Aerotest Limited
Consultants & Specialists in Aero Engine Test Facilities & Ground Support Equipment

Engine Water Vapour Resistant (WVR) "Aero-Bag"

For the Pratt & Whitney F100-PW-200 Series Power Plants

ATL 1213-001
F15 & F16 Engine WVR Aero-bag

ATL 1181-001
F15 & F16 Engine WVR Aero-bag

ATL 1213-001
F15 & F16 Engine WVR Aero-bags

The Water Vapour Resistant WVR Aero-bag has been designed and developed to enable the Engine, installed on the F15 and F16 aircraft to be stored and preserved against the environment for indefinite periods of time whilst mounted onto the Engine ETU–100E storage transport support stand. The durable WVR Aero-bag is manufactured as one assembly, such that they completely enclose and protect their contents from potential corrosive elements in the external ambient environment.

The standard WVR Aero-bags are unique in size and shape to the F100-PW-200 series with an option to include the augmenter exhaust/ afterburner tube and Accessories Gearbox installed (Part number ATL1213-001) or uninstalled (Part number ATL1181-001).

The WVR Aero-bags are produced in two standard colours RAL-5029 Light Blue and RAL- 6001 Green, although additional colours are available upon request.

The WVR Aero-bag is designed to protect the Engine during storage and transportation.

The WVR Aero-bag has been designed and developed based upon the same technology used for the ATL1175-001 C-130J WVR Aero-bag which was tested and approved by Lockheed Martin Aeronautics Inc, Marietta, Georgia. This product has consequently been identified as the preferred design for all future WVR preservation, storage and transportation standards.

Part Marking

Each WVR Aero-bag is individually identified with the following information:

- WVR Aero-bag Part Number
- Description
- Individual Serial number

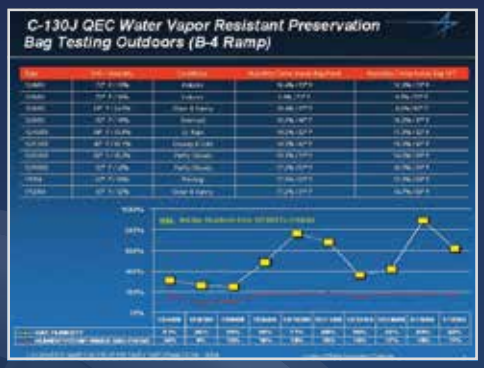
Each WVR Aero-bag is supplied in a lightweight fabric transport bag. This simplifies transportation and ensures that all elements of the Aero-bag system remain together as a complete working unit.

The WVR Aero-bag is designed to interface with F100-PW-200 series engines when installed into the following Engine ETU–100E storage/ transport stand:

Part Number:	NSN No:
51114-1-001	1740-01-038-1371

Relative Humidity

- The graph below shows a C-130J QEC WVR Aero-bag under test. The tests compare the environmental conditions using the outside humidity levels and the humidity levels within the Aerotest Aero-bag. The humidity level within the WVR Aero-bag must be sustained at a level below 40% which is illustrated in the graph below by the red line. The external humidity level is represented by the yellow line. This technology is the basis for all Aerotest's WVR Aero-bag designs.



If the storage and preservation system is properly managed, the engines can be safely stored indefinitely. The Silica Gel is the only thing that needs to be monitored, generally requiring replacement or rejuvenation approximately every six months.

The preservation system is monitored by observing an Environmental digital indicator which is located on the side of the WVR Aero-bag and is capable of reading relative humidity, temperature and due point inside the Aero-bag.

Special Features and Specification

- Integrally welded continuous 'TZIP easy' zip seal is welded along the centre line of the engine from below the intake to below the engine exhaust section. This allows access without having to remove the engine and the WVR Aero-bag from the ETU transport stand/ trolley.
- Two sealed porthole covers are located at the front and rear sections of the WVR Aero-bag. Their primary function is to provide an access point to remove and/ or replace the silica gel into the nacelle intake and tailpipe sections, without breaking into the primary 'TZIP easy' zip seals.
- Two one-way purge valves are installed into each porthole cover, this arrangement is for connecting a purge valve adapter which screws onto and opens the purge valve allowing nitrogen purging of the WVR Aero-bag.

Special Features and Specification

- The WVR Aero-bag material has a rated temperature envelope of -30 to +70ºC (-22 to 158ºF.)
- The WVR Aero-bag is manufactured from a supported PVC textile which is strong and durable and may be creased or folded.
- The Aero-bag outer surfaces are coated with a protective flexible coating of acrylic lacquer for protection against ester-based fluids.
- Attachment straps ensure that the horizontal zip is easy to open and close.
- An internal desiccant sachet-retaining bag is incorporated as part of the engine exhaust and intake sections. Each bag is permanently fitted and has been designed to allow the desiccant sachets to be held in place once installed.
- Sealing the engine and WVR Aero-bag against the ETU–100E storage/ transport stand is achieved by four gasket plate seals which interface between the engines mounts front and rear and the ETU, the gaskets are welded into PVC patch pockets for permanent fixture. Access to the engine mounts is through four 'TZIP easy' zip seal access pockets
- The WVR Aero-bag has an Integral pressure relief valve fitted, set at 0.5 psi (3.5 kPa). This ensures the Aero-bag is not over pressurised when subjected to variation in atmospheric pressure or temperature, enabling safe transport at altitude and transfers between cold to hot climates.
- The Aero-bag has an external sealable panel to store engine logbook records and standard WVR Aero-bag repair kit, along with a clear aperture panel to view and store records documents.
- Laminated installation/operating instructions are supplied with each WVR Aero-bag.

Ordering Information:

F100-PW-200 SERIES
(with the augmenter exhaust/afterburner tube)
ATL 1213-001-B (BLUE)
NSN 8145-99-880-7052 (BLUE)
ATL 1213-001-G (GREEN)
NSN 8145-99-471-6645 (GREEN)
F100-PW-200 SERIES
(without the augmenter exhaust/ afterburner tube)
ATL 1181-001-B (BLUE)
NSN 1610-99-269-2629 (BLUE)
ATL 1181-001-G (GREEN)
NSN 8145-99-261-5762 (GREEN)
NCAGE NUMBER: KE 160

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