g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-125D460AX**

Test Procedure for a 125D460AX

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release Transferred from paper copy to an electronic format.	G. Chandler	10/14/2011
B	Added data sheet	C. Wade	2/22/2013
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
G. Chandler			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
10/14/2011			10/14/2011

1. SCOPE

1.1 This is a functional testing procedure for a Turbine Control 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** Check board's electronic folder for more information

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
2		30VDC Power Supplies
2		15VDC Power Supplies
2		12VDC Power Supplies
2		Fluke 85 meter or equivalent
1	460 Card Test Fixture	H033933 - Fixture #54

6. Modifications/Upgrades

6.1 Check Orange Book for any modifications or upgrades.

7. Testing Process

7.1 Setup

7.1.1 Turn Power switch off.

7.1.2 Connect +12VDC, -12VDC, and common to test

7.1.3 Connect +15.75VDC to +15VDC Test Jack

7.1.4 Connect -15.75VDC to -15VDC Test Jack

7.1.5 Connect +30.75VDC to +30VDC Test Jack

7.1.6 Connect -30.75VDC to -30VDC Test Jack

7.1.7 Set S1 and S2 to "ON" (right Position)

7.2 Testing Procedure

7.2.1 Plug board into "AX" position.

7.2.2 Turn power switch "ON".

7.2.3 Read +15.75VDC, current 1000ma Max.

7.2.4 Read -15.75VDC, current 150ma Max.

7.2.5 Read +30.75VDC, current 175ma Max.

7.2.6 Read -30.75VDC, current 175ma Max.

7.2.7 In steps 7.2.7.1 through 7.2.7.18, connect DVM to appropriate test point and read its voltage.

7.2.7.1 TP801 must be +15.75 +/-0.10VDC

7.2.7.2 TP802 must be +15.75 +/-0.10VDC

7.2.7.3 TP803 must be +15.0 +/-0.20VDC

7.2.7.4 TP815 must be +5.0 +/-0.20VDC

7.2.7.5 TP816 must be +5.0 +/-0.20VDC

7.2.7.6 TP817 must be +5.0 +/-0.20VDC

7.2.7.7 TP818 must be +12.0 +/-1VDC

7.2.7.8 TP819 must be +12.0 +/-0.50VDC

7.2.7.9 TP805 must be -15.75 +/-0.10VDC

7.2.7.10 TP806 must be -15.75 +/-0.10VDC

7.2.7.11 TP804 must be -15.00 +/-0.20VDC

7.2.7.12 TP820 must be -12.0 +/-0.50VDC

7.2.7.13 TP808 must be +30.75 +/-0.10VDC

7.2.7.14 TP809 must be +30.75 +/-0.10VDC

7.2.7.15 TP810 must be +30.00 +/-0.20VDC

7.2.7.16 TP812 must be -30.75 +/-0.10VDC

7.2.7.17 TP813 must be -30.75 +/-0.10VDC

7.2.7.18 TP811 must be -30.00 +/-0.20VDC

7.2.8 In steps 7.2.8.1 through 7.2.8.10, connect Scope to appropriate test point and read noise.

7.2.8.1 TP803 must read 50mv ma**x**

7.2.8.2 TP815 must read 50mv max

7.2.8.3 TP816 must read 50mv max

7.2.8.4 TP817 must read 50mv max

7.2.8.5 TP818 must read 50mv max

7.2.8.6 TP819 must read 50mv max

7.2.8.7 TP804 must read 50mv max

7.2.8.8 TP820 must read 50mv max

7.2.8.9 TP810 must read 50mv max

7.2.8.10 TP811 must read 50mv max

7.2.9 Turn S1 "OFF".

7.2.10 In steps 7.2.10.1 through 7.2.11.4, connect DVM to appropriate test point and read voltage.

7.2.10.1 TP803 must be +15.0 +/-0.20VDC

7.2.10.2 TP804 must be -15.0 +/-0.20VDC

7.2.10.3 TP810 must be +30.0 +/-0.20VDC

7.2.10.4 TP811 must be -30.0 +/-0.20VDC

7.2.11 Turn S1 "ON" and S2 "OFF".

7.2.11.1 TP803 must be +15.0 +/-0.20VDC

7.2.11.2 TP804 must be -15.0 +/-0.20VDC

7.2.11.3 TP810 must be +30.0 +/-0.20VDC

7.2.11.4 TP811 must be -30.0 +/-0.20VDC

7.2.12 Turn S1 "OFF", S2 "OFF", and turn power "OFF".

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

Note: 100 hour burn is required for most Turbine Control Boards

7.4 ***TEST COMPLETE *

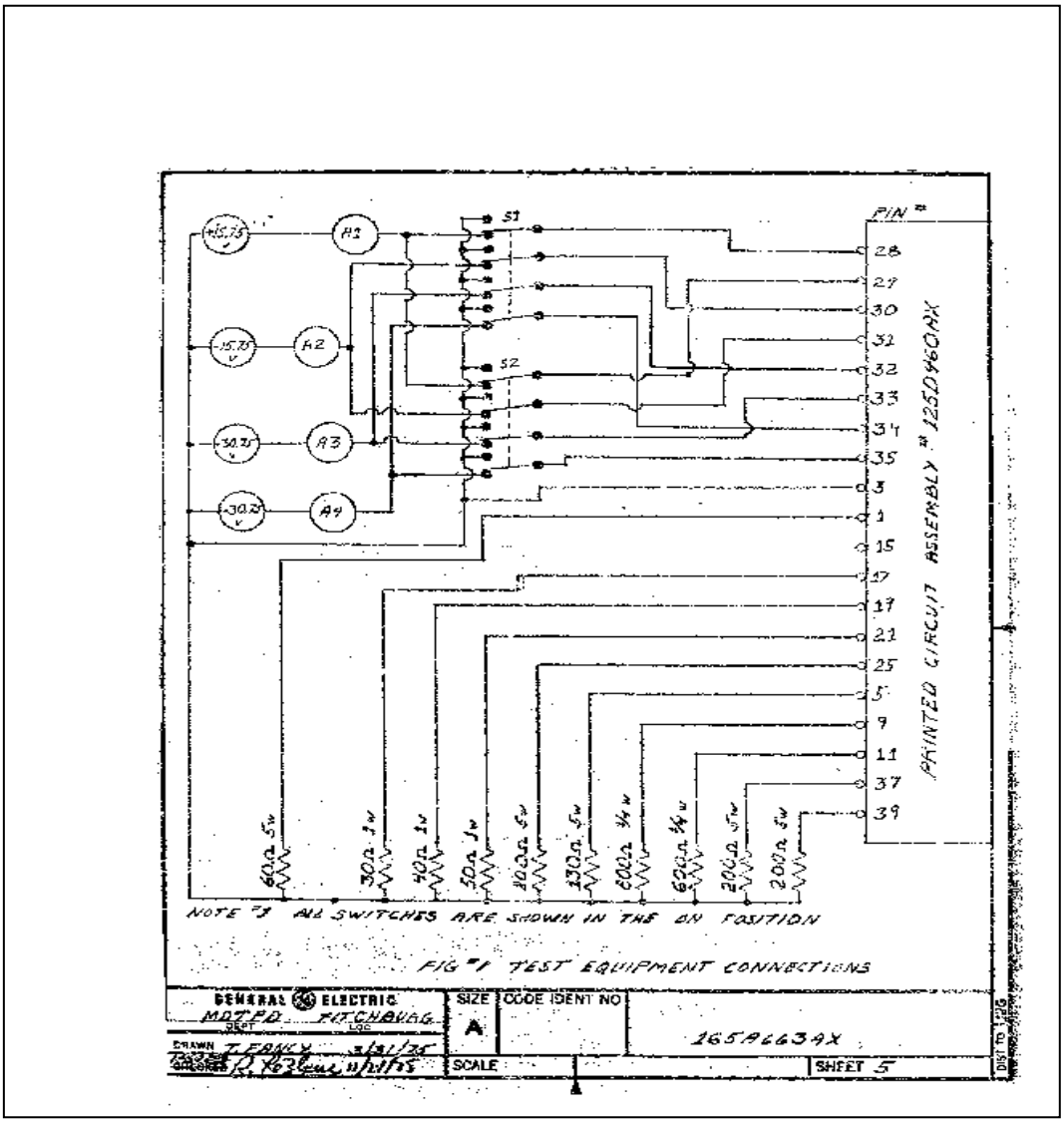
8. Notes

8.1 None at this time.

9. Attachments

9.1 Attached is figure one and data sheet for board.

Figure 1 Test Circuit



NewStep	Read at	Required Value	Pre-Test Measured	Post-Test Measured	Post-Test Final Measured
7.2.3	A1 (+15.75VDC)	1.0A MAX			
7.2.4	A2 (-15.75VDC)	150mA MAX			
7.2.5	A3 (+30.75VDC)	175mA MAX			
7.2.6	A4 (-30.75VDC)	175mA MAX			
7.2.7.1	TP801	15.75 +/-0.10V			
7.2.7.2	TP802	15.75 +/-0.10V			
7.2.7.3	TP803	15.0 +/-0.20V			
7.2.7.4	TP815	5.0 +/-0.20V			
7.2.7.5	TP816	5.0 +/-0.20V			
7.2.7.6	TP817	5.0 +/-0.20V			
7.2.7.7	TP818	12.0 +/-1V			
7.2.7.8	TP819	12.0 +/-0.5V			
7.2.7.9	TP805	-15.75 +/-0.10V			
7.2.7.10	TP806	-15.75 +/-0.10V			
7.2.7.11	TP804	-15.00 +/-0.20V			
7.2.7.12	TP820	-12.0 +/-0.50V			
7.2.7.13	TP808	30.75 +/-0.10V			
7.2.7.14	TP809	30.75 +/-0.10V			
7.2.7.15	TP810	30.00 +/-0.20V			
7.2.7.16	TP812	-30.75 +/-0.10V			
7.2.7.17	TP813	-30.75 +/-0.10V			
7.2.7.18	TP811	-30.00 +/-0.10V			

NewStep	Read at	Required Value	Pre-Test Measured	Post-Test Measured	Post-Test Final Measured
7.2.8.1	TP803	50mV Max			
7.2.8.2	TP815	50mV Max			
7.2.8.3	TP816	50mV Max			
7.2.8.4	TP817	50mV Max			
7.2.8.5	TP818	50mV Max			
7.2.8.6	TP819	50mV Max			
7.2.8.7	TP804	50mV Max			
7.2.8.8	TP820	50mV Max			
7.2.8.9	TP810	50mV Max			
7.2.8.10	TP811	50mV Max			
7.2.10.1	TP803	15.0 +/-0.20V			
7.2.10.2	TP804	-15.0 +/-0.20V			
7.2.10.3	TP810	30.0 +/-0.20V			
7.2.10.4	TP811	-30.0 +/-0.20V			
7.2.11.1	TP803	15.0 +/-0.20V			
7.2.11.2	TP804	-15.0 +/-0.20V			
7.2.11.3	TP810	30.0 +/-0.20V			
7.2.11.4	TP811	-30.0 +/-0.20V			

Data Sheet for 125A460AX, Serial Number_____, Service Order #_____, Date_____