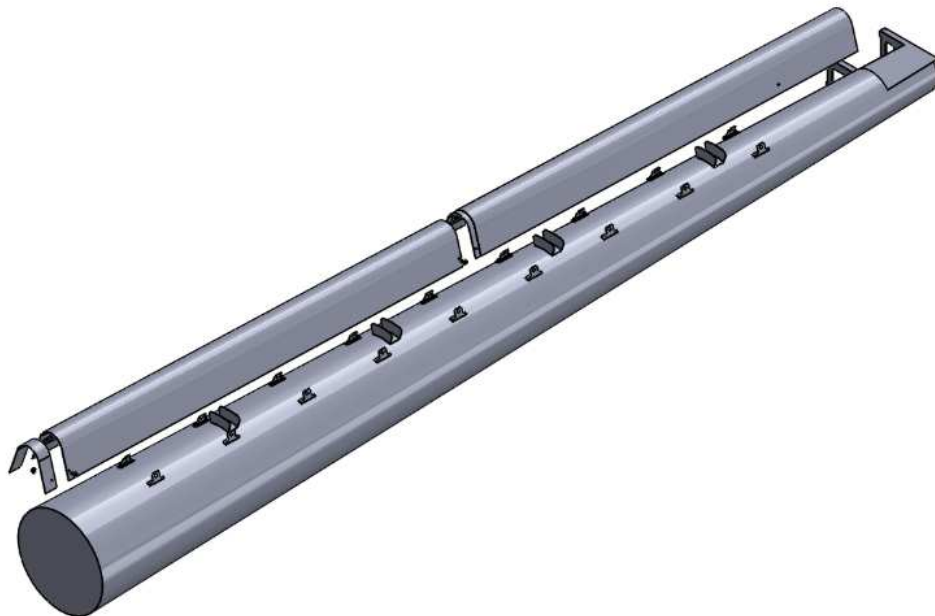




Bell 206 Driveshaft Cover Installation

Instructions

Document: TAS-5410-101
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1 Introduction

1.1 Description

Supplemental Type Certificate SH08-2 allows the installation of Trinity Aviation Services Ltd., two piece carbon fiber driveshaft cover on the Bell 206 series rotorcraft. The carbon fiber driveshaft cover is less susceptible to damage than the original aluminum cover providing many hours of damage free operation and costly replacement. There are two styles available, a hinged version which allows for inspection of the drive train components without removing the entire cover assembly, and a non-hinged version.

This document and installation drawing T05165-000-100 provide a procedure and the requirements for the installation of STC SH08-2.

1.2 Applicability

The model and serial number eligibility is listed below:

206B Series Serial Numbers: 1252-Subs

206L Series Serial Numbers: 45004-Subs

1.3 Approval

The engineering design aspects of this alteration are Transport Canada approved.

2 Consumable Material

Nomenclature	Specification
Methyl-Ethyl-Ketone (MEK)	ASTM D740
Aliphatic Naphtha	TT-N-95, Type II
Primer	MIL-PRF-23377, Type I or II, Class C2
EA 934NA Adhesive	299-947-100, Type II, Class 2
Sealant	AMS-S-8802 Type II
220 Grit Aluminum Oxide Abrasive Cloth or Paper	None
400 Grit Aluminum Oxide Abrasive Cloth or Paper	None

3 Preparation

3.1 General

Verify that all the contents listed on drawing T05165-000-100 are included in your kit. Read all of these instructions before attempting installation, to become familiar with the procedure and requirements. Check for equipment or modifications that may interfere with this installation before proceeding. All work must be done in conjunction with the applicable rotorcraft maintenance manuals.

If you have any questions regarding the installation, please contact Trinity Aviation Services Ltd. before attempting the installation.

NOTE: Consumable materials are not provided in the kit and are the responsibility of the installer.

ATTENTION

Work in a properly ventilated area and use adequate personal safety equipment when drilling or sanding the carbon fiber parts.

3.2 Removal

- Disconnect the Battery.
- Make the rotorcraft secure for maintenance.
- Remove the driveshaft cover P/N 206-033-408-XXX using the applicable maintenance manual.
- Remove all Camloc fasteners and retainers and save for reuse. Record fastener size, length, and location.
- Clean the inside of the original cover and inspect for any dents or distortions that would not allow the new covers to sit flush to the inside of the original cover.
- Weigh the original cover (fasteners removed) to the nearest tenth of a pound and record for new rotorcraft weight and balance calculation.
- Remove any dents or distortions if found prior to fitting the new covers.
- Inspect the cover attachments on the tailboom and fairings for wear, looseness, or other discrepancies.
- Repair any discrepancies if found, prior to fitting the new covers.

4 Installation

1. Position the forward shell assembly and the aft shell assembly into the original cover. Adjust the two shells so that they overlap completely at the center joggle. Maintain the same centerline between the shell assemblies and the original cover for the entire length. Clamp into position.
2. Mark the 18ea Camloc fastener holes centerlines and the tail rotor upper fairing fastener holes centerline. Mark the lower edge trim lines. Mark the forward and aft edge trim lines.

NOTE: Do not mark the engine cowling aft fairing fastener holes, see detail A.

3. Measure the thickness of the original cover and record the dimension. Establish a new lower edge trim line on the new covers below the previously marked one from the recorded dimension. Trim the new covers to the new lower trim line and trim to the fore and aft trim lines previously marked in step 2.

ATTENTION

Always use a block of wood or the equivalent to back up the hole when drilling or cutting to prevent breakout.

4. Check the fit of the new covers on the tailboom and trim more if necessary. Establish new centerlines for the Camloc fasteners below the previously marked ones using the dimension recorded in step 3 and also verify by measuring from the lower trimmed edges. Pilot drill the holes to 0.125" DIA.
5. Enlarge fastener holes for Camloc fasteners to 0.473"/0.478" DIA using annular hole cutter P/N HS-471 or equivalent and deburr. Install fasteners that were removed and retained in section 3.2 of this document. Install the new covers on the tailboom, press down firmly across the entire top edge of the driveshaft covers to remove any fastener play and check for a minimum clearance of 0.050" between the tailboom skin and covers. Trim covers as required obtaining the minimum clearance specified. For hinged cover assemblies loosen the LH side fasteners and check for proper function. Hinge operation should be smooth without any binding or distortion of the cover. Camloc fasteners should fully engage and be of the proper grip length.
6. Remove rivets and flange from the rear engine fairing. Position transition (item 13) with unprimed area in the rear engine fairing and clamp in place. Back drill existing rivet holes and mark the lower trim lines. Remove, deburr the holes and trim to the lines marked. Temporarily attach (item 13) to rear fairing with clecos or equivalent and reinstall fairing onto the rotorcraft. Check for a minimum of 0.050" clearance between (item 13) and the rotorcraft skins. Trim (item 13) as required obtaining the minimum clearance specified.
7. Remove the rear engine fairing from the rotorcraft. Remove (item 13) from rear fairing. Prepare rear fairing area for bonding in accordance with BHT-ALL-SPM. Prepare (item 13) for bonding by lightly sanding with 220 grit abrasive cloth or paper and wiped cleaned with aliphatic naphtha or MEK. Both bonded surfaces must be free of contaminates.
8. The rivets (item 16) supplied are longer than required and must be cut to length. Temporarily attach (item 13) to rear fairing with clecos or equivalent and install rivet in a hole and install a washer (item 19) on the inside and record the amount needed to remove and maintain a 0.187" height above the washer. Cut rivet and verify correct length. Repeat at each hole and record each rivets position.
9. Mix adhesive (item 17) to adhesive manufacturer's recommendation. Apply a thin layer to both surfaces to be bonded and attach with clecos or the equivalent. Working from the center out install each rivet (head out) with washer on the tail side and hand or pneumatic compression rivet in place. Compress the rivet to a minimum height of 0.090 above the washer. A thin piece of rubber with a small hole placed over the rivet before riveting will help maintain the washer flush against the surface. Remove excessive adhesive with MEK before curing. Cure to adhesive manufacturer's recommendations.

ATTENTION

Do not use percussion riveters (rivet guns); damage to (item 13) and joint failure can result.

10. Install the rear fairing and new driveshaft covers on the rotorcraft. At the forward edge of the forward driveshaft cover, see detail A; mark a line 0.50 from the LH and RH edge. At the lower forward edge of the forward driveshaft cover, see detail A; mark a line 1.20 from the LH and RH edge. Drill a 0.125 pilot hole where the two lines intersect on the LH and RH sides.
11. At the aft edge of the forward driveshaft cover, see detail B; mark a line 0.38 from the LH and RH edge. At the lower aft edge of the forward driveshaft cover, see detail B; mark a line 1.20 from the LH and RH edge. Drill a 0.125 pilot hole where the two lines intersect on the LH and RH sides.
12. Remove the driveshaft covers. Enlarge holes in (item 13) to 0.375 using an annular hole cutter, clean, deburr, and install receptacles provided per the instructions in kit KA4A1-2CB9393V5 (item 14), see detail A. Enlarge holes in the forward driveshaft cover at the forward edge to 0.250/0.257 using an annular hole cutter, clean, deburr, and install Camloc studs (item 15) and retainers (item 20), see detail A.
13. Enlarge holes at the forward edge of the aft driveshaft cover to 0.375 using an annular hole cutter, clean, deburr, and install receptacles provided per the instructions in kit KA4A1-2CB9393V5 (item 14), see detail B. Enlarge holes in the forward cover at the aft edge to 0.250/0.257 using an annular hole cutter, clean, deburr, and install Camloc studs (item 15) and retainers (item 20), see detail B.
14. Mask a 1.0" wide area on each of the driveshaft cover attachment clips, lightly sand with 400 grit abrasive cloth or paper, and thoroughly clean with aliphatic naphtha or MEK. Apply a 1.0" wide layer, 0.020" thick of the sealant (item 18), as a gasket to the driveshaft cover attachment clips for wear protection. Allow to fully cure. Apply desired finish to the driveshaft covers.
NOTE: A small amount of MEK may be mixed with the sealant to produce a thin brushable product and help accelerate the cure.
15. Ensure that the forward flange of the tailrotor gear box upper fairing is primed and in airworthy condition. Lightly sand the flange with 400 grit cloth or paper, and thoroughly clean with aliphatic naphtha or MEK. Apply a 0.020" thick layer of the sealant (item 18) to the flange for wear protection. Allow to fully cure and refinish as desired.
NOTE: A small amount of MEK may be mixed with the sealant to produce a thin brushable product and help accelerate the cure.
16. Install covers and check for proper operation.
17. Amend the rotorcraft's weight and balance report. Weight and balance information will be found in the Instruction for Continued Airworthiness, document number TAS-5410-102.
18. Complete a Major Modification Report or regulatory equivalent for the rotorcraft's country of registration and record the installation in the appropriate rotorcraft maintenance record.
19. Re-connect the battery.