

SERVICE BULLETIN

SB08-1

Compliance Will Enhance Safety

**Technical Portions FAA
Approved**

SUBJECT: ROCKER SHAFT INSPECTION AND REPLACEMENT

PURPOSE: To provide instructions for the inspection of P/N 653816 and subsequent cylinder assemblies for the installation of the P/N 654375 rocker shaft and to provide replacement instructions for any P/N 654375 rocker shafts found installed.

COMPLIANCE PART I required at each preflight inspection until completion of PART II. PART II to be completed at the next scheduled maintenance event, no later than the next annual inspection or immediately if oil leakage is noted in PART I.

MODELS

AFFECTED: All C-series engines, O-200-A , O-300-Series, GO-300-series engines

GENERAL

All engines listed above, manufactured after November, 1997 and those which have had cylinders replaced after November, 1997 may utilize the P/N 654375 Rocker Shaft and the P/N MS51963-64 retaining screw. Teledyne Continental Motors (TCM) has received reports from the field of some P/N MS51963-64 Rocker Shaft Retaining Screws losing torque, allowing the P/N 654375 Rocker Shaft to chafe the rocker cover.


Any listed engine model which was manufactured or had cylinders replaced after November, 1997 must be inspected. All P/N 654375 Rocker Shafts found must be replaced with the P/N 21153 Rocker Shaft.

PART I PREFLIGHT INSPECTION INSTRUCTIONS

Prior to each flight visually inspect all rocker covers at the 3 o'clock and 9 o'clock positions for evidence of oil leakage. If oil leakage is found or evidence of potential damage exists, you must perform PART II of this bulletin prior to further flight.

PART II INSPECTION / REPLACEMENT INSTRUCTIONS

- 1) Using the airframe manufacturers maintenance instructions remove the engine cowlings and engine cooling baffles as necessary to access the cylinder rocker covers.
- 2) Remove the rocker cover from each cylinder.
- 3) Inspect each cylinder for the presence of the P/N 654375 Rocker Shaft and the P/N MS51963-64 Rocker Shaft Retaining Screw. (Reference Figure 1 and Figure 2) If the P/N 654375 Rocker Shaft is not installed, no further action is required. Go to step 6.

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- 4) If the P/N 654375 Rocker Shaft is installed proceed as follows:
 - a) Rotate the engine to bring the piston to top dead center. Both valves will be closed.
 - b) Remove and discard the P/N MS51963-64 Rocker Shaft Retaining screw.
 - c) Remove the P/N 654375 Rocker Shaft and retain for return to TCM.
 - d) Reinstall the rocker arms utilizing a new P/N 21153 Rocker Shaft.

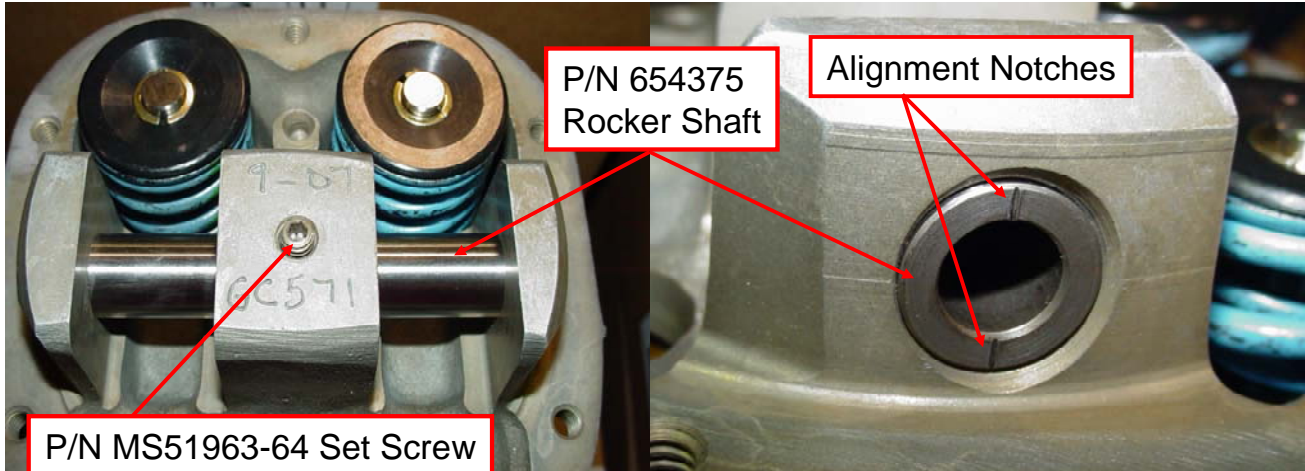


FIGURE 1
P/N 654375 ROCKER SHAFT INSTALLATION
(ROCKER ARMS REMOVED FOR CLARITY)

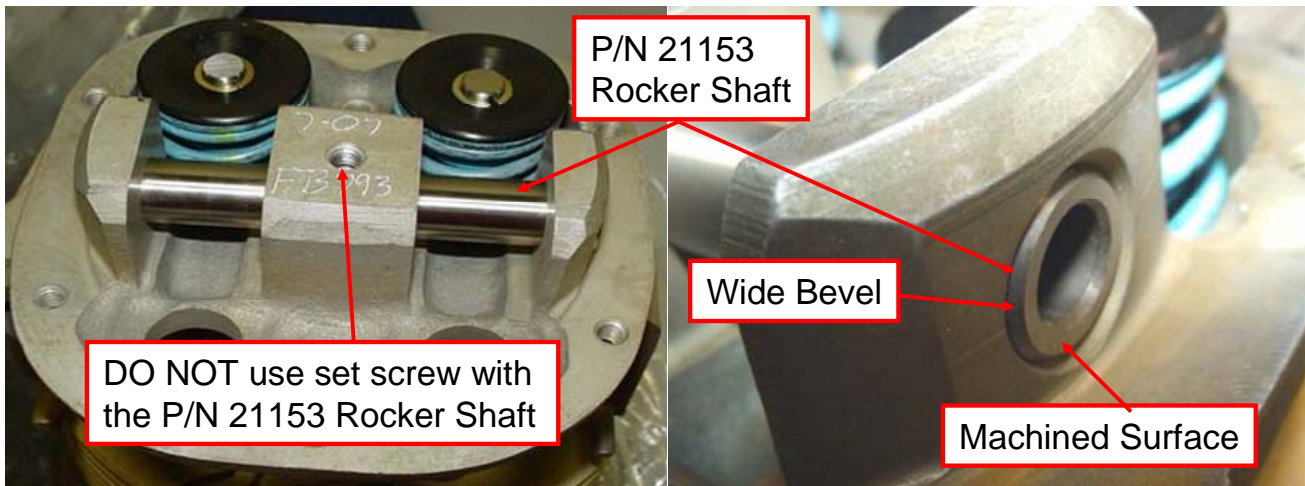



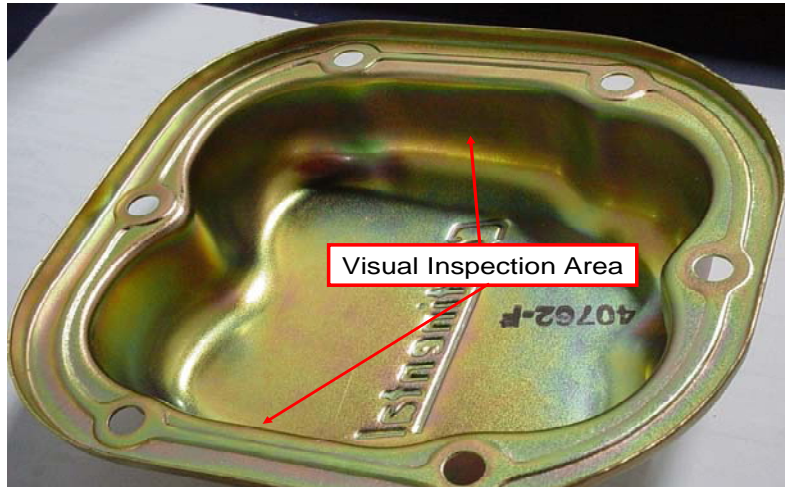
FIGURE 2
P/N 21153 ROCKER SHAFT INSTALLATION
(ROCKER ARMS REMOVED FOR ILLUSTRATION)

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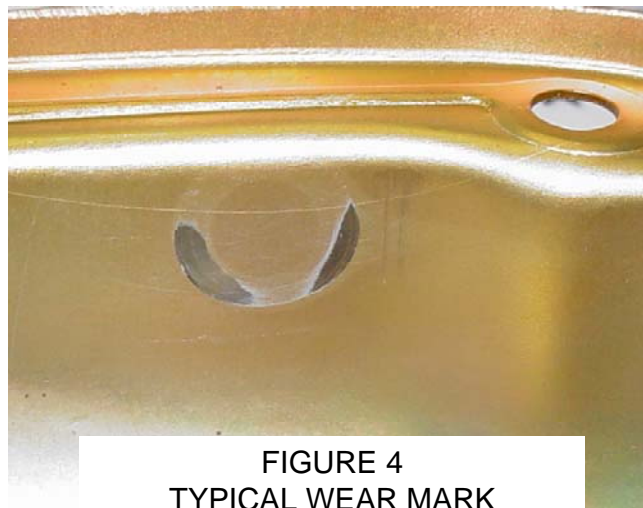
WARNING

The P/N MS51963-64 Rocker Shaft Set Screw MUST NOT be used with the P/N 21153 Rocker Shaft.

- 5) If the P/N 654375 Rocker Shaft was installed, inspect each Rocker Cover for chafing in the areas as indicated in Figure 3. If damage in the form of metal removal is found, the Rocker Cover must be replaced with a new P/N 40762 Rocker Cover. Acceptable wear pattern is shown in Figure 4.




**FIGURE 3
ROCKER COVER INSPECTION**



**FIGURE 4
TYPICAL WEAR MARK
FLOATING ROCKER ARM SHAFT**

NOTE: A wear mark on the Rocker Cover is normal when utilizing a floating Rocker Shaft such as the P/N 21153 and is not an indicator for Rocker Cover replacement.

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- 6) Install each removed Rocker Cover using a new P/N 655706 Rocker Cover Gasket. Torque the Rocker Cover Screws to 55-65 Inch-Lbs.
- 7) Test run the engine in accordance with the pilots operating handbook and leak check the entire engine. Repair any leaks found prior to returning the engine to service.
- 8) Reinstall the engine cowlings using the airframe manufacturer's maintenance instructions.
- 9) Make logbook entry for compliance with this Service Bulletin.

WARRANTY

Warranty coverage will be available as follows; for all engines found to have P/N 654375 Rocker shaft.

Rocker cover gaskets and rocker shafts will be available for all engines with 654375 rocker shafts found installed.

Rocker covers will be available for all covers worn full circle by the end machining of 654375 rocker shaft.

Warranty labor will be available for the inspection and replacement of rocker arms and covers of all engines still within original warranty period as follows:


Open cowl models (eyebrows only over cylinders). 3.0 Hours labor

Closed cowl models requiring cowl and prop removal. 5.0 hours

Closed cowl models requiring cowl removal only. 4.0 hours

Engines outside of their original warranty period will receive parts replacement only.

Contact TCM Customer Support Technical Services at 1-888-826-5465 for parts shipment, warranty labor questions and general assistance as required.

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