

service bulletin

M71-21
FAA-DER Approved

November 22, 1971

TO: Distributors, Dealers, Engine Overhaul Facilities, Owners and Operators of Teledyne Continental Motors Aircraft Engine.

SUBJECT: PROCEDURE FOR FREEING TURBOCHARGER TURBINE SHAFTS WHICH ARE DRAGGING OR FROZEN BY RUST DEPOSITS

MODELS AFFECTED: All turbocharged engine models

Gentlemen:

New or low time turbochargers which have been subjected to short intervals of engine operation prior to engine shut down, will sometimes form rust deposits in the area of turbine shaft piston ring seal as a result of water vapor accumulation.

These deposits, while they do restrict or even stop shaft rotation, are not harmful to subsequent turbocharger operation once they are removed sufficiently to again give free shaft movement. If the turbine shaft is binding or frozen, a power loss will be noted and possibly some oil leakage past the turbocharger seal will be apparent.

When this condition is noted, remove the exhaust discharge stack and apply an approved penetrating oil liberally to the area behind the wheel around the turbine shaft seal. A list of approved oils is given below. After a few minutes attempt to turn the shaft. A light rap on the shaft end with a soft mallet will often assist in freeing the shaft. Once the shaft is free the engine can be started and a power check made to confirm turbocharger outputs either on the ground or in flight.

This condition occurs only when the unit is new or low time and combustion deposits have not formed a protective barrier on the seal surfaces. Units which are binding after long time service are coked internally and must be removed for cleaning or replacement.

NOTE

Do not return any turbochargers for warranty consideration for the above condition unless the procedure recommended in this bulletin fails to correct the problem.

(Continued)

It should be noted that oil leakage past the turbocharger seal can also be caused by one of the following:

1. Inadequate scavenging caused by air ingestion or leaks in the suction line.
2. Erratic check valve in the oil inlet line to the turbocharger (when applicable)

APPROVED PENETRATING OILS

Kano Aerokroil - Kano Laboratories, 1000 S. Thompson Lane,
Nashville, Tennessee 37211

Mouse Milk Penetrating Oil - Worldwide Aircraft Filter Corporation,
1685 Abram Court, San Leandro, California 94577

WD-40 - Rocket Chemical Company, 5390 Napa Street, San Diego,
California

Crown Penetrating and Cleaning Oil - Crown Industrial Products
Company, 100 State Line Road, Hebron, Illinois 60034

Sprayon No. 203 Penetrating Oil - Sprayon Products, Industrial Supply
Division, 26300 Fargo Avenue, Bedford Heights, Ohio 44146