NO. 3 ESS
MINI-ROTL SUMMARY SECTION

CONTENTS

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1. GENRAL INFORMATION

1.1 Description: The sections associated with this summary section provide procedures to verify proper operation of the Mini-ROTL (Remote Office Test Line) for stored Program Control offices. This series of sections in particular verify the J-94055A ROTL as applied to No. 3 ESS offices.

1.2 Circuit Tested:

SD-99392-01 Mini-ROTL Circuit

1.3 Sequence of Tests: The sections listed below and the test paragraphs within those sections should be performed in numerical order for the most efficient installation.

SECTION	TITLE
613.01	Mini-ROTL Initialization
613.02	Mini-ROTL Diagnostics
613.03	Mini-ROTL Responder Alignment
613.04	Mini-ROTL System Tests

2. RECORDS AND REQUIREMENTS

2.1 Records: The results of the tests per Section 613.01 thru 613.04 shall be recorded on form SD-97-1313 and summarized on form SD-97-1315.

2.2 Requirements: The tests contained in the associated sections are based on SD and CD information and on Diagnostic and Operational Program listings.

3. TEST EQUIPMENT

NOTE: The following is a complete list of all equipment required to perform the tests and repairs (if required) in Section 613.01 through 613.04. The repair tools, backplane pins, extender board and the other items needed are part of the ITE-5945 Test Accessory Set.

3.1 Test Sets

Amt	CODE	Description
1	ITE-4442A	Voltohmmeter
	or	
1	ITE-5632	Digital Voltometer
1	ITE-5706	Wilcom T105B Reference Level Test Set
1	ITE-5462	ROTL System Test Set
	or	
T1	H310-150	ROTL System Test Set
	or	
1	ITE-6164	Control Unit
	or	
T1	92A	Control Unit
*1	ITE-5469	Execuport Terminal
	or	
1	ITE-5689	Model 43 Teletype

T - Use operating company equipment when available.
* - Verify that the Execuport contains at least two full rolls of ITE-5469 Detail 4 paper per No. 83546904, and one ITE-98688 cord.

3.2 Accessories

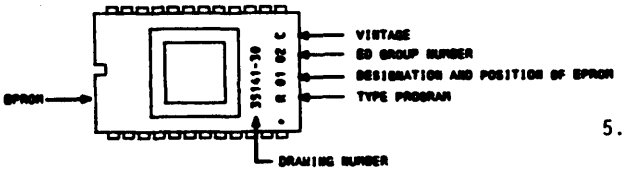
Amt	Code	Description
1	258C	Make Busy Plug
1	R-1005	Jewelers Screwdriver Set
1	ITE-5945	ROTL Test Accessory Set

3.3 Spare Packs Package

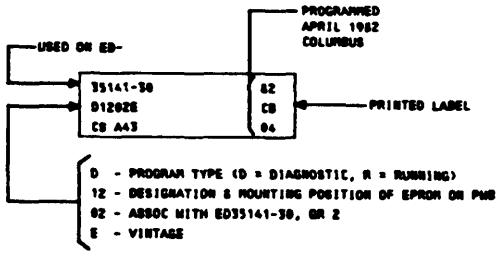
Amt	Code	Description
1	SPP-838 List-2	ROTL Spare Packs Package

4. MEMORY IDENTIFICATION

4.1 The following information provides a description of the identification code for the EPROM's on the Memory board CP-14.



OLD METHOD



NEW METHOD

Number of ED Group - this number is incremented when program features are added on a Class B or D basis.

Vintage - This designation is changed when a class A change is applied to the program.

5. BACK PLANE REPAIRS

5.1 Tools & Terminals

5.11 R-4760 Insertion Tool, R-4761 Removal Tool and R-4828 Insertion and Removal Tool are required for removing and adding terminals in the backplane. The R-4828 tool with Detail #6 Removal Head may be used in place of the R-4761 Removal Tool.

5.12 Nine types of press fit terminals may be furnished. These are furnished (50 each) in ITE-5945 ROTL Test Accessory Set and the tools described in Paragraph 5.11.

5.13 The R-4760 Insertion tool is shown in Figure 1. This tool is used on the pins that are not shouldered pins. The R-4828 tool is to be used on the souldered pins. To determine the difference in the pins, look at the portion of the pin that rests in the backplane. The shouldered pin has a small wing on two sides of the pin. The R-4828 Detail 2 pin insertion head is to be used on the shouldered pins that are spaced .125" between pins. The Detail 3 head is for shouldered pins that are spaced .100" between pins.

NOTE: Shouldered pins must be inserted from the front of the backplane only.

5.14 The R-4761 Removal Tool is shown in Figure 2.

5.15 The R-4828 Tool and Insertion heads are shown in Figure 4.

5.16 The types of press fit terminals can be identified by one or more of the following means.

1. The length of the pin.
2. Is it a shouldered (winged) pin or not.
3. Is it gold plated on one end, both ends or neither end.

All 1B and 1D type pins are shouldered where as the F type are not. Refer to the table below which indicates the type of terminal, the length of the pin on the circuit pack end and the wiring end, if it is gold plated or not and the length of the gold plating on the pin.

TERMINAL TABLE

	Length		Gold	
Terminal Type	CP	Wiring	CP	Wiring
F-60484	.700	.700	yes.300	yes.200
F-60485	.625	.700	yes.330	yes.200
F-60617	----	.690	-------	yes.200
1B4	.700	.700	yes.300	yes.200
1B5	.545	.700	yes.225	no
1B6	.625	.700	yes.305	no
1B7	.545	.700	yes.225	yes.200
1B8	.625	.700	yes.305	yes.200
1D1	.700	.700	no	yes.200

NOTE: Terminal 1B4 can be used in place of F-60484. Terminal 1B7 can be used in place of 1B5. Terminal 1B8 can be used in place of F-60485 & 1B6. Terminal 1D1 can be used in place of F-60617, and cut or break off the circuit pack end after insertion.

5.17 An enlarged photo of an 1B6 terminal is shown in Figure 3.

5.2 Terminal Replacement Procedure

5.21 To remove a pin that is broken or too badly bent to straighten properly, insert the barrel of the removal tool over the pin as shown in Figure 2. There will be approximately 1.4 inch between the bottom of the barrel and the back plane.

5.22 Push the handle of the removal tool toward the back plane until the spring latch inside the tool releases the pressure spring. About two or three strokes with the tool is enough to remove the pin from the back plane.

5.23 To replace the pin, select the same type of pin that was removed from the back plane. Insert the pin in the center hole on the head of the insertion tool.

5.24 Turn the pin so that the slot in the pin faces the same direction as the cutout section on the head on the insertion tool.

5.25 Start the end of the new pin in the hole on the back plane. Align the existing pin on the left and on the right on the back plane into the two holes in the head of the insertion tool.

5.26 Push the new pin into the hole until it stops sliding freely.

5.27 Holding the insertion straight, carefully push the handle of the insertion tool toward the back plane until the spring latch inside the tool releases the pressure spring.

5.28 Abort two or three strokes with the tool should be enough to insert the pin properly. The end of the head should rest against the backplane. See Figure 1.

6. CONTROLS AND INDICATORS

6.1 Switches and Controls

Designation/Location	Function
DIAG ENAB/CP-18	Operated it enables the RST button on CP-18 and lights the DIAG ENAB LED.
PWR OFF/CP-19	Operated connects -48 volts to the power packs.
ROTL/CP-15	Operated connects the Monitor Amplifier to the ROTL input.
RST/CP-18	Momentarily operated it resets the CPU.
TUT/CP-15	Operated connects the Monitor Amplifier to the ROTL output.
VOL/CP-15	Adjusts Monitor Amplifier volume level.

6.2 Indicators

Designation/Location	Function
+15, -15 +12, -12 /CP-19 +5, -5	Lighted indicates the presence of the voltage.
DIAG ENAB/CP-18	Lighted indicates that the DIAG ENAB switch is operated.
PWR OFF/CP-19	Lighted indicates that the -48 volts to the power packs is off.
RL/CP-18	Blinking at a one second rate indicates that the CPU is running normally.
TL1/CP-21	Lighted indicates that the first 105 Port is busy.
TL2/CP-21	Lighted indicates that the second 105 Port is busy.

ATTACHMENTS
Figures 1 thru 4 on Page 4.

Manager, Product Engineering
Control Center

Reason for Reissue
To change Paragraph 5.11, to include the use of R-4828 and Detail #6 as a substitute for the R-4761 Removal Tool.

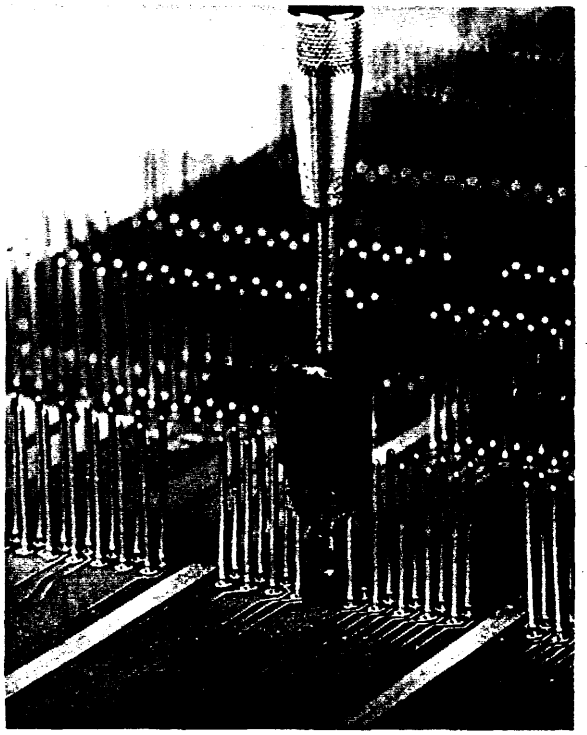


FIGURE 1

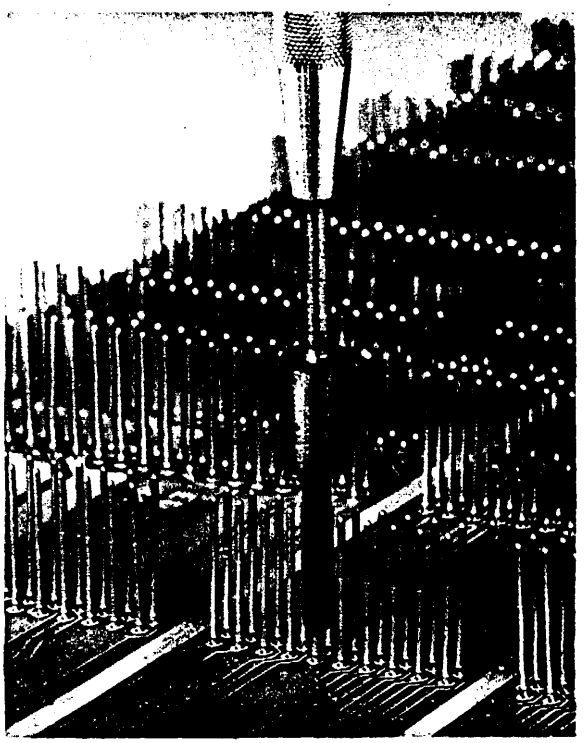


FIGURE 2

FIGURE 3

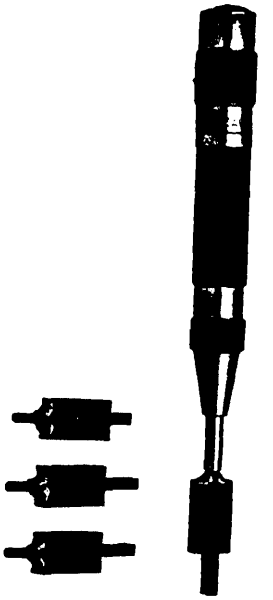


FIGURE 4