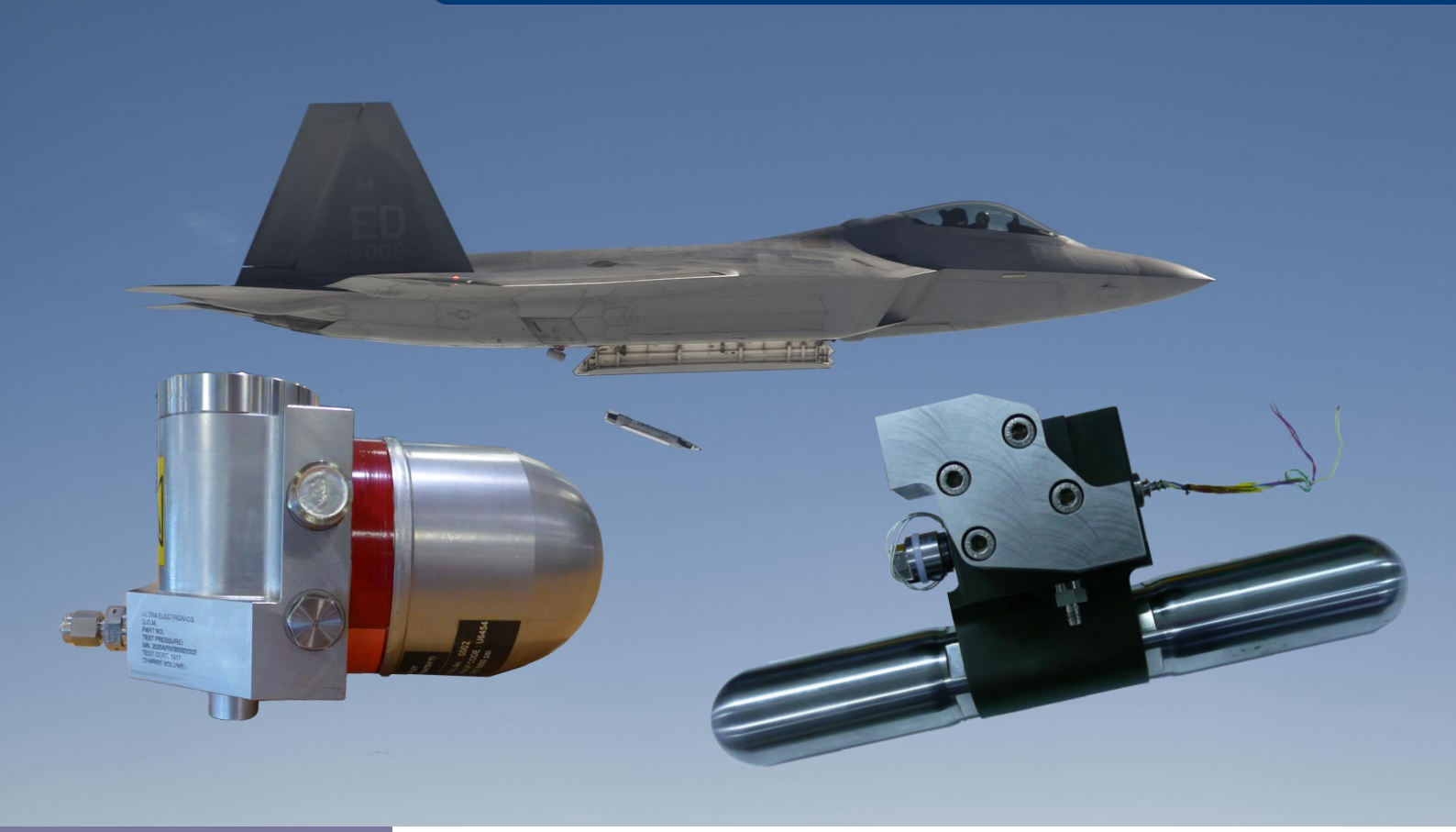

Ejector Valve & Accumulators

The power behind the punch

Features

- Fully integrated compact design
- Operating temperature of -54°C to +85°C (-65°F to +185°F)
- Charge pressures up to 414 bar (6,000 psi) depending on system
- Typical actuation time of <30ms
- High strength, corrosion resistant materials

Ultra Electronics Precision Control Systems' capability in pneumatic 'cold gas' stores ejection systems has led to the development of a range of Ejector Valve & Accumulators (EVAs) for incorporation into pneumatic Bomb Rack Units.

The EVA is designed to receive and store a volume of high pressure dry air from a HiPPAG™ on-board compressor system, or from a ground based high pressure air supply, then release it rapidly to the ejector pistons on receipt of the 28Vdc firing pulse.

Ultra's capability offers customers a wide range of integrated options to minimise space, mass and costs while maximising performance over the full spectrum of the operating envelope.

Ultra's servo piston designs offer options for an integral hook unlock mechanism, and an enhanced two stage design that ensures the hooks are over-centre before air is ported to the ejector pistons reducing the risk of hang-ups. The integral hook unlock feature maximises the efficiency of the stored air, reducing the required volumes, pressure and parts count to realise real mass and system cost savings.

Benefits

- Eliminates pyrotechnic cartridge and its associated handling and logistics issues
- Excellent low temperature performance
- Minimises space, mass and cost by incorporating other rack functions
- Rapid and consistent actuation times
- Inherently safe charging

Ultra ELECTRONICS

Fully integrated systems, from induction to ejection

Ultra's EVAs can feature a wide range of design options depending on a customer's requirements.

- High Pressure Relief Valves
- Integral hook unlock
- Two-stage servo pistons
- Pressure transducers
- Pressure indicators
- Manual vent valves
- Active pressure band control
- Pitch Control Valves
- Active pitch control
- Non-electrical automatic/manual isolation valves
- Electrical isolation valves
- ITAR-free solutions

As the designer of the HiPPAG™ on-board compressor system, Ultra recognises the importance of EVA leakage on system performance. To this end, Ultra's designs minimise the use of elastomeric seals and other leak paths that would be detrimental to system performance and durability. This ensures Ultra's designs perform reliably even at challenging -54°C (-65°F) environments.

Ultra's wide range of capabilities offers customers a complete pneumatic system supplier, from induction to ejection. This complete offering minimises integration concerns and provides a consistent and reliable approach to the pneumatic energy supply system.

Ultra has a wide range of analytical toolsets to ensure every part of the system is optimised for maximum performance, whether it be the flow paths through the EVA to the ejector pistons, minimising mass through careful stress analysis, reliability and fault tree analysis or the magnetic performance of the solenoid valves.

Ultra's EVAs have been chosen to power the latest generation of stores release equipment including the Joint Miniature Munitions Bomb Rack Unit and the UK SPEAR III Ejector.

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