g GE Industrial Systems	TEST and OPERATING PROCEDURE	
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	QUALITY REP: Robert Dunn	
TITLE: 331X210AAGXX GP100 TEST PROCEDURE		PROCEDURE: LOU-GED-331X210-C

1. INTRODUCTORY DESCRIPTION

A. This procedure establishes the methods for testing a SINGLE PHASE GP100.
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 cleaning will be performed as instructed in the GEES 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.
    7. Circuit board discolored or burned.
    8. Printed wire runs burned or damaged.

5. REVISION HISTORY

Revision	Date	Initials	Reason for Revision
A	11/07/94	JDS	Initial Procedure – After Verification
B	06/07/02	RKD	Added section 5 & 6, Changed procedure number
C	2/20/04	JLM	Corrected scr and diode part numbers in section 10 Special Information, verified test.
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F			
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6. REFERENCE DOCUMENTATION

- Reference: GEK
- Factory Procedure #

7. THEORY OF OPERATION

Refer to GEH 3287B for a detailed theory of operation.

8. TEST EQUIPMENT TO BE USED

- GP100 Single Phase test fixture
- Motor Load
- DVM Fluke 85 or equivelant
- 40 VDC Power Supply

9. FINAL TEST AND OPERATION PROCESS

- Set UUT jumper settings for 230 Volt operation.
- Insert UUT into test fixture and connect to 230 VAC source.
- Connect dual motor load to test fixture.
- Turn Speed pot to Minimum [CCW]
- Turn pots on GP100 to zero (Zero Adj., IR Comp, Current Limit, Time Accel)
- Push start switch
- Turn Selector switch to 20V

  Panel meter should read 18 to 22 V
- Turn Selector switch to IOC Trip

  Panel meter should read 15 to 18 V "*If meter reads 1 to 4 volts unit is most likely in overcurrent due to a shorted SCR*"
- Turn Zero adjust to full [CW]
- Turn Selector switch to Armature Volts.

- Use the DVM to measure the armature output.
  Meter should read approximately 43 VDC.
- Turn the Zero Adjust pot until armature output reaches zero.
  This verifies operation of the Zero Adj. pot.
- Turn Speed pot on front of test fixture to Max.
- Adjust Max speed pot on test fixture until panel meter reads 150 volts.
  Current meter should read 0.5 Amps.
- Connect 40 VDC supply to field of generator motor and short armature.
- Turn Current limit pot on UUT until Current panel meter reads 4 Amps.
- Push Stop switch then Start switch on test fixture.
  Notice Acceleration time of motor.
- Adjust the Accel. pot on UUT to 9 and repeat last step.
  The Acceleration time should have increased.
- Turn Current Limit pot on UUT to 9 and adjust IR Comp to 9.
  after a few seconds or less the UUT will start to Surge
- Turn IR Comp back to 3 or less and unit should smooth out.
  This will verify IR Comp pot.
- Adjust Current Limit to 4 amps
- Remove load by turning off the 40 VDC supply.
- Turn Speed pot to Min.
- Push Stop switch.
- Pull Jog switch back and hold.
- Push Start switch.
  Motor should turn and stop when you release the Start switch. Make sure Jog Ref knob at rear of fixture isn't turned down all the way, or you'll get nothing.

If UUT performs all functions listed above it is considered good.

✍ Be sure to compare jumper settings with the model number of unit and change to match if necessary.

10. SPECIAL INFORMATION

193X821XXX SUPRESSION CARD (BOARD WITH TRANSFORMERS)
193X822XXX REGULATOR CARD (BOARD WITH RELAY AND POTS)

115V	230V	SCR # (QTY. 2)	DIODES (QTY. 3)
331X210AAG02	G06	104X125DA090 (C147P or higher)	104X125AA068 (1N1189)
331X210AAG03	G07	104X125DA090	104X125AA068
331X210AAG04	G08	104X125DA090	104X125AA068

HORSEPOWER JUMPER SETTINGS
(LOCATED ON SUPRESSION CARD)

HORSE POWER	JUMPER LOCATION	115V UNIT	230V UNIT
1	H to J	G01	G05
1.5 to 2	H to K	G02	G06
3	H to L	G03	G07
5	H to M	G04	G08

VOLTAGE JUMPER SETTINGS
(LOCATED ON REGULATOR CARD)

G02 thru G04 are 115V units. Setup is H to J & L to F2
G06 thru G08 are 230V units. Setup is L to K & F2 to F2 on 821 card.

TEST WRITTEN BY: David Smith **DATE:** 11/07/94

TEST VERIFIED BY: JLM **DATE:** 2/20/04