

H1 CURRENT MODS HAVE A JUMPER

FORM IC 2340 (08-68)

AT TBI 11-12 REMOVE IT FOR TEST

LOU-GED-DS3820FE3X-9AA

9.0 TEST SPECIFICATIONS

9.0.1 INPUT VOLTAGES AND CONNECTIONS (Do not apply power)

- .1 NOTE: DA indicates daughter board connection. If no pin number is given, the name of the connecting point will be visible.

bees jumpers on DFEB board

a) Connect YA(DA) to YB(DA)

b) Connect YC(DA) to YD(DA)

* c) Connect PW(TB4-~~3~~⁷) to MP(TB4-~~7~~¹⁵) *TB4 is located inside housing close to top of unit*

* d) Connect ~~MN~~(TB4-~~3~~⁹) to MN(TB4-~~8~~¹⁵)

e) Connect COMP(TB1-2) to ACOM(TB8-6) *JUMPER ON TEST FIXTURE GOT THIS DONE*

f) Connect TS(DA7) to DC(DA6)

g) Connect TAX(DA3) to TN(DA4)

h) Connect TI(DA5) to TC(DA16)

i) Connect TB5-1 to TB5-4.

TB5 Located by Power Transformer

j) For form H connect MOV assembly (68A947257G5) - CR1, CR2, CR3, CR5 per sheet 6HF and sheet

- .2 Connect a highly inductive load in series with a 0-10 amp ammeter between FPOS(TB2-3) and FNEG(TB2-4). The inductive load must have the following characteristics:

L/R = .36±.03 seconds (nominal)

R MIN = 30±1.5 OHMS at 3000 watts

R Max = 45±2.25 OHMS at 2000 watts

L = 10.8 Henries nominal

large blue inductive load between pos & 41.2

NOTE: The ammeter positive terminal should be connected to FPOS (TB2-3) and its negative terminal connected to the load.

- .3 Connect a three phase AC input voltage rated at 460±46 VRMS at 20 amps and 60±3HZ between L1, L2, and L3, observe phase sequence.

- .4 Do not connect, but have available, a 0-400VDC power supply rated at 100 M.A. set at zero volts.

4.1 SW1 DOWN

- .5 Connect an adjustable +15VDC power supply rated at 20 M.A. between FC (TB1-1) and ACOM (TB8-11). Adjust it to +9±.1VDC.

4.7 VR1

- .6 Connect an adjustable +15VDC power supply rated at 20 M.A. between for (TB1-5) and ACOM (TB8-6). Adjust it to zero volts.

TB1

- .7 Obtain 2 each, 475K, ±1% resistors and one each 43.18K±1% resistor (47.5K in parallel with 470K).

PROPRIETARY INFORMATION OF THE GENERAL ELECTRIC COMPANY

REV. 4	REV. 3	PRINTED TO DATE 19	APPROVALS	GENERAL ELECTRIC DRIVE SYSTEMS DEPT. SALEM, VA. U.S.A.	ELEMENTARY DIAGRAM REGULATED CURRENT SUP DS3820FE3 9BA 3H. NO. 9AA
ISSUED			FIRST MADE FOR		
REV. 3	MADE BY	M. J. SMITH	I.C. NO.		

CARS

FORM 1C 2390 (08-68)

	A	B	C	D	E	F	G	H	J	K	L																						
01	*** NOTE UNIT WILL NOT SHUT DOWN ON FAULT***																																
03	9.0.2 INITIAL POTENTIOMETER SETTINGS																																
05	Preset the following components which are located on DFEB:																																
07	.1	MFB GAIN (R1) FULLY CW																															
	.2	CROSS (R2) FULLY CW																															
09	.3	FMAX (R3) FULLY CCW																															
	.4	FLOSS (R4) FULLY CCW																															
11	.5	SCAL (R5) FULLY CW																															
	.6	SLIM (R6) FULLY CW																															
13	.7	FMIN (R8) FULLY CCW																															
15	9.0.3 POWER TESTS																																
17	.1	Set load for 30 ³⁶ <i>Apply power to test fixture</i> , apply AC input power. <i>P15</i>																															
19	.2	Measure the D.C. voltage between TB 3-3 and TB8-5 ^{N15} and adjust R9 (P15 ADJ) for +15 ^{N15} ±.05 VDC. <i>ACOM</i>																															
21	.3	Measure the D.C. voltage between TB 8-5 and TB 8-6 and adjust R10 (N15 ADJ) for -15 ^{N15} ±.05 VDC. <i>ACOM</i>																															
23	.4	Observe that load current flows through the ammeter connected in series with the load (hereafter referred to as load current).																															
25	.5	Adjust "FMAX" (R3) CW and observe that there is a deviation of at least 3 amps on the ammeter.																															
29	.6	Apply -15 ± .1 VDC between (TB1-5) and ACOM (TB8-6) and measure the ^{push} output voltage between FPOS (TB2-3) and FNEG (TB2-4). Adjust "min volts" (R7) for minimum output voltage. The minimum voltage must be +16 ⁴¹³ ±.5VDC. <i>PB1</i>																															
31																																	
33	.7	Reduce the voltage applied to for (TB1-5) to zero volts. <i>PB1</i> <i>OUT</i>																															
35	9.0.4 CURRENT REGULATION																																
37	.1	Monitor the output between FPOS (TB2-3) and FNEG (TB2-4) and adjust "FMAX" (R3) complete CW. Output current must be greater than 9 amps. <i>3.6 amp</i>																															
39	.2	Continue to monitor the output voltage and adjust "FMAX" (R3) for +150 ⁴¹ ±1VDC. <i>B1</i>																															
41	.3	Observe the load current and record----																															
43	.4	Increase the load resistance from 30 to ⁴¹ 45 OHMS and record load current----																															
45	.5	The load current recorded in step 9.0.4.3 must be within +4% of the load current recorded in Step 9.0.4.4.																															
47	.6	Decrease the load resistance from ⁴¹ 45 to ³⁶ 30 OHMS.																															
49																																	
51	<div style="text-align: center;"> PROPRIETARY INFORMATION OF THE GENERAL ELECTRIC COMPANY </div> <table border="1" style="width: 100%;"> <tr> <td>REV. 1 <i>CCM 3-11-81</i></td> <td>REV. 4</td> <td>REV. 5</td> <td>REV. 11 <i>DL119 1</i></td> <td>APPROVALS <i>MWS</i></td> <td rowspan="3" style="text-align: center; vertical-align: middle;"> GENERAL ELECTRIC DRIVE SYSTEMS DEPT. SALEM, VA. U.S.A. </td> <td colspan="2">ELEMENTARY DIAGRAM REGULATED CURRENT SUP.</td> </tr> <tr> <td>REV. 2</td> <td>ISSUED</td> <td colspan="2"></td> <td>FIRST MADE FOR</td> <td colspan="2"></td> </tr> <tr> <td>REV. 3</td> <td>MADE BY M.W. SMITH</td> <td colspan="2"></td> <td>I.C. NO.</td> <td colspan="2"> DS3820FE3 MNT. ON SH. 9CA SH. NO. 9BA </td> </tr> </table>											REV. 1 <i>CCM 3-11-81</i>	REV. 4	REV. 5	REV. 11 <i>DL119 1</i>	APPROVALS <i>MWS</i>	GENERAL ELECTRIC DRIVE SYSTEMS DEPT. SALEM, VA. U.S.A.	ELEMENTARY DIAGRAM REGULATED CURRENT SUP.		REV. 2	ISSUED			FIRST MADE FOR			REV. 3	MADE BY M.W. SMITH			I.C. NO.	DS3820FE3 MNT. ON SH. 9CA SH. NO. 9BA	
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CARS

FORM 1C 2390 (08-68)

9.0.5 CROSSOVER AND FIELD WEAKENING

1. Connect the 0-400 VDC power supply between MP (TB3-3), and MN (TB3-2) with positive terminal connected to MP (TB3-3).
2. Observe the output voltage between FPOS (TB2-3) and FNEG (TB2-4). Adjust "FMAX" (R3) for $+150 \pm 1$ VDC.
3. Observe load current and adjust the 0-400VDC power supply slowly until the load current starts to decrease.
4. Measure the voltage from TB3-3 to TB3-2. It should be $+330 \pm 25$ VDC. Record----- Measure the voltage from TB8-2 to TB8-6. It must be $+5 \pm .49$ VDC. *CAE & Alcom*
5. Decrease the 0-400 VDC output voltage to zero volts and reverse its polarity (+ terminal to MN). Measure the voltage from TB8-2 to TB8-6. It must be $+14.5 \pm .6$ VDC. *CAE to Repeat*
6. Repeat steps 9.0.5.3 and 9.0.5.4. The voltage where the current starts to decrease for either polarity must be within 4% of each other. *CAE to Alcom*
7. Adjust the 0-400VDC output voltage to 240 ± 1 VDC. Adjust "CROSS" (R2) completely CCW.
8. Observe load current while adjusting "CROSS" (R2) CW (very slowly). Adjust "CROSS" until the load current transitions from min. to max. Record ammeter reading----- *ALC*
9. Increase the 0-400 VDC supply to 255 ± 1 VDC and adjust "FMIN" (R8) to obtain a load current equal to 25% of the value recorded in 9.0.5.8 record----- *1.08 Approx*
10. Decrease the 0-400 VDC supply to zero volts and disconnect.

9.0.6 FIELD LOSS

1. Observe the load current and record----- Adjust the voltage applied between FC1 (TB1-1) and ACOM (TB8-11) toward zero volts until the load current equals 20% of the recorded value (this step). *6/16*
2. Depress SW1 momentarily to reset system. *7.4*
3. Observe the status light located on the PWB and ascertain that it is "OFF."
4. Adjust "FLOSS" (R4) very slowly until the status light comes "ON."
5. Increase the voltage applied between FC1 (TB1-1) and ACOM (TB8-11) to $+9 \pm .1$ VDC. *light goes off*

FORM 1C 2390 (08-68)

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9.0.8 TACH MONITOR *omit For FE4I*

.1 Set "SLIM" (R6) fully CW. Connect two each 475K(1%) resistors in series with SFB (TB1-8) and connect a 43.18K \pm 1% resistor from SFB (TB1-8) to ACOM (TB8-6). *SW1 UP*

.2 Connect MN (TB3-2) to ACOM (TB8-11) and MP (TB3-3) to the resistor string which connects to SFB (TB1-8) (475K resistors).

.3 Connect the 0-400 VDC power supply between MP (TB3-3) and ACOM (TB8-11). Connect the positive terminal to MP (TB3-3). Adjust the 0-400 VDC supply to +200 \pm 1VDC. *NOTE*

.4 Measure the voltage between TA (TP3) and ACOM (TB8-11). Adjust "SCAL" (R5) for 0 \pm .2 VDC between TA (TP3) and ACOM (TB8-11). Depress SW1 momentarily and observe status light. It should be off.

.5 Continue to observe the status light and increase the 0-400 VDC power supply output to +253 \pm 2VDC. Adjust "SLIM" (R6) CCW slowly until the status light just comes on. Reduce PS to 200V. Reset with S1. Increase PS until light comes on. Record the 0-400 VDC power supply setting. *445*

.6 Decrease the 0-400 VDC power supply output to zero volts and reverse its polarity - i.e., with positive terminal going to ACOM (TB8-11).

.7 Depress SW1 momentarily to reset system.

.8 Leave "SLIM" (R6) set as in step 9.0.8.5.

.9 Increase PS until light comes on. The absolute value of the two recorded values must be within \pm 4% of each other.

.10 Remove the 0-400 VDC power supply from between MP (TB3-3) and ACOM (TB8-11) or MN (TB3-4). *TB8-7*

.11 test fault relay by causing fault. This can be done by adjusting 0-400v supply up to cause light to come on and TB1-14(SYSH) to TB1-14(SYSL) will measure 0 ohms. From TB1-14(SYSL) to TB1-18(NSYS) will be open. Clear fault with SW1 recheck (above should switch conditions. NOTE RELAY PICKS UP ON POWER UP AN NO FAULT!!!!) *Use Reset* *TB8-8* *TB8-12*

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REV. 1	REV. 4	REV. 5	PRINTS TO	APPROVALS	GENERAL ELECTRIC DRIVE SYSTEMS DEPT. SALEM, VA. U.S.A.	ELEMENTARY DIAGRAM REGULATED CURRENT SUP.
REV. 2	ISSUED		BL11917	MWS		DS3820FE3
REV. 3	MADE BY	M.W. SMITH				9DB SH. NO. 9DA

FORM IC 2390 (08-68)

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9.0.9 TEST PER M1

- POTS not specified on M1 should be left as set in standard test. If no POTS settings are specified, contact product line engineer.
- Load 30A, remove resistive network from SFB input, apply power.
- To set FCL (R8) apply REF (9.0.1.5) to FCL temporarily. ADJ FMAX CW. Adjust REF at FCL for M1 (FCL) volts at TPI. Adjust FCL POT CCW until status light just comes on. *Reset SW1 R8 located on Bottom of Board*
- Apply +9V to FCL (TB-1). Set FMAX for M1 volts at TPI using a height impedance meter like DVM. Status light should be out.
- Apply +255 VDC between MP+ (TB3-3) and MN- (TB3-2). Set FMIN for M1, volts at TPI.
- Remove +255 VDC REF. Set floss CCW. Reset SW1. Decrease voltage at FCL (TB1-1) to produce M1 volts specified at TPI. Turn floss until status light just comes on. *Floss*
- Set CROSS for M1 volts DA17 to ACOM.
- Set SLIM for M1 volts DA26 to ACOM.
- Remove power, set MFB for M1 OHMS from AUX-2 (TB8-4) *To Acom*
- Remove all jumpers applied during test and connect all jumpers per M1. Inspect VDM nameplate.

M1 SETTINGS BELOW

FMAX	5.33vdc
FMIN	1.76vdc
FLOSS	1.58vdc <i>6.4</i>
SLIM	11.0vdc
FCL	5.86vdc <i>4.6</i>
MFB	0 ohm
CROSS	10.0vdc

JUMPER SETTINGS ON DS3800NFEB DAUGHTER BOARD

TB 4 is located on inside of housing

TB4- PH TO PW NW TO NH

DAUGHTER BOARD SETTINGS

YA TO YB
YC TO YD
TS TO DC
TI TO TAX

(If should be performed after 7-12-02)

PROPRIETARY INFORMATION OF THE GENERAL ELECTRIC COMPANY

REV. 1	REV. 4	REV. 3	PRINTS TO DLIP9	APPROVALS MYS	ELEMENTARY DIAGRAM REGULATED CURRENT SUP.
REV. 2	ISSUED			FIRST MADE FOR	
REV. 3	MADE BY	M.W. SMITH			

GENERAL ELECTRIC
DRIVE SYSTEMS DEPT.
SALEM, VA. U.S.A.

DS3820RE3
INT. ON SH. FL. SH. NO. 9DE