CAN-GEB-4006L1099AGG3

ENGINEERING MANUFACTURING INSTRUCTIONS NO. 5428

SUBJECT: PC&C MODULE TEST

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PART-- 1 & 3
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Z

1. PURPOSE

Z To test the Brushless Motor Exciter Power Module 4006L1099AG G3, G4.

2. ELEMENTARY

Drawings: 1-6 amps G3, 4003C1018MJ
7-20 amps G4, 0182C3223DA

3. EQUIPMENT

~~a) 155 vrms 2500 VA single phase supply~~ ← Use Variable Autotransformer 140V to 155V RMS
b) Oscilloscope
c) Digital multimeter
d) Variable load resistor 0 to 50 ohms 2 kw
e) Load inductor 1 henry 50 amps 2.8 ohms ← Use Blue Load Box Set for 35 ohm Load for G3
~~f) 20A/100mv shunt~~ NOT USED
g) 10K ohm pot

4. SET UP

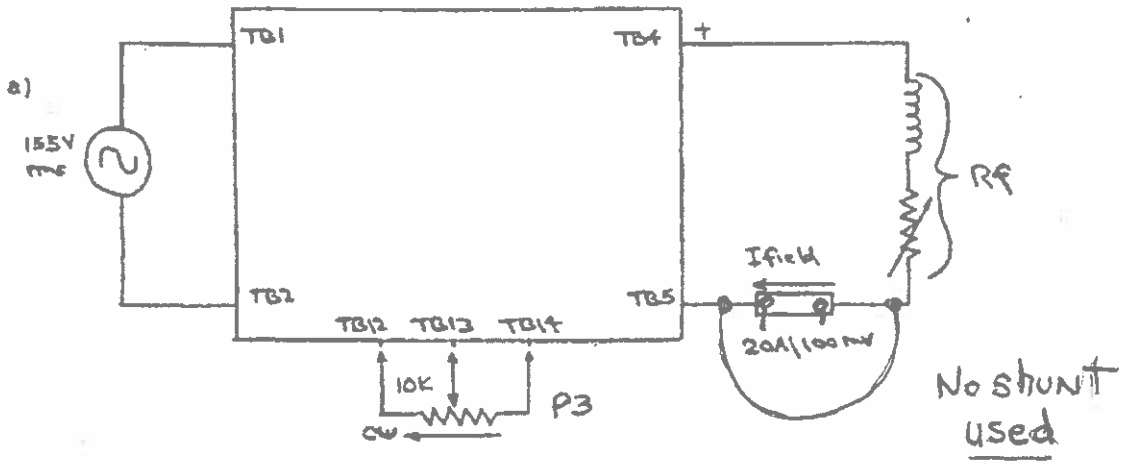

FIGURE 1

ROUTE EMI 700 Sect 0	PREPARED BY: R. Guest	SIGNATURES REQUIRED AS SHOWN BELOW
	SECTION: PC&C	PROD ENG'G: R. Guest 930708
DATE ISSUED 93/07/07	SUPERSEDES ISSUE 91/12/31	MANU ENG'G:
		Q'TY ASSUR: P. Newmaster
		ENG'G LABR:

(FOR USE OF GE CANADA EMPLOYEES ONLY) Z = REVISIONS ZZ = ADDITIONS

4. b) Set P1, P3 fully CW, P2 fully CCW.

c) Leave P3 disconnected.

d) Using an ohmmeter, adjust the resistor/inductor load combination for RF cold, and mark the setting. (50Ω, 155V $I = \frac{155}{50} = 3.1A$)

e) Readjust the load for 1.25 x RF cold (hot), and mark the setting.

f) Set the load to the RF cold setting.

g) Check R3A/R3B are connected in series for G3, parallel for G4, and adjust to:

$$R3 = \frac{13324}{1.05 \times IDC\ rated}$$

Z h) Connect the scope to TB4 (+) and TB5 (Supply output).

5. TEST

a) Power up, and adjust P1 CCW for a 40 degree conduction angle:

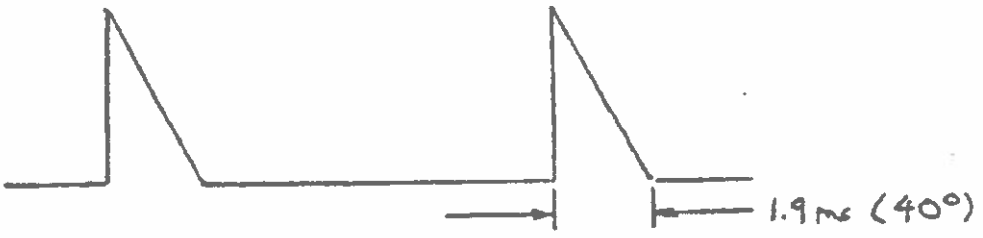

FIGURE 2

ROUTE EMI 700 Sect 0	PREPARED BY: R. Guest	SIGNATURES REQUIRED AS SHOWN BELOW
	SECTION: PC&C	PROD ENG'G: R. Guest 93/07/08 MANU ENG'G: Q'TY ASSUR: P. Newmaster ENG'G LABR:
DATE ISSUED 93/07/07	SUPERSEDES ISSUE 91/12/31	

5. b) Check the voltage between TB8 (+) and TB7 is 13.7 to 16.8 volts.

c) Power down and connect P3 as in Figure 1 (P3 CW).

d) Power up, and check Ifield = 1.05 x IDC rated.
Shunt Reading (mv) = IDC rated x 1.05 x 5

Z e) If the Ifield is incorrect, power down, and readjust R3 higher to decrease, lower to increase Ifield. Keep both R3A and R3B at approximately the same setting so they share dissipation.

f) Set P3 CCW, and adjust P3 CW until the waveform in Figure 2 becomes unstable.

g) Adjust P2 CCW until the waveform is stable again.

h) Turn P2 1 more turn CCW.

i) Set P3 CW and check the waveform is stable.

Z j) Recheck Ifield = 1.05 x IDC rated, and readjust R3 until Ifield is correct.

k) With P3 fully CW, record the shunt mv reading as If1.

l) Set the load resistor/inductor to the hot setting, and record the shunt mv reading as If2.

m) Calculate the percent current regulation:

$$reg = \frac{If1 - If2}{If1} \times 100$$

n) If the current regulation is greater than 2%, return to step g).

6. SHIPPING

a) Do not seal pots.

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