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COMPONENT/SPECIAL TEST
TESTING SOLUTIONS

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1P MOMENT
TEST RIG
(PRATT & WHITNEY)

CUSTOMER

Pratt & Whitney
West Virginia, USA

FACILITY TYPE

1P Moment Test Rig, Turboprop
Production Testing

ENGINE TYPES:

Turboprop engine running at 2000 shp
and 2200 rpm



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DESCRIPTION

The design, supply, and commissioning of 1P Moment Test Rig to provide accurate and repeatable 1P bending loads, to a maximum of 150,000 lbf-in, and thrust loads to the running turboprop engine during production testing. Reducing test set-up times, the test rig is dual purpose and used for both production pass-off and 1P testing. The Test Rig simulates in-flight bending moments on the propellor shaft, arising from gyroscopic forces during aerobatic maneuvers, and in-flight thrust loads.

As a result of increased capacity at the Pratt & Whitney facility, and in light of the effectiveness of the first MDS delivered test rig, Pratt & Whitney has commissioned MDS to supply a second test rig.

SCOPE OF WORK

- ▶ Project management;
- ▶ 1P Moment Production Test Rig;
- ▶ 1P Moment Control System with auto mission capability to perform automated tests;
- ▶ Rig-bearing Lubrication System;
- ▶ 1P Moment Actuator Hydraulic System;
- ▶ 100 Hz steady-state and transient data measurement;
- ▶ 3000 channels capacity;
- ▶ 100 KHz dynamic data measurement; and
- ▶ Dual bleed air control systems that are fully redundant.



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