07486D82G1

ICV SERVO AMPLIFIER	APPLICATION	P.A. BD. NO.	BD. NO.	CIR. NO.
TURBINE: 27B06A	7486D82G2 (PA)	817D628		
	7486D82G1 (FUNC)	817D632		

TEST INSTRUCTIONS A-1077813 5.2.1.7.02 ... 5.2.1.1. DATE
TRANSD. SN ______ RATED STROKE ______

1.0 INSPECTION

.1 Identification ______ .3 Solder/Wire ______ .5 Key Slot ______ PA(19)
.2 Comp./Conn. ______ .4 Temp. Cycle ______ .6 ______ FUNC(17)
.7

STATUS:

4.0 Initial Conditions: COMMAND DIAL 0.00, switch at (-).
INPUT 2 DIAL 0.00, Switch OFF. SERVO CURRENT switch at 80 ma.
VALVE POSITION switch at 39; SWITCH 5 at ICV; 100k bet. TP9 and -22V.
Feedback Transducer Stroke/Spec. ______ in.

6.0 FUNC. BD. Rotate R20CW; R12 and R15 (center)
P.A. BD. Rotate R121 CW; R108 center. Position meter

7.1.1.0 Gain Checks: Move Position Transducer for ~~ERROR~~ Ɛ = 0.00V
COMMAND at -0.5V; Note ERROR Ɛ = +(COMMAND GAIN)/2
TP's on PA Bd. in ( ).

.2.0 Null Position Transducer: Transducer positioned to
OPEN SYNC. 3.125" from housing
Scope at TP4 to TP5; Adj. R12 & R15 for null (less than 150 MV P-P)
Note UNREG. VALVE position OUTPUT = 0V + 0.1V.

.3.0 Adjust Amplifier Zero: Adjust COMMAND for ERROR Ɛ = 0V.
Adjust R113 for FIDELITY METER = 0.

.4.0 Adjust Amplifier Gain: Adjust COMMAND for ERROR Ɛ = -5V.
Note TP9 and (TP4) = -5.00V.
Adjust R102 for SERVO CURRENT = 79 ma.
Note (TP1)+ to (TP2)- = (+4.64 to +5.24 VDC)
Repeat 7.3 and 7.4 until no change needed.

.5.0 Amplifier Linearity: Vary ERROR Ɛ Voltage per table.
Adjust R108 if necessary.

ERROR Ɛ	V	+5	+3	+1	0	-1	-3	-5
SERVO CURRENT MA	Max	-82.2	-50.4	-18.4	+1	+18.4	+50.4	+84
	Min	-77.8	-45.6	-13.6	-1	+13.6	+45.6	+76
OBSERVED								

.6.0 Position Feedback Gain: Position Transducer at OPEN SYNC.
Adjust COMMAND INPUT for -0.50V.
Adjust R121 for ERROR Ɛ = 0V; Note (TP8) = +0.40 + 0.1V.
Position Transducer ______" from OPEN END. (CLOSE END).
Adjust COMMAND INPUT for +5.00V. TPII
Adjust R20 for ERROR Ɛ = 0V.
Note REG. OUTPUT = TP6 and (TP5) = -5.5V ± 0.2V.
Note UNREG. OUTPUT = TP3 = -5.8V (min).
Note (TP6) = -5.50V ± 0.5v

.7.0 Scram Circuit Check:
Adjust COMMAND INPUT for -5.0V; Note ERROR Ɛ > +6.2V.
Position Transducer at 4.125 in. from housing (OPEN END).
Push and hold SCRAM PB; Increase INPUT 2 (+) for ERROR Ɛ = 0.00V;
Note INPUT 2 +5.00V ± 0.3V.
Release PB; INPUT 2 OFF; COMMAND INPUT (+).
AMP OUTPUT JACK at - Sat. = > -6.8V; Note TP10 > -6.8V.

(continued)

.1.7.1 ICV Manual Control: COMMAND INPUT -5.0V.
Increase INPUT 2(+) for ERROR $\measuredangle$ = 0.00V.
Note INPUT 2 +5.00V ± 0.3V.
INPUT 2 OFF. Command Input to (+)5.0V.

.8 Valve Position Indicator Adjustment:
Position Transducer _____" from OPEN END (CLOSE END).
Adjust R131 to Zero indicator.
Position Transducer at OPEN END.
Adjust R125 for FULL SCALE on indicator.

8.0 Amplifier Noise Level: Establish ERROR $\measuredangle$ = 0.00V.
Scope at (TP2 to Com); Note noise level less than 10mv P-P
(Do not include 60 cycle ripple)

9.0 Demodulator Output Wave Forms:
Scope at CR2 Dot. (Scope on DC)

.1 Note negative full-wave rectified form increasing to 0 as transducer is being positioned to OPEN SYNC.

.2 Note pos. full wave rectified wave form as trans. is extended farther.

10.0 Valve Position: (Filter Output)

.1 Scope at UNREG. Jack: Position Transducer at (Close End)

.2 Note ripple + noise is less than 60 MV P-P

11.0 Additional Voltage Checks:

.1

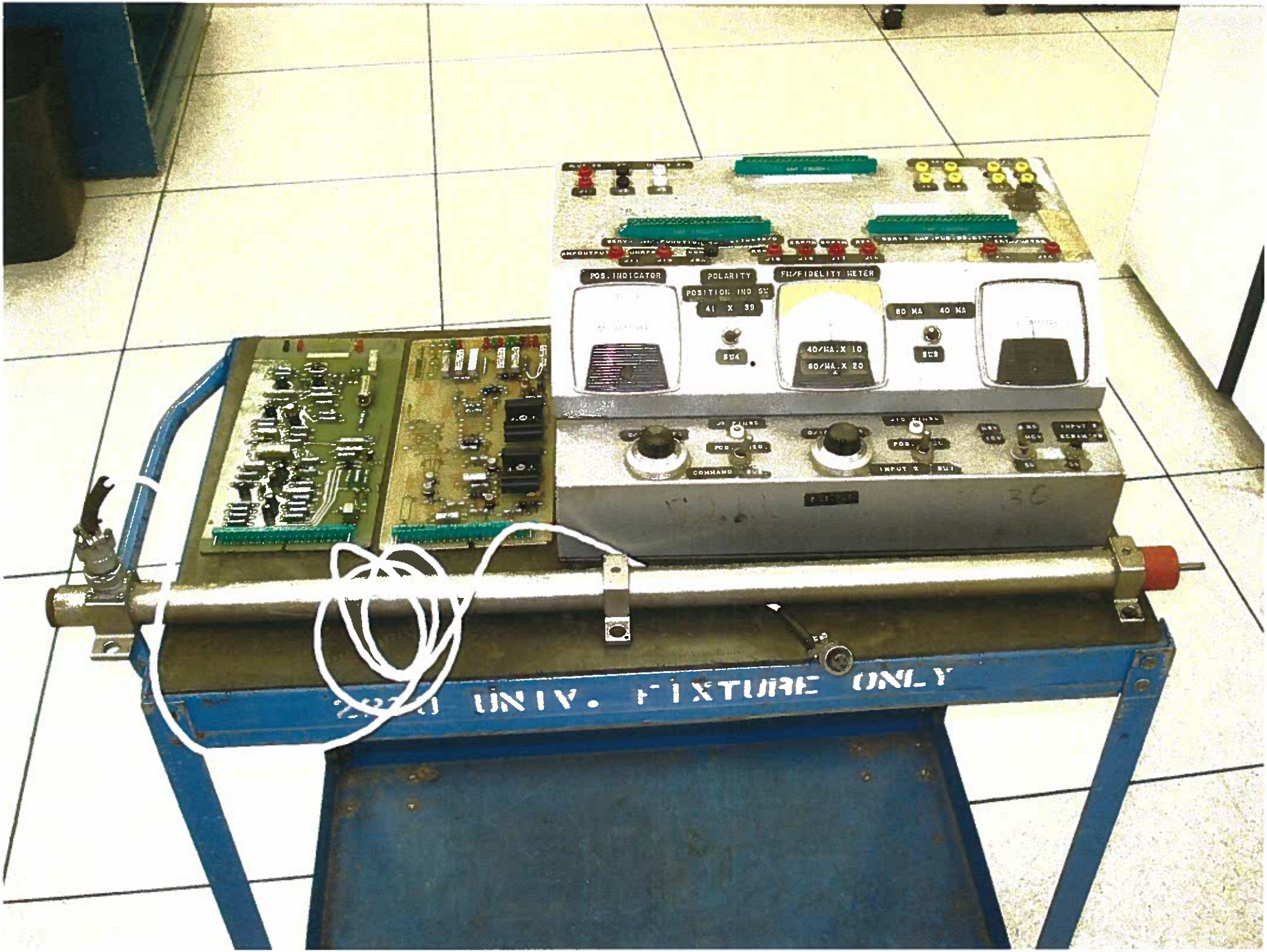
Funct. Bd.	TP2 to Jumper 8	(6.60 to 7.00V rms)
	TP2 to Jumper 7	(11.0 to 11.6V rms)
	R16R to R17R	(22.5 to 23.5V rms)
	TP4 to TP5	more than 16.0V P-P
(Command +5.0V)	TP11 to Common	(+4.99 to +5.01V)

.2

Power Amp. Bd.	CR101L to Common	(-0.5 to -0.8V)
	R110T to Common	(-1.0 to -1.6)
	R114L to Common	(+14.2 to +15.8V)
	TP7 to TP3	(+5.2 to +6.0V)
	TP10 to TP3	(-5.80 to -6.51)
	TP9 to TP3	(-5.4 to -6.5)

12.0 Temp. Coef. Check P.A. Bd:

Voltmeter	Cond.	Cold Volts	Heat gun 4" from (see Sec.)		VOLTS
TP8	Close End	-0.38 to +0.42V	CR108	± 10mv	_____
TP9	" "	-5.4 to -6.5V	CR113	± 35mv	_____ MV


POS. INDICATOR
POLARITY
POSITION IND SW
41 X 39
FM/FIDELITY METER
40/MA.X 10
80/MA.X 20
80 MA 40 MA
UNIV. FIXTURE ONLY