

**TELEDYNE CONTINENTAL<sup>®</sup> AIRCRAFT ENGINE**  
**SERVICE BULLETIN**  
**Compliance Will Enhance Safety**

<b>CATEGORY 3</b>
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**SB94-2**  
**Supersedes M87-7**  
**FAA APPROVED**

**SUBJECT:** OIL FILTER ADAPTER MOUNTING STUD

**PURPOSE:** To announce parts availability and to provide inspection and replacement instructions for new oil filter adapter studs.

The new 653489 and 653490 oil filter adapter studs utilize an incomplete thread that provides a positive mechanical stop to prevent the stud from being installed or moving too deep in the adapter housing.

**COMPLIANCE:** Replacement of the oil filter adapter stud P/N 632373 with P/N 653489 or P/N 653490, as applicable, is required when:

1. The stud is found to be loose or installed beyond the stud setting height limits set forth in this service bulletin; or
2. The oil filter adapter is removed from the engine; or
3. The engine is overhauled.

**MODELS AFFECTED:** ALL IO346, IO360, L/TSIO360, O470, IO470, IO520, TSIO520, GTSIO520, IO550, TSIO550 AND TSIOL550 engines that incorporate TCM supplied oil filter adapter housings.

Engines and adapters that were purchased from TCM after December 2, 1993 are in compliance with this service bulletin. Verification of compliance can be determined by the "S" stamped in the adapter housing.


TCM has received field reports that the oil filter mounting stud on the oil filter adapter housing of some engines have become loose allowing the stud to screw into the housing and provide less than the specified stud extension. To correct this situation, TCM has incorporated new design oil filter mounting studs. These studs are designed with an incomplete thread which ensures proper installation depth by providing a positive mechanical stop.

The IO360 and L/TSIO360 model engines will now utilize the new P/N 653489 mounting stud. This stud is yellow chromate treated and can be identified by its gold color and length of 1.160".

All other affected engine models will use the new P/N 653490 mounting stud that is black in color and has a length of 1.420".

NOTE . . . The installation of the P/N 653489 and P/N 653490 studs can be verified by an "S" stamped in the adapter housing. See Figure 2.

The P/N 632373 mounting stud that is to be replaced has a plain steel color and has a length of 1.440".

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## INSPECTION AND REPLACEMENT INSTRUCTIONS

- At the next and each subsequent oil filter change interval, remove the oil filter and inspect the oil filter adapter mounting stud for security and proper setting height of .500" to .700" as indicated in Figure 1.

NOTE . . . Each time a used filter is removed, inspect for foreign material. Using the Champion CT-470 "Oil Filter Can Cutter", open the used oil filter and remove the pleated paper from the center tube. Inspect between the folds for metal particles.

**WARNING . . . A large amount of metal is an indication of excessive wear and/or impending failure and must be investigated to determine the source and must be corrected before further flight.**

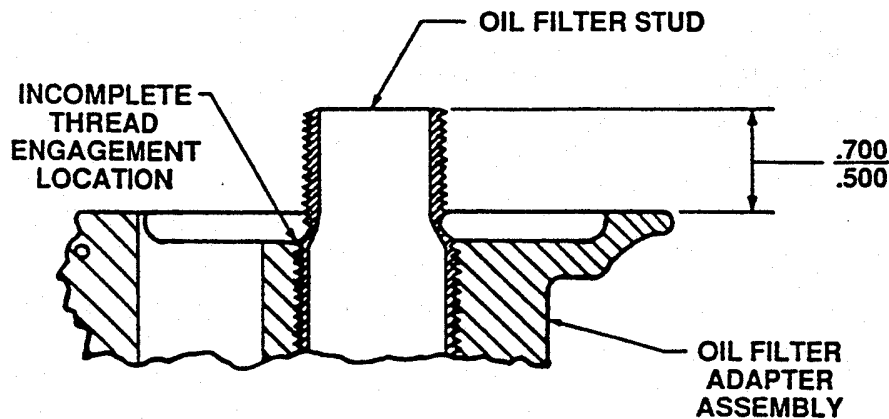

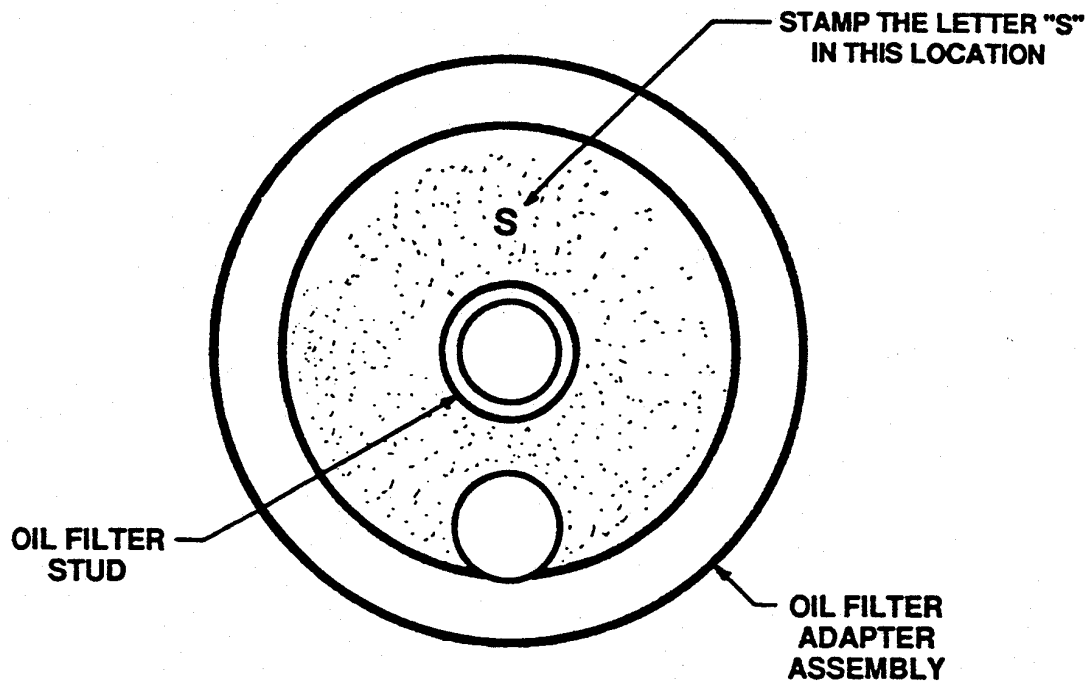


FIGURE 1

- When the stud requires replacement as directed by the "COMPLIANCE" set forth above, proceed as follows.
- Remove the old stud P/N 632373 and inspect the threads in the adapter housing for damage. Replace the adapter housing assembly if any thread damage is evident.
- Clean the adapter housing threads thoroughly to remove any remaining thread adhesive and oil.
- Install the applicable new stud (P/N 653489 or P/N 653490, see above) and confirm that the incomplete thread on the stud stops at the first thread in the adapter housing and does not continue into the housing below the minimum .500" extension. See Figure 1. Replace the adapter housing assembly if the extension is less than the .500" minimum.
- After checking for the proper extension height, remove the stud from the adapter. Clean the threads of the adapter housing and stud with Loctite "Primer T" (TCM P/N 646944) and allow to dry.
- Apply a line of Loctite "271" (TCM P/N 646941) along the large threads (.8125-16) of the stud and install into the adapter finger tight to 30 in/lbs of torque. Check for proper stud extension length per Figure 1.

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**FIGURE 2**

8. Stamp a .125 inch high "S" in the location indicated in Figure 2 and allow the parts to cure for a minimum of 30 minutes prior to installing the filter.
9. Make a log book entry showing compliance with this service bulletin.

Warranty action required to comply with this bulletin is covered by the TCM Gold Medallion Warranty, subject to its terms and conditions.

**OIL FILTER INSTALLATION**

1. Check oil sump for proper oil level.
2. Lubricate the oil filter gasket with a thin film of Dow Corning 4 (DC 4) Compound.
3. Torque the filter to 16 - 18 ft/lbs.
4. Run the engine until operating temperatures are reached. Shut down the engine and check for leaks. All oil leaks must be eliminated before further flight.
5. Check oil sump for proper oil level and safety wire the oil filter.

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