



Alison T56-A14/A15 Air & Anti-Icing Valve Test Facility

For the Lockheed Martin C130A-H Hercules & P3 Orion Aircraft



ATL 1303-001: Air & Anti-Icing Valve Test Facility

The compact, mobile, user friendly and cost effective Air Valve test facility has been designed for a modern and safe postoverhaul testing capability of air and anti-icing solenoid valves used within the Alison T56-A14/ A15 Turbo-prop engines.

This state-of-the-art facility has been designed to replace the Alison Air Valves Test Stand Assembly part number 23002225/01-088-4202, NSN 4920-01-088-4202 and associated Technical Manual documentation TO 33D4-6-183-1 which is now obsolete.

The test facility consists of a fully mobile brushed stainless steel cabinet integral test/ viewing chamber with an ergonomically angled control panel containing all necessary instrumentation, pre-configured for each of the units being tested and for observing test responses.

The cabinet incorporates the compressed air supply system, filtration, pipe work, vacuum vessel and all instrumentation. Double doors both front and rear allows easy access for routine maintenance and calibration.

The facility has been specifically designed to offer the following capability:

- Opening and closing tests.
- Internal and external leakage tests.
- Flow tests.
- Cycling tests.

The unit will be C.E. certified to meet current legislation and EU directives. To operate, the facility must be connected to a suitable local mains electrical 3 phase supply.

Part Marking

The air & anti-icing valve facility is individually identified as follows:

- Part Number.
- NATO Stock Number (NSN).
- Description.
- Individual Serial number.

Air & Anti-Icing Valve Testing

The air & anti-icing valve facility is designed to test the following:

T56-A-15

- Compressor air bleed valves - 6814317 & 6809125.
- Burner drain valves - 6824295 & 6859485.
- Anti-Icing valves - 6809573 & 23030058.
- Anti-icing solenoid valve - 6781568.

T56-A-15LFE

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- Burner drain valve - 6859485.
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T56-A-14

- Compressor air bleed valve - 6809125.



Special Features Cabinet

The facility cabinet consists of a stainless steel support frame, compressor receiver unit, filtration, pipe work, vacuum vessel, all filtration, flow monitoring equipment and pipe work.

An ergonomically angled control panel containing all necessary instrumentation and controls including a user friendly display screen for flow rate and pressure indication which will be pre-configured for each of the units being tested and for observing test responses.

Manual control valves to adjust pressure to the unit under test.

ON', 'OFF', 'RESET', lockable emergency stop buttons are also fitted to control the facility, as well as an indicator light to show that the facility is running.

Special Features – Test Fixtures

- Special component testing adapters are designed and supplied with the facility to interface and test the following items.
- Compressor air bleed valve.
- Burner Drain Valve.
- Anti-icing valve.
- Anti-icing solenoid valve.

Special Features – Air Supply

- The pneumatic equipment is positioned inside the cabinet mounted on a sub-frame and consists of an electric motordriven piston compressor, filtration, air receiver, flowmeters and pipework.

- Air is supplied to the unit under test from the receiver via various valves and regulators, all air is filtered from the receiver, two calibrated flow meters are provided for air flow measurement. Pressure is regulated via 4 manual control valves mounted on the control panel.
- All pipe-work circuits are coupled together using nylon tubing suitable for use at 17 bar. Quick disconnect fittings are fitted to flexible hoses which are used for the final connections to the valve unit under test. All pressures applied to the unit under test are measured.
- All materials and seals used by Aerotest in the construction of the facility are fully compatible with the operating pressures.
- A vacuum ejector is used to generate the required vacuum; this vacuum is stored in a 27 litre reservoir.

Special Features – Electrical Circuits

- All that is required to commence the unit into service is a 3 phase power supply. The unit is fitted with a 3m cable and an industrial standard electrical plug.
- The powered control switches and lamps are extra-low voltage (24 volt D.C)
- Complies with the relevant regulations for the Machinery Equipment Directive
- The control panel includes a user friendly touch screen display screen for flow rate and pressure indication as well as controlling capability via the din rail mounted power supplies for the anti-icing solenoid valve cycling tests.

- The touch screen display will be pre-configured for each of the units under test.

The benefits of the Aerotest Air & Anti-Icing Valve test facility include:

- The Aerotest design offers T56-A14 & A15 power plant dual aerotest air & anti-icing valve testing capability.
- The Aerotest design offers a modern state-of-the-art and safe post overhaul testing capability.
- The serviceability of the air & anti-icing valves can be established quickly without the need for installing replacements and sending valves off to third parties for verification.
- Compressor, motors, receivers, filters and controls are all supplied and installed to European standards.
- Aerotest design provides simplicity and can be adapted to test other engine air & anti-icing valve types.
- Operating and Maintenance instructions are supplied with each facility.

Ordering Information:

Aerotest Part Number: ATL 1303-001
 Nato Stock Number: NSN 4920-99-219-9118
 NCAE Number: KE 160



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