1. INTRODUCTORY DESCRIPTION

A. This procedure establishes the methods for testing a 07486D56G0002 Servo Amp Card.
B. Environmental ranges: 70 +/- 10 Deg. F. with 20-75% R.H.
C. Unit warm-up/stabilization period requirement: None
D. Personnel using this procedure are expected to have a high degree of confidence and expertise in related testing and calibration procedures.
E. Procedures not explained here are considered to be understood as common practice.

2. TEST EQUIPMENT VERIFICATION

A. Verify the accuracy of the standard(s) used in the repair/calibration process by evidence of recent calibration labeling affixed to the test equipment.
B. All measurement standards used in this procedure shall be traceable to the NATIONAL INSTITUTE of STANDARDS and TECHNOLOGY (N.I.S.T.) and shall have the accuracy, stability, range and resolution required for the intended use.
C. Unless otherwise specified, the collective uncertainty of the Measurement Standard(s) shall not exceed twenty five percent of the acceptable tolerance for each characteristic being calibrated.
D. All deviations shall be documented.

3. EQUIPMENT CLEANING

A. All equipment clean will be performed as instructed in the GE T&IC SOP Sec. 14.0

4. EQUIPMENT INSPECTION

A. The following criteria should be used as a guideline or basis for the inspection process of the this unit:
    1. Wires broken or cracked.
    2. Terminal strips / connectors broken or cracked.
    3. Loose wires.
    4. Components visually damaged.
    5. Capacitors leaking.
    6. Solder joint, cold or otherwise inadequate.
    7. Circuit board discolored or burned.
    8. Printed wire runs burned or damaged.

5. REVISION HISTORY

Revision	Date	Initials	Reason for Revision
A	05/17/99	DAL	Initial Procedure – After Verification
B	06/10/02	RKD	Added Initial column to section 5, changed procedure number.
C			
D			
E			
F			
G			
H			
I			
J			
K			

6. REFERENCE DOCUMENTATION

- Factory Procedure # A-1077J13 5.2.1.2.07

7. THEORY OF OPERATION

- This Card is used to amplify converted value position signals from 7486D57G1 function board, and to drive the value position servo torque motor coils and the position indication meter. DC Voltages from a variable supply are used to simulate the control signals in this test.

8. TEST EQUIPMENT TO BE USED

- Variable DC supply +/- 5 V DC – Tenma 72-2010 or equivalent
- Oscilloscope – Tektronix 2215A or equivalent
- Two milliamp meters capable of +/- 1ma and +/- 100ma
- Digital Voltmeter – Fluke 85 or equivalent
- Rainbow box with turbine card adapter box
- Function generator – Tenma 72-5015 or equivalent
- Misc.: 130 ohm 1 watt resistor

9. FINAL TEST AND OPERATION PROCESS

- Wire the circuit as shown in the drawing, connecting meters as needed for specific test. Since the 3 sections of the board are tested separately, only 1 variable supply and 2 milliamp meters are needed. NOTE: Insufficient 1KHZ signal amplitude will cause the voltage at TP 12 to go above approx. +.3 Volts. This will cause the amplifier to begin outputting a

negative current to the coils. The motor current cannot be adjusted properly in this condition.

INITIAL CONDITIONS

- R108 Center, R133 CCW

SERVO VALVE TORQUE MOTOR COIL DRIVE

- Adjust variable supply to pin 25 for 0 volts at the pin
- Adjust R113 for fidelity meter on pin 13 to read 0ma
- Adjust pin 25 for –5 V DC
- Adjust R102 for motor coil current to =+36ma
- Read voltage TP1(+) to TP2(-) =+4.2V to +4.9V
- Vary pin 25 volts per table below and check servo motor coil current to be within range listed
- Adjust R108 if necessary

Pin 25	V	+5	+3	+1	0	-1	-3	-5
Servo Current MA	Max	-37	-22.7	-8.3	+1	+8.3	+22.7	+37.8
	Min	-35	-20.5	-6.1	-1	+6.1	+20.5	+34.2

1KHZ SIGNAL LOSS VALVE CLOSING

- Adjust pin 25 to 0 volts
- Adjust R133 CW slowly and note that as fidelity meter finally begins to go negative, the servo motor coil current begins increasing negatively. When fidelity meter indicates –1ma servo current should exceed –40ma
- Adjust R133 CCW and leave

POSITION INDICATOR DRIVE

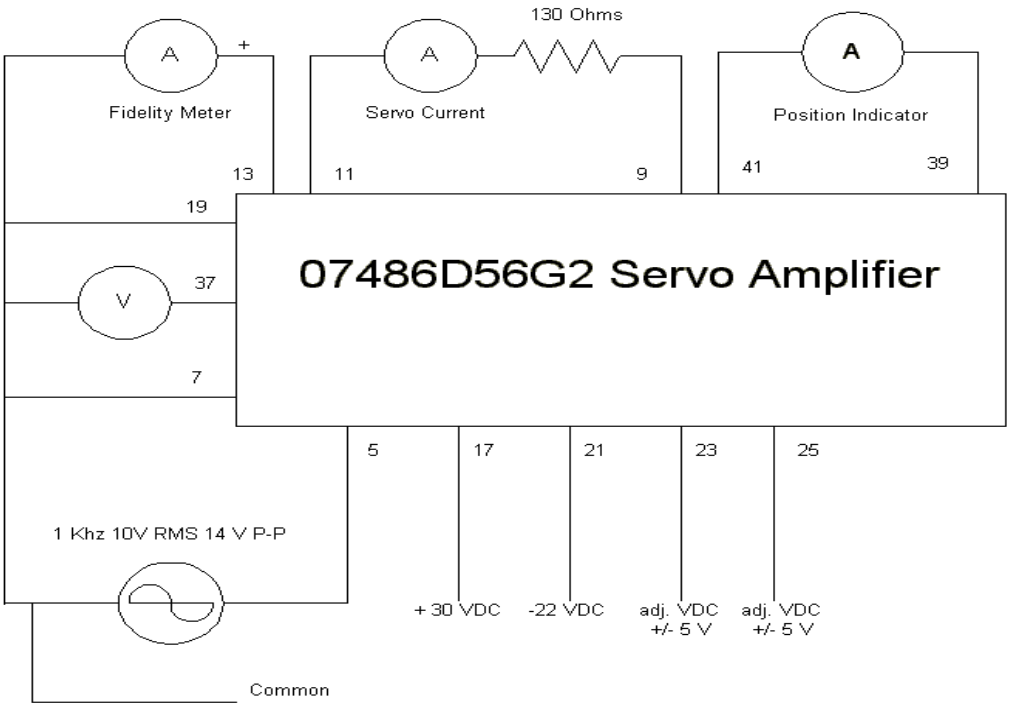
- Adjust variable supply on pin 23 for +5V
- Adjust R131 for 0ma on position indicator meter
- Adjust pin 23 volts to 0 volts
- Adjust R125 for 1ma on position indicator meter

POSITION FEEDBACK VOLTAGE

- Check pin 37 for –5.5 V DC with R121 CW
- Check pin 37 for –3.3 V DC with R121 CCW
- Set R121 for –4.5 V DC at pin 37

* Test Completed*

10. SPECIAL INFORMATION



TEST WRITTEN BY: Dan Laemmle **DATE: 05/17/99**

TEST VERIFIED BY: _____ **DATE: _____**