g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-872D490G3**

Test Procedure for a 872D490G3 Turbine Card

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release, re-wrote procedure P24B-AL-4837 into this format so it is easier to read.	C. Wade & S. Cash	2/18/2012
B			
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
S. Cash			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
2/18/2012			2/18/2012

1. SCOPE

1.1 This is a functional testing procedure for an 872D490G3 Turbine Card.

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** Check board's electronic folder for more information
- **3.1.2** Reference Schenectady Test P24B-AL-4837

4. ENGINEERING REQUIREMENTS

4.1 Equipment Cleaning
- **4.1.1** Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to site specific SRA's for cleaning guidelines.

4.2 Equipment Inspection
- **4.2.1** Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:
  - **4.2.1.1** Wires - broken, cracked, or loosely connected
  - **4.2.1.2** Terminal strips / connectors - broken or cracked
  - **4.2.1.3** Components - visually damaged
  - **4.2.1.4** Capacitors - bloated or leaking
  - **4.2.1.5** Solder joints - damaged or cold
  - **4.2.1.6** Circuit board - burned or de-laminated
  - **4.2.1.7** Printed wire runs / Traces - 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		Fluke 87 DMM (or Equivalent), Two voltage and current Meters
3		+/- 15VDC Power Supplies

6. Testing Process

6.1 Setup

6.1.1 Connect board as per figure 2. See attachment in section 8. Data sheet is also attached in section 8.

6.1.2 Open SW3, SW4, SW5, & SW6.

6.1.3 Plug in board and ground TP-9. Turn Pot 8 fully CW.

6.2 Testing Procedure

6.2.1 Power up card.

6.2.2 Adjust R31 for +5.10V at TP-5.

6.2.3 Set SW4 down (close SW4). The voltage at TP-5 should drop to 0VDC +- 0.05.

6.2.4 Set SW4 up (open SW4).

6.2.5 The voltage at TP-5 should return to +5.10V.

6.2.6 Remove ground from TP-9. Ground TP-8, set SW5 up (open SW5).

6.2.7 Turn load limit pot #8 fully CW. The voltage at TP-5 should be +5.10V.

6.2.8 Turn Pot 8 fully CCW and adjust R30 for 0V at TP-5

6.2.9 Turn Pot 8 fully CW, close SW5.

6.2.10 Remove ground from TP-8 and adjust R26 for 3.0V at TP-5.

6.2.11 Turn Pot 8 fully CCW, the voltage at TP-5 should be 0V,

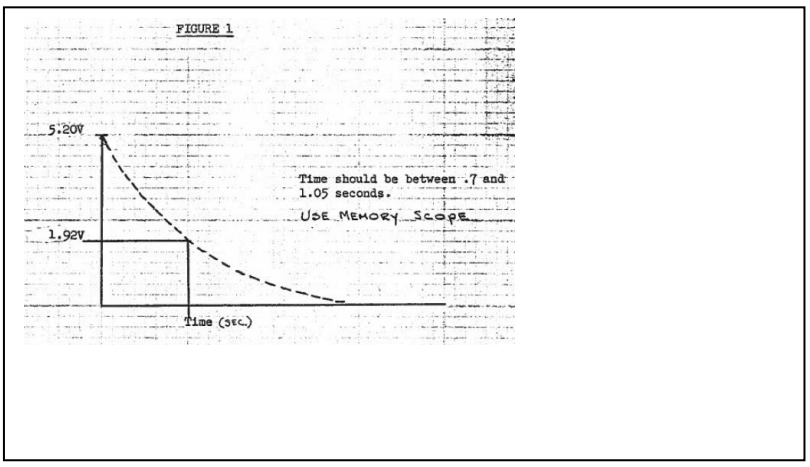
6.2.12 Adjust Pot8 for 2.5V at TP-5; Set SW3 and SW4 down (close SW3 & SW4).

6.2.13 The voltage at TP-5 should be 0V. Adjust Pot8 from it full CW to it full CCW limit. The voltage at TP-5 should not change in value from the allowable dead-band of +- 0.05V.

6.2.14 Turn Pot 8 fully CW. Open SW3, SW4, & SW5; output at TP-5 should be +5.10V.

6.2.15 Connect TP-4 to BP-3. Hook up a memory type of oscilloscope to read voltage at TP-5

6.2.16 Close SW6, the oscilloscope trace should be the same as shown in figure 1



6.2.17 Open SW6, close SW5, and adjust R26 for 0VDC at TP-5.

6.2.18 Open SW5

6.2.19 Close SW6 and observe that the oscilloscope trace is the same as in figure 1.

6.2.20 Re-adjust R26 for +3.0V at TP-5.

6.2.21 End of test

6.3 Post Testing Burn-in **Required** **_X_ Yes** **___ No**

Note: All MARK I, II, & III Turbine related cards require a post testing burn-in of 100 hours.

6.3.1 Apply BUS or Operational power to the card for a period of 100 hours.

6.3.2 Re-test card while warm using the above procedure.

6.4 ***TEST COMPLETE ***

7. Notes

7.1 Fill out data sheet in Section 8

8. Attachments

8.1 Data Sheet

Job # _____

Serial # _____ Burn-in Start _____

Date _____

Data Sheet for __872D490G0003_____ Burn-in Stop _____

Test Procedure __P24B-AL-4837_____ Technician _____

Test Procedure Step	Nominal	Lower Limit	Pre-Burn in Results	Post Burn in Results	Upper Limit	Pot Values If applicable CW	CCW	Pass/Fail
4	5.1VDC	-			-	-	-	
4a		-	-	-	-			
10	0VDC	-			-	-	-	
10a		-	-	-	-			
12	3.0VDC	-			-	-	-	
12a		-	-	-	-			

8.2 Figure 2