International Governor Services
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USA
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Tear Down/Inspection

Work Order #: 73388
Date Printed: 4/11/2011
Time: 11:42:35 AM
Page: 1

To:
NTSB
4760 Oakland Street
Suite 500
Denver, CO 80239
UNITED STATES OF AMERICA

Ship To:
NTSB

Ref #: VERBAL **Phone #:** [redacted] **Fax #:** [redacted] **Email:** [redacted]
Code: N1 **Site:** **Last OVH/Date:** IGS/ 08-09 **Last REP/Date:**
Qty: 1 **HDI:** **Inc Ship Method:** DROP OFF **Work Type:** Bench Test **Mfg:** WD

PN: 210638F **Serial No:** 13933020 **Final PN:** 210638F

Descr: WOODWARD GOVERNOR **TSN:** **TSO:** **ESN:** RM0209

Receiving Inspection

N.T.S.B. accident investigation.
Bench test only.

Bench Test Findings

Max speed set approx 120 RPM high.
Test speed set approx 130 RPM high.

As Received

TSP-847
Pg 9-10
Rev. AC

Form No.	IGS341
Rev. No.	0
Rev. Date	23 FEB 2010

TEST RECORD FOR TURBO-PROP OVERSPEED GOVERNORS
(See WGC and Customer Chart for applicable governors)

1. Max. Speed (Section 2.2.1) (Test Schematic valve positions 2 open 1,3,4, 5,6 closed)

a) Set point: RPM at flow (*) at 150 +/- 10 PSI inlet. (Application information column or applicable drawing)

*RECORD RPM ~~4047~~ 14.0 GPM @ 4047.

2. Reset, Min. Speed (Section 2.2.2) (Test Schematic valve positions 2 open, 1,3,4,5,6 closed) 9.2 GPM @ 3925

a. Energize reset solenoid valve with 18 +/- 1 VDC, increase or decrease speed to obtain flow (*) at 150 +/- 10 PSI inlet pressure.

*RECORD RPM 8.2 GPM @ 3946.

3. Internal leakage. (Section 2.2.3) (Test Schematic valve positions 2 open, 1,3,4 5,6 closed) 12.5 GPM @ 3570

a. Set RPM to that specified. (Application information column on applicable drawing). With inlet pressure at 60 +/- 5 PSI, internal leak should be no more than (*)

*RECORD FLOW 3.2 GPM X 60 192.0 GPH.

4. Feather Solenoid Check. (Section 2.2.4) (Test Schematic valve positions 2,4,5,6 open, 1,3, closed)

a. With stand speed at zero, energize feather solenoid with 22 +/- 1 VDC, increase or decrease inlet pressure to obtain the Delta P specified in Section 2.2.4. Flow should be as specified in Section 2.2.4.

RECORD FLOW 11.3 GPM

b. Feather leak check. (Section 2.2.4.3) (Test Schematic valve positions 2,4,5, open, 1,3,6 closed)

Reduce voltage to .750 – 0.1 with no undershoot. If flow is more than 2 GPM reject valve.

RECORD FLOW .14 GPM

5. Magnetic Pick-up Voltage. (Section 2.2.5) (Test Schematic valve positions 2 open, 1,3,4,5,6 closed)

a. Set stand speed to 3200 +/- 10 RPM, magnetic Pick-up output voltage should be (*).

*RECORD VOLTAGE _____

b. Magnetic pick-up indicated RPM. Set stand speed to 3200 +/- 10 RPM. Indicated RPM should be as specified in Section 2.2.5.1.2.

RECORD RPM _____

6. External Unfeather Acapter (Section 2.2.6.1 & 2.2.6.2)
(Test Schematic valve positions 1,3 open, 2,4, 5,6 closed)

a. Supply oil to the external connection at 200 +/- 10 PSI. Flow must be 4 GPM Min

RECORD FLOW _____

b. Unfeather Adapter leak check. (Test Schematic valve positions 2 open, 1,3,4,5,6 closed)

With oil inlet pressure at 150 +/- 10 PSI. Leakage past the check valve shall not exceed 1 ounce per minute, Max

RECORD LEAKAGE _____

7. External Leakage Check. (Section 2.2.7) (Test Schematic valve positions 2, open 1,3,4,5,6 closed)

NONE ALLOWED Ø

8. Torque Check. (Section 2.3)

9. Woodward P/N 210638 F S/N 13933020

Reset Solenoid P/N 1310-105 S/N WWC41982

Feather solenoid P/N 1310-118 S/N 62773

Technician's name and date [redacted] 4/11/2011

Sales Order No. 73388

CUSTOMER	NTSB
WORK ORDER	73388
MODEL	210638F
S/N	13933020
TECH	[redacted]
INSPECTOR	IGS 06
STAND	#2
TEMP	
DATE	4/11/2011

RETAIN ONE COPY FOR PERMANENT RECORD

(*): As specified on the applicable assy drawing.