

Satellite Deployment Load Washers

Industry: Aerospace

Summary

Customer Challenge

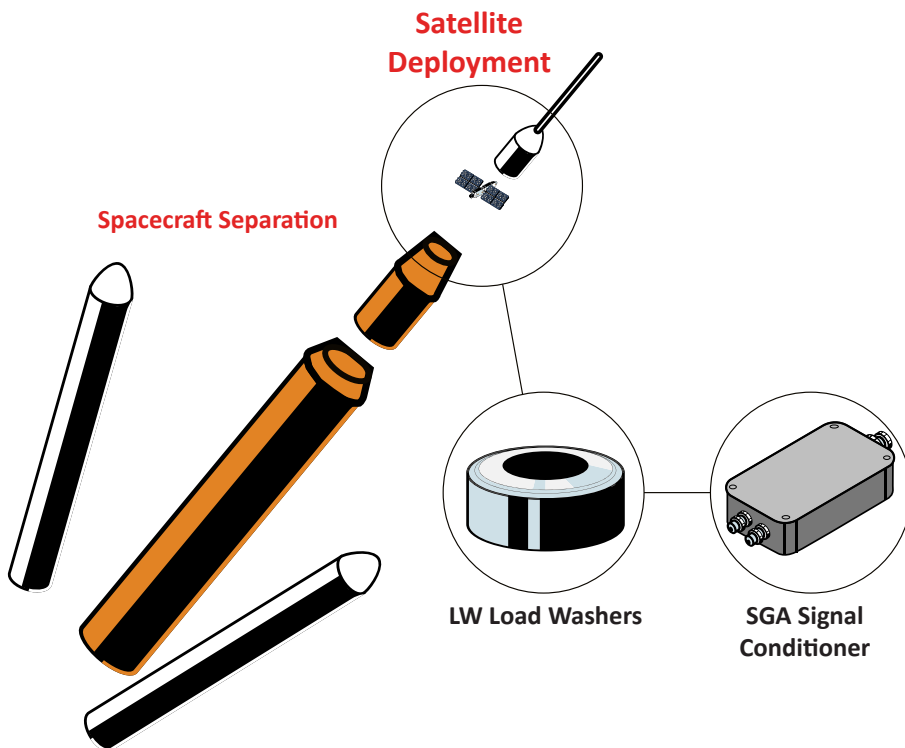
Satellite deployment requires the measurement of force in order to release a satellite from a rocket or a spacecraft. Compression forces from the payload's spring mechanism needs to be tested to ensure deployment is successful, and that the satellite does not get damaged as its released.

Interface Solution

Interface suggests using custom LW Load Washers within the springs of the separation mechanism. Measuring the force on the springs ensures the two pieces of the spacecraft are properly locked down during launch, but also ensures that separation occurs for the satellite to release into space. Force readings can be amplified with SGA AC/DC Powered Signal Conditioners, and signals can be supplied to the control system of the satellite.

Results

Interface's custom LW Load Washers successfully ensured the two pieces of the spacecraft were locked together during launch, but also ensured it would be separated in space for the satellite to deploy.



Materials

- Multiple custom LW Load Washers
- SGA AC/DC Powered Signal Conditioners

How It Works

1. Multiple custom LW Load Washers are installed into the springs of the mechanism holding the two parts of the spacecraft together. Compression forces are measured to ensure the spacecraft is locked properly during launch. It is also tested to ensure all springs will separate in space, so that the satellite inside will deploy.
2. Readings can be amplified with SGA AC/DC Powered Signal Conditioners paired for every three LW Load Washers. Signals can be supplied to the control system of the satellite.