

GENERAL ELECTRIC

278A2061

REV NO.	TITLE		278A2061		CONT ON SHEET 2	SH NO. 1																		
278A2061	TEST INSTRUCTIONS TRANSDUCERS																							
CONT ON SHEET 2	SH NO. 1	FIRST MADE FOR																						
<p><u>GENERAL</u></p> <p>THE FOLLOWING IS A TEST PROCEDURE FOR THE 3S793240215A6, A7, AND A8 TRANSDUCERS. A BRIEF DESCRIPTION OF EACH FOLLOWS:</p> <p><u>3S793240215A6</u> - THE A6 IS POWERED BY AN EXTERNAL 15 VOLT REGULATED POWER SUPPLY. ITS INPUT IS 0 - 100 MV AND OUTPUTS ARE 0 - 8V AND 4 - 20 MA.</p> <p><u>3S793240215A7</u> - THE A7 CONTAINS AN INTERNAL 15 VOLT REGULATED SUPPLY AND IS POWERED BY A 115 VAC (NOMINAL) SOURCE. ITS INPUT IS 0 - 100 MV AND OUTPUTS ARE 0 - 8V AND 4 - 20 MA.</p> <p><u>3S793240215A8</u> - THE A8 ALSO CONTAINS AN INTERNAL POWER SUPPLY, IT DIFFERS FROM THE A7 BY THE OUTPUT. FOR A 0 - 100 MV INPUT, THE OUTPUTS ARE 0 - 10V AND 12 - 20 MA; FOR -100MV INPUT, THE OUTPUTS ARE -10V AND 4 MA.</p> <p><u>NOTE:</u> SPECIFIC CALIBRATION INFORMATION FOR EACH PARTICULAR JOB IS PROVIDED ON THE VARIABLE DESIGN MODULE MANUFACTURING INSTRUCTION SHEET.</p> <p>THE INSTRUCTIONS SHEET WILL IDENTIFY:</p> <p>A) DCCT OR DCPT OR T-DCPT (GROUP AB)</p> <p>B) EXTERNAL RESISTOR IF REQUIRED ON DCPT</p> <p>C) LOW OR NORMAL JUMPER GAIN.</p> <p>D) THE FOLLOWING CALIBRATION DATA (IF REQUIRED)</p> <table border="0"> <thead> <tr> <th>FOR DCCT</th> <th>FOR DCPT</th> <th>FOR T-DCPT</th> </tr> </thead> <tbody> <tr> <td>1. RATED MV INPUT</td> <td>1. LOW VOLT INPUT</td> <td>1. (-) RATED VOLTS</td> </tr> <tr> <td>2. RATED VOLTS OUTPUT</td> <td>2. RATED VOLTS INPUT</td> <td>2. (+) RATED VOLTS</td> </tr> <tr> <td>3. MAX MV INPUT</td> <td>3. RATED VOLTS OUTPUT</td> <td></td> </tr> <tr> <td>4. MAX VOLTS OUTPUT</td> <td>4. MAX VOLTS INPUT</td> <td></td> </tr> <tr> <td></td> <td>5. MAX VOLTS OUTPUT</td> <td></td> </tr> </tbody> </table> <p>E) JOB TO BE APPLIED TO (ML #)</p> <p>INSURE THAT THE TRANSDUCER IS MARKED FOR A SPECIFIC JOB BY THE ML NUMBER AND USED FOR THAT JOB ONLY. THE EXTERNAL RESISTOR (IF USED) IS TO BE LEFT MOUNTED AND SENT TO FINAL ASSEMBLY WITH THE TRANSDUCER.</p>				FOR DCCT	FOR DCPT	FOR T-DCPT	1. RATED MV INPUT	1. LOW VOLT INPUT	1. (-) RATED VOLTS	2. RATED VOLTS OUTPUT	2. RATED VOLTS INPUT	2. (+) RATED VOLTS	3. MAX MV INPUT	3. RATED VOLTS OUTPUT		4. MAX VOLTS OUTPUT	4. MAX VOLTS INPUT			5. MAX VOLTS OUTPUT		<p>REVISIONS</p> <p>3EH1</p> <p>3QAT</p> <p>PRINTS TO</p>		
FOR DCCT	FOR DCPT	FOR T-DCPT																						
1. RATED MV INPUT	1. LOW VOLT INPUT	1. (-) RATED VOLTS																						
2. RATED VOLTS OUTPUT	2. RATED VOLTS INPUT	2. (+) RATED VOLTS																						
3. MAX MV INPUT	3. RATED VOLTS OUTPUT																							
4. MAX VOLTS OUTPUT	4. MAX VOLTS INPUT																							
	5. MAX VOLTS OUTPUT																							
MADE BY	P. MONCLOVA	APPROVALS	DRIVE SYSTEMS	DIV OR DEPT.	278A2061																			
ISSUED	5-24-79	<i>P. Monclova</i>	SALEM, VA	LOCATION	CONT ON SHEET 2	SH NO. 1																		

GENERAL ELECTRIC

278A2061

REV NO.	TITLE		278A2061		CONT ON SHEET 3	SH NO. 2
278A2061	TEST INSTRUCTIONS TRANSDUCERS					
CONT ON SHEET 3	SH NO. 2	FIRST MADE FOR				

3S7932MD215A6

1. HIPOT

1A. JUMPER 1TB-6, 1TB-7, 1TB-8 TOGETHER  
B. INSURE INTERNAL PANEL CASE GROUND (G6) IS CONNECTED.

2. JUMPER 1TB-1, 1TB-2, 1TB-3, 1TB-4 AND 1TB-5 TOGETHER AND TO CASE GROUND.

3. HIPOT 1TB-6 AT 4100 VOLTS AC TO CASE GROUND FOR A PERIOD OF 1 MINUTE.

4. REMOVE ALL HIPOT JUMPERS.

2. HOCKUP PER SKETCH

3. TEST

1A. INSURE JUMPER ON PS AND V/MA BOARD IS SET TO NON INVERTING (NI).

2. APPLY THE 15 VOLT POWER, SET THE INPUT FOR 0MV. (1TB-6 TO 1TB-7).  
B. USING A SCOPE VERIFY THAT 2TBC AND 2TBD TO 2TBA ARE +14V SQUARE WAVES. IF THE SIGNAL IS 28V, TURN POWER OFF AND WIRE CHECK THIS CIRCUIT.

3. ADJUST 6P OFFSET POT FOR ZERO VOLTS AT (1A) OUTPUT ON THE H.V. BOARD WITH THE GAIN JUMPER SET FOR LOW GAIN. USE TERM A AS COMMON.  
*Gain Jumper 1TB*

4. ADJUST THE BIAS POT 1P ON THE TRANSDUCER II BOARD FOR +8.5VDC  $\pm$  .1V. AT THE JUNCTION OF 80 AND 62R RESISTORS. ADJUST THE BALANCE POT 2P FOR 0  $\pm$  .01 VOLTS AT THE OUTPUT 1TB-4. THE VOLTAGE AT THE JUNCTION OF 58 + 81R SHOULD BE -8.5VDC  $\pm$  .3VDC. *1TB-5 COMMON*

5. ADJUST THE ZERO POT 5P FOR 4 MA OUTPUT AT 1TB-3.

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REVISED 5-24-79		SALEM, VA	LOCATION	CONT ON SHEET 3 SH NO. 2

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

CODE NAME NO.

1. P. Monclova 10/11/79  
2. P. Monclova 3/9/80

3EH1  
30A1

PRINTS TO

GENERAL ELECTRIC

278A2061

REV NO.	TITLE		278A2061		CONT ON SHEET 4	SH NO. 3
278A2061	TEST INSTRUCTIONS TRANSDUCERS					
CONT ON SHEET 4	SH NO. 3	FIRST MADE FOR				

6. STANDARD CALIBRATION (TO INSURE PROPER OPERATION OF TRANSDUCER)

- SET THE INPUT FOR 100 MV.
- ADJUST THE GAIN POT 3P FOR 8 VOLTS OUTPUT AT 1TB-4.
- ADJUST THE SPAN POT 4P FOR 20 MA OUTPUT AT 1TB-3.
- RECHECK STEPS 4 AND 5 WITH ZERO MV INPUT.
- CHECK THE FOLLOWING INTERMEDIATE POINTS TO ASSURE LINEARITY.

INPUT MV	OUTPUT V	OUTPUT MA
20 mV ✓	1.6 V ✓	7.2 mA ✓
40 mV ✓	3.2 V ✓	10.4 mA ✓
60 mV ✓	4.8 V ✓	13.6 mA ✓
80 mV ✓	6.4 V ✓	16.8 mA ✓

NOTE: THE BALANCE POT AND GAIN POT MAY BE READJUSTED AS NECESSARY FOR OBTAINING THE ABOVE MEASUREMENTS.

7. CALIBRATION (FOR SPECIFIC JOB)

- COMPLETE THE CALIBRATION OF THE TRANSDUCER USING THE FOLLOWING STEPS (NOTE: DOPT OR DOCT - THE UNDERLINED ITEMS ARE DATA PROVIDED ON THE VARIABLE DESIGN MODULE MANUFACTURING INSTRUCTION SHEETS. IF THE DATA CALLED FOR IS NOT PRESENT ON THE SHEETS, OMIT THAT PART OF THE STEP. AS AN EXAMPLE, FOR A DOPT, IF THERE IS NO MAX VOLT OUTPUT LISTED ON THE ML (BUT A MAX VOLT INPUT), SKIP STEP 5A, BUT DO STEP 5B. AS ANOTHER EXAMPLE, FOR A DOCT, IF THERE IS NO RATED MV INPUT AND RATED VOLTS OUTPUT, SKIP STEP 4 COMPLETELY, AND PERFORM STEP 5.

Volts out adjusted first with balance & gain on top of unit.

Current out uses volts out to convert to 4-20 ma must be adjusted second (SP = zero, 4P = span on PS unit board)

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REVISED 8-86-79		SALEM, VA	LOCATION	CONT ON SHEET 4 SH NO. 3

FF-803 WF (5-78)  
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REVISIONS

1. R. Momolova 10/11/79

3EH1

3QA1

PRINTS TO

CODE 1000 80.

GENERAL ELECTRIC

278A2061

REV NO.	TITLE		278A2061	TEST INSTRUCTIONS	278A2061
CONT ON SHEET 5	SH NO. 4	FIRST MADE FOR	TRANSUCERS	CONT ON SHEET 5	SH NO. 4
DCCT			DCPT		
(1) SET GAIN JUMPER ON <u>LOW</u> OR <u>NORMAL</u> PER ORDERING ML  (2) NOT APPLICABLE  (3) ADJUST 100MV SUPPLY TO OBTAIN <u>0</u> MV INPUT A. CHECK OUTPUT 1TB-4 FOR 0 VOLTS, ADJUST WITH BAL POT 2P. B. CHECK OUTPUT 1TB-3 FOR 4MA, ADJUST WITH ZERO POT 5P.  (4) ADJUST 100MV SUPPLY TO OBTAIN <u>RATED MV</u> INPUT SET OUTPUT 1TB-4 TO <u>RATED VOLTS</u> OUTPUT WITH GAIN POT 3P.  (5) ADJUST 100 MV SUPPLY TO OBTAIN <u>MAX MV</u> INPUT A. SET OUTPUT 1TB-4 TO <u>MAX VOLTS</u> OUTPUT USING GAIN POT 3P. B. SET OUTPUT 1TB-3 FOR 20MA WITH SPAN POT 4P.			(1) SET GAIN JUMPER ON <u>LOW</u> OR <u>NORMAL</u> PER ORDERING ML  (2) REMOVE 100MV POWER SUPPLY (WITH 1Q RES) AND <u>REPLACE</u> WITH A POWER SUPPLY CAPABLE OF <u>MAX INPUT VOLTS</u> . (FROM ORDERING ML) ADD RESISTOR PROVIDED FROM 1TB-10 TO 1TB-8. REMOVE JUMPER FROM 1TB-7 TO 1TB-8.  (3) ADJUST POWER SUPPLY TO OBTAIN <u>LOW VOLT INPUT</u> A. SET OUTPUT 1TB-4 FOR 0 VOLTS WITH BAL POT 2P. B. SET OUTPUT 1TB-3 FOR 4MA WITH ZERO POT 5P.  (4) ADJUST POWER SUPPLY TO <u>RATED VOLTS</u> INPUT SET OUTPUT TO <u>RATED VOLTS</u> OUTPUT WITH GAIN POT 3P.  (5) ADJUST POWER SUPPLY TO <u>MAX VOLTS</u> INPUT A. SET OUTPUT 1TB-4 TO <u>MAX VOLTS</u> OUTPUT USING GAIN POT 3P. B. SET OUTPUT 1TB-3 FOR 20MA WITH SPAN POT 4P.		
NOTE: REPEAT THIS PROCEDURE UNTIL NO VARIATION IN SETTINGS IS REQUIRED. THE POTS ARE NOT INDEPENDENT AND IT MIGHT TAKE SEVERAL REPEATS TO FINALIZE CALIBRATION.					
8. REMOVE ALL POWER AND DISCONNECT.					
MADE BY P. MONCLOVA ISSUED 5-24-79 APPROVED <i>[Signature]</i> DRIVE SYSTEMS SALEM, VA DIV OR DEPT. LOCATION 278A2061 CONT ON SHEET 5 SH NO. 4 CODE 1001 NO.					

 1. P. MONCLOVA 10/11/79  
 278A2061

PRINTS TO

GENERAL ELECTRIC

278A2061

CONT ON SHEET 6

SH NO. 5

REV

NO.

TITLE

TEST INSTRUCTIONS  
TRANSDUCERS

278A2061

CONT ON SHEET 6

SH NO. 5

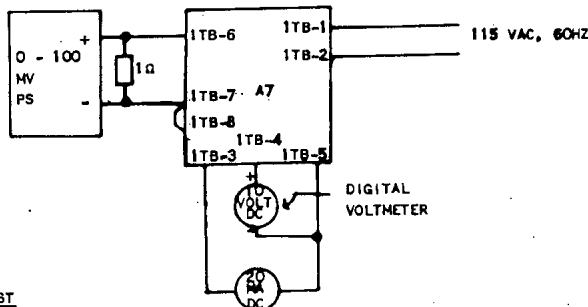
FIRST MADE FOR

REVISIONS

3S7932MD215A7

1. HIPOT

- 1A. JUMPER 1TB-6, 1TB-7, 1TB-8 TOGETHER.
- B. INSURE INTERNAL PANEL CASE GROUND (GS) CONNECTED.
2. JUMPER 1TB-1 AND 1TB-2 TOGETHER AND TO CASE GROUND.
3. JUMPER 1TB-3, 1TB-4 AND 1TB-5 TOGETHER AND TO CASE GROUND.
4. HIPOT 1TB-6 AT 4100 VOLTS AC TO CASE GROUND FOR A PERIOD OF 1 MINUTE.
5. JUMPER 1TB-6 TO CASE GROUND AND REMOVE GROUND JUMPER FROM 1TB-1 AND 1TB-2.
6. HIPOT 1TB-1 AT 1230 VOLTS AC TO CASE GROUND FOR A PERIOD OF 1 MINUTE.
7. REMOVE ALL HIPOT JUMPERS.

2. HOOKUP PER SKETCH3. TEST

- 1A. INSURE JUMPER ON PS AND V/MA BOARD IS SET TO NON-INVERTING (NI).
- B. APPLY THE 115 VOLT POWER. SET THE INPUT FOR 0MV (1TB-6 TO 1TB-7).
2. USING A SCOPE VERIFY THAT 2TBC AND 2TBD TO 2TBA ARE  $\pm 14V$  SQUARE WAVES. IF THE SIGNAL IS 80V, TURN OFF POWER AND WIRE CHECK THIS CIRCUIT.
3. ADJUST 6P OFFSET POT FOR ZERO VOLTS AT 1A OUTPUT ON MV BOARD WITH THE GAIN JUMPER SET FOR LOW GAIN. USE TERM A ON BOARD FOR COMMON.

1. P. Monclova 10/11/79  
2. P. Monclova 9/9/81

3EH1

3QA1

PRINTS TO

MADE BY P. MONCLOVA

REVISED 5-29-79

APPROVED

P. Monclova

DRIVE SYSTEMS

DIV OR DEPT

278A2061

SALEM, VA

LOCATION

CONT ON SHEET 6

SH NO.

5

CODE

FF-803 WF (5-78)  
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GENERAL ELECTRIC

278A2061

REV NO.	TITLE	CONT ON SHEET	SH NO.
278A2061	TEST INSTRUCTIONS TRANSDUCERS	8	7
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8			

3S7932MD215A8

1. HIPOT

- 1A. JUMPER 1TB-6, 1TB-7, 1TB-8 TOGETHER.
- B. INSURE INTERNAL PANEL CASE GROUND (G3) IS CONNECTED.
2. JUMPER 1TB-1 AND 1TB-2 TOGETHER AND TO CASE GROUND.
3. JUMPER 1TB-3, 1TB-4 AND 1TB-5 TOGETHER AND TO CASE GROUND.
4. HIPOT 1TB-6 AT 4100 VOLTS AC TO CASE GROUND FOR A PERIOD OF 1 MINUTE.
5. JUMPER 1TB-6 TO CASE GROUND AND REMOVE GROUND JUMPER FROM 1TB-1 AND 1TB-2.
6. HIPOT 1TB-1 AT 1230 VOLTS AC TO CASE GROUND FOR A PERIOD OF 1 MINUTE.
7. REMOVE ALL HIPOT JUMPERS.

2. HOOKUP PER SKETCH.

(TRANSFER FUNCTION)

3. TEST

- 1A. INSURE JUMPER ON PS AND V/MA BOARD IS SET AT NON-INVERTING (NI).
- B. APPLY THE 115 V POWER. SET THE INPUT FOR OHV. (1TB-6 TO 1TB-7).
2. USING A SCOPE VERIFY THAT 2TBC AND 2TBD TO 2TBA ARE  $\pm 14V$  SQUARE WAVES. IF THE SIGNAL IS 20V, TURN OFF POWER AND WIRE CHECK THIS CIRCUIT.
3. ADJUST 6P OFFSET POT FOR ZERO VOLTS AT 1A OUTPUT ON MV BOARD WITH THE GAIN SET FOR LOW GAIN. USE TERM. A ON BOARD AS COMMON.

MADE BY	APPROVED	DRIVE SYSTEMS	SH NO.
P. MONCLOVA	P. Monclova	SALEM, VA	7
REVISED		LOCATION	CONT ON SHEET
5-28-79			8

PRINTS TO





