



Service Bulletin

TAT SB12-01, Revision None

Issued: 06/15/2012

AIRCRAFT AFFECTED:

Hawker Beechcraft Corp. Model 35-C33A, 36, A36, E33A, F33A, G33, G36, S35, V35, V35A, V35B with turbonormalizer and oxygen systems installed per STC SA5223NM

COMPLIANCE

MANDATORY

BACKGROUND

A number of Hawker Beechcraft 33, 35, and 36 series aircraft with the Tornado Alley Turbo, Inc. (TATI) turbonormalizing system per STC SA5223NM incorporate an oxygen system using light-weight, Kevlar wrapped oxygen cylinders. The oxygen cylinders may be either 77 cubic foot or 115 cubic foot capacity bottles. Some oxygen systems use smaller aluminum cylinders that are not Kevlar wrapped. This bulletin does not apply to the smaller (45.6 cubic foot capacity) oxygen systems. The oxygen cylinder may be located behind the baggage compartment bulkhead in a vertical position or just forward of the front spar in a horizontal position.

EFFECTIVITY

This service bulletin applies to all Hawker Beechcraft Corp. Model 35-C33A, 36, A36, E33A, F33A, G33, G36, S35, V35, V35A, V35B with oxygen systems installed in conjunction with turbonormalizer system per STC SA5223NM that utilize Kevlar wrapped oxygen cylinders. These instructions are effective on the date of issue.

APPROVAL

Engine Technologies, Inc., the turbonormalizing and oxygen system STC holder for the above listed STC, has approved all technical data in this Service Bulletin that affect the type design.

PURPOSE

The purpose of this Service Bulletin is to inform owners of turbonormalized airplanes modified in accordance with STC SA5223NM using the light-weight Kevlar wrapped oxygen bottles for the O2 system that, due to regulation changes, many of the O2 bottles may now be hydrostatically tested every five years instead of every 3 years.

DESCRIPTION

US DOT exemption DOT-SP 8162 superseded US DOT exemption DOT-E 8162. Exemption DOT-SP 8162 applies to the 77 cubic foot and 115 cubic foot oxygen bottles manufactured after September 30, 2007 installed in accordance with Engine Technologies, Inc. STC SA5223NM. Oxygen cylinders that are manufactured under exemption DOT-SP 8162 are marked with a retest interval of every 5 years. Exemption DOT-E 8162 applies to the 77 cubic foot and 115 cubic foot oxygen bottles manufactured before September 30, 2007 installed in accordance with Engine Technologies, Inc. STC SA5223NM. Oxygen cylinders that are manufactured under exemption DOT-E 8162 are marked with a retest interval of every 3 years.

Similarly, Transport Canada Permit SU 9209 applies to the 77 cubic foot and 115 cubic foot oxygen bottles manufactured after February 5, 2007 installed in accordance with Engine Technologies, Inc. STC SA5223NM.

Oxygen cylinders that are manufactured under Transport Canada Permit SU 9209 are marked with a retest interval of every 5 years. Other oxygen cylinders may be marked with Transport Canada Permit SU 4237. These will be marked with a retest interval of every 3 years.

The 77 cubic foot and 115 cubic foot oxygen bottles installed in accordance with Engine Technologies, Inc. STC SA5223NM are manufactured to DOT-E 8162 or DOT-SP 8162. For oxygen cylinders subject to United States Department of Transportation Regulations, to properly hydrostatically test an O2 bottle made per DOT-E 8162 or DOT-SP 8162, it must be removed and sent to a facility authorized by DOT to test O2 bottles in accordance with 49 CFR part 180 §§ 180.205 and 180.209 as prescribed for DOT 3HT cylinders. For oxygen cylinders subject to other country's regulations, to properly hydrostatically test an O2 bottle made per DOT-SP 8162, it must be removed and sent to a facility authorized by that country's regulations to test O2 bottles.

Older Kevlar wrapped O2 bottles are marked with a three year retest interval. Recent changes to DOT-SP 8162 have changed the recurrent hydrostatic test interval from every three years to every five years. The life of the O2 bottle is still 15 years. Retest intervals are listed in the table below:

Hydrostatic Test Interval for aircraft operated in the United States					
US DOT Cylinder Marking	Transport Canada Cylinder Marking	Latest Retest	Next Retest	Successive Retest Interval	Total Cylinder Life
E 8162	SU 4237	Before July 1, 2006	3 years after last retest	5 years	15 years max
		After July 1, 2006	5 years after last retest	5 years	15 years max
SP 8162	SU 4237	After July 1, 2006	5 years after last retest	5 years	15 years max
SP 8162	SU 9209	After July 1, 2006	5 years after last retest	5 years	15 years max

Hydrostatic Test Interval for aircraft operated in Canada				
US DOT Cylinder Marking	Transport Canada Cylinder Marking	Next Retest	Successive Retest Interval	Total Cylinder Life
E 8162	SU 4237	3 years after last retest	3 years	15 years max
SP 8162	SU 4237	3 years after last retest	3 years	15 years max
SP 8162	SU 9209	5 years after last retest	5 years	15 years max

FREQUENCY

The airplane flight manual supplements for Hawker Beechcraft Model 35-C33A, 36, A36, E33A, F33A, G33, G36, S35, V35, V35A, V35B aircraft with turbonormalizer and O2 system installed per STC SA5223NM (AFMS-520, Rev. C, dated 10-15-2002 for IO-520 powered aircraft or AFMS-550, Rev. H, dated 11-25-2009 for IO-550 powered aircraft) call for a hydrostatic test of the Kevlar wrapped O2 bottle every three years per DOT-E 8162. Current manufacture O2 cylinders per DOT-SP 8162 are now identified with a retest interval of every 5 years. Check the retest date on your O2 bottle. Cylinders retested prior to July 1, 2006 must be retested within 36 months of the retest date marked on the cylinder. Cylinders retested after July 1, 2006 must be reinspected and hydrostatically retested once every five years. The cylinders must still be retired after 15 years. (The flight manual supplements will be updated to reflect the new O2 bottle retest intervals at the next required change to the AFMS's.)

WARRANTY INFORMATION

Parts and labor are not covered under warranty.

WEIGHT AND BALANCE

Weight change: None.

ACCOMPLISHMENT INSTRUCTIONS

HYDROSTATIC TEST OF O2 BOTTLE (in the United States)

Current oxygen bottles installed as part of Engine Technologies, Inc. STC SA5223NM are manufactured to DOT-SP 8162. To properly hydrostatically test an O2 bottle made per DOT-SP 8162, it must be removed and sent to a facility authorized by DOT to test O2 bottles in accordance with 49 CFR part 180 §§ 180.205 and 180.209 as prescribed for DOT 3HT cylinders. For aircraft stationed outside the United States have the O2 bottle requalified in accordance with equivalent requirements of your country.

- (1) Cylinders retested prior to July 1, 2006 must be retested within 36 months of the retest date marked on the cylinder. Cylinders retested after July 1, 2006 must be reinspected and hydrostatically retested at least once every five years. Each cylinder must be reinspected and hydrostatically retested in accordance with §§ 180.205 and 180.209 as prescribed for DOT 3HT cylinders. The hydrostatic test must be conducted in accordance with the procedures specified in § 180.205(g) except that the test pressure must be maintained for a minimum of 60 seconds and as much longer as may be necessary to ensure stable volumetric expansion. The elastic and total volumetric expansions must be determined. Reheat treatment or repair of rejected cylinders is not authorized.
- (2) Retest dates must be stamped on the exposed metallic surface of the cylinder neck or marked on a label securely affixed to the cylinder and overcoated with epoxy near the original test date. Metal stamping of the composite surface is prohibited.
- (3) When a hydrostatic retest is repeated as authorized by § 180.205(g)(5) only two such retests are permitted.
- (4) The oxygen cylinder must be retired after 15 years.

PARTS AVAILABILITY

Contact Tornado Alley Turbo Inc. for replacement oxygen system components.