

CEN24LA146

POWERPLANTS

Group Chair's Factual Report - Attachment #1
Woodward Propeller Governor and Overspeed Governor Run Sheets
October 20, 2025

TEST RECORD FOR TURBOPROP GOVERNOR WITH PNEUMATIC OVERSPEED LIMITER

Woodward I/N 8210-002 (P&WC P/N CPW 3035926) Woodward I/N 8210-002-01 (P&WC P/N CPW 3074154-01)
Woodward I/N 8210-003 (P&WC P/N CPW 3035927) Woodward I/N 8210-003-01 (P&WC P/N CPW 3074153-01)

Woodward I/N 8210-002-01 Woodward Serial No. 11902330 Sales Order No. 4028409

Technician [REDACTED] Test Stand No. 70 Date 07/09/2025

1. Supply Pressure 40 PSIG. Limits: 40 +/- 5 PSIG (Mobil Jet II)
2. Relief Valve Pressure at 3000 +/- 10 RPM 375 PSIG. Limits: 385 +/- 10 PSIG
3. Speed Setting: Maximum Speed 4426 RPM. Limits: 4246 +/- 5 RPM
Control Lever Angle 51 deg. Limits: 210 +/- 2.5 deg.
4. Speed setting lever travel from 3200 to 4200 RPM N/A deg. Limits: 73 +/- 3 deg.
5. Feather Stop N/A deg. Limits: 92.5 +/- 2.5 deg. travel at N/A deg.
6. Feather 150 PSIG at N/A deg. lever angle (deg. under item 5 +8 deg.)
7. Pneumatic Control Valve:
Overspeed Setting: 0 PSID. Limits: 5 PSID at 4590 +/- 10 RPM
20 PSID. Limits: 21 PSID Min. at 4930 +/- 10 RPM 4732 RPM's
5.04 psid
1 inches. Limits: 12 inches of water Max. 4246 +/- 10 RPM
Underspeed Reset Setting:
Test Point Only N/A PSID. Limits: 10 PSID Min. at 3983 +/- 10 RPM
with eccentric at lowest point.
Then Calibrate to 0 PSID. Limits: 4 PSID at 3983 +/- 10 RPM 4137 RPM's
3.87 PSID
1 inches. Limits: 12 inches of water Max. 3818 RPM
Leakage at Feather Stop Not Testable inches. Limits: 12 inches of water Max. 2000 +/- 10 RPM
8. Pump Capacity 6.7 qt./min. Limits: 5.5 qt./min. Min. at
150 +/- 5 PSIG & 3000 +/- 10 RPM
9. Internal Leakage 1.4 qt./min. Limits: 2.5 qt./min. Max.
10. Control Arm set at 51 deg. Limits: 210 +/- 2.5 deg.
11. Beta Valve travel from null: In 0.138 inch. Limits: 0.140 +/- 0.010 inch
Out 0.038 inch. Limits: 0.040 +/- 0.010 inch
12. Torque Check (on test stand, prior to removing) per Sections 3.1.
13. Solenoid Valve Check Serial Number N/A (8210-003 Only)
N/A 50 PSIG Max. at 100 RPM below governor setting
N/A (Zero pressure at 100 RPM above governor setting)
N/A (Zero flow when solenoid energized)
14. Check for external leaks None

Retain one copy for permanent record.

TEST RECORD FOR TURBOPROP GOVERNOR WITH PNEUMATIC OVERSPEED LIMITER

Woodward I/N 8210-002 (P&WC P/N CPW 3035926) Woodward I/N 8210-002-01 (P&WC P/N CPW 3074154-01)
Woodward I/N 8210-003 (P&WC P/N CPW 3035927) Woodward I/N 8210-003-01 (P&WC P/N CPW 3074153-01)

Woodward I/N 8210-002-01 Woodward Serial No. 11902330 Sales Order No. 4028409

Technician Gregory Ford Test Stand No. 70 Date 07/09/2025

1. Supply Pressure 40 PSIG. Limits: 40 +/- 5 PSIG (Mobil Jet II)
2. Relief Valve Pressure at 3000 +/- 10 RPM 375 PSIG. Limits: 385 +/- 10 PSIG
3. Speed Setting: Maximum Speed 4223 RPM. Limits: 4246 +/- 5 RPM
Control Lever Angle 45 deg. Limits: 210 +/- 2.5 deg.
4. Speed setting lever travel from 3200 to 4200 RPM 74 deg. Limits: 73 +/- 3 deg.
5. Feather Stop 92 deg. Limits: 92.5 +/- 2.5 deg. travel at 315 deg.
6. Feather 150 PSIG at 322.5 deg. lever angle (deg. under item 5 +8 deg.)
7. Pneumatic Control Valve:
Overspeed Setting: 5 PSID. Limits: 5 PSID at 4590 +/- 10 RPM
27 PSID. Limits: 21 PSID Min. at 4930 +/- 10 RPM
1 inches. Limits: 12 inches of water Max. 4246 +/- 10 RPM
Underspeed Reset Setting:
Test Point Only N/A PSID. Limits: 10 PSID Min. at 3983 +/- 10 RPM
with eccentric at lowest point.
Then Calibrate to 9.4 PSID. Limits: 4 PSID at 3983 +/- 10 RPM
21 inches. Limits: 12 inches of water Max. 3818 RPM
Leakage at Feather Stop 1 inches. Limits: 12 inches of water Max. 2000 +/- 10 RPM
8. Pump Capacity 6.7 qt./min. Limits: 5.5 qt./min. Min. at
150 +/- 5 PSIG & 3000 +/- 10 RPM
9. Internal Leakage 1.6 qt./min. Limits: 2.5 qt./min. Max.
10. Control Arm set at 45 deg. Limits: 210 +/- 2.5 deg.
11. Beta Valve travel from null: In 0.137 inch. Limits: 0.140 +/- 0.010 inch
Out 0.037 inch. Limits: 0.040 +/- 0.010 inch
12. Torque Check (on test stand, prior to removing) per Sections 3.1.
13. Solenoid Valve Check Serial Number N/A (8210-003 Only)
N/A 50 PSIG Max. at 100 RPM below governor setting
N/A (Zero pressure at 100 RPM above governor setting)
N/A (Zero flow when solenoid energized)
14. Check for external leaks None.

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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 on applicable drawing)
*RECORD RPM 4410 RPM
2. Reset, Min. Speed. (Section 2.2.2) (Test Schematic valve positions 2 open, 1,3,4,5,6 closed)
 - a. Energize reset solenoid valve with 18 +/- 1 VDC, increase or decrease speed to obtain flow (*) at 150 +/- 10 PSI inlet pressure.
*RECORD RPM 3891 RPM
3. Internal leakage. (Section 2.2.3) (Test Schematic valve positions 2 open, 1,3,4,5,6 closed)
 - 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 0.53 QTS/MIN
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 N/A
 - 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 QPM reject valve.
RECORD FLOW N/A
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 N/A
 - 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 N/A
6. External Unfeather Adapter. (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 QPM Min.
RECORD FLOW N/A
 - 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 N/A

Max
4368 +/- 10 RPM

Reset
3864 +/- 40 RPM

Internal Leakage
2.33 QTS/MIN MAX

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

NONE ALLOWED None

8. Torque Check. (Section 2.3)

9. Woodward I/N A210507 S/N 2174603

Reset Solenoid P/N N/A S/N N/A

Feather solenoid P/N N/A S/N N/A

Technician's name and date [REDACTED]

Sales Order No. [REDACTED]

RETAIN ONE COPY FOR PERMANENT RECORD

(*) As specified on the applicable assy drawing.