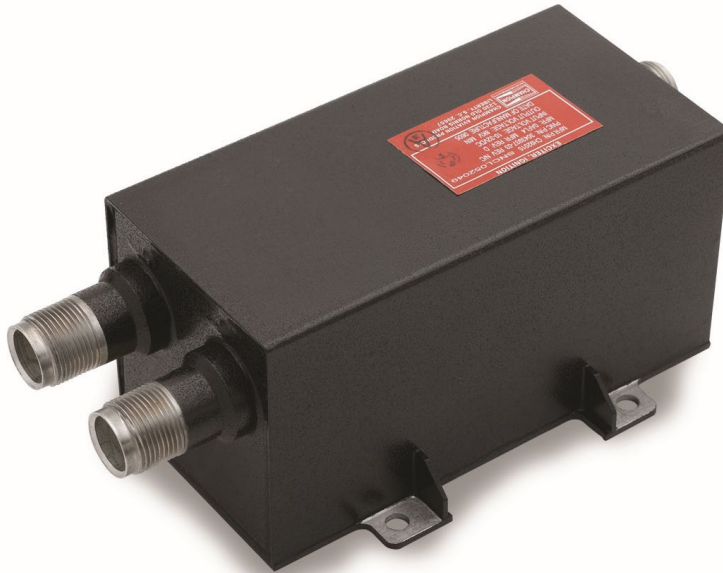




AEROSPACE™

## Champion Ignition Exciter Model CH92106-DS Competitive Analysis



The Champion Aerospace Ignition Exciter Assembly, Model CH92106-DS is eligible by **FAA-PMA** for use on the Pratt & Whitney Canada PW200 and PT6 turbine engines as approved for replacement of the following exciter models:

**P&WC**

PN 3043937

**Unison**

PN 10-381550-4E

\*\*\*IMPORTANT\*\*\*

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## Champion Ignition Exciter Model CH92106-DS

### Competitive Analysis

#### Ignition Exciter Operational Performance Requirements

|                                |   |
|--------------------------------|---|
| <b>Input Power</b>             | 10-32 VDC<br>3A typical, 6.5A (max.)                  |
| <b>Operational duty cycle</b>  | Continuous @ 215°F (102°C)                            |
| <b>Operational Temp. Range</b> | -55 to +121°C   |
| <b>Spark Rate</b>              | 2.8 to 3.3 sparks/second<br>(Input voltage dependent) |
| <b>Output voltage</b>          | 8kV minimum (8kV typical)                             |
| <b>Stored energy</b>           | 1.3 joules nominal                                    |

#### Significant & Unique Qualities

- The exciter consists entirely of solid state circuitry with no “wear out” characteristics to ensure consistent performance and long life
- The exciter does not contain radioactive materials as these materials are not necessary for operational stability
- The exciter presents the same footprint and form as the competitor part so that installation on the airframe is not affected
- The exciter has a unipolar output (solid state HV switch) which is more efficient than an oscillatory output (spark gap)
  - This oscillatory output found on the Unison exciter also puts more stress on the discharge capacitor
- The exciter has a dedicated switch for each output, meaning the output is redundant

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## Champion Ignition Exciter Model CH92106-DS Competitive Analysis

### Ignition Exciter Environmental Qualifications

- Vibration tested to up to 20g for 9 hours, 3 axis (sinusoidal)
- Shock tested to 6g, 3 axis
- Continuous duty endurance testing at -55°C and 102°C
- Pressure testing from 0 to 25,000 ft (equivalent) for 10,000 cycles
- EMC tested per RTCA/DO-160F, radiated and conducted emissions
- Durable, environmentally resistant polyurethane finish

### **Comparison to the OEM ignition exciter – Design Features**

#### Unison Ignition Exciter

PN 10-381550-4E

Weight – 2.3lbs

High Voltage Switch – Spark Gap

Life limited

Radioactive "Krypton 85"

Oscillatory

#### Champion Ignition Exciter

PN CH92106-DS

Weight – 1.9lbs

Solid State Switch

**Non-limited life**

**Radiation free**

**Unipolar (less wear on  
discharge capacitor)**

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