



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

For the AgustaWestland AW101/ Apache & NHIndustries NH90



ATL 1282-001
RTM322 Engine WVR Aero-bag



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The Water Vapour Resistant WVR Aero-bag has been designed and developed to enable the Engines installed on the AgustaWestland AW101/ Apache & NHIndustries NH90 aircraft to be stored and preserved against the environment for indefinite periods of time whilst mounted onto a 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 RTM322 (1282-001) Engines. 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.

A rear adaption sealing plate system is supplied and presented in a compact protective storage system consisting of a rigid, strong and durable plastic storage containment case and inner moulded foam system.



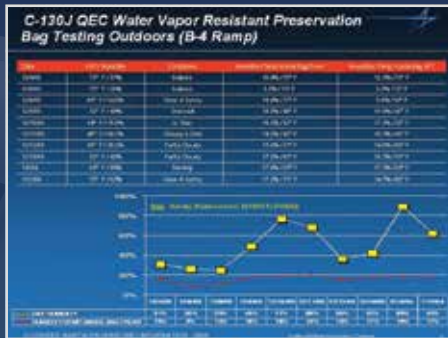
Each WVR Aero-bag is supplied in a lightweight fabric transport bag. This simplifies transportation and ensures that all elements of the Aero-bag system remain together as a complete working unit.

The WVR Aero-bag is designed to interface with the Rolls-Royce Turbomeca RTM322 Engines when fitted to the following transport trolley/support stands:

Part Number: 53521008000

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 dew point inside the Aero-bag.

Special Features and Specification

- Integrally welded continuous 'TZIP easy' zip seal is welded in a horizontal direction around the Aero-bag. This enables the engine to be accessed without having to remove it from its transport stand.
- Two sealed porthole covers are located at the front and on the underside sections of the WVR Aero-bag. Their primary function is to provide an access point to remove and/ or replace the silica gel without breaking into the primary 'TZIP easy' zip seal.



- 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.
- The WVR Aero-bag material has a rated temperature envelope of -30 to +70°C (-22 to 158°F)
- 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 Aero-bag internal desiccant sachet-retaining bag is located in the front section. This bag is permanently fitted and has been designed to allow the desiccant sachets to be easily accessible and held in position once installed.
- The WVR Aero-bag is sealed against the transport trolley/ stand and Engine by two gasket seals between the underside of the Engine mounts supports, the gaskets have been inserted into a welded PVC patch pocket for permanent fixture to the inside of the WVR rear bag.
- The rear of the Aero-bag is sealed against the Rear Adaptor Plate using a medium density compressible polyurethane gasket that is inserted into a welded PVC patch pocket in the bag. This is compressed with a stainless steel Exhaust Sealing Plate. The existing Rear Adaptor Plate will require modification by the machining of 8 off M8 threaded holes.



- 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:

RTM322 ATL 1282-001-B (BLUE)
 RTM322 NSN 8145-99-837-6313 (BLUE)
 RTM322 ATL 1282-001-G (GREEN)
 RTM322 NSN 8145-99-852-0759 (GREEN)
 NCAGE Number: KE 160



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