



<p>LOU-GED-125D5339 REV. B</p>	<p>g</p> <p>GE Energy <i>Parts & Repair Services</i> <i>Louisville, KY</i></p>	<p>Page 2 of 6</p>
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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		Fluke 85 meter or equivalent
1		15VDC power supply

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6. Modifications/Upgrades

6.1 Check Orange Book for any modifications or upgrades.

7. Testing Process

7.1 Setup

7.1.1 Reference the drawing on page three. The following highlighted in "Blue" are hand written notes from test P3K-AL-0216.

7.1.1.1 A = UP

7.1.1.2 B = DOWN

7.1.1.3 G1 = G3

7.1.1.4 G2 = G4

7.1.1.5 Patchboard PCR-3 #36. Leave patchboard instruction alone.

7.1.1.6 Connect board as shown in figure 1, page 3.

7.2 Testing Procedure

7.2.1 Check that TP3 reads 6.2V +- 5%, (5.89V to 6.52V).

7.2.2 Set S11 to position A. Voltage at pin 32 should equal -0.294 +- 0.012V, (-0.282V to -0.306V).

7.2.3 Set S11 to position B and read the voltage at both Pin-35 and TP7. Check that this can be altered from 0.07V to 0.21V by adjusting R32. Set the voltage at 0.139V. Return S11 to position C.

7.2.4 Set S12 to position A and read the voltage at both Pin-39 and TP9. Check that this can be adjusted from 0.604 to 0.714 by adjusting R31. Set the voltage at 0.694V.
Special Note: G1 and G3 should be set to .694V. G2 and G4 should be set to 1.1V.

7.2.5 Set S12 to position B and read the voltage at both Pin-20 and TP4. Check that this can be adjusted from 2.013V to 2.153V by adjusting R30. Set the voltage at 2.083V. Return S12 to position C.

7.2.6 Set S15 to position A and read the voltage at both Pin-7 and TP1. Check that this can be adjusted from 2.43V to 2.57V by adjusting R29. Set the voltage at 2.500V

7.2.7 Set S15 to position A, Set S4 to position A, and read the voltage at Pin-24. Check that this can be adjusted from 2.75V to 2.875V by adjusting R28. Set the voltage at 2.800V. Return S15 and S4 to position C.

7.2.8 Adjust R36 until the voltage between TP6 and TP11 reads 0.00 +-0.001VDC. Check resistance between TP6 and TpP11 approx 24.9 ohms.

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- 7.2.9** Set S5 to position A and check that the voltage reads at both Pin-25 and TP5 can be adjusted from 0V to 0.019 volts by adjusting R33. [Set the voltage at 0.019](#). Return S5 to position C.
- 7.2.10** Set S6 to position A and check that the voltage reads at both Pin-15 and TP2 can be adjusted from 0V to 0.009 volts by adjusting R34. Set the voltage at 0.009.
- 7.2.11** Set S6 to position B and check that the voltage reads at both Pin-37 and TP8 can be adjusted from 0V to 0.006 volts by adjusting R35. Set the voltage at 0.006. Return S6 to position C.
- 7.2.12** Set S5 and S10 to position A.
- 7.2.13** Turn R37 and R38 fully counterclockwise.
- 7.2.14** Set S9 to position A and S8 to position B, make sure +2V is regulated.
- 7.2.15** Adjust R38 to give 0.25VDC at Pin-8.
- 7.2.16** Set S9 to position B, S8 to position A, and adjust R37 to give 0.25VDC at pin 10. [There should be +2 @ Pin-11 and -8 @ Pin-9.](#)
- 7.2.17** Return S5, S8, S9, and S10 to position C

7.3 Post Testing Burn-in **Required** X Yes No



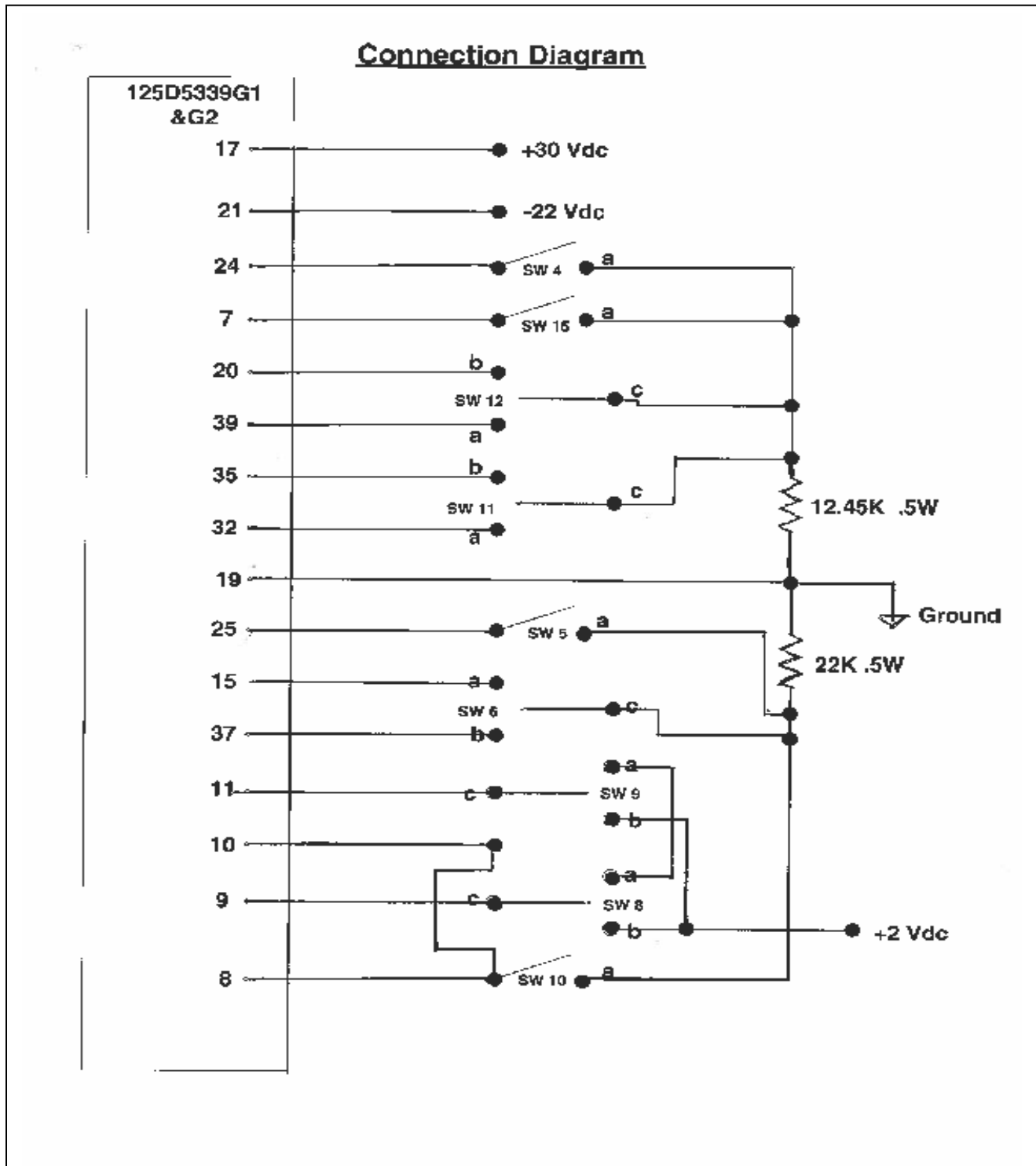
Note: 100 hour burn is required for most Turbine Control Boards


7.4 *TEST COMPLETE *****

8. Notes

- 8.1** See next page for Figure 1
- 8.2** See Last page for Data Sheet

Figure 1



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Job # _____

Serial # _____

Burn-in Start _____

Date _____

Data Sheet for 125D5339G004

Burn-in Stop _____

Test Procedure LOU-GED-125D5339

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
7.2.1	6.2VDC	5.7V			6.7V			
7.2.2	-0.29VDC	0.306V			-0.282V			
7.2.3	.139VDC	.07V			.21V			
7.2.3 - R32								
7.2.4	1.1VDC	.9V			1.3V			
7.2.4 - R31								
7.2.5	2.083VDC	2.013V			2.153V			
7.2.5 - R30								
7.2.6	2.5VDC	2.43V			2.57V			
7.2.6 - R29								
7.2.7	2.8VDC	2.75V			2.875V			
7.2.7 - R28								
7.2.8	0.0VDC	0V			0V			
7.2.8 - R29								
7.2.9	.019VDC	0V			.019V			
7.2.9 - R33								
7.2.10	.009V	0V			.009V			
7.2.10 - R34								
7.2.11	.006V	0V			.006V			
7.2.11 - R35								
7.2.15	0.25V							
7.2.15 - R38								
7.2.16	0.25V							
7.2.16 - R37								