g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GEF-SLDP1**

Test Procedure for 1050HLX SLDP1 44A297071-101 and 44A297071-G01

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Functional test procedure for 1050HLX SLDP1 Boards

1. SCOPE

1.1 This specification provides the Engineering Requirements for 1050HLX SLDP1 Boards with PROM SET.

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-25346
3.1.2 GEK-25345
3.1.3 GEK-84815

4. ENGINEERING REQUIREMENTS

4.1 Description
4.1.1 SLDP1 is the 1050HLX Supervisor board.
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
4.3.1.9 Broken Hardware

5. EQUIPMENT REQUIRED

5.1 The following equipment is required to perform the process requirements.

Qty	Reference #	Description
1	1050HLX Test Control	Numerical Contouring Control
1	Axis Cart	Motion Cart for Control
1	PROM3 Board	Test Board with Diagnostic PROM Set
1	DPMA1 Board	Test Board with Executive PROM Set

TESTING IFOMATION: Can be explained in detail in GEK-84815 ROM Board Diagnostic for 1050HLX Control Operating procedures.

6. TESTING PROCESS

6.1 Pre Test Requirement

6.1.1 Remove Master SPDL1 from Rack Slot 10 and put in board to be tested.

6.1.2 Check to see that Diagnostic PROM3 Board is in Slot 14.

6.1.3 Put the Special mode switch in the on (down) position.

6.2 SPDL1 DIAGNOSTICS Test

6.2.1 Turn Control power on. After a short delay, during which the Power-Up Diagnostics are executing, the Control will enter the Test Preparation mode.

6.2.2 If the Power-Up Diagnostics finds an error, an error code and message will be displayed. (See GEK-84815, GEK25345 for Error Explanations of Codes).

6.2.3 If no error is displayed the CRT will display “Diagnostics Test Prepare Page”.

6.2.4 Test **10 DC Power Up Sup 99** is the test for the SLDP1 Board.

6.2.5 Depress “CYCLE START” to run Loop Diagnostic Test on all the boards the Control. (Run the loop test for 1 to 2 hours) if board fails an Error Code will be displayed.

6.2.6 You can do a loop test for the SLDP1 Board only by deleting all the Diagnostics tests except **10 DC Power Up SUP 99** by move Cursor up to Hi-lighting the test then pressing “SHIFT” + “DELET” to remove the test from the list. Remove al other test then press Cycle Start to run test loop for @ 1 hour. If there is a fault an Error Code will be displayed.

6.2.7 When the SLDP1 Board Passes Diagnostic Test Turn Off Control and set control up for Executive Test.

6.3 SLDP1 EXECUTIVE TEST

6.3.1 Remove PROM3 Diagnostic Board from Slot 14 and place in PROM3 Executive Board. Turn special mode switch OFF (up) position.

6.3.2 Connect Axis Plugs and Spindle Plug to Axis Motion Cart.

6.3.3 Turn Control power on. After a short delay, Position Page should be displayed.

6.3.4 Load MSD, OFFSET and Part Program in to Memory.

6.3.5 Check MSD Press SETUP to see MSD DATA (refer to Last Page) if it is not there you will have to enter MSD DATA. Turn Control Off. Turn special mode switch ON (down) position. Turn on Control when display comes up press P3 and enter in MSD as to Data on last page. Turn off Control. Turn special mode switch OFF (up) position.

6.3.6 Enter in Part Program Test Program.

6.3.7 Press Program then ”Sup← Pg”, Type in TEST (this will Part Program’s Name).

6.3.8 Press “Sub →Pg” Type in Part Program Data (refer to last page).

6.3.9 Turn off Control

6.3.10 Turn on Axis Cart then turn on Control.

6.3.11 Select Test Program. Press “PRGRM” then “Sub ← Pg”, select Test Program by press “ENTER” then press “Sub → Pg” Program will be displayed.

6.3.12 Press “POSN” then AUTO and Cycle Start Part Program should run.

6.3.13 When Part Program is finished turn off Axis Cart and 1050HLX Control remove SLDP1 and put back Master SLDP1 Board.

6.4 *****END OF TEST*****

7. Attachments

7.1 Part program and MSD information

Part Program and MSD Information

1050HLX Part Program 28 June 2000

N10	G94						
N20	G90						
N30	G01	X2	Z2	F25	M03	S500	Spindle should run CW direction
N40		X-2	Z-2	F50	M03	S1000	Spindle should run CW direction
N50		X0	Z0	F75	M03	S1500	Spindle should run CW direction .
N60	G04	X10					10 Second Timer Enabled
N70	G01	X2	Z2	F25	M04	S500	Spindle should run CCW direction
N80		X-2	Z-2	F50	M04	S1000	Spindle should run CCW direction
N90		X0	Z0	F75	M04	S1500	Spindle should run CCW direction
N100	G04	X10					10 Second Timer Enabled
N110	G25	P1	30	P2	100	P3	(Number from 1 to 255, enter number of cycles)
N120	M30						

Do not forget to add Tool Offsets to the control. GOTO to Tool Data. Then go to memory location 01 and add the following;
X at 01 enter 00.00
Z at 01 enter 00.00

The following is the MSDS used with the above program.

00	0050 0054
01	0100 1000
02	0000 0000
03	1500 2525
04	2929 3131
05	1010 5066
06	0000 0000
07	0000 0000
08	1725 0000
09	2000 2500
10	0000 0000
11	0500 1500
12	1725 0000
13	0000 0000
14	0000 0000
15	0000 0000

This program will only run with the special HLX Test Program loaded onto the SLDP1 Bd.

2P 1100 0000

1110 0000 Seems 1PPC ~~Means~~ 1PPC is Port 2

1100 0000 seems 2PPC is port 1