



Mobile Helicopter Engine Test Facility

For the AgustaWestland AW101 & Apache & NHIndustries NH90



ATL 1295-001: RTM322 and T700 engine variant Run-up facility

As part of integrated logistics support, this advanced compact Mobile Test Facility offers the end user deep field servicing support for helicopter engines.

This design of facility is versatile, user friendly, safe, efficient and cost effective and provides a testing solution for the EH101/ Merlin, NH90 and Apache Helicopter platform variants.

The Mobile Engine Test Facility is designed to be configured for the RTM322, with testing solution options for the T700 engine variants as well.

The Test Facility comprises of the following key elements and systems:

- Mobile Test trailer which acts as the main facility platform.
- Removable Acoustic Control Cabin for transportation purposes by air.
- Engine mounting and test skid.
- Self-contained fuel package.
- Self-contained air-start package.
- Self-contained electrical supply using a generator which operates on all standards of NATO aviation fuel and provides 28/110/240/415 volts.
- UPS (Uninterruptible Power Supply)
- Fire suppression system.
- Engine Control and Data Acquisition System.
- Engine Performance Software.
- Intercom System.

Additional inclusions:

- Engine cross calibration services
- Operation and maintenance/ manuals
- Operator training

The Test Facility provides the following advantages:

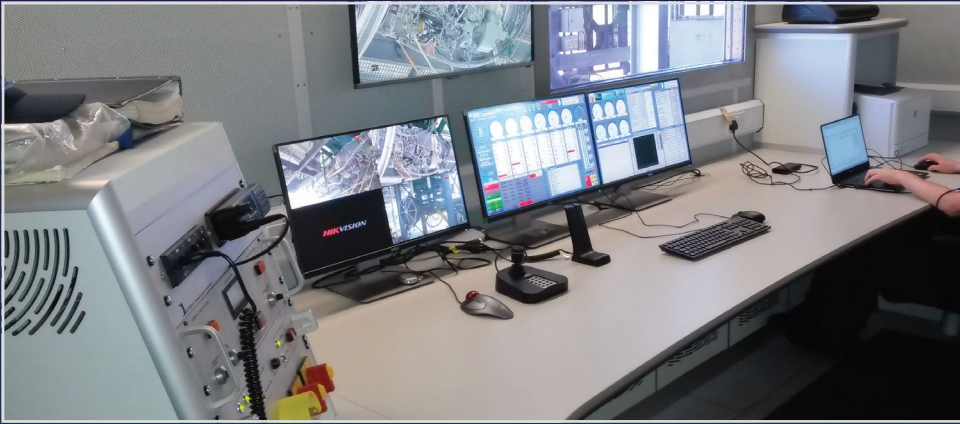
- Proves the quality of the power plant.
- Quickly deployable using any suitable 'towing-tug'.
- Compact, lightweight and fully mobile
- Simple design and construction
- Air transportable – by C130 or C17 transport
- Can be configured to accept a variety of engine types
- The facility operators will benefit from the cabins enhanced acoustics, console ergonomics and integrated air-conditioning system.
- One self-contained facility catering for multiple aircraft platforms.
- Prevents the aircraft being used as an expensive test facility, thus increases aircraft availability.
- CE certified to meet current legislation and EU directives.

Test Trailer includes the following:

- Suitably sized wheelbase test trailer, turntable steering, adjustable tow-arm equipped with NATO standard towing eye, brake system and foam filled tyres.
- Access steps with stainless steel handrails.
- Powerplants are installed onto a stainless steel mounting frame inclusive of intake guard to prevent FOD hazards, which can damage the power plant.
- Anti-slip decking.
- Stainless steel weatherproof IP65 termination cabinets.
- Interruptible test point.
- Engine control harnesses.
- Stainless steel Air start pipe.



NH90 (Left), EH101/ Merlin (Right)



Acoustic Control Cabin includes and is equipped with the following:

- 45 Db. rated "state of the art" acoustic control cabin
- ISO Corner Blocks with anti-vibration mounts
- Side and front positioned forklift pockets.
- Rear positioned acoustically treated door with double-glazed acoustic window for operational safety.
- Fully suspended anti-static computer flooring.
- Integrated air conditioning and heating with fresh air make-up.
- Ergonomically designed control console, maximising the 'Operator' working space.
- Terminations cabinet with circuit breaker protection.
- Rear bulkhead connector plate to allow quick disconnect of all services/ control/ instrumentation
- Mains Power electrical distribution board.
- PCs and Monitors.
- Uninterruptable power supply – (UPS)
- The Aerotest Supervisory Control and Data Acquisition (SCADA) system has been developed using National Instruments globally supported 'LabView' software to run within the well proven and reliable MS Windows-7 operating environment.
- The software code at the heart of the system is designed to for any customer specified engine test procedures.
- Intercom system.
- Vibration suite.

- Dimmable VDU/ console low voltage internal spot lighting
- Hand-held foam fire extinguisher.
- Two operators chairs.
- Triple-glazed safety-glass window – optional
- Wind-speed and direction transducer.
- Lightning protection conductor aerial and earthing connections
- Public address safety speaker horn.
- Flashing beacon.
- External front and rear floodlighting.

Engine fuel system:

Included is a 750.0 litres (165.0 Imp gall) total capacity double skinned horizontal fuel tank which is positioned in front of the control cabin.

The tank is manufactured from stainless steel including interface flange to mount the fuel pump, inspection hatch, contents gauge, return and vent flanges, ventilation breather, and vertical spindle pump with a close-coupled ATEX rated motor.

The engine fuel system includes the following:

- Double skinned 750 litres fuel tank
- Fuel Pump including ATEX motor
- Fuel pipework from pump to engine
- Fuel Filter
- Flow control valve
- Fuel shut off valve
- Pressure Gauge
- Self-sealing fuel coupling

Engine Start System:

An independent, self-contained combined compressor and generator is included for providing the air to start the engines and the generator for the independent electrical system.

The compressor/ generator package include the following features:

- CompAir compressor with 7kVa generator, skid mounted
- Air receiver
- Air pipework from compressor to engine support frame
- Air regulator
- Pilot regulator
- Air Filter
- Pressure Gauge
- Quick release coupling

CCTV System

Aerotest's supply includes a basic colour CCTV system which would allow the operators sitting at the control console position to view the engine under test; the image would be displayed upon a wall mounted widescreen full HD screen. Aerotest can also offer an optional triple-glazed safety-glass acoustic window.

Fire System:

Aerotest's supply includes two hand operated 5kg fire extinguisher bottles, which will discharge CO₂.

Additional options:

- Full Load – enabling complete engine performance testing
- Optional Test Area Acoustic Enclosure/ Silencer
- Roadworthy approvals
- Dress Equipment
- Remote support capability



Aerotest Limited

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Aerotest Limited is an ISO BS EN 9001: 2015 registered company with a quality approval certificate, number FM6664

Ordering Information:

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