1SA    MW1    C7     C6     C5     C2     PS     1TA    SS14   .     01
      OSA    MW0    C5     C4     C3     1TA    SS14   .      02    .      .
      1SA    MW1    C7     C6     C2     PS     1TA    SS14   .      02    .
      OSA    MW0    C6     C4     C3     1TA    SS14   .      03    .      .
      1SA    MW1    C7     C5     C2     PS     1TA    SS14   .      03    .
      OSA    MW0    C6     C5     C4     C3     1TA    SS14   .      04    .
      1SA    MW1    C7     C2     PS     1TA    SS14   .      04    .      .
      OSA    MW0    C7     C4     C3     1TA    SS14   .      05    .      .
      1SA    MW1    CFSW   C6     C5     C2     PS     1TA    SS14   .     05
      OSA    MW0    C7     C5     C4     C3     1TA    SS14   .      06    .
      1SA    MW1    CFSW   C6     C2     PS     1TA    SS14   .      06    .

276   Logic for terms is on boards 433, 434, 437, 439.  Check memory plugs P3, P4, P7, P8.
      OSA    MW0    CFSW   C7     C4     C3     1TA    SS14   .      07    .
      1SA    MW1    C6     C5     C2     PS     1TA    SS14   .      07    .
      OSA    MW0    CFSW   C7     C5     C4     C3     1TA    SS14   .     08
      1SA    MW1    C6     C2     PS     1TA    SS14   .      08    .      .
      1SA    MW1    C5     C2     PS     0TA    SS14   .      01    MSU1  .     02
      MSU1   .   03  MSU2   .   04  MSU3   .   05  MSU4   .   06  MSU5   .   07
      MSS4   .   08  MSS5   .      .      .      .      .      .
      1SA    MW1    MW0    C6     C4     C3     0TA    SS14   .      08    MSL6
      OSA    MW1    C4     C3     C2     1TA    SS15   .      01    .
      1SA    MW0    C7     C6     C5     PS     1TA    SS15   .      01    .
      OSA    MW1    C5     C4     C3     C2     1TA    SS15   .      02    .
      1SA    MW0    C7     C6     PS     1TA    SS15   .      02    .      .
      OSA    MW1    C6     C4     C3     C2     1TA    SS15   .      03    .
      1SA    MW0    C7     C5     PS     1TA    SS15   .      03    .      .
```

Tape stops	Marker number											

	277	Logic for terms is on boards 433, 434, 437. Check memory plugs P3, P4, P7, P8.										
		OSA	MW1	C6	C5	C4	C3	C2	1TA	SS15	.	04
		1SA	MW0	C7	PS	1TA	SS15	.	04	.	.	.
		OSA	MW1	C7	C4	C3	C2	1TA	SS15	.	05	.
		1SA	MW0	CFSW	C6	C5	PS	1TA	SS15	.	05	.
		OSA	MW1	C7	C5	C4	C3	C2	1TA	SS15	.	06
		1SA	MW0	CFSW	C6	PS	1TA	SS15	.	06	.	.
		OSA	MW1	CFSW	C7	C4	C3	C2	1TA	SS15	.	07
		1SA	MW0	C6	C5	PS	1TA	SS15	.	07	.	.
		OSA	MW1	CFSW	C7	C5	C4	C3	C2	1TA	SS15	
		. 08	.	.	.	.	.	.	. 08	.	.	.
		1SA	MW0	C6	PS	1TA	SS15	.	08	.	.	
		1SA	MW0	C5	PS	0TA	SS15	.	01 MSU0	.	02 MSU1	
		. 03 MSU2	.	04 MSU3	.	05 MSU4	.	06 MSU5	.	07 MSS4		
		. 08 MSS5	.	.	.	.						
		1SA	MW1	C6	C4	C3	0TA	SS15	.	08 MSL7	.	
		C433	.	.	.	.	.	.	.	.	.	

	278	Logic for terms is on boards 433, 434, 437, 439. Check memory plugs P3, P4, P7, P8.										
		1SA	MW1	MW0	C6	C2	PS	0TA	SS15	.	08 MSL7	
		C2	.	.	.	.	.	.	.	.	.	
		OSA	MW0	C4	C3	C2	1TA	SS16	.	01	.	.
		1SA	MW1	C7	C6	C5	PS	1TA	SS16	.	01	.
		OSA	MW0	C5	C4	C3	C2	1TA	SS16	.	02	.
		1SA	MW1	C7	C6	PS	1TA	SS16	.	02	.	.
		OSA	MW0	C6	C4	C3	C2	1TA	SS16	.	03	.
		1SA	MW1	C7	C5	PS	1TA	SS16	.	03	.	.
		OSA	MW0	C6	C5	C4	C3	C2	1TA	SS16	.	04
		1SA	MW1	C7	PS	1TA	SS16	.	04	.	.	.
		OSA	MW0	C7	C4	C3	C2	1TA	SS16	.	05	.
		1SA	MW1	CFSW	C6	C5	PS	1TA	SS16	.	05	.
		OSA	MW0	C7	C5	C4	C3	C2	1TA	SS16	.	06
		1SA	MW1	CFSW	C6	PS	1TA	SS16	.	06	.	.

	279	Logic for terms is on boards 433, 434, 439. Check memory plugs P3, P4, P7, P8.										
		OSA	MW0	CFSW	C7	C4	C3	C2	1TA	SS16	.	07
		1SA	MW1	C6	C5	PS	1TA	SS16	.	07	.	.
		OSA	MW0	CFSW	C7	C5	C4	C3	C2	1TA	SS16	
		. 08	.	.	.	.	.	.	.	.	.	
		1SA	MW1	C6	PS	1TA	SS16	.	08	.	.	
		1SA	MW1	C5	PS	0TA	SS16	.	01 MSU0	.	02 MSU1	
		. 03 MSU2	.	04 MSU3	.	05 MSU4	.	06 MSU5	.	07 MSS4		
		. 08 MSS5	.	.	.	.						
		1SA	MW1	MW0	C6	C4	C3	C2	0TA	SS16	.	08
		MSL7	.	.	.	.	.	.	.	.		

```
280     Logic for term is on board 437.
        OSA       MW1      1TF      MW1              .    01   .           .           .           .           .
        1SA       MW0      C6       C4       C3      C2        PS          1SF         MW1         1TF
        MW1            .   01       .            .           .           .           .
        OSA       MW1      C2       1TF      MW1         .    02   .           .           .           .
        1SA       MW0      C6       C4       C3      PS        1SF         MW1         1TF         MW1         .
        .    02   .        .        .        .           .           .           .           .           .

281     Logic for terms is on board 437.
        OSA       MW1      C3       1TF      MW1         .    03   .           MW1         1TF         MW1
        1SA       MW0      C6       C4       C2·     PS        1SF         MW1         1TF         MW1
        .    03   .        .        .        .           .           .           .           .
        OSA       MW1      C3       C2       1TF     MW1         .    04   .           .           .
        1SA       MW0      C6       C4       PS      1SF        MW1         1TF         MW1         .    04
        OSA       MW1      C4       1TF      MW1         .    05   .           .           .           .
        1SA       MW0      C6       C3       C2      PS        1SF         MW1         1TF         MW1
        .    05   .        .        .        .           .           .           .           .
        OSA       MW1      C4       C2       1TF     MW1         .    06   .           .           .
        1SA       MW0      C6       C3       PS      1SF        MW1         1TF         MW1         .    06
        OSA       MW1      C4       C3       1TF     MW1         .    07   .           .           .
        1SA       MW0      C6       C2       PS      1SF        MW1         1TF         MW1         .    07
        OSA       MW1      C4       C3       C2      1TF        MW1         .    08   .           .
        1SA       MW0      C6       PS       1SF     MW1        1TF         MW1         .    08   .

282     Logic for terms is on board 439.
        OSA       MW0      1TF      MW0              .    01   .           .           .           .           .
        1SA       MW1      C6       C4       C3      C2        PS          1SF         MW0         1TF
        MW0            .   01       .            .           .           .           .
        OSA       MW0      C2       1TF      MW0         .    02   .           .           .           .
        1SA       MW1      C6       C4       C3      PS        1SF         MW0         1TF         MW0
        .    02   .        .        .        .           .           .           .           .
        OSA       MW0      C3       1TF      MW0         .    03   .           .           .           .
        1SA       MW1      C6       C4       C2      PS        1SF         MW0         1TF         MW0
        .    03   .        .        .        .           .           .           .           .

283     Logic for terms is on board 439.
        OSA       MW0      C3       C2       1TF     MW0         .    04   .           .           .
        1SA       MW1      C6       C4       PS      1SF        MW0         1TF         MW0         .    04
        OSA       MW0      C4       1TF      MW0         .    05   .           .           .           .
        1SA       MW1      C6       C3       C2      PS        1SF         MW0         1TF         MW0
        .    05   .        .        .        .           .           .           .           .
        OSA       MW0      C4       C2       1TF     MW0    06  .           .           .           .
        1SA       MW1      C6       C3       PS      1SF        MW0         1TF         MW0         .    06
        OSA       MW0      C4       C3       1TF     MW0         .    07   .           .           .
        1SA       MW1      C6       C2       PS      1SF        MW0         1TF         MW0         .    07
        OSA       MW0      C4       C3       C2      1TF        MW0         .    08   .           .
        1SA       MW1      C6       PS       1SF     MW0        1TF         MW0         .    08   .
```

Tape stops   **Marker number**

284   MW1 or test, one side. Logic for one side MW1 is on boards 334, 437.

```
OSA     C2      C5      C6      E       K       MN      06      0E18    1SA
1E18    1TF     MW1     .   01  .       .       .       .       .       .
1SA     TO      TX      05      03      TP      MW1     C4      C3      PS
C7      0E18    1SA     1E18    1TF     MW1     .   01  .       .       .
OSA     C2      C5      C6      AK      MC      MN      0E18    1SA     1E18
1TF     MW1     .   02  .       .       .       .       .       .
1SA     TO      TX      D       K       ND      TP      MW1  02 C4      C3
PS      C7      0E18    1SA     1E18    1TF     MW1     .   02  .       .
OSA     C2      C5      C6      E       K       06      TP      0E18    1SA
1E18    1TF     MW1     .   03  .       .       .       .       .
1SA     MW0     05      03      PN      MW1     C4      C3      PS      C7
0E18    1SA     1E18    1TF     MW1     .   03  .       .       .       .
OSA     C2      C5      C6      AK      MC      TP      0E18    1SA     1E18
1TF     MW1     .   04  .       .       .       .       .
1SA     MW0     D       K       ND      PN      MW1     C4      C3      PS
C7      0E18    1SA     1E18    1TF     MW1     .   04  .       .       .
```

285   MW1 and test, one side.

```
1SA     TO      TX      MN      05      03      PN      TP      MW1     C4
C3      PS      C7      0E18    1SA     1E18    OTF     MW1     .   01  MNA
.   03  TP      .       .       .       .       .       .
1SA     TO      TX      AK      E       MC      06      TP      MW1     C4
C3      PS      C7      0E18    1SA     1E18    OTF     MW1     .   01  OW
1SA     05      03      MW1     C4      C3      PS      C7      0E18    1SA
1E18    OTF     MW1     .   01  TP0-    .   03  PN-     .       .       .
1SA     TO      TX      D       K       MN      ND      PN      TP      MW1
C4      C3      PS      C7      0E18    1SA     1E18    OTF     MW1     .   02
MNA     .   04  TP      .       .       .       .       .
1SA     TO      TX      AK      E       MC      06      TP      MW1     C4
C3      PS      C7      0E18    1SA     1E18    OTF     MW1     .   02  KW
1SA     D       K       ND      MW1     C4      C3      PS      C7      0E18
1SA     1E18    OTF     MW1     .   02  TP0-    .   04  PN-     .       .
1SA     AK      E       MC      06      PN      MW1     C4      C3      PS
C7      0E18    1SA     1E18    OTF     MW1     .   03  OW      .   04  KW
```

287   MW1 or test, zero side. Logic for zero side MW1 is on boards 333, 334, 437.

```
OSA     C2      C5      C6      MW1     0E18    OSA     1E18    OTF     MW1
.   01  .       .       .       .       .       .       .       .
1SA     TX      MN      TP      0E18    OSA     1E18    OTF     MW1     .   01
OSA     C2      C5      C6      PN      TP      MW1     0E18    OSA     1E18
OTF     MW1     .   02  .       .       .       .       .       .
1SA     TX      0E18    OSA     1E18    OTF     MW1     .   02  .       .
OSA     C2      C5      C6      TX      MN      MW1     0E18    OSA     1E18
OTF     MW1     .   03  .       .       .       .       .       .
1SA     PN      0E18    OSA     1E18    OTF     MW1     .   03  .       .
```

E4	1TA	MNF	36	.	.	OSA	E8	CN7	E3
CN4	E4	1TA	MNF	37	.	.	OSA	E8	CN7
E2	E1	CN4	CN2	E4	1TA	MNF	.	38	.
OSA	E8	CN7	E2	CN4	CN3	E4	1TA	MNF	39
.	.	OSA	E3	E1	CN4	CN3	CN2	E8	CN7
E4	1TA	MNF	.	.	.	.	.	.	40

301   Logic for terms for indexes 001-018 is on boards 309, 401, 406.
Logic for terms for indexes 019-042 is on boards 310, 401, 406.
Logic for terms for indexes 043-100 is on boards 310, 402, 406.

OSA	CN5	CN7	E3	E1	1TA	MNF	.	.	.
41	OSA	CN5	CN7	E2	CN2	1TA	MNF	.	.
.	42	OSA	CN5	CN7	E2	E1	CN3	1TA	MNF
.	.	43	.	OSA	CN5	CN7	E3	CN3	CN2
1TA	MNF	.	44	.	.	OSA	CN5	CN7	E3
CN4	1TA	MNF	.	45	.	.	OSA	CN5	CN7
E2	E1	CN4	CN2	1TA	MNF	.	.	46	.
OSA	CN5	CN7	E2	CN4	CN3	1TA	MNF	.	47
.	.	OSA	E3	E1	CN4	CN3	CN2	CN5	CN7
1TA	MNF	.	.	.	.	.	48	.	.

302   Logic for terms for indexes 001-047 is on boards 311, 401, 407.
Logic for terms for indexes 048-110 is on boards 311, 402, 407.

OSA	E6	CN7	CFS	E3	E1	E4	1TA	MNF	.
49	.	OSA	E6	CN7	CFS	E2	CN2	E4	1TA
MNF	50	.	.	OSA	E6	CN7	CFS	E2	E1
CN3	E4	1TA	MNF	.	.	51	OSA	E6	CN7
CFS	E3	CN3	CN2	E4	1TA	MNF	52	.	.
OSA	E6	CN7	CFS	E3	CN4	E4	1TA	MNF	53
.	.	OSA	E6	CN7	CFS	E2	E1	CN4	CN2
E4	1TA	MNF	.	.	54	OSA	E6	CN7	CFS
E2	CN4	CN3	E4	1TA	MNF	55	.	.	OSA
E6	CN7	CFS	E3	E1	CN4	CN3	CN2	E4	1TA
MNF	.	.	.	.	.	.	56	.	.

303   Logic for terms is on boards 312, 401, 407.

OSA	E8	CN7	CFS	CN5	E3	E1	E4	1TA	MNF
57	.	.	OSA	E8	CN7	CFS	CN5	E2	CN2
E4	1TA	MNF	58	.	.	OSA	E8	CN7	CFS
CN5	E2	E1	CN3	E4	1TA	MNF	59	.	.
OSA	E8	CN7	CFS	CN5	E3	CN3	CN2	E4	1TA
MNF	.	.	.	.	.	.	.	.	.

Tape stops	Marker number

304 — Logic for terms is on boards 313, 314, 402, 407.

```
OSA   E8    CN7   CFS   CN5   E3    CN4   E4    1TA   MNF
61    .     .     OSA   E8    CN7   CFS   CN5   E2    E1
CN4   CN2   E4    1TA   MNF   62    .     .     OSA   E8
CN7   CFS   CN5   E2    CN4   CN3   E4    1TA   MNF   63
.     .     OSA   E8    CN7   CFS   CN5   E3    E1    CN4
CN3   CN2   E4    1TA   MNF   64    .     .     OSA   CN7
CN6   E3    E2    E4    1TA   MNF   65    .     .     .
```

305
Logic for terms for indexes 001-055 is on boards 303, 401, 408.
Logic for terms for indexes 056-085 is on boards 303, 402, 408.
Logic for terms for indexes 086-099 is on boards 304, 402, 408.
Logic for terms for indexes 100-120 is on boards 304, 401, 408.

```
1SA   CN7   CN6   CN5   E2    CN4   CN3   CN2   E6    .     E8
1TA   MNF   01    .     .     1SA   CN7   CN6   CN5   E3
E1    CN4   CN3   E6    E8    1TA   MNF   .     .     02
1SA   CN7   CN6   CN5   E3    CN4   CN2   E6    E8    1TA
MNF   03    .     .     1SA   CN7   CN6   CN5   E2    E1
CN4   E6    E8    1TA   MNF   04    .     .     .     1SA
CN7   CN6   CN5   E2    E1    CN3   CN2   E6    E8    1TA
MNF   .     05    .     .     1SA   CN7   CN6   CN5   E3
CN3   E6    E8    1TA   MNF   06    .     .     1SA   CN7
CN6   CN5   E3    E1    CN2   E6    E8    1TA   MNF   07
.     .     1SA   CN7   CN6   CN5   E2    E6    E8    1TA
MNF   08    .     .     .     .     .     .     .     .
```

306
Logic for terms for indexes 001-051 is on boards 304, 401, 408.
Logic for terms for indexes 052-110 is on boards 305, 402, 408.

```
1SA   CN7   CN6   E2    CN4   CN3   CN2   E7    E8    1TA
MNF   .     .     09    1SA   CN7   CN6   E3    E1    CN4
CN3   E7    E8    1TA   MNF   10    .     .     1SA   CN7
CN6   E3    CN4   CN2   E7    E8    1TA   MNF   .     .
11    1SA   CN7   CN6   E2    E1    CN4   E7    E8    1TA
MNF   12    .     .     1SA   CN7   CN6   E2    E1    CN3
CN2   E7    E8    1TA   MNF   .     13    .     1SA   CN7
CN6   E3    CN3   E7    E8    1TA   MNF   .     14    .
1SA   CN7   CN6   E3    E1    CN2   E7    E8    1TA   MNF
15    .     .     1SA   CN7   CN6   E2    E7    E8    1TA
MNF   .     16    .     .     .     .     .     .     .
```

```
307   Logic for terms for indexes 001-029 is on boards 305, 401, 409.
      Logic for terms for indexes 030-059 is on boards 306, 401, 409.
      Logic for terms for indexes 060-120 is on boards 306, 402, 409.
      1SA     E4      CN7     CN5     E2      CN4     CN3     CN2     E6      E7
      E8      1TA     MNF     17      .       .       1SA     E4      CN7     CN5
      E3      E1      CN4     CN3     E6      E7      E8      1TA     MNF     .
      .       18      1SA     E4      CN7     CN5     E3      CN4     CN2     E6
      E7      E8      1TA     MNF     19      .       .       1SA     E4      CN7
      CN5     E2      E1      CN4     E6      E7      E8      1TA     MNF     20
      .       .       1SA     E4      CN7     CN5     E2      E1      CN3     CN2
      E6      E7      E8      1TA     MNF     .       21      .       1SA     E4
      CN7     CN5     E3      CN3     E6      E7      E8      1TA     MNF     22
      .       .       1SA     E4      CN7     CN5     E3      E1      CN2     E6
      E7      E8      1TA     MNF     23      .       .       1SA     E4      CN7
      CN5     E2      E6      E7      E8      1TA     MNF     24      .       .

308   Logic for terms for indexes 001-047 is on boards 307, 401, 409.
      Logic for terms for indexes 048-071 is on boards 307, 402, 409.
      Logic for terms for indexes 072-100 is on boards 308, 402, 409.
      1SA     CN7     E2      CN4     CN3     CN2     E6      E8      1TA     MNF
      .       25      .       1SA     CN7     E3      E1      CN4     CN3     E6
      E8      1TA     MNF     26      .       .       1SA     CN7     E3      CN4
      CN2     E6      E8      1TA     MNF     27      .       .       1SA     CN7
      E2      E1      CN4     E6      E8      1TA     MNF     28      .       .
      1SA     CN7     E2      E1      CN3     CN2     E6      E8      1TA     MNF
      29      .       .       1SA     CN7     E3      CN3     E6      E8      1TA
      MNF     .       30      .       1SA     CN7     E3      E1      CN2     E6
      E8      1TA     MNF     31      .       .       1SA     CN7     E2      E6
      E8      1TA     MNF     .       .       32      .       .       .       .

309   Logic for terms for indexes 001-055 is on boards 308, 401, 406.
      Logic for terms for indexes 056-110 is on boards 309, 402, 406.
      1SA     CFS     CN6     CN5     E2      CN4     CN3     CN2     E7      E6
      1TA     MNF     33      .       .       1SA     CFS     CN6     CN5     E3
      E1      CN4     CN3     E7      E6      1TA     MNF     .       .       34
      1SA     CFS     CN6     CN5     E3      CN4     CN2     E7      E6      1TA
      MNF     35      .       .       1SA     CFS     CN6     CN5     E2      E1
      CN4     E7      E6      1TA     MNF     36      .       .       1SA     CFS
      CN6     CN5     E2      E1      CN3     CN2     E7      E6      1TA     MNF
      .       37      .       1SA     CFS     CN6     CN5     E3      CN3     E7
      E6      1TA     MNF     38      .       .       1SA     CFS     CN6     CN5
      E3      E1      CN2     E7      E6      1TA     MNF     .       .       39
      1SA     CFS     CN6     CN5     E2      E7      E6      1TA     MNF     40
```

Tape stops	Marker number	

310

Logic for terms for indexes 001-029 is on boards 309, 401, 406.
Logic for terms for indexes 030-059 is on boards 310, 401, 406.
Logic for terms for indexes 060-120 is on boards 310, 402, 406.

```
1SA    E4     CFS    CN6    E2     CN4    CN3    CN2    E6     E7
E8     1TA    MNF    41     .      .      1SA    E4     CFS    CN6
E3     E1     CN4    CN3    E6     E7     E8     1TA    MNF    .
.      42     1SA    E4     CFS    CN6    E3     CN4    CN2    E6
E7     E8     1TA    MNF    43     .      .      1SA    E4     CFS
CN6    E2     E1     CN4    E6     E7     E8     1TA    MNF    44
.      .      1SA    E4     CFS    CN6    E2     E1     CN3    CN2
E6     E7     E8     1TA    MNF    .      45     .      1SA    E4
CFS    CN6    E3     CN3    E6     E7     E8     1TA    MNF    46
.      .      1SA    E4     CFS    CN6    E3     E1     CN2    E6
E7     E8     1TA    MNF    47     .      .      1SA    E4     CFS
CN6    E2     E6     E7     E8     1TA    MNF    48     .      .
```

311

Logic for terms for indexes 001-051 is on boards 311, 401, 407.
Logic for terms for indexes 052-077 is on boards 311, 402, 407.
Logic for terms for indexes 078-110 is on boards 312, 402, 407.

```
1SA    CN6    CN5    E2     CN4    CN3    CN2    E7     E8     1TA
MNF    .      .      49     1SA    CN6    CN5    E3     E1     CN4
CN3    E7     E8     1TA    MNF    50     .      .      1SA    CN6
CN5    E3     CN4    CN2    E7     E8     1TA    MNF    .      51
.      1SA    CN6    CN5    E2     E1     CN4    E7     E8     1TA
MNF    52     .      .      1SA    CN6    CN5    E2     E1     CN3
CN2    E7     E8     1TA    MNF    .      53     .      1SA    CN6
CN5    E3     CN3    E7     E8     1TA    MNF    .      54     .
1SA    CN6    CN5    E3     E1     CN2    E7     E8     1TA    MNF
55     .      .      1SA    CN6    CN5    E2     E7     E8     1TA
MNF    .      56     .      .      .      .      .      .      .
```

312

Logic for terms for indexes 001-047 is on boards 312, 401, 407.
Logic for terms for indexes 048-092 is on boards 313, 402, 407.
Logic for terms for indexes 093-110 is on board 314.

```
1SA    CN6    E2     CN4    CN3    CN2    E7     E6     1TA    MNF
.      57     .      1SA    CN6    E3     E1     CN4    CN3    E7
E6     1TA    MNF    58     .      .      1SA    CN6    E3     CN4
CN2    E7     E6     1TA    MNF    59     .      .      1SA    CN6
E2     E1     CN4    E7     E6     1TA    MNF    60     .      .
1SA    CN6    E2     E1     CN3    CN2    E7     E6     1TA    MNF
61     .      .      1SA    CN6    E3     CN3    E7     E6     1TA
MNF    62     .      .      1SA    CN6    E3     E1     CN2    E7
E6     1TA    MNF    63     .      .      1SA    CN6    E2     E7
E6     1TA    MNF    64     .      .      1SA    E1     E7     E6
1TA    MNF    65     .      .      .      .      .      .      .
```

Tape stops	Marker number									

319

Logic for terms for indexes 001-021 is on boards 408, 409.
Logic for terms for indexes 022-033 is on boards 407, 408.
Logic for terms for indexes 034-048 is on boards 406, 407, 408.
Logic for terms for indexes 049-059 is on boards 407, 408.
Logic for terms for indexes 060-068 is on board 408.
Logic for terms for indexes 069-107 is on board 409.
Logic for terms for indexes 108-119 is on boards 406, 407.
Logic for terms for indexes 120-144 is on board 406.
Logic for terms for indexes 145-160 is on boards 406, 407.

1SA	E2	.	E6	E8	CN7	CN6	OTA	MNF	CNU0	
CN5-	CNU1	E6	CNU3	CN6	OSF	CN5	1SF	CN6	OTA	
MNF	CNU0	CN6-	CNU2	E4-	CNU3	CN5	OSF	CN6	1SF	
CN7	OTA	MNF	CNU0	CN7-	CNS4	E6	.	.	.	
1SA	E2	.	E7	E8	CN6	OTA	MNF	CNU1	CN7-	
CNS5	E8	CNS4	CN5	OSF	CN7	CN5	OTA	MNF	CNU1	
CN5	CNS4	CN7	1SF	CN5	CN6	OTA	MNF	CNU1	CN6-	
1SA	E2	.	E4	E6	E7	E8	CN7	OTA	MNF	
CNU2	CN5-	CNU3	E7	OSF	CN5	CN6	OTA	MNF	CNU2	
CN6	.	1SF	CN6	CN7	OTA	MNF	CNU2	CN7-	.	
1SA	E2	.	E6	E8	OTA	MNF	CNU3	CN7-	.	
1SA	E2	.	E6	E7	.	CN6	CN5	OTA	MNF	CNU4
CFS-	CNS5	CN5	OSF	CFS	CN7	OTA	MNF	CNU4	CN7	
.	1SF	CN7	CN6	OTA	MNF	CNU4	CN6-	.	OSF	
CN6	E8	OTA	MNF	CNU4	E8	.	1SF	E8	CN5	
OTA	MNF	CNU4	CN5-	CNU5	E4-	CNS5	CFS	.	.	

320

Logic for terms for indexes 001-034 is on board 406.
Logic for terms for indexes 035-085 is on board 407.
Logic for terms for indexes 086-120 is on board 314.

1SA	E2	.	E4	E6	E7	E8	CN6	OTA	MNF
CNU5	CFS	.	OSF	CFS	CN7	OTA	MNF	CNU5	CN7
.	1SF	CN7	CN6	OTA	MNF	CNU5	CN6-	.	OSF
CN6	CN5	OTA	MNF	CNU5	CN5	.	.	.	.
1SA	E2	CN5	E7	E8	OTA	MNF	CNS4	CN6-	.
OSF	CN6	CN7	OTA	MNF	CNS4	CN7	.	1SF	CN7
OSF	CFS	OTA	MNF	CNS4	CFS	.	.	.	.
1SA	E2	.	E7	E6	OTA	MNF	CNS5	CN6-	.
OSF	CN6	CN7	OTA	MNF	CNS5	CN7	.	.	.
OSA	E4	CN7	CN6	OTA	MNF	CNX	EM6	.	1SF
E3	E2	OSF	CN6	OTA	MNF	CNX	CN6	.	1SF
CN6	OSF	CN7	OTA	MNF	CNX	CN7	.	.	.

321   Read switch or test.   CP program channel.
Logic for terms for indexes 001-043 is on boards 303, 403, 405.
Logic for terms for indexes 044-070 is on boards 303, 404, 405.
Logic for terms for indexes 071-100 is on boards 304, 404, 405.
Logic for terms for indexes 101-120 is on boards 303, 305, 314.

OSA	E7	E3	E1	E4	K	1TA	MPF	01	.
.	OSA	E7	E2	CP2	E4	K	1TA	MPF	02
.	.	OSA	E7	E2	E1	CP3	E4	K	1TA
MPF	03	.	.	OSA	E7	E3	CP3	CP2	E4
K	1TA	MPF	04	.	.	OSA	E7	E3	CP4
E4	K	1TA	MPF	.	05	.	OSA	E7	E2
E1	CP4	CP2	E4	K	1TA	MPF	06	.	.
USA	E7	E2	CP4	CP3	E4	K	1TA	MPF	07
.	.	OSA	E7	E3	E1	CP4	CP3	CP2	E4
K	1TA	MPF	08	.	.	.	.	.	.
1SA	CP7	CP6	E2	E7	E8	1TA	MPF	.	KB OR
OSA	E7	E3	E1	E4	OTA	MPF	.	KB AND	.

322   Logic for terms for indexes 001-047 is on boards 304, 403, 405.
Logic for terms for indexes 048-110 is on boards 305, 404, 405.

OSA	E6	CP5	E3	E1	E4	K	1TA	MPF	09
.	.	OSA	E6	CP5	E2	CP2	E4	K	1TA
MPF	10	.	.	OSA	E6	CP5	E2	E1	CP3
E4	K	1TA	MPF	.	11	.	OSA	E6	CP5
E3	CP3	CP2	E4	K	1TA	MPF	12	.	.
OSA	E6	CP5	E3	CP4	E4	K	1TA	MPF	13
.	.	OSA	E6	CP5	E2	E1	CP4	CP2	E4
K	1TA	MPF	.	.	14	OSA	E6	CP5	E2
CP4	CP3	E4	K	1TA	MPF	.	15	.	OSA
E3	E1	CP4	CP3	CP2	E6	CP5	E4	K	1TA
MPF	.	16	.	.	.	.	.	.	.

Tape stops   Marker number

323

Logic for terms for indexes 001-017 is on boards 305, 403, 405.
Logic for terms for indexes 018-042 is on boards 306, 403, 405.
Logic for terms for indexes 043-090 is on boards 306, 404, 405.

OSA	CP6	E3	E1	K	1TA	MPF	17	.	.
OSA	CP6	E2	CP2	K	1TA	MPF	.	18	.
OSA	CP6	E2	E1	CP3	K	1TA	MPF	.	19
.	OSA	CP6	E3	CP3	CP2	K	1TA	MPF	.
20	.	OSA	CP6	E3	CP4	K	1TA	MPF	.
.	21	OSA	E7	E2	E1	CP4	CP2	K	1TA
MPF	.	22	.	OSA	CP6	E2	CP4	CP3	K
1TA	MPF	.	23	.	OSA	CP6	E3	E1	CP4
CP3	CP2	K	1TA	MPF	24	.	.	.	.

324

Logic for terms for indexes 001-051 is on boards 307, 403, 405.
Logic for terms for indexes 052-082 is on boards 307, 404, 405.
Logic for terms for indexes 083-120 is on boards 308, 404, 405.

OSA	E7	CP6	CP5	E3	E1	E4	K	1TA	MPF
.	25	.	OSA	E7	CP6	CP5	E2	CP2	E4
K	1TA	MPF	26	.	.	OSA	E7	CP6	CP5
E2	E1	CP3	E4	K	1TA	MPF	.	.	27
OSA	E7	CP6	CP5	E3	CP3	CP2	E4	K	1TA
MPF	28	.	.	OSA	E7	CP6	CP5	E3	CP4
E4	K	1TA	MPF	29	.	.	OSA	E7	CP6
CP5	E2	E1	CP4	CP2	E4	K	1TA	MPF	.
.	30	OSA	E7	CP6	CP5	E2	CP4	CP3	E4
K	1TA	MPF	31	.	.	OSA	E7	CP6	CP5
E3	E1	CP4	CP3	CP2	E4	K	1TA	MPF	.
.	.	.	.	.	.	.	32	.	.

325

Logic for terms for indexes 001-047 is on boards 308, 316, 403.
Logic for terms for indexes 048-110 is on boards 309, 316, 404.

OSA	E8	CP7	E3	E1	E4	K	1TA	MPF	.
.	33	OSA	E8	CP7	E2	CP2	E4	K	1TA
MPF	.	.	34	OSA	E8	CP7	E2	E1	CP3
E4	K	1TA	MPF	.	35	.	OSA	E8	CP7
E3	CP3	CP2	E4	K	1TA	MPF	36	.	37
OSA	E8	CP7	E3	CP4	E4	K	1TA	MPF	E4
.	.	OSA	E8	CP7	E2	E1	CP4	CP2	E2
K	1TA	MPF	.	38	.	OSA	E8	CP7	OSA
CP4	CP3	E4	K	1TA	MPF	39	.	.	1TA
E3	E1	CP4	CP3	CP2	E8	CP7	E4	.	40
MPF	.	.	.	.	.	.	.	.	

```
326    Logic for terms for indexes 001-020 is on boards 309, 316, 403.
       Logic for terms for indexes 021-050 is on boards 310, 316, 403.
       Logic for terms for indexes 051-110 is on boards 310, 316, 404.
       OSA    CP5    CP7    E3     E1     K      1TA    MPF    .      .
       .      41     OSA    CP5    CP7    E2     CP2    K      1TA    MPF
       .      .      .      42     OSA    CP5    CP7    E2     E1     CP3
       K      1TA    MPF    .      .      43     .      OSA    CP5    CP7
       E3     CP3    CP2    K      1TA    MPF    .      44     .      .
       OSA    CP5    CP7    E3     CP4    K      1TA    MPF    .      45
       .      .      OSA    CP5    CP7    E2     E1     CP4    CP2    K
       1TA    MPF    .      .      46     .      OSA    CP5    CP7    E2
       CP4    CP3    K      1TA    MPF    .      47     .      .      OSA
       E3     E1     CP4    CP3    CP2    CP5    CP7    K      1TA    MPF
       .      .      .      .      .      48     .      .      .      .

327    Logic for terms for indexes 001-051 is on boards 311, 314, 403.
       Logic for terms for indexes 052-120 is on boards 311, 314, 404.
       OSA    E6     CP7    CPFS   E3     E1     E4     K      1TA    MPF
       .      49     .      OSA    E6     CP7    CPFS   E2     CP2    E4
       K      1TA    MPF    50     .      .      OSA    E6     CP7    CPFS
       E2     E1     CP3    E4     K      1TA    MPF    .      .      51
       OSA    E6     CP7    CPFS   E3     CP3    CP2    E4     K      1TA
       MPF    52     .      .      OSA    E6     CP7    CPFS   E3     CP4
       E4     K      1TA    MPF    53     .      .      OSA    E6     CP7
       CPFS   E2     E1     CP4    CP2    E4     K      1TA    MPF    .
       .      54     OSA    E6     CP7    CPFS   E2     CP4    CP3    E4
       K      1TA    MPF    55     .      .      OSA    E6     CP7    CPFS
       E3     E1     CP4    CP3    CP2    E4     K      1TA    MPF    .
       .      .      .      .      .      56     .      .      .      .

328    Logic for terms is on boards 312, 314, 403.
       OSA    E8     CP7    CPFS   CP5    E3     E1     E4     K      1TA
       MPF    57     .      .      OSA    E8     CP7    CPFS   CP5    E2
       CP2    E4     K      1TA    MPF    58     .      .      OSA    E8
       CP7    CPFS   CP5    E2     E1     CP3    E4     K      1TA    MPF
       59     .      .      OSA    E8     CP7    CPFS   CP5    E3     CP3
       CP2    E4     K      1TA    MPF    .      .      60     .      .

329    Logic for terms is on boards 313, 314, 404.
       OSA    E8     CP7    CPFS   CP5    E3     CP4    E4     K      1TA
       MPF    61     .      .      OSA    E8     CP7    CPFS   CP5    E2
       E1     CP4    CP2    E4     K      1TA    MPF    62     .      .
       OSA    E8     CP7    CPFS   CP5    E2     CP4    CP3    E4     K
       1TA    MPF    63     .      .      OSA    E8     CP7    CPFS   CP5
       E3     E1     CP4    CP3    CP2    E4     K      1TA    MPF    64
       .      .      OSA    CP7    CP6    E3     E2     E4     K      1TA
       MPF    65     .      .      .      .      .      .      .      .
```

Tape stops	Marker number										

330

Logic for terms for indexes 001-055 is on boards 303, 403, 405.
Logic for terms for indexes 056-085 is on boards 303, 404, 405.
Logic for terms for indexes 086-099 is on boards 304, 404, 405.
Logic for terms for indexes 100-120 is on boards 304, 403, 405.

1SA	CP7	CP6	CP5	E2	CP4	CP3	CP2	E6	E8
1TA	MPF	01	.	.	1SA	CP7	CP6	CP5	E3
E1	CP4	CP3	E6	E8	1TA	MPF	.	.	02
1SA	CP7	CP6	CP5	E3	CP4	CP2	E6	E8	1TA
MPF	03	.	.	1SA	CP7	CP6	CP5	E2	E1
CP4	E6	E8	1TA	MPF	04	.	.	.	1SA
CP7	CP6	CP5	E2	E1	CP3	CP2	E6	E8	1TA
MPF	.	05	.	.	1SA	CP7	CP6	CP5	E3
CP3	E6	E8	1TA	MPF	06	.	.	1SA	CP7
CP6	CP5	E3	E1	CP2	E6	E8	1TA	MPF	07
.	.	1SA	CP7	CP6	CP5	E2	E6	E8	1TA
MPF	08	.	.	.	.	.	.	.	.

331

Logic for terms for indexes 001-051 is on boards 304, 403, 405.
Logic for terms for indexes 052-110 is on boards 305, 404, 405.

1SA	CP7	CP6	E2	CP4	CP3	CP2	E7	E8	1TA
MPF	.	.	09	1SA	CP7	CP6	E3	E1	CP4
CP3	E7	E8	1TA	MPF	10	.	.	1SA	CP7
CP6	E3	CP4	CP2	E7	E8	1TA	MPF	.	.
11	1SA	CP7	CP6	E2	E1	CP4	E7	E8	1TA
MPF	12	.	.	1SA	CP7	CP6	E2	E1	CP3
CP2	E7	E8	1TA	MPF	.	13	.	1SA	CP7
CP6	E3	CP3	E7	E8	1TA	MPF	.	14	.
1SA	CP7	CP6	E3	E1	CP2	E7	E8	1TA	MPF
15	.	.	1SA	CP7	CP6	E2	E7	E8	1TA
MPF	.	16	.	.	.	.	.	.	.

332

Logic for terms for indexes 001-029 is on boards 305, 403, 405.
Logic for terms for indexes 030-059 is on boards 306, 403, 405.
Logic for terms for indexes 060-120 is on boards 306, 404, 405.

1SA	E4	CP7	CP5	E2	CP4	CP3	CP2	E6	E7
E8	1TA	MPF	17	.	. --	1SA	E4	CP7	CP5
E3	E1	CP4	CP3	E6	E7	E8	1TA	MPF	.
.	18	1SA	E4	CP7	CP5	E3	CP4	CP2	E6
E7	E8	1TA	MPF	19	.	.	1SA	MPF	20
.	.	1SA	E4	CP7	CP5	E2	E1	CP3	CP2
E6	E7	E8	1TA	MPF	.	21	.	1SA	E4
CP7	CP5	E3	CP3	E6	E7	E8	1TA	MPF	22
.	.	1SA	E4	CP7	CP5	E3	E1	CP2	E6
E7	E8	1TA	MPF	23	.	.	1SA	E4	CP7
CP5	E2	E6	E7	E8	1TA	MPF	24	.	.

CPL5	CP3-	.	OSF	CP3	CP2	OTA	MPF	CPL5	CP2
1SF	CP2	OSF	CP4	OTA	.	MPF	CPL5	CP4	.
1SA	CP7	CP6	CP5	E6	E8	.	E3	E1	OTA
MPF	CPL6	CP2-	.	OSF	CP2	CP3	OTA	MPF	CPL6
CP3	.	1SF	CP3	OSF	CP4	OTA	MPF	CPL6	CP4
1SA	CP7	CP6	CP5	E6	E8	.	E2	CP2	OTA
MPF	CPL7	CP2	.	1SF	CP2	OSF	CP3	OTA	MPF
CPL7	CP3	.	1SF	CP3	OSF	CP4	OTA	MPF	CPL7
CP4	.	.	.	.	.	.	.	.	.

344   Logic for terms for indexes 001-021 is on board 405.
Logic for terms for indexes 022-033 is on boards 314, 405.
Logic for terms for indexes 034-048 is on boards 314, 405, 406.
Logic for terms for indexes 049-059 is on boards 314, 405.
Logic for terms for indexes 060-107 is on board 405.
Logic for terms for indexes 108-119 is on boards 314, 316.
Logic for terms for indexes 120-144 is on board 316.
Logic for terms for indexes 145-160 is on boards 314, 316.

1SA	E2	.	E6	E8	CP7	CP6	OTA	MPF	CPU0
CP5-	CPU1	E6	CPU3	CP6	OSF	CP5	1SF	CP6	OTA
MPF	CPU0	CP6-	CPU2	E4-	CPU3	CP5	OSF	CP6	1SF
CP7	OTA	MPF	CPU0	CP7-	CNS4	E6	.	.	.
1SA	E2	.	E7	E8	CP6	OTA	MPF	CPU1	CP7-
CPS5	E8	CPS4	CP5	OSF	CP7	CP5	OTA	MPF	CPU1
CP5	CPS4	CP7	1SF	CP5	CP6	OTA	MPF	CPU1	CP6-
1SA	E2	.	E4	E6	E7	E8	CP7	OTA	MPF
CPU2	CP5-	CPU3	E7	OSF	CP5	CP6	OTA	MPF	CPU2
CP6	.	1SF	CP6	CP7	OTA	MPF	CPU2	CP7-	.
1SA	E2	.	E6	E8	OTA	MPF	CPU3	CP7-	.
1SA	E2	.	E6	E7	CP6	CP5	OTA	MPF	CPU4
CPFS-	CPS5	CP5	OSF	CPFS	CP7	OTA	MPF	CPU4	CP7
.	1SF	CP7	CP6	OTA	MPF	CPU4	CP6-	.	OSF
CP6	E8	OTA	MPF	CPU4	E8	.	1SF	E8	CP5
OTA	MPF	CPU4	CP5-	CPU5	E4-	CPS5	CPFS	.	.

345   Logic for terms for indexes 001-034 is on board 316.
Logic for terms for indexes 035-120 is on board 314.

1SA	E2	.	E4	E6	E7	E8	CP6	OTA	MPF
CPU5	CPFS	.	OSF	CPFS	CP7--	OTA	MPF	CPU5	CP7
.	1SF	CP7	CP6	OTA	MPF	CPU5	CP6-	.	OSF
CP6	CP5	OTA	MPF	CPU5	CP5	.	.	.	.
1SA	E2	CP5	E7	E8	OTA	MPF	CPS4	CP6-	.
OSF	CP6	CP7	OTA	MPF	CPS4	CP7	.	1SF	CP7
OSF	CPFS	OTA	MPF	CPS4	CPFS	.	.	.	.
1SA	E2	.	E7	E6	OTA	MPF	CPS5	CP6-	.
OSF	CP6	CP7	OTA	MPF	CPS5	CP7	.	.	.
OSA	E4	CP7	CP6	OTA	MPF	CPX	FM6	.	1SF
E3	E2	OSF	CP6	OTA	MPF	CPX	CP6	.	1SF
CP6	OSF	CP7	OTA	MPF	CPX	CP7	.	.	.

Tape stops	Marker number	

MAIN MEMORY DYNAMIC CHANNEL TESTS.

Each of the 64 channels is tested for writing and reading a change from 0 to 1 and 1 to 0. All logic and write amps involved in the main memory dynamic channel test have been tested previously in this tape, hence any errors will be caused by the main memory read amps (301 and 302), the read switch boards, network C (323), memory plugs, and memory itself. If an error occurs, replacement of boards should be accomplished first and FADAC retested. If the error persists, removal, cleaning, and resecuring of the memory plug specified should be next accomplished and FADAC retested. If the error still persists, the memory itself should be replaced. Place the WR SW in the enable position and connect the memory plug (P9).

346   Logic for channel is on boards 301, 302, 303, 323, and plug P1.

CHANNEL 000

OSA	E7	E4	E3	E1	K	.	.	.	.
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 002

OSA	E7	E4	E2	CN2	CP2	C2	K	.	.
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

347   Logic for channel is on board 303, plug P1.

CHANNEL 004

OSA	E7	E4	E2	E1	CN3	CP3	C3	K	.
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 006

OSA	E7	E4	E3	CN3	CP3	C3	CN2	CP2	C2
K	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

348

CHANNEL 010

OSA	E7	E4	E3	CN4	CP4	C4	K		
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 012

OSA	E7	E4	E2	E1	CN4	CP4	C4	CN2	CP2
C2	K	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

349   Logic for channel is on board 304, plug P1.

CHANNEL 014

OSA	E7	E4	E2	CN4	CP4	C4	CN3	CP3	C3
K	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

Tape stops	Marker number									
		CHANNEL 016								
		OSA	E7	E4	E3	E1	CN4	CP4	C4	CN3	CP3
		C3	CN2	CP2	C2	K	.	.	.	E5	MWO
		T	I	M	E	.	D	E	L	A	Y
		OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		OTF	MMN	MMP	.	.	.	.	.	.	.
350		**CHANNEL 020**								
		OSA	E6	E4	CN5	CP5	C5	E3	E1	K	.
			.	.	.	.	.	.	.	E5	MWO
		T	I	M	E	.	D	E	L	A	Y
		OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		OTF	MMN	MMP	.	.	.	.	.	.	.
		CHANNEL 022								
		OSA	E6	E4	CN5	CP5	C5	E2	CN2	CP2	C2
		K	.	.	.	.	.	.	.	E5	MWO
		T	I	M	E	.	D	E	L	A	Y
		OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		OTF	MMN	MMP	.	.	.	.	.	.	.

351   Logic for channel is on board 304, plug P2.

		CHANNEL 024								
		OSA	E6	E4	CN5	CP5	C5	E2	E1	CN3	CP3
		C3	K	.	.	.	.	.	.	E5	MWO
		T	I	M	E	.	D	E	L	A	Y
		OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
		T	I	M	E	.	D	E	L	A	Y
		OTF	MMN	MMP	.	.	.	.	.	.	.

Tape stops	Marker number									

353 — Cont

CHANNEL 036

OSA	E6	E4	CN5	CP5	C5	E3	E1	CN4	CP4
C4	CN3	CP3	C3	CN2	CP2	C2	K	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

354

CHANNEL 040

OSA	CN6	CP6	C6	E1	E3	K	.	.	.
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 042

OSA	CN6	CP6	C6	E2	CN2	CP2	C2	K	.
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

355 Logic for channel is on board 306, plug P2.

CHANNEL 044

OSA	CN6	CP6	C6	E2	E1	CN3	CP3	C3	K
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

```
        CHANNEL 046
        OSA    CN6    CP6    C6     E3     CN3    CP3    C3     CN2    CP2
        C2     K      .      E      .      D      E      .      E5     MWO
        T      I      M      E      .      D      E      L      A      Y
        OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        OTF    MMN    MMP    .      .      .      .      .      .      .

356     CHANNEL 050
        OSA    CN6    CP6    C6     E3     CN4    CP4    C4     K      .
        T      I      M      E      .      D      E      .      E5     MWO
        T      I      M      E      .      D      E      L      A      Y
        OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        OTF    MMN    MMP    .      .      .      .      .      .      .

        CHANNEL 052
        OSA    CN6    CP6    C6     E2     E1     CN4    CP4    C4     CN2
        CP2    C2     K      .      .      .      .      .      E5     MWO
        T      I      M      E      .      D      E      L      A      Y
        OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        OTF    MMN    MMP    .      .      .      .      .      .      .

357     CHANNEL 054
        OSA    CN6    CP6    C6     E2     CN4    CP4    C4     CN3    CP3
        C3     K      .      .      .      .      .      .      E5     MWO
        T      I      M      E      .      D      E      L      A      Y
        OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        OTF    MMN    MMP    .      .      .      .      .      .      .

        CHANNEL 056
        OSA    CN6    CP6    C6     E3     E1     CN4    CP4    C4     CN3
        CP3    C3     CN2    CP2    C2     K      .      .      E5     MWO
        T      I      M      E      .      D      E      L      A      Y
        OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
        T      I      M      E      .      D      E      L      A      Y
        OTF    MMN    MMP    .      .      .      .      .      .      .
```

Tape stops	Marker number									
	358	Logic for channel is on board 307, plug P2.								

CHANNEL 060

OSA	E7	E4	CN6	CP6	C6	CN5	CP5	C5	E3
E1	K	.	.	.	.	.		E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 062

OSA	E7	E4	CN6	CP6	C6	CN5	CP5	C5	E2
CN2	CP2	C2	K	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

	359									

CHANNEL 064

OSA	E7	E4	CN6	CP6	C6	CN5	CP5	C5	E2
E1	CN3	CP3	C3	K	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 066

OSA	E7	E4	CN6	CP6	C6	CN5	CP5	C5	E3
CN3	CP3	C3	CN2	CP2	C2	K	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

360   CHANNEL 070

```
OSA     E7    E4    CN6   CP6   C6    CN5   CP5   C5    E3
CN4     CP4   C4    K     .     .     .     .     E5    MWO
T       I     M     E     .     D     E     L     A     Y
OSF     MMN   MMP   MWO   E5    1SF   MW1   .     .     .
T       I     M     E     .     D     E     L     A     Y
1TF     MMN   MMP   OSF   MW1   1SF   MWO   .     .     .
T       I     M     E     .     D     E     L     A     Y
OTF     MMN   MMP   .     .     .     .     .     .     .
```

CHANNEL 072

```
OSA     E7    E4    CN6   CP6   C6    CN5   CP5   C5    E2
E1      CN4   CP4   C4    CN2   CP2   C2    K     E5    MWO
T       I     M     E     .     D     E     L     A     Y
OSF     MMN   MMP   MWO   E5    1SF   MW1   .     .     .
T       I     M     E     .     D     E     L     A     Y
1TF     MMN   MMP   OSF   MW1   1SF   MWO   .     .     .
T       I     M     E     .     D     E     L     A     Y
OTF     MMN   MMP   .     .     .     .     .     .     .
```

361   Logic for channel is on board 308, plug P2.

CHANNEL 074

```
OSA     E7    E4    CN6   CP6   C6    CN5   CP5   C5    E2
CN4     CP4   C3    CN3   CP3   C3    K     .     E5    MWO
T       I     M     E     .     D     E     L     A     Y
OSF     MMN   MMP   MWO   E5    1SF   MW1   .     .     .
T       I     M     E     .     D     E     L     A     Y
1TF     MMN   MMP   OSF   MW1   1SF   MWO   .     .     .
T       I     M     E     .     D     E     L     A     Y
OTF     MMN   MMP   .     .     .     .     .     .     .
```

CHANNEL 076

```
OSA     E4    K     .     .     .     .     .     .     .
E7      CN6   CP6   C6    CN5   CP5   C5    E3    E1    CN4
CP4     C4    CN3   CP3   C3    CN2   CP2   C2    E5    MWO
T       I     M     E     .     D     E     L     A     Y
OSF     MMN   MMP   MWO   E5    1SF   MW1   .     .     .
T       I     M     E     .     D     E     L     A     Y
1TF     MMN   MMP   OSF   MW1   1SF   MWO   .     .     .
T       I     M     E     .     D     E     L     A     Y
OTF     MMN   MMP   .     .     .     .     .     .     .
```

Tape stops	Marker number									

| | 362 | Logic for channel is on board 308, plug P2. | | | | | | | | |

CHANNEL 100

OSA	E8	E4	CN7	CP7	C7	E3	E1	K	.
.	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 102

OSA	E8	E4	CN7	CP7	C7	E2	CN2	CP2	C2
K	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

| | 363 | **CHANNEL 104** | | | | | | | | |

OSA	E8	E4	CN7	CP7	C7	E2	E1	CN3	CP3
C3	K	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 106

OSA	E8	E4	CN7	CP7	C7	E3	CN3	CP3	C3
CN2	CP2	C2	K	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

364   Logic for channel is on board 309, plug P2.

CHANNEL 110

OSA	E8	E4	CN7	CP7	C7	E3	CN4	CP4	C4
K	.	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 112

OSA	E8	E4	CN7	CP7	C7	E2	E1	CN4	CP4
C4	CN2	CP2	C2	K	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.

365   CHANNEL 114

OSA	E8	E4	CN7	CP7	C7	E2	CN4	CP4	C4
CN3	CP3	C3	K	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 116

OSA	E8	E4	CN7	CP7	C7	E3	E1	K	CN4
CP4	C4	CN3	CP3	C3	CN2	CP2	C2	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

Tape stops	Marker number

366 CHANNEL 120

OSA	CN7	CP7	C7	CN5	CP5	C5	F3	E1	K
·	·	·	·	·	·	·	·	E5	MWO
T	I	M	E	·	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	·	·	·
T	I	M	E	·	D	E	L	A	·
1TF	MMN	MMP	OSF	MW1	1SF	MWO	·	·	·
T	I	M	E	·	D	E	L	A	Y
OTF	MMN	MMP	·	·	·	·	·	·	·

CHANNEL 122

OSA	CN7	CP7	C7	CN5	CP5	C5	E2	CN2	CP2
C2	K	·	·	·	·	·	·	E5	MWO
T	I	M	E	·	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	·	·	·
T	I	M	E	·	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	·	·	·
T	I	M	E	·	D	E	L	A	Y
CTF	MMN	MMP	·	·	·	·	·	·	·

367 Logic for channel is on board 310, plug P5.

CHANNEL 124

OSA	CN7	CP7	C7	CN5	CP5	C5	E2	E1	CN3
CP3	C3	K	·	·	·	·	·	E5	MWO
T	I	M	E	·	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	·	·	·
T	I	M	E	·	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	·	·	·
T	I	M	E	·	D	E	L	A	Y
OTF	MMN	MMP	·	·	·	·	·	·	·

CHANNEL 126

OSA	CN7	CP7	C7	CN5	CP5	C5	E3	CN3	CP3
C3	CN2	CP2	C2	K	·	·	·	E5	MWO
T	I	M	E	·	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	·	·	·
T	I	M	E	·	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	·	·	·
T	I	M	E	·	D	E	L	A	Y
OTF	MMN	MMP	·	·	·	·	·	·	·

368

CHANNEL 130

OSA	CN7	CP7	C7	CN5	CP5	C5	E3	CN4	CP4
C4	K	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 132

OSA	CN7	CP7	C7	CN5	CP5	C5	E2	E1	CN4
CP4	C4	CN2	CP2	K	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

369

CHANNEL 134

OSA	CN7	CP7	C7	CN5	CP5	C5	E2	CN4	CP4
C4	CN3	CP3	C3	K	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 136

OSA	CN7	CP7	C7	CN5	CP5	C5	E3	E1	CN4
K	.	.	.	.	.	.	.	.	.
CP4	C4	CN3	CP3	C3	CN2	CP2	C2	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

Tape stops | **Marker number**

370 — Logic for channel is on board 311, plug P6.

CHANNEL 300

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E3
E1	K	.	.	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 302

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E2
CN2	CP2	C2	K	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	1SF	MWO	.	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

371 — CHANNEL 304

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E2
E1	CN3	CP3	C3	K	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 306

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E3
CN3	CP3	C3	CN2	CP2	C2	K	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

372

CHANNEL 310

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E3
CN4	CP4	C4	K	.	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 312

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E2
E1	CN4	CP4	C4	CN2	CP2	C2	K	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

373   Logic for channel is on board 312, plug P6.

CHANNEL 314

OSA	E6	E4	CN7	CP7	C7	CFS	CPFS	CFSW	E2
CN4	CP4	C4	CN3	CP3	C3	K	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 316

OSA	E6	K	.	.	.	.	.	.	.
E4	CN7	CP7	C7	CFS	CPFS	CFSW	E3	E1	CN4
CP4	C4	CN3	CP3	C3	CN2	CP2	C2	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	Y
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	Y
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

Tape stops	Marker number

374

CHANNEL 320

OSA	E8	E4	CN7	CP7	C7	CN5	CP5	C5	CFS
CPFS	CFSW	E3	E1	K	.	.	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 322

OSA	E8	E4	CN7	CP7	C7	CN5	CP5	C5	CFS
CPFS	CFSW	E2	CN2	CP2	C2	K	.	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

375

CHANNEL 324

OSA	E8	E4	CN7	CP7	C7	CN5	CP5	C5	CFS
CPFS	CFSW	E2	E1	CN3	CP3	C3	K	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

CHANNEL 326

OSA	K								
F8	E4	CN7	CP7	C7	CN5	CP5	C5	CFS	CPFS
CFSW	E3	CN3	CP3	C3	CN2	CP2	C2	E5	MWO
T	I	M	E	.	D	E	L	A	Y
OSF	MMN	MMP	MWO	E5	1SF	MW1	.	.	.
T	I	M	E	.	D	E	L	A	Y
1TF	MMN	MMP	OSF	MW1	1SF	MWO	.	.	.
T	I	M	E	.	D	E	L	A	Y
OTF	MMN	MMP	.	.	.	.	.	.	.

376   Logic for channel is on board 313, plug P6.

```
CHANNEL 330
OSA    E8     E4     CN7    CP7    C7     CN5    CP5    C5     CFS
CPFS   CFSW   E3     CN4    CP4    C4     K      .      E5     MWO
T      I      M      E      .      D      E      L      A      Y
OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
T      I      M      E      .      D      E      L      A      Y
1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
T      I      M      E      .      D      E      L      A      Y
OTF    MMN    MMP    .      .      .      .      .      .      .

CHANNEL 332
OSA    E8     K      .      .      .      .      .      .      .
E4     CN7    CP7    C7     CN5    CP5    C5     CFS    CPFS   CFSW
E2     E1     CN4    CP4    C4     CN2    CP2    C2     E5     MWO
T      I      M      E      .      D      E      L      A      Y
OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
T      I      M      E      .      D      E      L      A      Y
1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
T      I      M      E      .      D      E      L      A      Y
OTF    MMN    MMP    .      .      .      .      .      .      .
```

377
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CHANNEL 334
OSA    K      .      .      .      .      .      .      .      .
E8     E4     CN7    CP7    C7     CN5    CP5    C5     CFS    CPFS
CFSW   E2     CN4    CP4    C4     CN3    CP3    C3     E5     MWO
T      I      M      E      .      D      E      L      A      Y
OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
T      I      M      E      .      D      E      L      A      Y
1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
T      I      M      E      .      D      E      L      A      Y
OTF    MMN    MMP    .      .      .      .      .      .      .

CHANNEL 336
OSA    E8     E4     CN7    CP7    K      .      .      .      .
C7     CN5    CP5    C5     CFS    CPFS   CFSW   E3     E1     CN4
CP4    C4     CN3    CP3    C3     CN2    CP2    C2     E5     MWO
T      I      M      E      .      D      E      L      A      Y
OSF    MMN    MMP    MWO    E5     1SF    MW1    .      .      .
T      I      M      E      .      D      E      L      A      Y
1TF    MMN    MMP    OSF    MW1    1SF    MWO    .      .      .
T      I      M      E      .      D      E      L      A      Y
OTF    MMN    MMP    .      .      .      .      .      .      .
```

Tape stops	Marker number									

DYNAMIC TESTS OF RECIRCULATING REGISTERS.

CH   378   Logic for terms for indexes 001-016 is on boards 313, 438, plug P1.
Logic for terms for indexes 017-036 is on boards 311, 435, plug P1.
Logic for terms for indexes 037-056 is on boards 310, 436, plug P1.
Logic for terms for indexes 057-076 is on boards 305, 435, plug P1.
Logic for terms for indexes 077-098 is on boards 306, 307, 437, plug P1.
Logic for terms for indexes 099-118 is on boards 308, 309, 439, plug P1.
Logic for terms for indexes 119-136 is on boards 312, 438, plug P1.
Logic for terms for indexes 137-160 is on boards 304, 436, plug P1.

OSA	.	A32	.	1TF	AO	OSF	A32	.	OTF
AO	1SF	A32	.	1TF	AO	.	.	.	.
OSA	.	L32	.	1TF	LO	OSF	L32	.	OTF
LO	1SF	L32	.	1TF	LO	.	.	.	.
OSA	.	NP	.	1TF	NO	OSF	NP	.	OTF
NO	1SF	NP	.	1TF	NO	.	.	.	.
OSA	.	OP	.	1TF	DO	OSF	DP	.	OTF
00	1SF	DP	.	1TF	DO	.	.	.	.
OSA	.	RP	.	1TF	RO	RM	OSF	RP	.
OTF	RO	RM	1SF	RP	.	1TF	RO	RM	.
OSA	.	QP	.	1TF	QO	ON	OSF	OP	.
OTF	QO	QM	1SF	QP	.	1TF	QO	QM	.
OSA	.	I32	.	1TF	IX	OSF	I32	.	OTF
IX	1SF	132	.	1TF	IX	.	.	.	.
OSA	.	XP	.	1TF	XO	OSF	XP	.	OTF
XO	1SF	XP	.	1TF	XO	.	.	.	.

End of tape E. Momentarily place the SDR TAPE ADVANCE switch in the ON position, advance the tape into the takeup canister and return it to the tape cartridge.

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