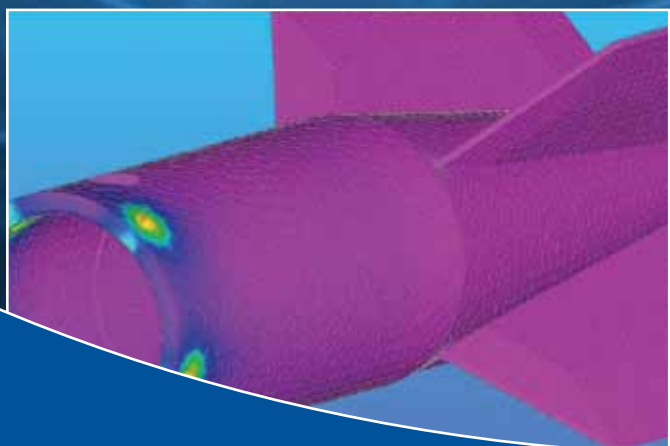
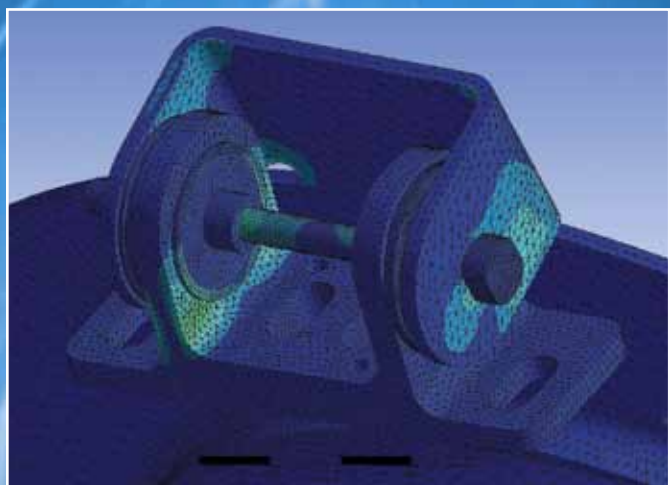


# Design, Development & Qualification

With over 80 years experience in Mechanical Engineering, Portsmouth Aviation offers a complete engineering solution to AS 9100 Rev. B and ISO 9001 : 2008 standards from Design through Development, Qualification, Trials, Certification to Manufacture of the finished product.



**The Company's experienced and innovative Technical and Design staff, accredited to Design Approved Organisation Scheme (DAOS) supported by Computer Aided Design equipment, provide a comprehensive Mechanical and Aerospace engineering design service. DEVELOPMENT of designs through to production standards is a well honed skill. On site TEST facilities support the development and qualification programmes.**

## Design

The Design team has wide ranging experience in the design of light to medium mechanical engineering projects, holding the necessary DAOS accreditation to design products, design modifications and certification as required by the customer.

Recent design experience includes:

- Environmental containers for aircraft stores
- Weapon integration projects for military aircraft
- Handling equipment for heavy airborne stores
- CBRN Protection Systems for buildings and mail handling
- Installation Kits for Military vehicles

The Design Office operates 'Solid Edge' CAD software, with ANSYS Finite Element and ANSYS CFX Computational Fluid Dynamics Software running on a Windows Server 2008 R2 network as part of the design engineering and risk reduction process.

## Development

PA has a long history of developing complex systems to the very high standards demanded by the Ministry of Defence and major prime contractors. PA is currently providing significant support to Prime Contractors such as Raytheon, BAES and MBDA on a number of major development programmes. The Company also has many years experience of undertaking the integration and clearance of stores for service on military aircraft.

We have considerable expertise and experience in the administration and conduct of trials, with skilled, in house, Integration and trials staff.

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In our on-site Workshops, our highly skilled technicians manufacture prototypes and experimental equipment.

## Qualification and Test

PA has wide ranging mechanical testing facilities. Central to these is a large Structural Test House capable of 100 tonnes in two directions and 50 tonnes in all directions.

Other testing facilities include:

- The testing facility has the capability to provide data for safe working load testing, proof load testing and destructive testing of materials and structures. Tensile, pressure and vacuum testing can also be carried out.
- The testing facility has two test rigs that can be adapted to suit most of the requirements of our customers or we can create special purpose rigs for a particular configuration requirement.
- The largest rig is capable of taking loads of up to 100 tonnes in two directions and 50 tonnes in all directions. It has a test area of 3.96 x 2.43 x 3.00 meters and has two built in 2 tonne hoists.
- The smaller rig has a test area of 4 x 1.6 x 1.5 meters and has a longitudinally moveable lifting beam capable of lifting 10 tonnes. This rig was designed to trial small weapon loading vehicles.

PA use a number of accredited Test facilities to support the Qualification process, thus providing the appropriate evidence to verify the customer requirements are met prior to formal validation and certification.

## Support & Post Design Services (PDS)

For many years, PA has administered Support and Post Design Service contracts for the Ministry of Defence for both PA designed equipment and equipment designed by other companies. PA is experienced in Safety Management including the generation of safety cases. We currently coordinate several Support and PDS contracts.