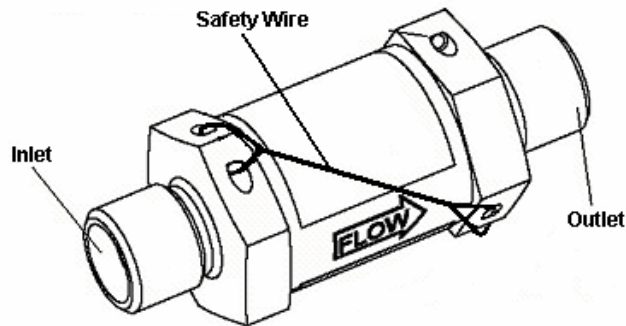


SERVICE INFORMATION LETTER (SIL)

Field Inspection / Test Procedures Carleton P/N B43902 Series Riser Line Shutoff Valves



OXYGEN – ATA CHAPTER 35

CAGE CODE: 04577

A. SUBJECT

The purpose of this SIL is to provide supplemental information to Operators regarding the Inspection / Test criteria, the interchangeability of and the notification of B/E Aerospace as the new engineering authority for Carleton P/Ns B43902-1 and B43902-3 Riser Line Shutoff Valves.

Background

The Shut Off Valve, Riser Line is installed in each of the riser lines in the engine burst area for stopping flow in a defined direction. The valve must close if a rupture of a riser line anywhere downstream of the valve results in a differential pressure exceeding the specified value. Once closed, the valve shall remain closed until the pressure differential across the valve has fallen to below 0.9 bard (approximately 13 psid). After the pressure differential across the valve has fallen to below a specified value, the valve shall re-open.

Background (cont.)

Amendment "A" - Testing revealed the orifice lubricant, ChristoLube MCG111, to be unsatisfactory. To improve valve performance, this lubricant was replaced by Krytox 240AC. Following the change of O-Ring lubricant to Krytox 240AC and re-identification of the Riser Line Shutoff Valve (RLSOV) as part number B43902-1, Amendment A, additional testing was conducted and further design improvements were made.

Amendment "AB" - A change was made to the finish on the inlet and outlet mating surfaces of the valve. This change specified removal of the anodize finish on the inlet and outlet mating surfaces and application of chemical conversion coating (alodine) to the surfaces. In addition, the internal probe was re-designed as a one-piece component in place of the previous three-piece design. The component label was changed to B43902-1 Amendment AB to reflect the mating surface treatment and probe design changes.

Amendment "AB" White Dot - During ground testing of Amendment AB units at the system level, it was discovered that some valves did not re-open following an extended pressurization cycle. In response to the reported anomaly, the Acceptance Test Procedure (ATP) was revised to specify an extended pressurization cycle test time of 1 hour (nearly double the interval used in the system ground test), followed by a re-opening test. In addition to the revised ATP, a design improvement was made to reduce internal friction of the RLSOV's moving orifice. The change consisted of modification to the O-Ring grooves on the orifice, part number B43973-1, to reduce the O-Ring squeeze and thereby reduce friction. Shutoff valves having the "AB" changes and reduced O-Ring squeeze successfully passed the re-opening test.

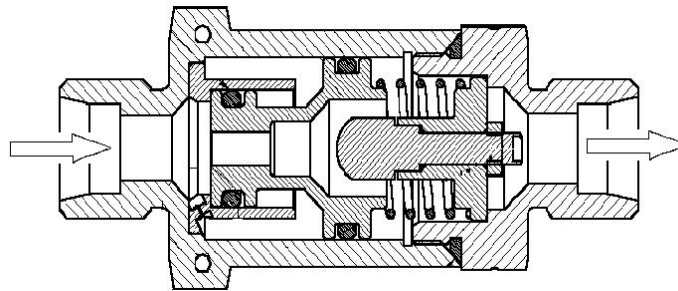
Part Number B43902-3 - At the customer's request, the improvements described in the preceding paragraphs were incorporated into the manufacturing process. Identified as part number, B43902-3, this configuration represents the latest design evolution of the Shut Off Valve, Riser Line.

Description

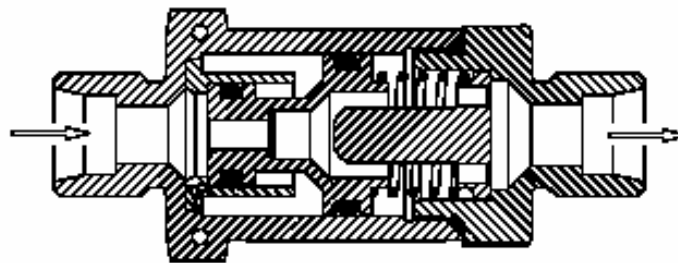
The Riser Line Shutoff Valves are part of the low pressure oxygen distribution section in the designated "engine burst zone" of the aircraft. The valve is designed to protect the system from loss of pressure due to leakage from a severed riser line.

The Shutoff Valve-Riser L senses differential pressure across the orifice and closes quickly to seal off a riser line if a downstream line is severed. The valve may be thought of as a "flow fuse." The valve permits the maximum flow of oxygen required by a riser line if the emergency passenger oxygen system is in use between altitudes of 15000 to 41000 feet. If the maximum flow is exceeded due to an excessive differential pressure caused by a ruptured downstream line, the valve closes to prevent pressure depletion of the entire system.

Description (cont.)



B43902-1

B43902-1 AB & B43902-3
Shut Off Valve Riser L

The B43902-1 AB, and B43902-3 are fully interchangeable.

B. APPLICABILITY

This SIL is applicable to all Airbus A340 series commercial aircraft which incorporate the B43902 series Riser Line Shutoff Valves in the Emergency Passenger Oxygen System supplied by Carleton Technologies Inc. / Draeger Aerospace.

C. REFERENCES

Inspection and testing of the B43902 series Riser Line Shutoff Valves must be done in accordance with the applicable ATA Component Maintenance Manual issued by Carleton Technologies Inc. Refer to the table below to identify which CMM to use for a particular top assembly part number.

Carleton Top Assembly PN	Applicable ATA ACMM	ACMM Rev. No. / Rev. Date
B43902-1	35-22-11	Rev. 1 / Nov. 12, 2004
B43902-3	35-22-11	Rev. 1 / Nov. 12, 2004

D. RECOMMENDED ACTIONS

Any units removed from an aircraft shall be tested in accordance with ACMM 35-22-11 before re-installation on an aircraft. There are no user serviceable parts in the Riser Line Shutoff Valve Assembly and these units are not repairable. Replace the affected Riser Line Shutoff Valve Assembly and conduct oxygen system verification per the appropriate Airbus A340 AMM.

E. INSTRUCTIONS

Strictly obey the procedures contained in the ACMM to inspect / test the Riser Line Shutoff Valve. Do not use any oil, grease, hydrocarbons, or other lubricants made from petroleum in the work area of the oxygen equipment. This can cause a dangerous fire hazard.

F. WARRANTY INFORMATION

Carleton warranty remedies are not applicable to the subject(s) covered in this SIL.

G. CONTACT INFORMATION

B/E Aerospace, Inc. should be contacted for additional information if needed.

B/E Aerospace, Inc.
10800 Pflumm Road
Lenexa, KS 66215
USA

Tel: +1 (913) 338-2000

Web: www.beaerospace.com

Revision Highlights

Details of changes:

- All pages: Revised format to provide consistency for all Service Information Letters (SILs) issued by Carleton Technologies Inc. The header and footer were updated.
- Page 1: Changed Title and content in SUBJECT. Removed APPLICABILITY and REFERENCES. Added ATA Chapter and Cage Code information.
- Page 2: Removed PURPOSE. Added SUBJECT content.
- Page 3 Removed BACKGROUND. Added remaining SUBJECT content, APPLICABILITY and REFERENCES.
- Page 4 Removed DESCRIPTION. Added RECOMMENDED ACTIONS, INSTRUCTIONS, WARRANTY INFORMATION and CONTACT INFORMATION.

Revision Record

Revision Number	Date
Original	December 1, 2004
A	August 14, 2008