GENERAL ELECTRIC

REV NO.	TITLE	278A3150
	TEST INSTRUCTIONS	CONT ON SHEET 2 SH NO. 1
CONT ON SHEET SH NO.	FIRST MADE FOR 3S7700PB100A1/B1	

USE EDO TEST - SHEET 6

REVISIONS

STANDING INSTRUCTIONS

FOR

PRINTED CIRCUIT BOARD

3S7700PB100A1/B1

SPEED AMPLIFIER

FOR

T.S.I.

Distribution:

1 QC Engineering
1 QC Test
1 Engineering

DL13
3EL1
1RA2
4QA3
4EK1

PRINTS TO

MADE BY	APPROVALS	DRIVE SYSTEMS (DIV OR DEPT.)	278A3150
W. Lunsford 790813	WLL	SALEM, VA. (LOCATION)	CONT ON SHEET 2 SH NO. -
ISSUED 8-13-79			CODE IDENT NO.

FF-803 WF (11-77)
PRINTED IN U.S.A.

CARS

I. Test Equipment Required

A. Printed Circuit Board Test Stand 44C931365.

B. Adaptor - 9300K56.

C. Cable - Power Supply.

D. Patchboard - PB4.

E. Milliameter - DC - 0 to 10 - Acc. 1% - Qty. 2.

F. Drawings - 44C307501 Elementary
44B371538 Assembly
44C931365 Test Stand

II. Wire Check

Pin	to Pin		Resistance (Ohms)
E	H		1998 to 2002
E	F		9940 to 9960
E (-)	D (+)	(X100 Scale)	50 to 85
E (+)	D (-)	(X100 Scale)	Inf.
E	Blue Test Jack		0

Visual

C651	6.8 mfd.	35VDC
C652	6.8 mfd.	35VDC

III. Setup and Connections

A. Connect a digital voltmeter to "BJ-1" on the Universal Tester (U.T. Red (+) and Black (-).

B. Turn all switches to OFF or Normal on the U.T.

C. Turn all switches OFF and all variacs to zero on the Universal Power Supply (UPS).

D. Connect adaptor 9300K56 to "PL-1" on the U.T.

E. Connect the Power Supply Cable to "PL-3" on the U.T. and to the DC power supplies per lead markings.

F. Set R662 and R664 on the P.C.B. CCW.

G. Connect a 0 to 10 DC milliammeter to "BJ-12". Red (+) and Black (-).

DL13
3EL1
1RA2
4QA3
4EK1

PRINTS TO

H. Connect output of Function generator to input of a power amplifier.

I. Connect output of power amplifier to "BJ-2".

J. Insert PB4 patchboard into U.T. carrier and close.

IV. Electrical Test

A. Close "SW-1". Place "SW-9", "SW-10", "SW-27" down. Depress "LPB-1". Increase PS-1 to 24 ± 1 VDC at "BJ-1". "L12" shall be energized.

NOTE: Should it become necessary to remove all power from the PCB, open "SW-1" and return "RS-1" to OFF position.

B. Depress "LPB-2" and increase PS-2 to 15 ± 0.01 VDC at "BJ-1". Red test jack (+) to black test jack (-) on the P.C.B. shall be 15 ± 0.01 VDC.

C. Depress "LPB-3" and increase PS-3 to 15 ± 0.01 VDC at "BJ-1". Green test jack (+) to black test jack (-) shall be -15 ± 0.01 VDC.

D. Place "RS-2" to position 1. Place "RS 1" to position 6.

E. Adjust R662 for 2 ± 0.005 VDC at blue test jack.

F. Adjust power amplifier output to 15 ± 0.03 VAC at 6667 ± 1 Hz at "BJ-13". Note that "L12" deenergizes and "L13" energizes at ~~7.0 ± 1 VAC at "BJ-13"~~. "L12" and "L13" not used on B1 groups. (1)

G. (2) 4.5 to 5.4 VDC at Blue test jack.
Adjust R664 CW, blue test jack = 11.6 ± 0.4 VDC. Adjust R664 for 10 ± 0.03 VDC at the blue test jack.

H. Place "RS-1" to OFF. Readjust R1505 for 2 ± 0.005 VDC if necessary.

I. Repeat steps F thru H as necessary to meet both 2V and 10 volt limits.

J. Perform the following calibration check per turbine speed. Note it will be necessary to obtain turbine speed from M.I. or if not available, from Engineering.

DL13
3EL1
1RA2
4QA3
4EK1

PRINTS TO

3600 - or 1800 - rpm Turbine

Freq. Hz	Period Milliseconds	Volts	D-C Volts * Blue jack should be (Limits + .04V)
7334	0.1364	15	10.8
6667	0.1500	15	10.0
6000	0.1667	15	9.2
5334	0.1875	10	8.4
4667	0.2143	10	7.6
4000	0.2500	10	6.8
**3333	0.3000	6	6.0
2667	0.3750	6	5.2
**2000	0.5000	6	4.4
1333	0.7502	2	3.6
667	1.500	2	2.8
333	3.000	0.7	2.4
67	15.00	0.07	2.08
0	-	0	2.00

* Blue Test Jack on PCB.
**"L12" shall deenergize and "L13" energize between 2000 Hz and 3333 Hz.
① "L12" and "L13" not used on B1 groups.

3000 - or 1500 - rpm Turbine

Freq. Hz.	Period Milliseconds	Volts	D-C Volts Blue jack should be (Limits + .04V)
8800	0.1136	20	10.8
8000	0.1250	15	10.0
7200	0.1389	15	9.2
6400	0.1563	15	8.4
5600	0.1786	10	7.6
4800	0.2083	10	6.8
4000	0.2500	10	6.0
3200	0.3125	5	5.2
2400	0.4167	5	4.4
1600	0.6250	5	3.6
800	1.250	2	2.8
400	2.500	1	2.4
80	12.50	0.1	2.08
0	-	0	2.00

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DL13
3EL1
1RA2
4QA3
4EK1

PRINTS TO

K. Check the following with "RS-2" in position 11. Depress "LPB-7"

With Blue Test Jack at	"BJ-12"	Green Test Jack (-) to "BJ-1" White Test Jack (+)	
2.00	1 ± 0.06 MADC	1 ± 0.06 MADC	8 ± 0.4 MVDC
10.00	5 ± 0.06 MADC	5 ± 0.06 MADC	40 ± 0.4 MVDC

L. Return Baffco output to zero. Open "SW-1" then open or return to normal all remaining switches on the U.T.

DL13
3EL1
1RA2
4QA3
4EK1

PRINTS TO

REV NO.
278A3150
CONT ON SHEET F1. SH NO. 6

TITLE
TEST SPECIFICATIONS

FIRST MADE FOR 3S7700PB100A1/B1

REVISIONS

Addendum to TI3 278A3150. This portion is to be used when testing with the new CDO test console.

V - 1 K - 10
U - 2 J - 11
T - 3 H - 12
S - — F - 13
R - 5 E - 14
P-N - 6,7 D - 15
M - 8 C - 16
L - 9 B - 17
A - 18

I. TEST EQUIPMENT
Oscillator (
Transformer for Oscillator

II. VISUAL
Verify polarity of CR657
Verify values of R675, R676

III. SET-UP
1. Connect +15VDC to Pin B
   -15VDC to Pin U
   Common to Pin N
2. Connect oscillator thru transformer to Pin A, common to Pin C. (use a switch in series
3. Monitor Outputs

IV. TEST
1. Apply ±15VDC
2. With oscillator disconnected from Pin A, adjust R662 for 2.0 ± .005VDC at Pin E.
3. Set oscillator input to Pin A at 6667 ± .1Hz at 15± .02 VRMS. Adjust R664 for 10. ± .005VDC. (A1 only) Relay K651 should be energized. Verify contacts.
4. Repeat 2 and 3 until 2-10 VDC outputs are met.
5. Check following:

Pin E	Pin H+ N-	R+ P-	F+ N-	T+ V-	
2VDC	2VDC	8MVDC	.2MADC	1 MADC	1MADC
10VDC	10VDC	40MVDC	1.0MADC	5MADC	5MADC

Measure at same time.

6. Verify following chart:

OSC. FREQ ± 1Hz	OSC VOLTS RMS ±.03VRMS	PIN E 14 ± .04VDC	
7334	15	10.8	
6667	15	10.0	
6000	15	9.2	
5334	10	8.4	
4667	10	7.6	
4000	10	6.8	
3333]	6	6.0	K1 relay should switch states in this area. (A1 only)
2667	6	5.2	
2000	6	4.4	
1333	2	3.6	
667	2	2.8	
333	0.7	2.4	
67	0.07 ± .001	2.08	
0	0	2.0	

7. Remove all power

J B44153 1/11/84 CRG
3EL1
DL13

PRINTS TO

MADE BY Gene Post
ISSUED 5/29/81
APPROVALS DER
DRIVE SYSTEMS DIV OR DEPT.
SALEM, VIRGINIA LOCATION

CODE IDENT NO.

FF-803 WF (7-79-A-1)
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