

TECHNICAL BULLETIN



NO 407-01-32

DATE 07-25-01

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DATE
REV.

MODEL AFFECTED: 407

SUBJECT: OIL COOLER BLOWER SHAFT; BRACKETS, HANGERS AND BEARINGS, INSTALLATION INSTRUCTION FOR

HELICOPTERS AFFECTED: 407 Helicopters S/N 53443 and Subsequent.

COMPLIANCE: Anytime the oil cooler blower fan assembly is removed.

DESCRIPTION:

Improved oil cooler blower shaft bearing installation has been introduced on 407 helicopters S/N 53443 and subsequent. The details of this installation have not yet been incorporated in the 407 Maintenance Manual and Illustrated Parts Book. The installation of the new bearings, hangers and brackets is different from what it was on aircraft prior to S/N 53443.

This bulletin is issued to give the details of this new installation and to eliminate confusion when the blower shaft assembly is removed, disassembled and reinstalled. Faulty reassembly may result in unnecessary removal and rejection of hanger bearings.

It will be possible to retrofit helicopters prior to S/N 53443 with the improved blower shaft bearing installation. A Technical Bulletin for this purpose is in preparation.

APPROVAL:

The engineering design aspects of this bulletin are TCA/DE approved.

MANPOWER:

No additional man-hours are required to accomplish this bulletin when complied with concurrently with removal or installation of oil cooler blower shaft assembly.

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WARRANTY:

Not applicable.

MATERIAL:

Required Material:

None

Consumable Material:

As directed by BHT-407-MM-7, Chapter 65.

SPECIAL TOOLS:

None required.

WEIGHT AND BALANCE:

Not affected.

ELECTRICAL LOAD DATA:

Not affected.

REFERENCES:

BHT-407-MM, Maintenance Manual, Chapter 65

BHT-407-IPB, Illustrated Parts Breakdown, Figure 65-2

PUBLICATIONS AFFECTED:

BHT-407-MM, Maintenance Manual, Chapter 65

BHT-407-IPB, Illustrated Parts Breakdown, Figure 65-2

ACCOMPLISHMENT INSTRUCTIONS:

CURRENT STATUS

Refer to Figure 1 for cross-sectional view of current blower assembly configuration as installed on S/N 53443 and subsequent.

Effective at production S/N 53443 and subsequent are the following improvements:

- The flywheel adapter P/N 407-040-316-101 is removed and replaced by a conventional splined adapter 406-040-316-101. The flywheel function is now shared, on the basic helicopter, between a new thicker rotor brake disk P/N 407-340-318-101 and inertia weights added to the blower shaft.
- Two inertia weights mounted on the oil cooler blower shaft, primary weight P/N 407-340-001-101 and secondary weight P/N 407-340-002-101, help maintain the required inertia to the improved tail rotor drive shaft installation.

When an air conditioning kit defined by STC # SR00222DE is installed, secondary weight P/N 407-340-002-101 is removed to compensate for the added mass of the air conditioning compressor pulley.

- The forward and aft bearing hangers, respectively P/N 406-040-322-101 and P/N 406-040-317-101, are replaced by two similar hangers, P/N 407-040-322-101. The manufacturing tolerance of the hanger-mounting hole has been tightened. The flange of each new hanger is now installed adjacent to the bearing retainer nut. The position of the grease fitting is also different on the new hangers.
- The blower shaft forward hanger bracket P/N 407-040-321-101 is replaced by a new bracket, P/N 407-040-321-103.
- The blower shaft aft hanger bracket P/N 406-040-323-101 is replaced by a new bracket, P/N 407-040-323-101 with tighter tolerances.
- The two links P/N 406-040-318-107 for the aft bearing hanger are replaced by new links P/N 407-040-311-101, with tighter tolerances.
- The hardware attaching the hangers, the links and the brackets together is the same as with earlier configurations. The hardware attaching the brackets and the blower housing to the aircraft fuselage is the same as with earlier configurations. Refer to BHT-407-IPB, Figure 65-2.

The following instructions apply to helicopters S/N 53443 and subsequent:

1. For removal, disassembly and cleaning procedures refer to procedure in BHT-407-

MM-7, Para. 65-26 and subsequents.

2. For oil cooler blower assembly inspection and repair, refer to data in MM-7 Chapter 65 except for damage limits to bolt holes.
3. Tolerances on hanger and bracket bolt holes have been revised and new damage limits will be published in BHT-407-MM at a later date. In the meanwhile, you may contact BHT Product Support Engineering for advice, if required.
4. For static balance of the impeller assembly with the inertia weights installed, use procedure in BHT-407-MM-7, para. 65-32.
5. Hanger and bearing may be assembled together using the procedure from BHT 407-MM-7, para. 65-33.

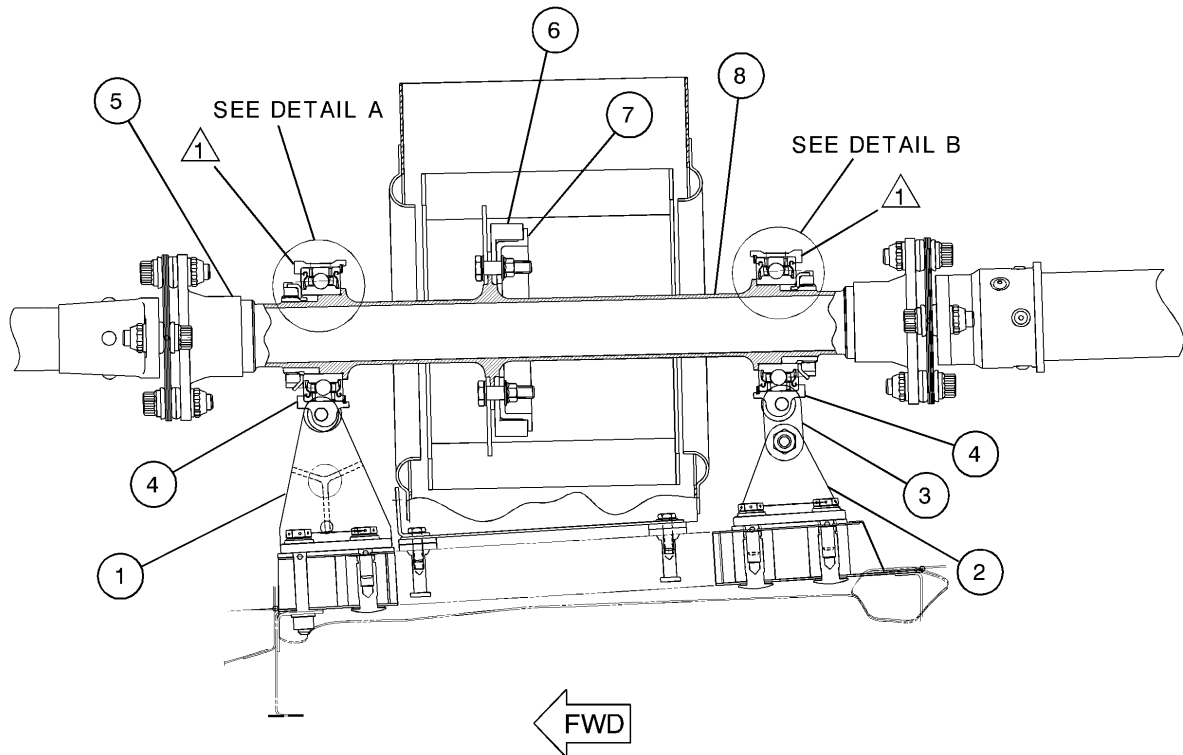
CAUTION

The assembled bearing and hanger must be installed on the oil cooler blower shaft as illustrated on Figure 1 of this bulletin. Installation of the hangers backward will result in unnecessary removal and rejection of the bearings. Operation with hangers reversed may result in premature bearing failure.

CAUTION

Once removed from the blower shaft assembly, bearings must be removed from service.

6. Install the assembled hanger and bearing on the oil cooler blower shaft. Refer to Figure 1 for the proper orientation of the hanger and bearing on the blower shaft. Other than orientation of hangers, assembly data in BHT-407-MM para. 65-33 applies.
7. Install the oil cooler blower assembly on the helicopter using the procedure in BHT-407-MM-7, para. 65-34.
8. Align the oil cooler blower shaft using the procedure defined in BHT-407-MM-7, para. 65-35.
9. Attach a copy of this technical bulletin to the section of your BHT-407-MM, Chapter 65 addressing the oil cooler blower. Attach a copy of Figure 1 of this bulletin to the corresponding section in your BHT-407-IPB.



LEGEND

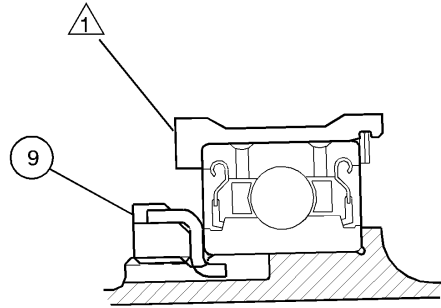
1. BRACKET, FWD (407-040-321-103)
2. BRACKET, AFT (407-040-323-101)
3. LINK (407-040-311-101) 2 REQ'D
4. HANGER (407-040-322-101)
5. ADAPTER (406-040-316-101)
6. WEIGHT, PRIMARY (407-340-001-101)
7. WEIGHT, SECONDARY (407-340-002-101)
8. SHAFT ASSEMBLY (407-040-303-113)
9. BEARING RETAINING NUT, (Ref.)
10. ROTOR BRAKE DISK (407-340-318-101) NOT SHOWN

NOTES

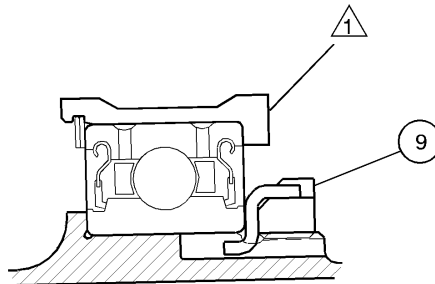
1. Install hanger with flange on I. D. adjacent to the bearing retaining nut.
2. All items identified in legend are effective on S/N 53443 and subsequent

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Figure 1. Oil Cooler Blower Installation S/N 53443 and Subsequent (Sheet 1)



**DETAIL A
FWD BEARING**



**DETAIL B
AFT BEARING**

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Figure 1. Oil Cooler Blower Installation S/N 53443 and Subsequent (Sheet 2)