

VSP-29
February 27, 1981

VENDOR SERVICE PUBLICATION

To: Piper Distribution Service Administrators

Subject: Avco Lycoming Service Bulletin No. 452
(Air Research Industrial Division Service
Bulletin No. TP60-0121; "Turbo Inspection")

Models Affected:

PA-31-350 Chieftain

Serial Numbers Affected:

31-5001 through 31-8152001

Refer to attached Avco Lycoming Service
Bulletin No. 452 for specific identification
of affected engines.

Purpose:

To distribute the attached Avco Lycoming Service Bulletin No. 452 to Piper Field
Service Facilities.

Detailed information is contained in the attached publication; additional/supplemental
information is contained in the following "Special Instructions".

SPECIAL INSTRUCTIONS

Material and credit, if applicable, is available
through Avco Lycoming distributors.

AVCO LYCOMING DIVISION

WILLIAMSPORT, PENNSYLVANIA 17701

Service Bulletin



DATE:

January 9, 1981

Service Bulletin No. 452
Engineering Aspects are
FAA (DER) Approved

SUBJECT:

AiResearch Industrial Division Service Bulletin No. TP60-0121; Turbo Inspection.

MODELS AFFECTED:

TIO-540-J2BD and -R2AD engines with serial numbers L-5086-61A thru L-7426-61A; LTIO-540-J2BD and -R2AD engines with serial numbers L-1279-68A thru L-2252-68A. Remanufactured engines shipped between September 27, 1977 and October 8, 1980 inclusive.

TIME OF COMPLIANCE:

As required by the subject bulletin.

The AiResearch Industrial Division Service Bulletin No. TP60-0121 reprinted herewith pertains to inspection of the turbine wheel shroud for indications of possible contact between the turbine wheel and turbine wheel shroud. All owners and operators of applicable engines are urged to comply with this bulletin at their earliest opportunity.



AIRESEARCH INDUSTRIAL DIVISION
Los Angeles California

Service Bulletin

SUBJECT: TURBO INSPECTION

A. EFFECTIVITY

AiResearch turbocharger model TH08A for the following variations:

MODEL	NEW TURBO AID P/N	OVERHAULED TURBO AID P/N	CUSTOMER P/N
TH08A60	409170-1	409170-9001	LW12463
TH08A69	465680-1	465680-9001	LW13897

Serial No. Prefix:

GH	GHR	HD	HDR	HL	HLR	IH	IHR
GI	GIR	HE	HER	IA	IAR	II	IIR
GJ	GJR	HF	HFR	IB	IBR	IJ	IJR
GK	GKR	HG	HGR	IC	ICR	IK	IKR
GL	GLR	HH	HHR	ID	IDR	IL	ILR
HA	HAR	HI	HIR	IE	IER	JA	JAR
HB	HBR	HJ	HJR	IF	IFR	JB	JBR
HC	HCR	HK	HKR	IG	IGR	JC	JCR
						JD	JDR

B. REASON

AiResearch has become aware that under certain conditions it is possible for the stainless steel sheet metal turbine wheel shroud to deteriorate and/or come in contact with the turbine wheel damaging the wheel and shroud. Either condition will reduce the performance of the engine, and if allowed to continue there can be a significant reduction in engine power.

C. DESCRIPTION

Refer to available sources of troubleshooting information and supplementary information under "ACCOMPLISHMENT INSTRUCTIONS," below.

D. COMPLIANCE

AiResearch recommends compliance within the next 50 hours of time in service for all turbochargers either, (1) now having (three hundred) 300 hours of service or more as of the date of this Bulletin; or (2) upon reaching 300 hours of service. Thereafter, compliance is recommended at each one hundred (100) hour interval.

Compliance is not required if the turbocharger has been rebuilt, overhauled, or otherwise serviced to incorporate the use of a cast iron turbine wheel shroud (AID P/N 407657-2).

Compliance is further recommended by AiResearch, as soon as practical, in the event of an unexplained reduction in engine power, as set forth more particularly in the Accomplishment Instructions.

E. ACCOMPLISHMENT INSTRUCTIONS

- a. Remove the turbocharger turbine exhaust duct to gain visual access to the turbine wheel through the discharge port of the turbine housing.
- b. Using a small flexible probe light, inspect the turbine blades for signs of damage.
- c. Inspect the face of the shroud (areas shown in figure 1) for signs of damage or contact marks from rubbing against the wheel.
- d. Remove and replace any turbocharger with damaged turbine blades or shroud, or or evidence of turbine wheel rubbing against the shroud.

If, at any time, a reduction in power is detected (lower-than-normal manifold pressures), refer to the appropriate airframe manufacturer's service manuals for troubleshooting information covering induction, exhaust, and turbocontrol systems before performing steps a, b, c, and d, above.

Automatic turbocontrol systems used in many applications tend to compensate for minor turbocharger performance losses due to turbine rubbing or wear conditions. It is therefore recommended that maximum power critical altitude flight checks prescribed by the aircraft manufacturer be performed when abnormal functional conditions are suspected.

In event that the troubleshooting activities cited above fail to diagnose or correct such deficiencies, perform steps a, b, c, and d, as outlined above.

F. MATERIAL INFORMATION

New replacement units are available from Lycoming, and overhauled replacement units are available from authorized distributors and will be identified by serial number prefixes beginning with JE and JER or later (e.g., JF/JFR or KA/KAR, first letter indicating year, second letter indicating month, and third letter indicating overhauled).

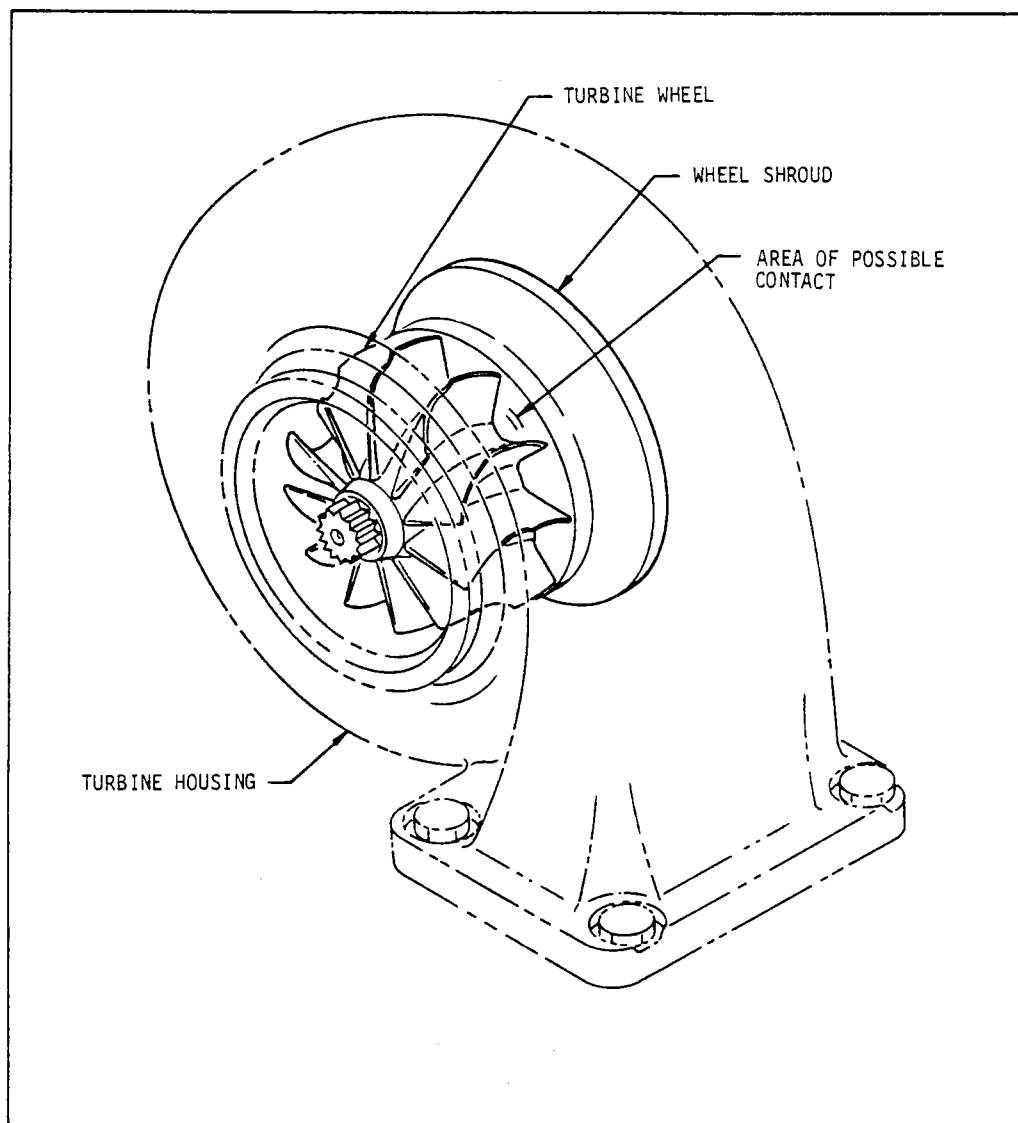


Figure 1. Inspection of Turbine Wheel and Shroud