GENERAL ELECTRIC

278A2021

CONT ON SHEET 2 SH NO. 1

REV NO.	TITLE
278A2021	TEST INSTRUCTIONS A.C. VOLTAGE REGULATOR
CONT ON SHEET 2 SH NO. 1	FIRST MADE FOR 387931SA224A1 (REF: CDO SI 215-355)

REVISIONS

1	5-10-79	MJS

THIS UNIT IS DESIGNED TO REGULATE THE AC VOLTAGE OF A GAS TURBINE MACHINE, WORKING IN CONJUNCTION WITH A CONTROL PANEL 7932CD100 SERIES AND THE RECTIFIER FRAME ASSEMBLY 7501FS100 SERIES.

1. EQUIPMENT NEEDED:

   7931SA224 TEST JIG
   DIAGRAM 387931SA224A1 SH. 1

2. HIPOT:

   A. TAKE LOOSE OR JUMPER ALL DIODES, ZENERS AND SCR'S.

   B. HIPOT AT 1250 VAC.

   C. RECONNECT AND/OR REMOVE ALL JUMPERS PUT ON TO HIPOT.

3. HOOK UP:

   A. USE THE TEST JIG HARNESS TO CONNECT THE REGULATOR TO THE TEST JIG.

4. A. SET BOTH VARIAC'S FOR ZERO OUTPUT.

   B. SET ALL POTS ON THE REGULATOR TO THE MID POSITION, EXCEPT A2P.

   C. SET A2P FULLY CW.

5. SCR TEST:

   A. APPLY 220 VAC POWER.

   B. INCREASE VARIAC #1, THE CURRENT READ ON M3 SHOULD NOT EXCEED 4.5 AMPS. THE VOLTAGE READ ON M5 SHOULD BE APPROXIMATELY 125 VDC WHEN VARIAC #1 IS ADJUSTED FOR 240 VAC, READ ON M1.

   C. SET VARIAC #1 FOR 240 VAC OUTPUT, READ ON M1.

6. GAIN:

   A. INCREASE VARIAC #2, THE ERROR CURRENT SHOULD INCREASE TO APPROXIMATELY 30 MA AND THEN DECREASE TOWARD ZERO, READ ON M4. THE OUTPUT CURRENT (M3) AND OUTPUT VOLTAGE (M5) SHOULD DECREASE.

   B. SET VARIAC #2 FOR 115 VAC READ ON M2.

3QA1	
3EJ1	
4QA1	
4QB5	

PRINTS TO

MADE BY	APPROVALS		
C.T. GEIB	CTG	DRIVE SYSTEMS DIV OR DEPT.	278A2021 C
ISSUED 2-8-79		SALEM, VA LOCATION	CONT ON SHEET 2 SH NO. 1

CODE IDENT NO.

FF-803 WF (5-78)
PRINTED IN U.S.A.

DEV NO.	TITLE
278A2021	TEST INSTRUCTIONS A.C. VOLTAGE REGULATOR
CONT ON SHEET 3 SH NO. 2	FIRST MADE FOR 3S7931SA224A1 (REF: CDO SI 215-355)

REVISIONS

1 5-10-79 CTG

6. GAIN (CONTINUED)

C. WITH A3P AND A4P SET THE NOMINAL VALUE OF OUTPUT VOLTAGE ON M5 TO 60 VDC (A VALUE OF APPROXIMATELY ONE HALF OF THE MAXIMUM OUTPUT VOLTAGE) AND ADJUST THE FEEDBACK RESISTANCE OF A1P AND A4RA, B, AND C TO OBTAIN A GAIN OF 30 VOLTS PER VOLT. A GAIN OF 30 VOLTS PER VOLT IS OBTAINED BY VARYING THE INPUT VARIAC #2 FROM 114AVAC TO 116 VAC AND OBSERVING THAT THE OUTPUT VOLTAGE CHANGES 60 VDC.

7. RANGE:

A. DECREASE VARIAC #2 UNTIL 102 ± 1 VAC IS READ ON M2.

B. SET 90R1 POT FULLY CCW.

C. ADJUST A3P UNTIL THE OUTPUT VOLTAGE ON M5 IS 60 VDC.

D. INCREASE VARIAC #2 UNTIL 128 ± 1 VAC IS READ ON M2.

E. SET 90R1 POT FULLY CW.

F. ADJUST A4P UNTIL THE OUTPUT VOLTAGE ON M5 IS 60 VDC.

G. REPEAT. SETS (A) THRU (F) UNTIL A RANGE OF FROM 102 ± 1 TO 128 ± 1 VAC IS OBTAINED FOR 90R1 POT.

H. SET VARIAC #1 FOR 240 VAC ON M1.

I. SET VARIAC #2 FOR 115 VAC ON M2.

J. SET 90R1 POT FOR AN OUTPUT VOLTAGE OF 60 VDC ON M5.

K. MEASURE A1C AND A1Z VOLTAGES. A1C SHOULD BE 90 ± 5 VDC. A1Z SHOULD BE 36 ± 2 VDC.

8. STABILITY CIRCUIT:

A. CONNECT A JUMPER ACROSS A2CA.

B. CLOSE THE STABILITY SWITCH ON THE TEST JIG. THE 43SR LIGHT SHOULD COME ON. THE OUTPUT VOLTAGE ON M5 SHOULD INCREASE.

C. CCW ROTATION OF A2P SHOULD FURTHER INCREASE THE VOLTAGE ON M5.

D. SET A2P TO THE MID POSITION.

9. 43SR SWITCH:

DEPRESS 43SR SWITCH. THE 43SR LIGHT ON THE TEST JIG SHOULD GO OUT.

4QA5
4QA1
3EA1
3EJ1
PRINTS TO

MADE BY	APPROVALS		
C.T. GEIB	CTG	DRIVE SYSTEMS	278A2021
ISSUED 2-8-79		SALEM, VA	CONT ON SHEET 3 SH NO. 2

DEV NO.	TITLE
278A2021	TEST INSTRUCTIONS A.C. VOLTAGE REGULATOR
CONT ON SHEET 4 SH NO. 3	FIRST MADE FOR 3S7931A224A1 (REF CDO SI 215-355)

REVISIONS

10. REMOVE ALL POWER.

11. LOCK ALL POTS.

12. HAVE ANY JUMPERS ADDED THAT ARE REQUIRED. REMOVE THE JUMPER FROM A2CA AMD WIRE CHECK A2CA, B, C AND D CAPACITORS.

4QA5
4QA1
3EJ1
3QA1
PRINTS TO

MADE BY	APPROVALS		
C.T. GEIB	CTG	DRIVE SYSTEMS — DIV OR DEPT.	278A2021
ISSUED 2-8-79		SALEM, VA — LOCATION	CONT ON SHEET 4 SH NO. 3

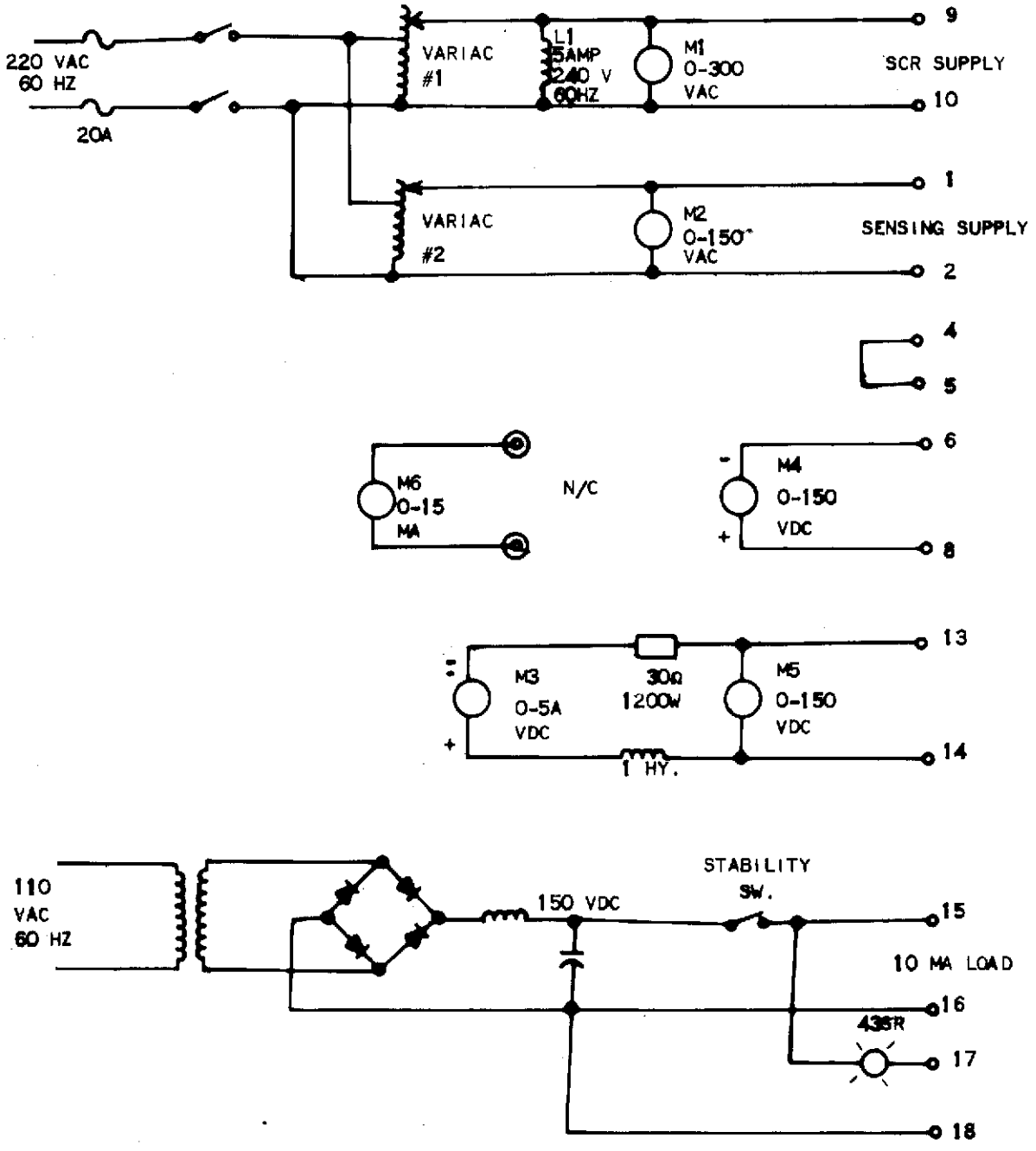
CODE IDENT NO.

GENERAL ELECTRIC

278A2021
CONT ON SHEET FL SH NO. 4

REV NO.	TITLE
278A2021	TEST INSTRUCTIONS A.C. VOLTAGE REGULATOR
CONT ON SHEET FL SH NO. 4	FIRST MADE FOR

ELEMENTARY DIAGRAM - TEST FIXTURE FOR 3S7931SA224A1



REVISIONS

1	5-16-79	PRO

4QA5
4QA1
3QA1
3EJ1
PRINTS TO

MADE BY	APPROVALS			
C.T. GEIB	CTG	DRIVE SYSTEMS	278A2021	C
ISSUED 2-8-79		SALEM, VA	CONT ON SHEET FL SH NO. 4	CODE IDENT NO.

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