g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GEF-TRAD2**

Test Procedure for TRAD2 Printed Circuit Board

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Functional test procedure for TRAD2 Printed Circuit Board

1. SCOPE

1.1 This specification provides the Engineering Requirements for testing the TRAD2 44A398716-G01 board.

2. STANDARDS OF QUALITY

2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.

3.1.1	**GEK-36093**	Diagnostic Software for 1050T Controls
3.1.2	**GEK-71632**	Diagnostic Software for 1050MC Controls
3.1.3	**GEK-45668**	Computer Access Panel
3.1.4	**44C288517**	Schematics

4. ENGINEERING REQUIREMENTS

4.1 Description: TRAD2 board is used to amplify the signals that are produced by the photoelectric cells in the tape reader. Also it provides outputs that operate the stepping motor of the 150-CPS, sprocket drive, photoelectric taper reader.

4.2 Equipment Cleaning

4.2.1 Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to the local documented procedures for cleaning guidelines.

4.3 Equipment Inspection

4.3.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:

4.3.1.1 Wires broken or cracked
4.3.1.2 Terminal strips / connectors broken or cracked
4.3.1.3 Loose wires
4.3.1.4 Components visually damaged
4.3.1.5 Capacitors leaking
4.3.1.6 Solder joints damaged or cold
4.3.1.7 Circuit board burned or de-laminated
4.3.1.8 Printed wire runs burned or damaged

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
1	GE 1050T	CPU3 Model
1	GE Computer Access Panel	External Interface
1	Diagnostic Tape Specific to Control	Diagnostic Tape
1	Executive Tape Specific to Control	Executive Tape

6. TESTING PROCESS

6.1 Diagnostic Test
- **6.1.1** Remove Control's TRAD2 and install the TRAD2 to be tested.
- **6.1.2** Load the Diagnostic Tape.
  - **6.1.2.1** Once the tape is fully loaded it will rewind back to the beginning (Before Test No. 1). The Display should show: Push Control OFF, then ON, follow the instruction at this time. If the Cap Panel is hooked up you will also have to hit the RUN switch to start the control's program. Tested Diagnostic Program Press "OPTN STOP" then "CYCLE START" to test all boards.

6.2 Running a Part Program
- **6.2.1** Load executive software into control, be sure servos are disabled on motion cart.
- **6.2.2** After tape finishes loading and rewinding, turn off "SOFTWARE LOAD SWITCH".
- **6.2.3** Press "CONTROL ON" push button to bring control out of an E-Stop condition. Control should display "**ZERO MACHINE**".
- **6.2.4** Load short part program tape into tape reader and enable servos on motion cart.
- **6.2.5** Press "CYCLE START" and tape reader should begin to read tape and axis's should start turning. When tape is completed it should rewind.
- **6.2.6** Disable servos, shut down motion cart, and turn off control.

6.3 ***TEST COMPLETE ***

7. REFERENCES

7.1 None at this time

8. ATTACHMENTS

8.1 None at this time