

OLIVETTI

P 101

REPAIR
GUIDE

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P 101 REPAIR GUIDE

This Guide was prepared and distributed by

CUSTOMER ENGINEERING SERVICES DIVISION
OLIVETTI UNDERWOOD CORPORATION
ONE PARK AVENUE
NEW YORK, NEW YORK

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Printed In U.S.A.

October 1967



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P 101 REPAIR GUIDE

Foreword

The purpose of this Guide is to help the P 101 serviceman to determine the cause of common malfunctions by leading him through a pre-arranged procedure of malfunction analysis.

With this in mind, the Guide has been prepared as a sequence of basic questions, each allowing only two alternative answers, which gradually restrict the portion of the machine under investigation to the areas related to the specific malfunction.

Correct use of this Guide requires that the reader always start from the very beginning and follow the sequence resulting from the correct answers to each question.

Several questions ask that ohmic resistance or voltage readings be made: it is of the utmost importance that instructions provided for these readings be carefully followed to avoid personal injury or damage to the equipment. Before using the volt ohm meter the serviceman must always make sure that the instrument dial is set on the desired scale. Questions boxed by a wavy line indicate that power is on: when using the volt ohm meter in this condition extreme caution must be exercised to avoid:

- Body injuries from electrical shocks
- Electrical short circuits
- Damage to the volt ohm meter

Electrical wires are to be connected or disconnected only when the power is off.

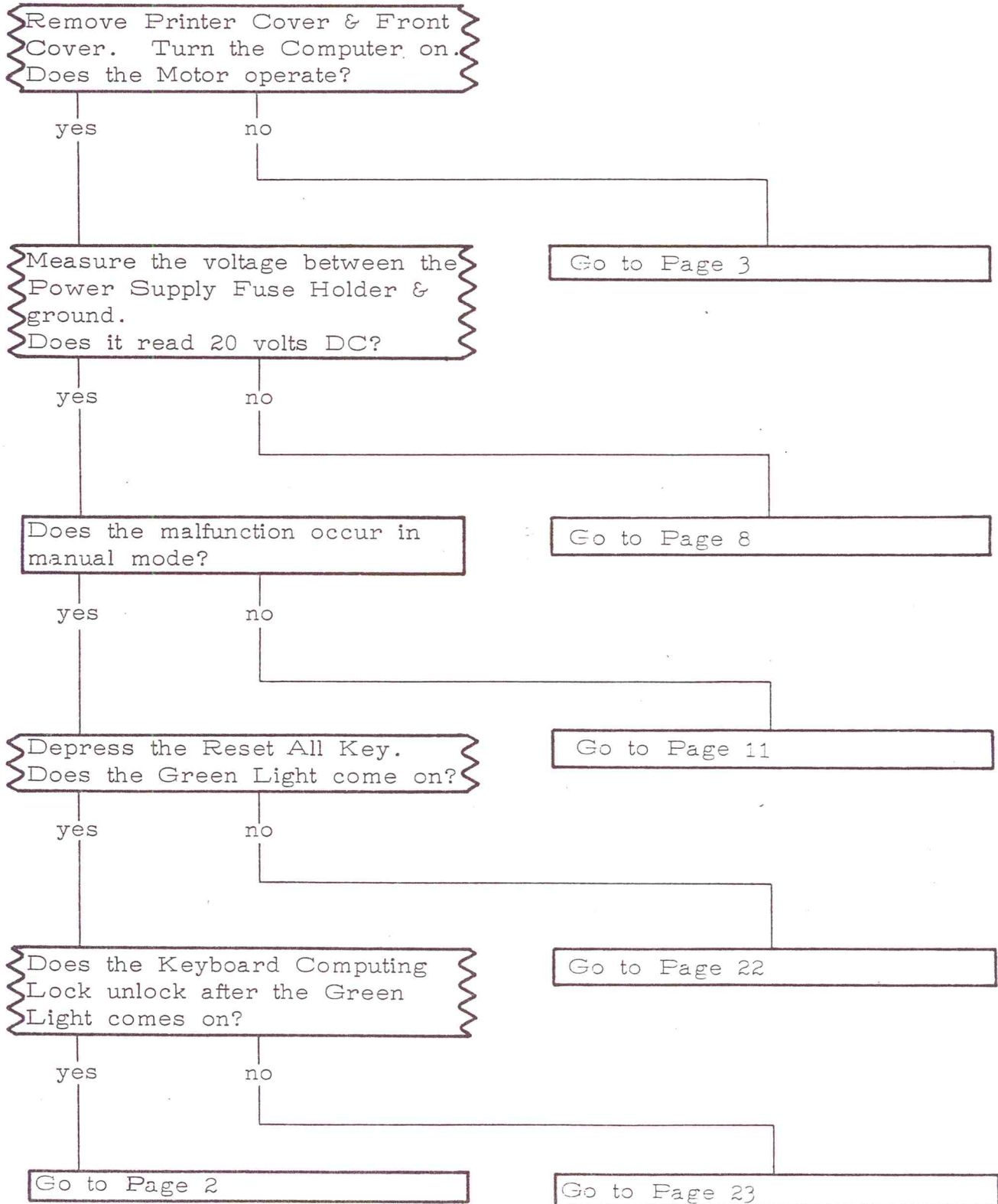
As the Guide frequently refers to various testing points in the electrical interface, an interconnection chart has been included at the end of the Guide for quick reference.

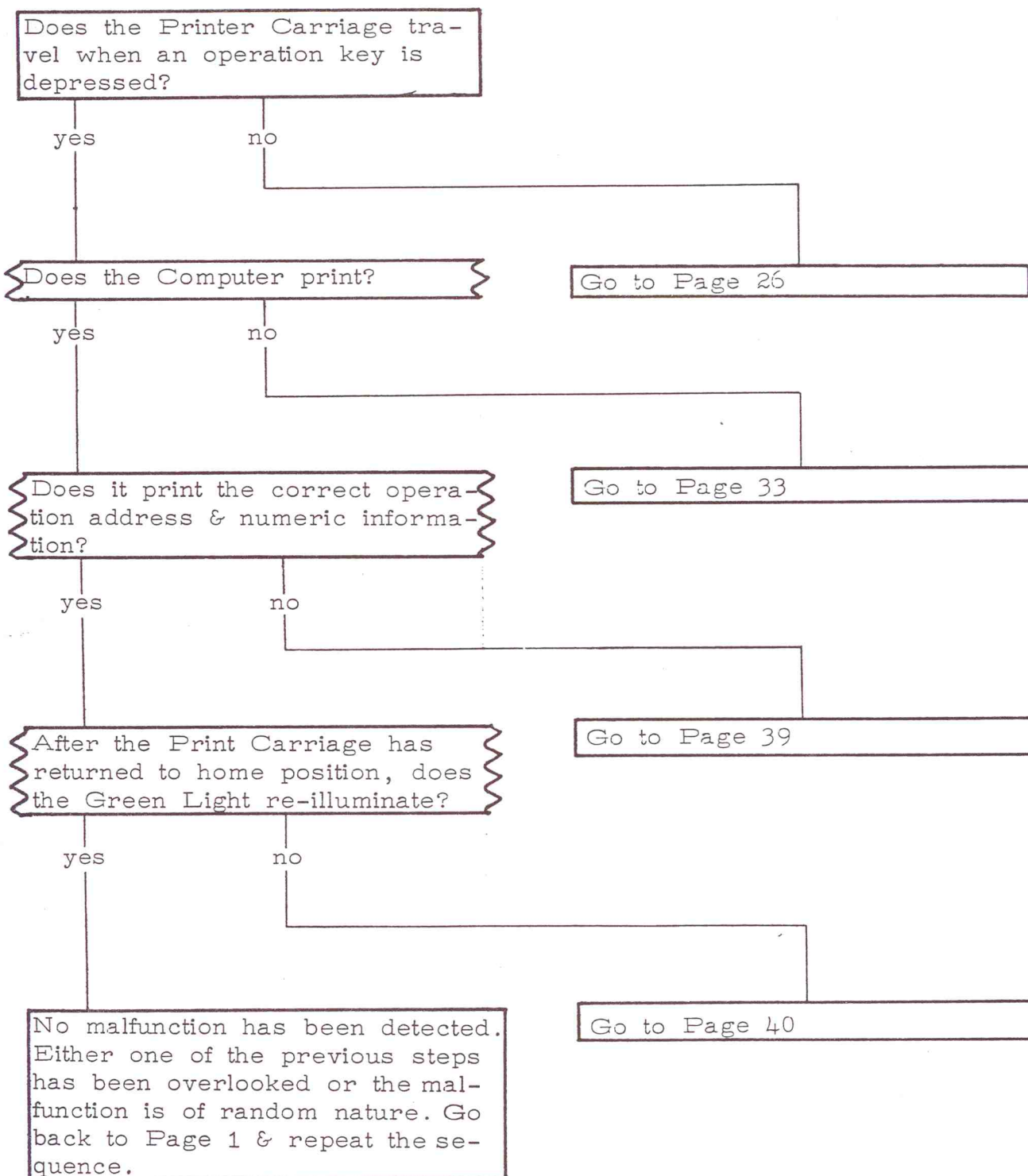
This P 101 Repair Guide will soon be reprinted in a pocket size format and is to be included in the CES Field Manual. Comments and suggestions received before publication time are welcome and will be carefully considered for possible inclusion in the Guide. Please send all such materials to:

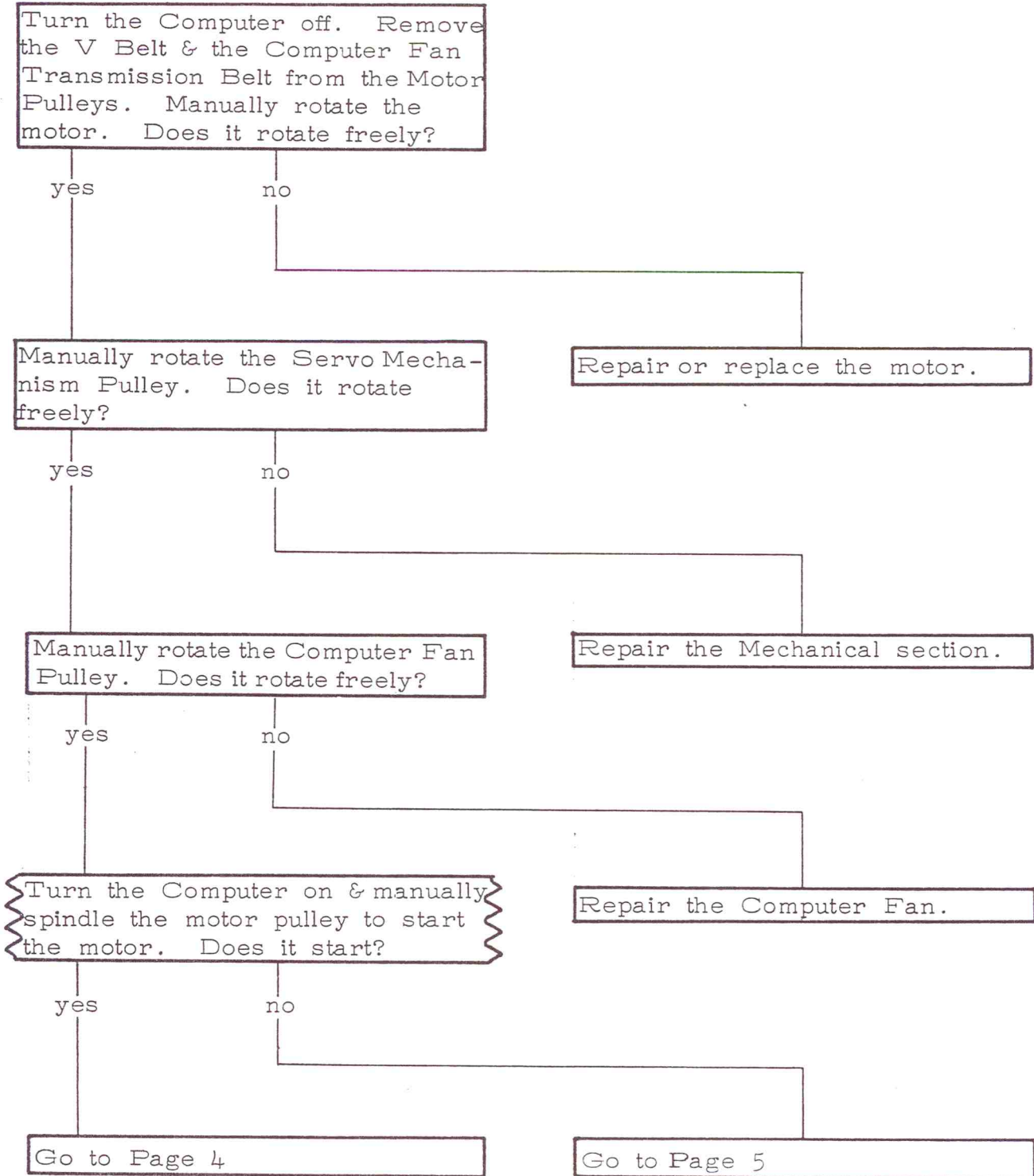
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TITLE
Programma 101 Machine Repair Guide

Start
Page 1







Check for continuity from the left side of the motor fuse holder & the terminal on the motor capacitor that has only one wire attached. Does it read approximately 37 ohms?

yes

no

Turn the Computer off. Replace the motor start capacitor.

Replace the motor.

From Page 3

Turn the Computer off. Unplug the Power Cord. Remove the motor fuse & check it for continuity. Does it read 0 ohms?

yes

no

Check the AC voltage Output of the Power Cord. Does it read approximately 115 VAC? Caution: for this reading the Volt-Ohm meter must be set on the 300 VAC scale.

yes

no

Go to Page 7

Reinstall the Motor Fuse. Plug in the Power Cord. Turn the Computer on. Measure the voltage between the lowest & next to the lowest wire on the terminal block at the right side of the Power Supply. Caution: for this reading the Volt-Ohm meter must be set on the 300 VAC scale. Does it read approximately 115 VAC?

yes

no

Either the Power Cord is defective or the premises electrical wiring is inadequate.

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Repair the wiring between Plug Receptacle and Terminal block.

Unplug the Power Cord. Check for continuity between the lowest wire on the terminal block & the terminal on the motor capacitor that has the two red wires attached. Turn the On-Off Switch on & off. Does it indicate an open circuit with the On-Off Switch off & a closed circuit with the On-Off Switch on?

yes

no

Remove the motor fuse. Check for continuity between the left side of the motor fuse holder & the terminal on the motor capacitor that has the two red wires attached. Does it read approximately 10 Ohms?

yes

no

Check for continuity from the left side of the motor fuse & the terminal on the Motor Capacitor that has only one wire attached. Does it read approximately 37 Ohms?

yes

no

No malfunction has been detected. Go back & repeat the sequence.

Repair or replace the On-Off Switch or the connecting wiring.

Replace the Motor.

Replace the Motor.

Replace the motor fuse with a 1.2 Amp slow-blow fuse (5373166 Z). Plug the Power Cord in. Turn the Computer on & off a few times. Does the motor fuse blow again?

yes

no

Turn the Computer off & unplug the Power Cord. Replace the motor capacitor. Turn the computer on & off a few times. If the malfunction persists, replace the Motor.

The probable cause of the fuse blowing was due to a faulty motor fuse.

The voltage between the Power Supply Fuse Holder & ground does not read 20 Volts D.C. Does it read 0 Volts D.C. on either side of the Power Supply Fuse Holder?

yes

no

Turn the computer off. Remove the 6 Amp fast-blow Power Supply Fuse (5373143 S) & check it for continuity. Does it read 0 Ohms?

yes

no

Try to adjust the voltage to 20 Volts D.C. by means of the Power Supply voltage Adjusting Screw. If the voltage can not be adjusted replace the Power Supply.

Reinstall the Power Supply Fuse. Turn the computer on. Measure the voltage between the two INPUT wires of the Motor Filter. Caution: for this reading the Volt-Ohm meter must be set on the 300 VAC Scale. Does it read 115 VAC (Input line voltage to the Motor Filter)?

yes

no

Go to Page 9

Check the OUTPUT line voltage of the Motor Filter. Does it read 115 VAC?

yes

no

Check the Thermal Switch and connecting wire.

Change Power Supply.

Replace the Motor Filter.

Before replacing the Power Supply Fuse measure the DC Voltage between the Power Supply Fuse Holder & ground. Caution: do not leave the Computer on any longer than is required to measure the voltage. Does it read 55 Volts DC?

yes

no

Replace the Power Supply Fuse with a 6 Amp fast-blow fuse (5373143 S). Turn the Computer on. Does the Power Supply Fuse blow again?

yes

no

Turn the Computer off. The most probable cause of the malfunction is a short circuit somewhere in the Computer. Check for foreign objects such as paper clips, etc. inside the mechanical section. If you do not find anything, disconnect the Electronic Computing Unit. Check the Ohm resistance between Pins EA1 & EA2 & between Pins ED11 & ED12 of the Electronic Computing Unit. Does each one of the above readings indicate more than 7 Ohms?

yes

no

Go to Page 10

Turn the Computer off. Replace the Power Supply.

Measure the DC Voltage between the Power Supply Fuse Holder & ground. If necessary adjust it to 20 volts by means of the Power Supply adjusting screw.

Replace the Electronic Computing Unit.

Disconnect wires SM1, SM2 & SM3 from the Fire Hammer Board. Check the Ohm resistance between Pins SM1 & SM2, between Pins SM1 & SM3 & between Pins SM2 & SM3 on the Fire Hammer Board. Be certain when making these readings that the needle of the meter has stopped moving. Does each of the above readings indicate more than 500 Ohms?

yes

no

Remember the Electronic Computing Unit is still disconnected. Disconnect the Power Supply connector CSA. On Plug A of the CSA connector check the Ohm resistance between CSA 6 & CSA 1, between CSA 3 & CSA 5, between CSA 8 & CSA 1, & between CSA 3 & CSA 8. Caution: while doing these readings, make sure that the wires previously disconnected are not in contact with each other nor with any part of the machine. Does any of the above readings indicate 0 Ohms?

yes

no

There is a short circuit between the two wires reading 0 Ohms. Repair the wiring.

Replace the Fire Hammer Board.

Replace the Power Supply.

The machine operates in manual mode but not in the Program Mode. Put the Record Program Switch in the IN position. Manually enter a Program into the Computer. Does the Computer accept the INPUT of this program and operate on it?

yes

no

Does the Computer print out the Program?

yes

no

Go to Page 13

The Computer accepts the Manual INPUT of a program & operates on it. With the Print/Record Switches in the Off position, enter a good program card containing a pre-recorded program. Does the red light go on?

yes

no

Go to Page 17

Does the Computer perform the Program?

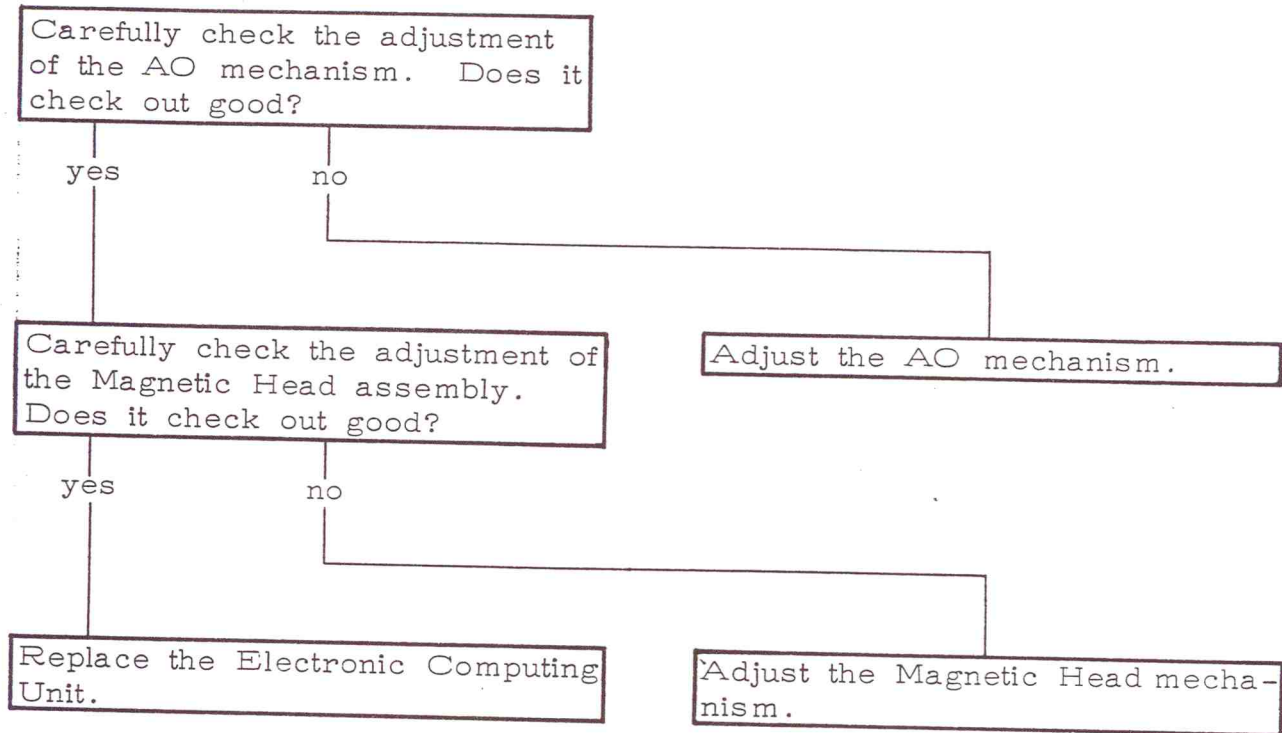
yes

no

Go to Page 18

Go to Page 12

Go to Page 20



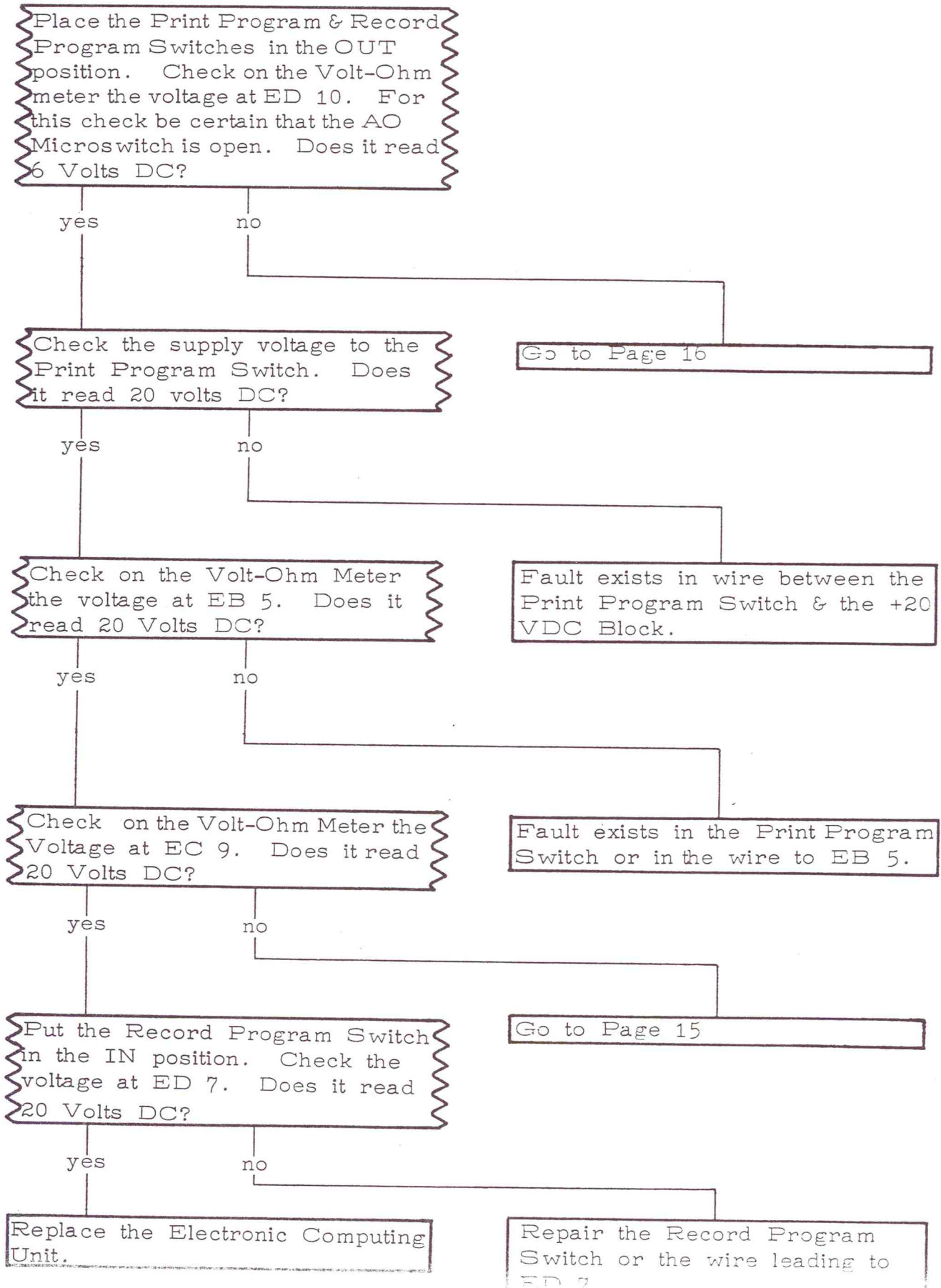
Put the Print Program & Record Program Switch in the IN position. Manually enter a Program containing less than forty eight instructions into the computer. Does the computer accept the INPUT of this program & operate on it?

yes

no

Replace the Electronic Computing Unit.

Go to Page 14



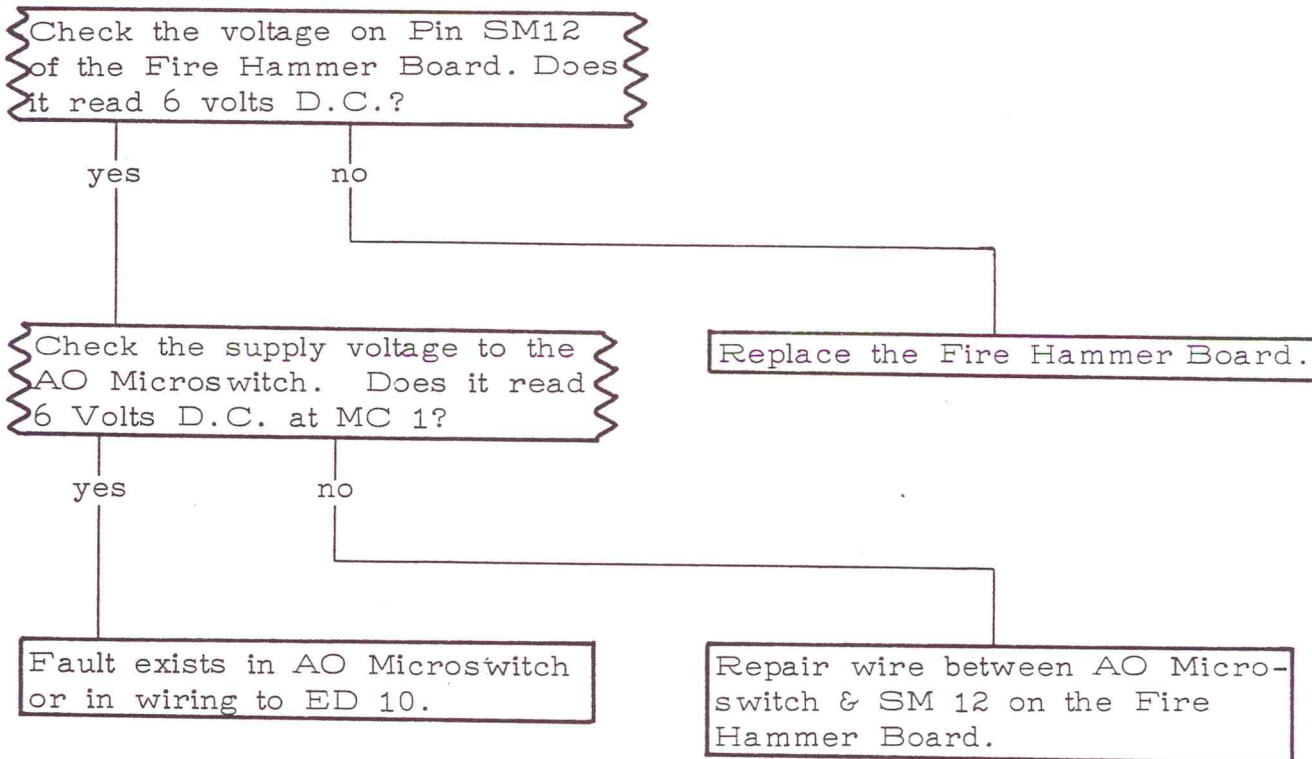
Check the supply voltage to the Record Program Switch. Does it read 20 Volts DC?

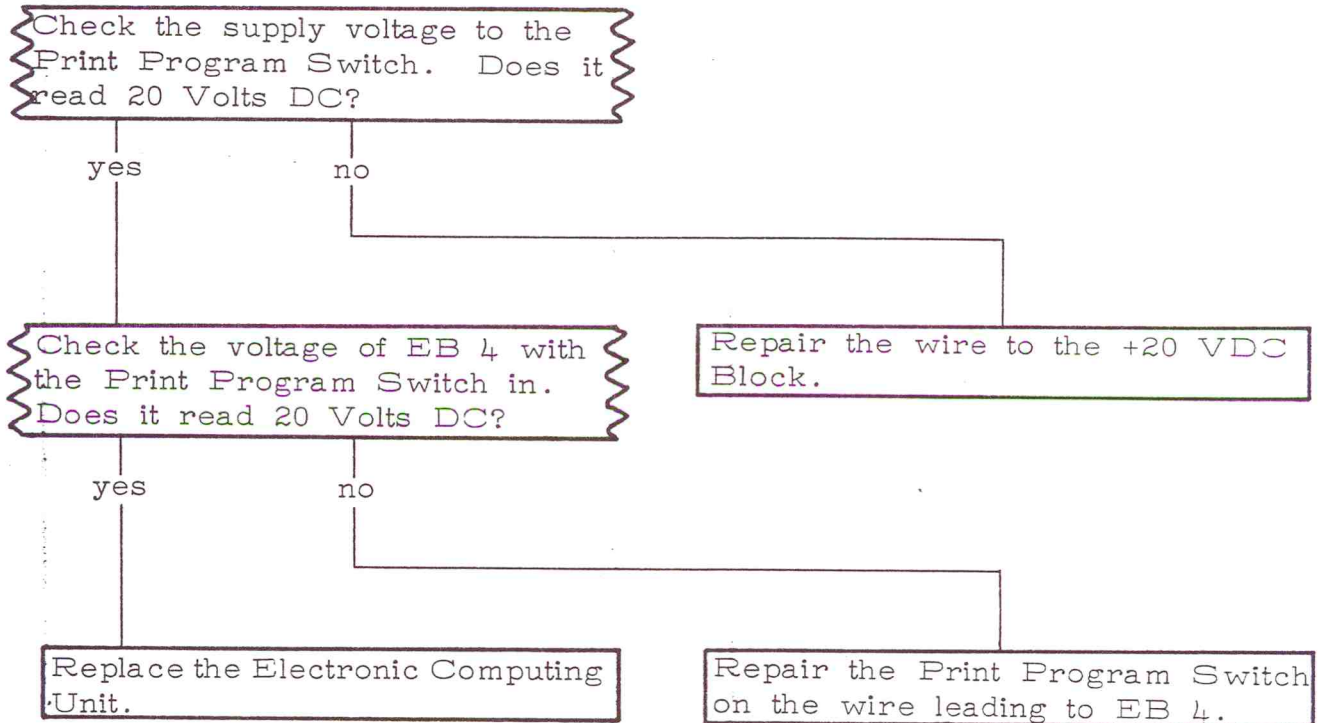
yes

no

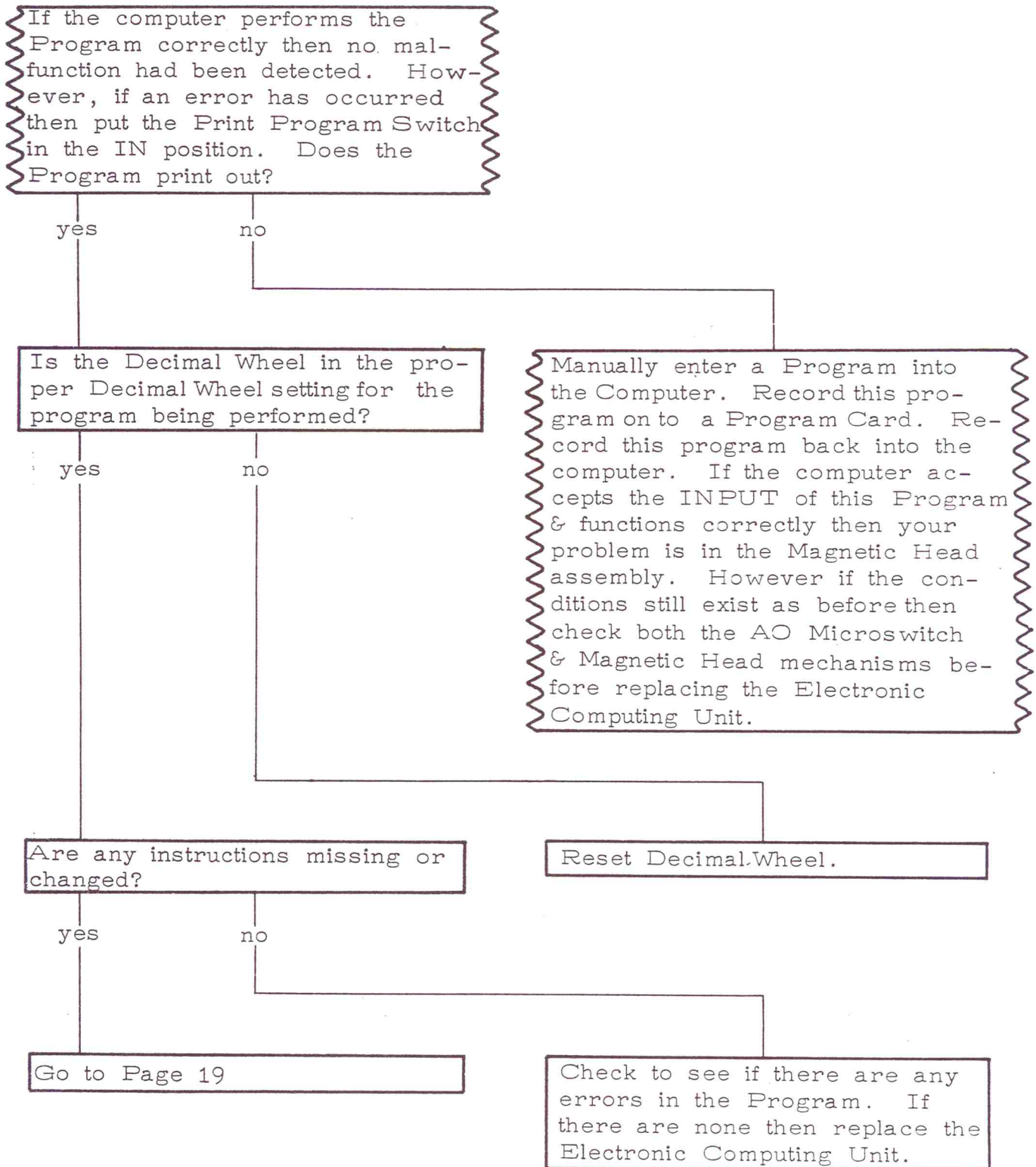
Fault exists in the Record Program Switch or in the wire leading to EC 9.

Fault exists in the wire between the Record Program Switch & the +20 VDC Block.





↑
Note - With Print
Program switch in -
There should be 20 Volts.



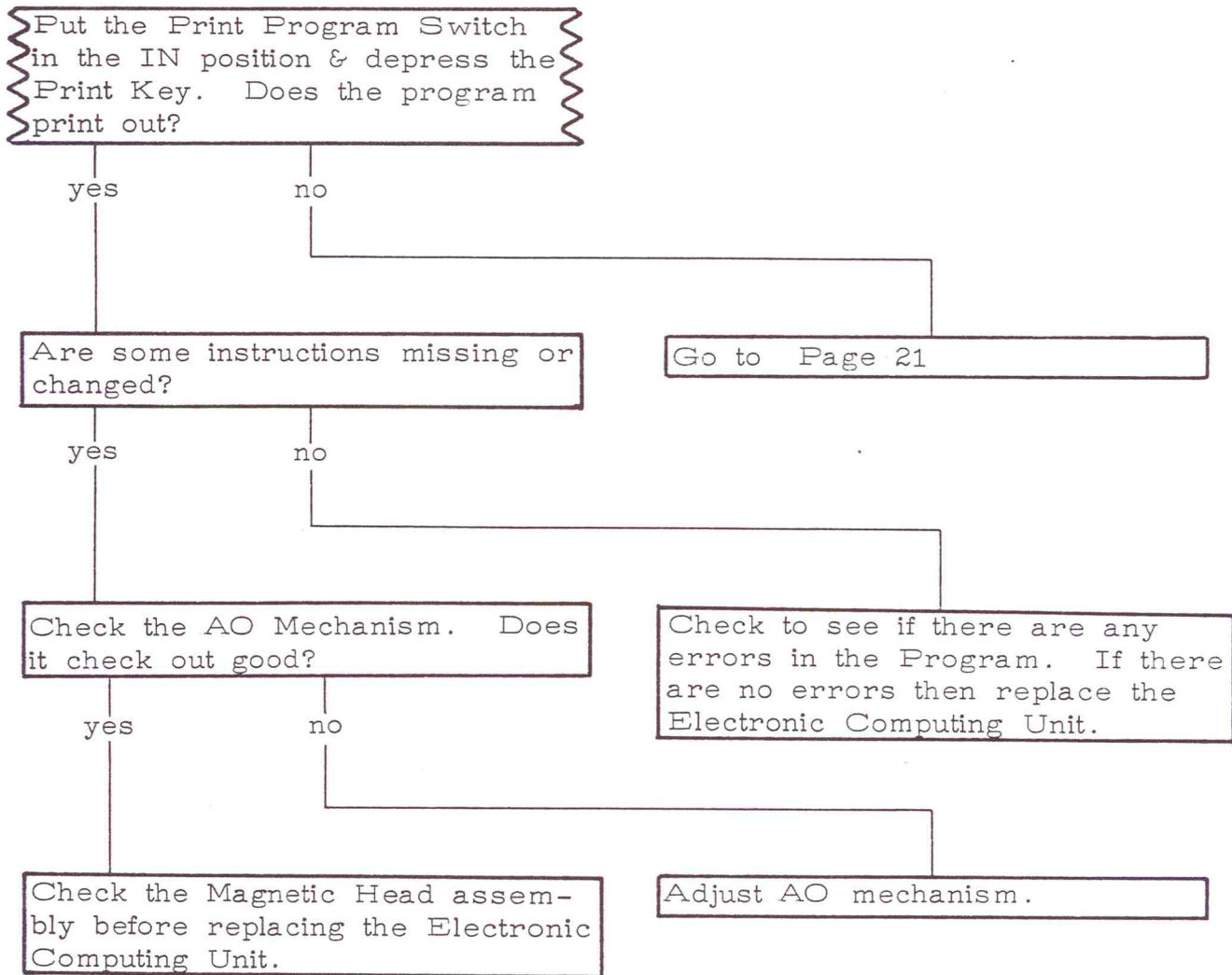
Check the adjustment of the AO Microswitch mechanism. Do they check out good?

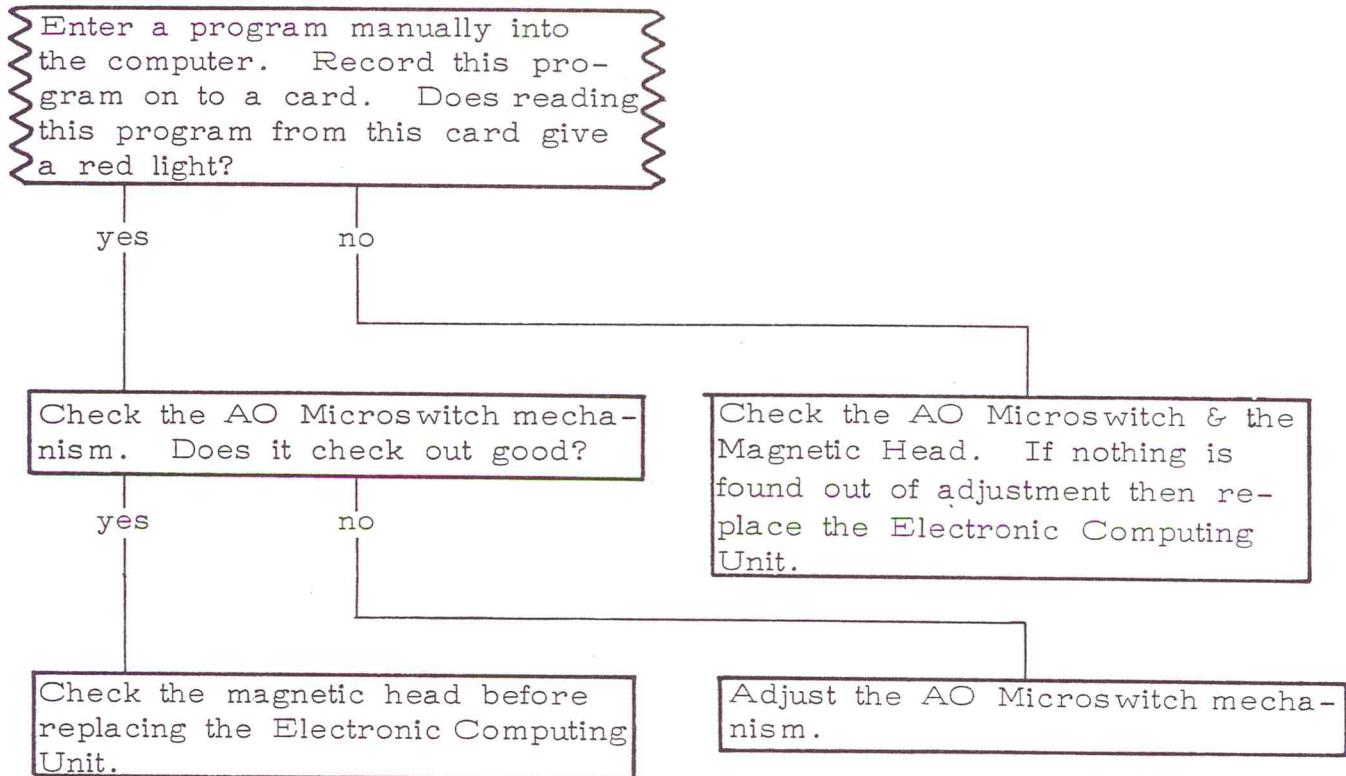
yes

no

Check the adjustment of the magnetic head. If nothing is found to be out of adjustment, then replace the Electronic Computing Unit.

Adjust the AO Microswitch mechanism.





The Green Light does not come on when the Reset All Key is depressed. Does the machine properly perform the two mechanical cycles upon depression of the Reset All Key?

yes

no

Are AG, AK, AT & AO Micro-switches operative? Are they properly adjusted? Are they properly connected to the Electronic Computing Unit?

yes

no

Replace the Electronic Computing Unit.

Repair the Servo Mechanism.

Correct the condition.

The Keyboard Computing Lock does not unlock when the Green Light comes on. Check for continuity on the wire between BLT SM 6 & EA 7. Does it read a closed circuit?

yes

no

Turn the Computer off. Disconnect the wire BLT SM 6 from the Fire Hammer Board. Turn the Computer on. Do not depress the Reset All Key. Set the Volt-Ohm Meter on the 3 Volt DC Scale. Measure the voltage on the disconnected wire BLT SM 6. Does it read approximately 0.25 Volts DC?

yes

no

Set the Volt-Ohm Meter on the 60 Volt DC Scale. Depress the Reset All Key & repeat the measurement on the disconnected wire BLT SM 6. Does it read 20 Volts DC?

yes

no

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Repair the wire BLT SM 6.

Replace the Electronic Computing Unit.

Replace the Electronic Computing Unit.

Turn the Computer off. Reconnect wire BLT SM 6 to the Fire Hammer Board. Turn the Computer on. Do not depress the Reset All Key. Set the Volt Ohm Meter on the 60 Volt DC Scale. Measure the voltage between the solenoid red wire RB 2 & ground. Does it read 20 volts DC?

yes

no

The voltage between the solenoid red wire RB 2 & ground reads 20 volts DC. Measure the voltage at position SM 11 on the Fire Hammer Board. Does it read 20 volts DC?

yes

no

Remove the wire connected to SM 11 on the Fire Hammer Board. Turn the computer on. Do not depress Reset All. Take the loose wire & touch it to ground. Does the keyboard lock release?

yes

no

Replace the Fire Hammer Board.

Repair wire RB 2.

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Repair the keyboard lock mechanism.

Measure the voltage between the solenoid white wire RB 1 & ground. Does it read 20 volts DC?

yes

no

Repair wire between RB 1 & SM 11.

Replace the Solenoid.

When an Operation Key is depressed, the Printer Carriage does not travel. Depress the Reset All Key. Depress an Operation Key. Does the Keyboard lock?

yes

no

When an operation key is depressed the Printer Carriage does not travel & the keyboard locks. Disconnect wire SM 5 from the Fire Hammer Board. Set the Volt-Ohm Meter on the 60 volts DC scale. Depress the Reset All Key. Measure the voltage at the disconnected SM 5 wire. Does it read 0 volts DC? Depress an operation key & repeat the measurement. Does the voltage now read 20 volts DC?

yes

no

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Reconnect wire SM 5 to the Fire Hammer Board. Disconnect wire SM 10 from the Fire Hammer Board. Turn the Computer on. Do not depress Reset All & measure the voltage at wire SM 10. Does it read 20 volts DC?

yes

no

Go to Page 30

Go to Page 27

Go to Page 31

Take the loose wire SM 10 & touch it to ground. Does the Printer Solenoid engage?

yes

no

Replace the Fire Hammer Board.

Repair the Printer Mechanism which controls the carriage movement.

Depress the Reset All Key. Set the Volt-Ohm Meter on the 60 Volts DC Scale. Check the voltage at ED 9 in the following manner. Depress alternately a Numerical Key & an Operation Key. Does the voltage read 0 volts DC after a Numerical entry & 20 volts DC after an operation entry?

yes

no

Check the voltage at EB 7 in the following manner. Depress alternately a Numerical Key & an Operation Key. Does the voltage read 20 volts DC after a Numerical Key & 0 volts after an operation entry?

yes

no

Check the voltage at EA 8 in the following manner. Depress alternately an Address Key & an Operation Key. Does the voltage read 20 volts DC after an address entry & 0 volts DC after an operation entry?

yes

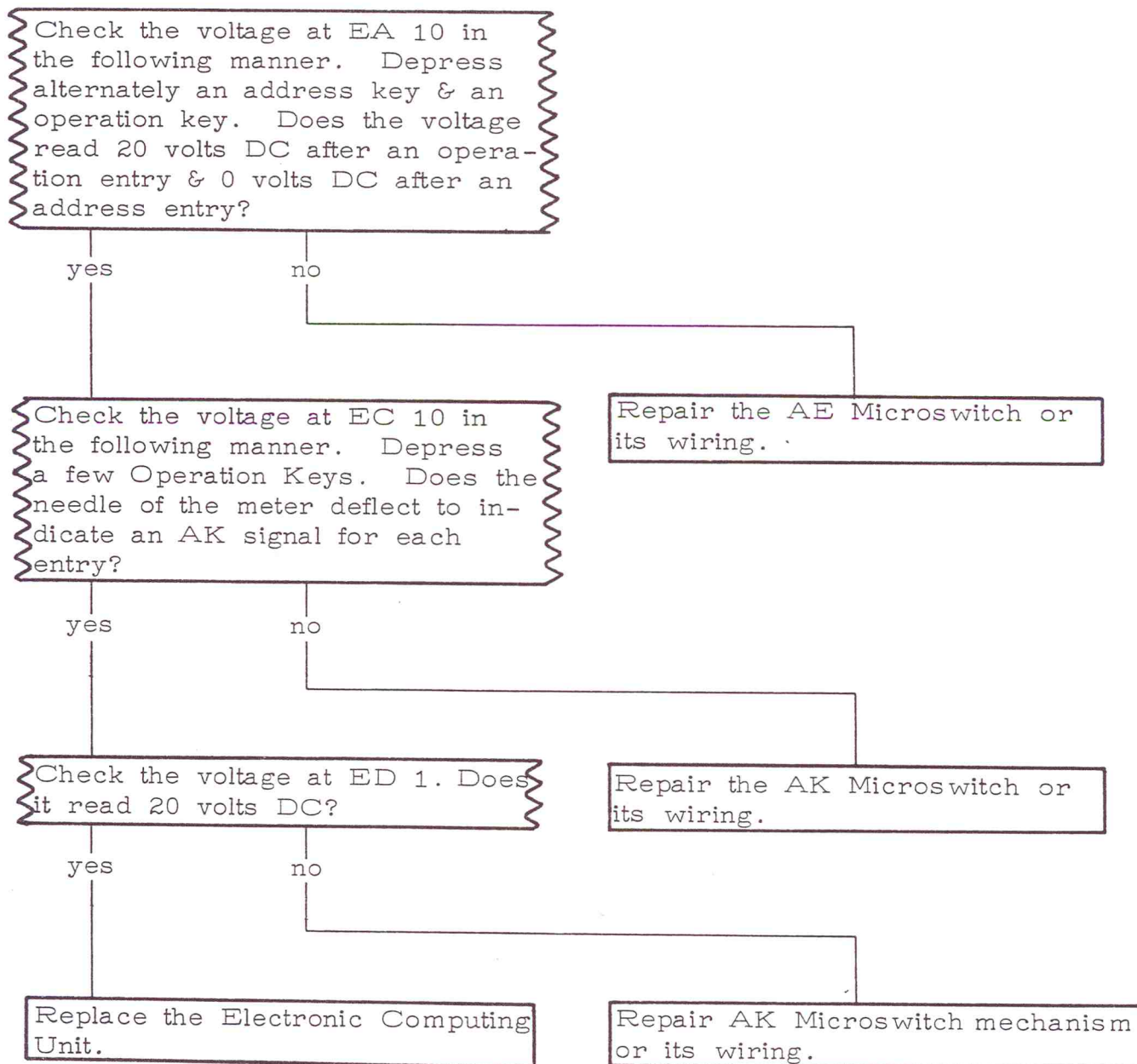
no

Go to Page 29

Repair AF Microswitch or its wiring.

Repair AF Microswitch or its wiring.

Repair the AE Microswitch or its wiring.



Turn the computer off. Check wire SM 5 for continuity between its two extremes. Does it read 0 Ohms?

yes

no

Reconnect wire SM 5 to the Fire Hammer Board. Replace the Electronic Computing Unit.

Repair wire SM 5.

The voltage across wire SM 10 disconnected does not read 20 volts DC. Reconnect wire SM 10 to the Fire Hammer Board. Disconnect the Printer Group Connector GS. Check for continuity between pins GS 7 & GS 8 of Plug B of the GS Connector. Does it read an open circuit?

yes

no

Check for continuity between Pin GS 8 of Plug B of the GS connector & the red lead of the Printer Carriage Solenoid. Does it read 0 Ohms?

yes

no

Check for continuity between the two leads at the Printer Carriage Solenoid. Does it read approximately 150 Ohms?

yes

no

Repair the wire between the Printer Carriage Movement Solenoid & GS 7 of Plug B.

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Repair the red wire between the Printer Carriage Movement Solenoid & the GS Connector.

Replace the Printer Carriage Solenoid.

Check for continuity between GS 8 of Plug A of the GS Connector & wire M 15 of the VDC Block. Does it read 0 Ohms?

yes

no

Repair the wire between SM 10 of the Fire Hammer Board & the GS Connector.

Repair M 15 wire between the VDC Block & GS 8 on Plug A of the GS Connector.

When an Operation Key is depressed the Printer Carriage travels but it does not print. Does it travel all the way to the left & remain there?

yes

no

The Printer Carriage travels all the way to the left & remains there without printing. Set the Volt-Ohm Meter on the 3 Volt AC Scale. Check the Voltage at EA 4. Does it read approximately .5 Volts AC? Note: This is an AC reading.

yes

no

Check the AW Microswitch & its related adjustments. If nothing is found out of adjustment then replace the Electronic Computing Unit.

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Go to Page 37

Check the Fire Hammer Board Fuse. Does it read 0 Ohms?

yes

no

Turn the Computer off. Disconnect wire SM 4 from the Fire Hammer Board. Check for continuity between disconnected SM 4 & ED 2. Does it read 0 Ohms?

yes

no

Reconnect wire SM 4 & disconnect wire SM 7 from the Fire Hammer Board. Check for continuity between wires SM 7 and SM 8 of the Fire Hammer Board. Does it read an open circuit?

yes

no

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Replace the Fire Hammer Board Fuse. If the fuse blows again replace it. The fault may only exist in the fuses being faulty. However if the fuses continue to blow then replace the Fire Hammer Board.

Repair wire SM 4 between Fire Hammer Board & the Electronic Computing Unit.

Re-check Printer Electromagnet adjustments. If all adjustments are correct then reconnect wire SM 7 to the Fire Hammer Board. Disconnect wire SM 4 from the Fire Hammer Board. Turn the Computer on & immediately turn it off. Caution: the Fire Hammer Board Fuse may blow if the power is on for too long. This is not a 100% valid proof of a good Fire Hammer Board. If the Print Hammer moves in toward the Print Drum during the time when the power is on then replace the Electronic Computing Unit. However if there is no movement of the Print Hammer then replace the Fire Hammer Board.

Check for continuity between the two leads of the Fire Hammer Electromagnet. Does it read an open circuit?

yes

no

Replace the Fire Hammer Hammer Electromagnet. Re-connect wire SM 7 to the Fire Hammer Board.

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Check for continuity between one of the leads of the Fire Hammer Electromagnet & disconnected wire SM 7. Does it read an open circuit?

yes

no

Repair the wire SM 7 between the Fire Hammer Board & the Fire Hammer Electromagnet.

Repair wire SM 8 between the Fire Hammer Board & the Fire Hammer Electromagnet.

Adjust the position of the Strobe Wheel Pickup. It should be as close as possible to the Strobe Wheel without rubbing. Also clean the Strobe Wheel. If the voltage reading is still less than .5 Volts AC then check the DC Supply Voltage to the Strobe Wheel Pickup at SM 14. Does the voltage reading indicate approximately 6.5 volts DC?

yes

no

Check for continuity between GS 12 & GS 13 of Plug B. Does it read approximately 225 Ohms?

yes

no

Go to Page 38

Check for continuity between position GS 13 on Plug A of the GS Connector & wire EA 3 on the Electronic Computing Unit. Does it read 0 Ohms?

yes

no

Either wire GS 12 or GS 13 leading from Plug B of the GS Connector to the Strobe Wheel Pickup is open or the Strobe Wheel Pickup is faulty.

Check for continuity between position GS 12 on Plug A of the GS Connector & wire EA 4 in the Electronic Computing Unit. Does it read 0 Ohms?

yes

no

Repair wire EA 3 between the Electronic Computing Unit & Plug A of the GS Connector.

Replace the Electronic Computing Unit.

Repair wire EA 4 between the Electronic Computing Unit & Plug A of the GS Connector.

Measure the DC Voltage at SM 14. If the voltage is at 0 volts DC then replace the Fire Hammer Board. However if the voltage is not at 0 volts DC then check for continuity between SM 9 of the Fire Hammer Board & GS 10 of Plug A of the GS Connector. Does it read 0 Ohms?

yes

no

Check for continuity between SM 14 & GS 9 of Plug A of the GS Connector. Does it read 0 Ohms?

yes

no

The fault exists in the Strobe Wheel Pickup or in one of the wires leading to the GS Connector Plug B.

Repair wire between SM 9 and GS 10.

Repair the wire between SM 14 & GS 9 of Plug A of the GS Connector.

When an Operation Key is depressed the incorrect operation symbol prints. Is the numerical & address information printed correctly?

yes

no

Check the closing of the AW Microswitch.

Check adjustments pertaining to the Strobe Wheel & the worm gear. If all adjustments are correct then replace the Electronic Computing Unit.

The Printer Carriage returns home & the Green Light does not re-illuminate. Does the AW Microswitch operate properly?

yes

no

Replace the Electronic Computing Unit.

Adjust the AW Mechanism.

ABBREVIATIONS FOR PROGRAMMA 101 WIRE CONNECTION CHART

<u>ABBR.</u>	<u>CONNECTOR</u>	<u>TERMINOLOGY</u>
AA	MT31-EA6	ENCODER SWITCH USED FOR BINARY VALUE -1-
AB	MT30-EA12	ENCODER SWITCH USED FOR BINARY VALUE -2-
AC	MT29-EB3	ENCODER SWITCH USED FOR BINARY VALUE -4-
AD	MT27-EB1	ENCODER SWITCH USED FOR BINARY VALUE -8-
AE	MT26-EA8/10	ENCODER SWITCH USED TOGETHER WITH "AF" SIGNIFIES ADDRESS
AF	MT25-EB7,ED9	ENCODER SWITCH USED TO SIGNIFY OPERATION
AG	MT1-EB8	ENCODER SWITCH USED IN FIRST CYCLE OF RESET ALL (SEE ALSO "AT")
AK	MT34-EC10,ED1	ENCODER SWITCH USED TO SIGNAL ACCEPTANCE OF KEYBOARD ENTRY
ALAO	SM12-MC1	POWER TO "AO" SWITCH FROM FIRE HAMMER BOARD (6 VDC)
ALAW	SM13-GS4/5	POWER TO "AW" SWITCH FROM FIRE HAMMER BOARD (14 VDC)
ALSB	SM14-GS9	POWER TO STROBE FROM FIRE HAMMER BOARD (6.5 VDC)
AM	MT22-ED4	ENCODER SWITCH USED FOR NEGATIVE SIGN
AN	MT12-EA9,EB9	ENCODER SWITCH USED FOR CLEAR ENTRY
AO	MC	CARD READ/RECORD SIGNALS
AP	AP	RECORD PROGRAM SWITCH AND SIGNALS
AT	MT2-EB6,EB11	ENCODER SWITCH USED IN SECOND CYCLE OF RESET ALL (SEE ALSO "AG")
AV	MT18-ED5	ENCODER SWITCH USED FOR DECIMAL POINT
AW	GS	CARRIAGE SWITCH USED DURING PRINTING
AZ	AZ	PRINT PROGRAM SWITCH AND SIGNALS
BLT	EA7-SM6	SIGNAL CONNECTION FROM COMPUTING UNIT TO FIRE HAMMER BOARD (UNLOCK KYBD)
BLT	SM11-RB	SIGNAL CONNECTION FROM FIRE HAMMER BOARD TO KEYBOARD LOCK SOLENOID
CAR	ED8-SM5	SIGNAL CONNECTION FROM COMPUTING UNIT TO FIRE HAMMER BOARD (ENGAGE CARRIAGE MECHANISM)
CAR	SM10-GS7	SIGNAL CONNECTION FROM FIRE HAMMER BOARD TO CARRIAGE ENGAGEMENT SOLENOID
CSA	CSA	POWER SUPPLY CONNECTOR PLUG
EA	EA	COMPUTING UNIT CONNECTOR PLUG
EB	EB	COMPUTING UNIT CONNECTOR PLUG
EC	EC	COMPUTING UNIT CONNECTOR PLUG
ED	ED	COMPUTING UNIT CONNECTOR PLUG
GND	Most ALL	GROUND CONNECTION
GS	GS	PRINT GROUP CONNECTOR
ILO	TLC-EC5	SIGNAL CONNECTION TO CENTER TAP OF CARD READ/RECORD HEAD
ILSH	TLS-EC8	SIGNAL CONNECTION TO GROUNDING SHIELD
IL1	TL1-EC6	SIGNAL CONNECTION TO END OF CARD READ/RECORD HEAD
IL2	TL2-EC7	SIGNAL CONNECTION TO END OF CARD READ/RECORD HEAD
M	M	POWER DISTRIBUTION BOARD FOR +20 VDC
MC	MC	CARD SWITCH
MT	MT	MT COUPLED WITH ITS NUMBER, DESIGNATES THE DIFFERENT POSITIONS OCCUPIED BY THE MICROSWITCH SLIDERS. STARTING FROM LEFT TO RIGHT MT1 REPRESENTS THE "AG" MICROSWITCH, MT2 REPRESENTS "AT", ETC.
OKSH	GS13-EA3	SHIELD AROUND THE "OK1" PULSE WIRE
OK1	GS12-EA4	STROBE OUTPUT PULSE
RB	RB	KEYBOARD LOCK SOLENOID
SD	SD	DECIMAL WHEEL
SM	SM	FIRE HAMMER BOARD
SPM	ED2-SM4	SIGNAL CONNECTION FROM COMPUTING UNIT TO FIRE HAMMER BOARD (PRINTING)
SPM	SM7-GS1	SIGNAL CONNECTION FROM FIRE HAMMER BOARD TO PRINT HAMMER ELECTROMAGNET
	SM8-GS2	SIGNAL CONNECTION FROM FIRE HAMMER BOARD TO PRINT HAMMER ELECTROMAGNET
TL	TL	READ/RECORD HEAD
UD1	SD1-EB10	SIGNAL CONNECTION FROM DECIMAL WHEEL (BINARY VALUE -1-)
UD2	SD2-EB12	SIGNAL CONNECTION FROM DECIMAL WHEEL (BINARY VALUE -2-)
UD3	SD3-EC11	SIGNAL CONNECTION FROM DECIMAL WHEEL (BINARY VALUE -4-)
UD4	SD4-EC12	SIGNAL CONNECTION FROM DECIMAL WHEEL (BINARY VALUE -8-)

P-101 Wire Connection Chart

DESTINATION	COLOR	SIGNAL	WIRE No.	CONNECTOR No.	CONNECTOR
				1	EA
		GND	48	48	
		CSA1	2	2	
		RED	20	47	
		MS 2	46	3	
		Shield	45	46	
		White	45	4	
		OK1	45	4	
		Blue	37	12	
		AB2	37	12	
		BLUE	MT 30	37	
		SDC	38	11	
		BLUE	MT 26	39	
		AE2	39	10	
		AT3	38	11	
		YELL	MT 12	9	
		AN1	40	9	
		YELL	MT 26	8	
		AE1	41	8	
		BLT	42	7	
		GRN	SM6	7	
		BLUE	MT 31	6	
		AA2	43	5	
		Blue	MT 31	5	
		GS12	43	5	

1	2	A02	BLUE	MT27
2	35	AW2	WHITE	GS 6
3	34	AC2	BLUE	MT29
4	33	AZ1	GRAY	AZ 3
5	32	AZ2	GRN	AZ1
6	31	AT1	YELL	MT2
7	30	AF2	BLUE	MT25
8	29	AG1	YELL	MT1
9	28	AN2	BLUE	MT12
10	27	OD1	ORNG	MD1
11	26	AT2	BLUE	MT2
12	25	UD2	RED	S02

1	24	A01	WHITE	MC3
2	23	GRN	GRN	CSA10
3	22	RED	GRN	CSA 9
4				
5	20	1LO	BLUE	TLC
6	19	1LI	WHITE	TLI
7	18	1L2	RED	TL2
8	17	1LH	SHIELD	TL5H
9	16	AP2	BRN	AP1
10	15	A01	YELLOW	MDT3
11	14	UD3	BRN	MDT3
12	13	UD4	YELLOW	SD4

	ED	
CSA3	12	GNN
M4	11	+20 RED
M02	10	A02 GRN
MT25	9	A F1 YELL
SM5	8	CAR1 WHITE
AP3	7	AP1 ORNG
GS3	6	AV1 GRAY
MT18	5	AW1 YELL
MT22	4	AM1 YELL
	3	
	2	SPM ORNG
MT34	1	AK2 BLUE

The diagram illustrates the internal wiring of the printer, showing the connection between the printer's internal components and the printer group connector (G5).

Printer Internal Components:

- Carriage Engagement Solenoid:** Connected to the printer's internal wiring.
- Hammer Electromagnet:** Connected to the printer's internal wiring.
- Wiring Labels:** BLACK, BLUE, RED, YELLOW, GREEN.

Printer Group Connector (G5) Pinout:

Printer No.	SIG.	COLOR	DEST.
5	ALAW	ORNG	SM13
4	ALAW	ORNG	SM13
3	AW1	GRAY	ED6
2	Spm	GREEN	SM8
1	Spm	BLUE	SM7

Printer Internal Wiring Diagram:

The diagram shows the internal wiring of the printer, including the carriage engagement solenoid, hammer electromagnet, and various color-coded wires (RED, BLUE, YELLOW, GREEN, BLACK) connecting to the printer's internal components.

PIN No	6	5	4
SIGNAL	BLT	CAR	SPM
COLOR	GRN	White	ORNG

DEST.	COLOR	SIG.	PIN No
M 1 st	RED	+20	3
CSA 8	BLUE	-V	2
CSA 5	GRN	GND ¹	1

FIRE HAMMER BOARD SM

DEST.	GS9	GS 4	MC1	RB	GS7	GS10	GS2	GS1
COLOR	BRN	ORNG	GRAY	White	YELL		GRN	BLU
SIGNAL	ALSB	ALAW	ALAO	BlI	Car	GND	Spm	Spm
PIN No	14	13	12	11	10	9	8	7

RB

SIGNAL	COLOR	DEST.
KEYBOARD LOCK	WHITE	SM 11
SOLENOID	RED	M 13

The image shows a 5-pin D-sub connector assembly. The connector is a metal housing with five pins. A label is attached to the top of the housing, featuring a large '5' and the text 'ENCODER SWITCHES' and 'MT'. Below the label is a table with three columns: 'DESTINATION', 'COLOR', and 'SIGNAL'. The table contains the following information:

DESTINATION	COLOR	SIGNAL
DESTINATION	COLOR "BLUE"	SIGNAL
DESTINATION	COLOR "YELLOW"	SIGNAL
DESTINATION	COLOR "RED"	SIGNAL
DESTINATION	COLOR "RED"	SIGNAL

ED 4	AM1	M	+20
ED 5	AV1	M	+20
EB 9	AN2	AN1	+20
EA 9	AN1	M	+20
EB 11	AT2	EB 6	+20
AT1	AT1	M	+20
EB 8	AG1	M	+20

ED	.1	AK2	EC	IO	AK1	M	+20	M	+20
EA	6	AC2						M	+20
EA	12	AB2						M	+20
EB	3	AC2						M	+20
EB	.1	AD2						M	+20

DEST	COLOR	SIG	PIN No
ED 7	ORNG	AP1	3
M 14	RED	+20	2
EO-9	BRN	AP2	1 _{in}

Record Prog
 SWITCH **AP**

DEST	COLOR	SIG	PIN No
EB 4	GRAY	AZI	3
M 14	RED	A20	2
EB 5	GRN	A22	1

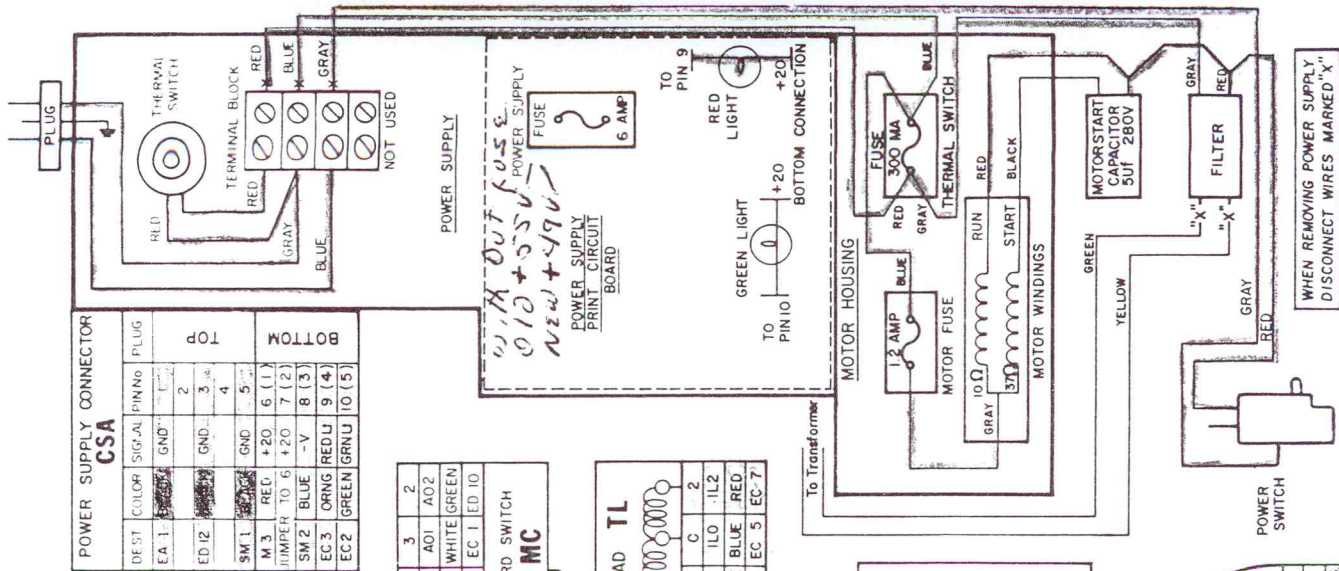
Print Program
SWITCH **AZ**

MT NUMBER
SLIDER POSITION

M
+20 DISTRIBUTION BLOCK
ALL UNLABELED PINS ARE CONNECTED TO
ENCODER MICROSWITCHES

4	3	2	1	PIN No.
EDII	CSA6	EA2	SM3	DESTINATION

PIN No.	2	4	3	1
SIG.	UD2	UD4	UD3	UD1
COLOR	RED	YEL.	BROWN	ORNG.



	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2
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Sales Comm. Rate Under 20%
Over 25%

AV

S Enter Gusto

F/A

S Enter 20

F/A

S Enter 25

F/A

AW

C+

C↓

CD Print Btal Comm.

S Enter Sales

B/A

F/V

B-

/V

F/V

3 X

4 0

W

F/V

F/V

3 X

A 0

W

THESE NOTES WERE
W/MANUAL

OFFICE MACHINE
AMERICANA

Computing Sales Comm by generating factors

AV

D/X

~~B/X~~

A O

~~C/X~~

V

~~C/X~~

A IV

~~A/X~~

C ↓

A/T 10.000

R/S

~~D/X~~

R/S

A O

R/S

V

R/S

D ↓

D ↑ STORE

A/T 0.05

R -

R/S

D/S

D/T STORE

AW Enter sales or
expense 2

S

+

W

HZ

THESE NOTE WERE

W/MANUAL

A O

19000
10000
9000

~~C/T~~

~~D/V~~

D ↓

V
D*
d*
C*
C*
A*
a t
r S
R S
R S
R S
D I
D t
a t
R -
R S
d S
d t
AW
S
+
W
A7
A O
t
C t
t
D -
/ V
D I
d X
A O
V
a V
C I
d X
A O
V
S

Circumference = $2\pi R$ Print out C
 Area = πR^2 Print out A
 operator only enters Area

AV M A B C D / D
 S Enter R 12 12 12 Circumference 2 3.1416
 A / ↑

R X

R ↓

R +

R ↓

D / ↑

D ↑ 3.1416

A / ↑

D / ↑

D / ↑ 2

D ↓

X

B X

C D

B ↓

B X

D X

A ◊

C ◊

V

THESE NOTES
 WERE w/ manual

V
 S
 B ↑
 ↓
 a ↑
 R X
 R ↓
 R +
 R ↓
 d ↓
 D ↑
 a ↑
 d ↑
 d ↑
 D ↓
 X
 B X
 C ↓
 B ↓
 B X
 D X
 A ◊
 C ◊
 V
 S