

Statement of Work

NASA Ames Research Center, Moffett Field, CA 94035-0001

Tiltrotor Test Rig (TTR) Actuator and Servo Valve

A. Technical Point of Contact: TBD

B. Background/History of Requirement:

NASA is completing the development of a new test bed specifically designed for evaluating rotor performance on Tiltrotor type aircraft. The Tiltrotor Test Rig (TTR) will provide the Department of Defense (DoD) and National Aeronautics and Space Administration (NASA) with the ability to test and evaluate large-scale rotors up to 26-ft diameter, turning at 0 - 630 revolutions per minute (RPM), in wind speeds up to 300 knots.

As part of the development, a calibration rig for the TTR rotor balance has been designed and fabricated. This rig is designed to use hydraulic actuators and servo valves to apply external loads to the balance. These actuators and servo valves must be compatible with the existing hardware and control systems currently available in the National Full-Scale Aerodynamics Complex (NFAC), including high pressure manifold, high pressure hydraulic control system, actuator anchor hardware.

The use of specifically identified parts will provide the following benefits:

1. Provide reduced risk by utilizing a proven system design that was successfully developed and used at the NFAC.
2. Reduce time and cost by borrowing the NFAC's control system to drive an identical actuator set.
3. Eliminate the engineering effort of designing anchor hardware that interfaces with these proven actuators.

C. Requirement Specifications:

The parts required are:

a. Actuators with low friction seals

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| 1. PARKER # 6.00SB2HXFTV19Ax6-BGHNNN CYLINDER | QTY: 1 |
| 2. PARKER # 4.00SB2HXFTV19Ax6-BGHNNN CYLINDER | QTY: 2 |
| 3. PARKER # 3.25SB2HXFTV19Ax6-BGHNNN CYLINDER | QTY: 8 |

b. Rod ends

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| 1. PARKER # 0961000200 SPHERICAL ROD END (1-7/8-12F) | QTY: 1 |
| 2. PARKER # 0961000138 SPHERICAL ROD END (1-1/4-12F) | QTY: 2 |
| 3. PARKER # 0961000100 SPHERICAL ROD END (1-14F) | QTY: 8 |

c. Actuator Servo Valves

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| 1. PARKER # D1FPE50BH9NVE00 PROPORTIONAL VALVE | QTY: 12 |
| 2. PARKER # 5004072 DIN 43563 6+PE CONNECTOR | QTY: 12 |

D. Required Delivery Date: 8 weeks After Receipt of Order (ARO)