



SERVICE DIRECTIVE BULLETIN

SERVICE DIRECTIVE BULLETIN NO. T-008

Revision 3

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DATE: May 27, 2016

1. SUBJECT: Cracked Oil Cooler Blower Short Shaft, P/N 4129102
2. MODEL: TH-28, 480, and 480B
3. EFFECTIVITY: All S/N equipped with P/N 4129102, multi-piece shaft
4. BACKGROUND:

The initial release of Service Directive Bulletin (SDB) T-008 introduced an improved oil cooler blower short shaft whereby the original shaft, fabricated with roll pin secured couplings, was replaced by a shaft fabricated with brazed couplings. This design was then replaced by another design which implemented plug welded couplings. Then, a design to a solid, one-piece component was implemented for production beginning with S/N 5156.

As a result of two incidences involving cracked shafts (plug welded), Revision 1 requires inspection of the brazed or welded shafts for cracks. If the inspection reveals a cracked shaft, the shaft must be replaced with the one-piece shaft. If the shaft is airworthy, it may remain in service until the next annual or 100-hour inspection at which time the shaft must be replaced with the one-piece shaft.

5. COMPLIANCE:

Within the next 10 hours, determine whether the installed oil cooler blower short shaft is a multi-piece or a one-piece shaft. If the shaft is one-piece, no further action is required. If it is a multi-piece, inspect the shaft for cracks and replace it with the one-piece shaft, if necessary. If the inspection is satisfactory, replace the multi-piece shaft with the one-piece shaft at the next annual or 100-hour inspection.

Perform the inspection and replacement in accordance with paragraph 6.

6. INSPECTION:

- 6.1 Determine whether the multi-piece or the one-piece shaft is installed. The multi-piece shaft (steel) consists of couplings brazed or welded to the ends of the shaft; it may exhibit a yellow epoxy primed surface. The one-piece shaft is solid construction (aluminum) with a uniform diameter between the flanges; it has a black hard coat anodized surface (Figure 1).

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- 6.1.1 Open the left side engine access panel.
- 6.1.2 With a bright light source, locate the shaft aft of the lower pulley and between the air inlet ducts (Figure 1).
- 6.1.3 If the multi-piece shaft is installed, proceed to step 6.2.
- 6.1.4 If the one-piece shaft is installed, no further action is necessary.



Figure 1. P/N 4129102 shaft as viewed through the left side engine access panel. Multi-piece shaft shown on left; one-piece shaft shown on right.

NOTES

Perform all maintenance in accordance with the TH-28/480 Series Maintenance Manual (MM).

Prior to installing the shaft, inspect the flex packs in accordance with paragraph 13-77, D (see also SDB T-013R2).

CAUTION

Install a protective cover on the lower plenum assembly inlet to preclude accumulation of debris and subsequent foreign object damage to the compressor.

- 6.2 Follow paragraph 13-75, A through F, of the MM to remove the oil cooler blower short (intermediate drive) shaft.
- 6.3 Inspect the short shaft for cracks, particularly the shaft inner diameter.

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- 6.4 If no crack is detected, the aircraft may be returned to service. However, the multi-piece shaft must be replaced with a solid, one-piece shaft (see paragraph 7) at the next annual or 100-hour inspection, whichever occurs first.
- 6.5 If the shaft is cracked, replace the short shaft (see paragraph 7).
 - 6.5.1 Perform a limited alignment check of the blower assembly to the lower drive pulley.
 - 6.5.1.1 With the flex packs removed, connect the new short shaft to the drive hub on the lower pulley assembly with the flanges of the drive hubs bolted together through tool T-0166.
 - 6.5.1.2 Rotate the shafts so that the flanges are at the 12 and 6 o'clock positions. Using one of the bolts from the flex pack installation, attempt to insert the bolt through both drive hubs.
 - 6.5.1.3 Rotate the blower coupling 180° and attempt to insert the bolt through both drive hubs.
 - 6.5.1.4 Rotate the drive shaft 180° and attempt to insert the bolt through both drive hubs.
 - 6.5.1.5 Rotate the blower shaft 180° and attempt to insert the bolt through both drive hubs.
 - 6.5.1.6 If any attempt to insert the bolt through the drive hub fails, perform a complete lower pulley drive alignment in accordance with paragraph 11-17.
 - 6.5.2 Remove the short shaft and tool T-0166.
 - 6.5.3 Complete the installation in accordance with paragraph 13-80, G through K.
- 7. PARTS: 4129102-13; 4129102-15 (S/N 5001 only)
- 8. SPECIAL TOOLS: T-0166
- 9. MAN-HOURS: 5 minute (inspection); 2 hours (removal and alignment)
- 10. WARRANTY: Per Enstrom Warranty Policy
- 11. WEIGHT CHANGE: None
- 12. LOG BOOK ENTRY: Record results of inspection in detail.
- 13. REPETITIVE ACTION: None Unnecessary