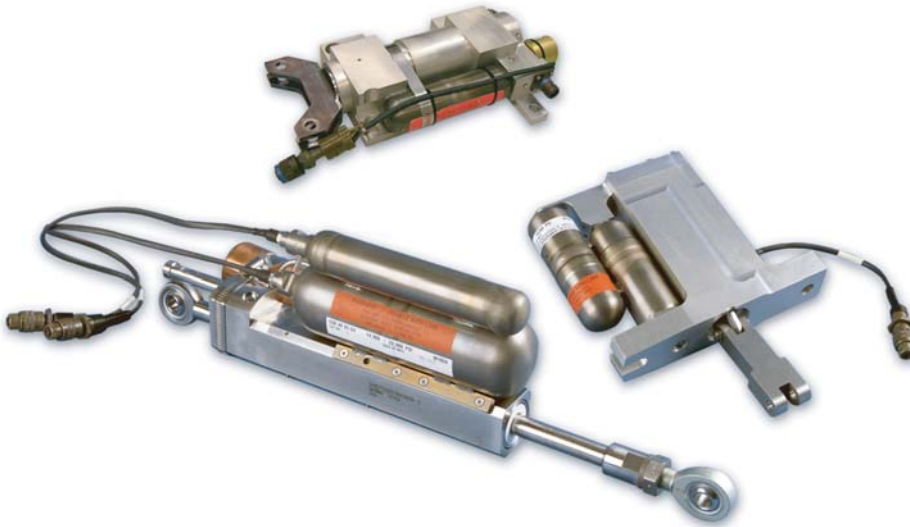


## Precision Strike Weapons PNEUMATIC WING AND TAIL ACTUATORS



- Up to 15,000 psig, Helium or Nitrogen
- Pyrotechnic and mechanical activation
- Variable damping and rate deployment

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### **Application:**

The Carleton family of wing and tail actuators provide pneumatic wing and fin deployment subsystems for various strike weapons systems. These include the AGM-158 Joint Air to Surface Standoff Weapon (JASSM), and the AGM-154 Joint Standoff Weapon (JSOW).

### **Features:**

All actuators feature a cold gas deployment with pressures up to 15,000 psig. Pneumatic actuators are more cost effective than comparable electro-mechanical and pyrotechnic systems. They are highly repeatable and can produce high forces at low cost. Pneumatic systems are easily modifiable, thus decreasing development cost and times. These types of systems are easily configured to deploy wings with force margins in excess of 2.

Activation can be via pyrotechnic initiator or by mechanical system. Deployment rates vary based on design parameters. Deployment can be single stage, dual stage, or dual rate (single stage with transient rate change at specific deployment angle). System can be temperature compensated if required by design parameters. Actuators feature various damping methods including oil damping and spring damping.

# SPECIFICATIONS

# Wing and Tail Actuators



JSOW Wing Actuator



JASSM Wing Actuator



JASSM Tail Actuator

## *Specifications:*

<b>Medium</b>	Nitrogen, Helium
<b>Operating Pressure</b>	up to 15,000 psig (1,034 bar)
<b>Weight</b>	Design Dependent
<b>Activation</b>	Pyrotechnic, Mechanical
<b>Damping</b>	Oil Damping (MIL-PRF-87257), Spring Damping
<b>Deployment Time</b>	Intermediate Deployment (0.075 seconds to 0.150 seconds)  Full Deployment (0.600 sec to 7 sec)  Times are design specific
<b>Deployment Rate</b>	Single Stage, Dual Stage, Dual Rate, Design Dependent

## *Operating Environment:*

<b>Temperature</b>	-65 to 187 deg F (-54 to 86 deg C)
<b>Humidity</b>	0 to 100%
<b>Shock</b>	40 g 30 ms, Design Dependent
<b>Vibration</b>	49 Grms, Design Dependent

## *Product Interfaces:*

<b>Connector</b>	Design Dependent
<b>Electrical</b>	Design Dependent