



MIL Standard Shock and Vibration Testing

June, 2005 – An independent laboratory conducted MIL standard shock and vibration tests on an Exlar GSX30 linear actuator.

Vibration Endurance

The vibration test was conducted in accordance with MIL-STD-167B. The vibration frequency was swept from 4 to 22 Hz. MIL-STD-167B requires an exploratory vibration test (10-minute resonance survey sweep) a variable frequency test (5-minute dwell at each frequency) and a 2-hour endurance test at the resonant frequency. Because no resonance was observed during the survey, the endurance test was conducted at 22 Hz. The Exlar linear actuator was subjected to each test sequence in three different axes and two mounting configurations and was operational during the vibration exposures.

Results

No physical or mechanical degradation was observed during or after the testing. After each sequence, the actuator was operationally tested for 30 minutes. The actuator performed satisfactorily during the operational testing.

Mechanical Shock

The Exlar GSX30 was subjected to a Medium Weight Shock Test in accordance with MIL-S-901D. The test was performed with the linear actuator oriented in three different axes and two mounting configurations for a total of 18 blows. The linear actuator was operational during the shock testing.

Results

Accelerometer data reflected shock acceleration at the front flange of the actuator up to and exceeding 750g. The actuator was inspected after each blow and subjected to a 30-minute operational test after each sequence of three blows. The linear actuator displayed no physical or mechanical degradation and operated satisfactorily during the operational testing.