



# SERVICE LETTER

No. 655

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

April 10, 1973 S/M

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Subject:

AiResearch Service Bulletin No. 1172-1A (Turbocharger Modification) -- reference attached Lycoming Service Bulletin No. 361, dated February 16, 1973.

Models and Serial Numbers  
Affected:

Refer to attached Lycoming Service Bulletin No. 361, Models Affected section.

Compliance Time:

Refer to attached Lycoming Service Bulletin No. 361, Time of Compliance.

Purpose:

To provide distribution of attached Lycoming Service Bulletin No. 361, dated February 16, 1973 which contains a reproduction of AiResearch Service Bulletin No. 1172-1A.

Balance of Service Letter format not applicable; refer to attached Lycoming Service Bulletin No. 361 for further details.

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# **AVCO LYCOMING DIVISION**

WILLIAMSPORT, PENNSYLVANIA 17701

## Service Bulletin



DATE: February 16, 1973

Service Bulletin No. 361  
Engineering Aspects are  
FAA (DEER) Approved

SUBJECT: AiResearch Bulletin 1172-1A

MODELS AFFECTED:	AVCO LYCOMING ENGINE MODEL	TURBOCHARGER MODEL*	AVCO LYCOMING PART NO.	AID PART NO.
	TVO-435-A, B	TA-1108	77824	404460-2
	TVO-435-D, F, G	TE-0659	75225	406610-6
	TIVO-540-A	T-1112	73895	404830-1
	TIO-540-A	TE-0659	76663	406610-2
	TIO-540-C	TE-0659	LW11336	406610-17
	TIO-541-A	T-1823	LW11968	406610-5
	TIO-541-E	T-1879	LW11975	407540-2
	TIO-541-E	T-1823	LW11969	406110-6
	TIGO-541-E	T-18A21	LW11976	407800-2
	IO-540-J4A5	TE-0659	None	406610-3

\* - Only turbochargers with serial number prefix BG, BH, BI, BJ, BGR, BHR, BIR or BJR are affected unless modified and nameplate stamped with the letter "M".

TIME OF COMPLIANCE: All units delivered to customers must be modified by May 1, 1973 or in accordance with the following service hours schedule, whichever comes first:

1. Units with less than 500 hours service must be modified at or before the next 100 hour engine inspection.
2. Units having over 500 hours service must be modified within the next 25 hours.

The subject bulletin, AID 1172-1A, reprinted here-with, pertains to a limited number of new and re-manufactured AiResearch exhaust turbochargers built between July 1, 1972 and October 31, 1972, inclusive, in which the inboard thrust washer bearing anti-rotating pins are not to specifications. Power loss could result in the event the thrust washer should become disengaged due to premature wearing of the anti-rotating pins.

Corrective action consists essentially of returning the turbocharger unit to AID; or it may be corrected by any competent maintenance facility by obtaining a kit of parts at no charge from an authorized Avco Lycoming distributor.

If the turbocharger is to be returned for correction, ship it by surface freight, collect, to AiResearch Industrial Division, Los Angeles, California; or to a convenient AiResearch Division overhaul facility, collect. Expense of premium shipment must be accepted by customer. If two units are being returned they must be packaged in one shipping box.

If the turbocharger is to be corrected locally obtain

an appropriate kit of parts through an Avco Lycoming distributor. The kit consists of the necessary AiResearch hardware; piston rings, seal ring, lockplates, replacement anti-rotation pins, instructions and Avco Lycoming gaskets. The correct kit to order is shown in the following list.

AVCO LYCOMING ENGINE	PIN KIT NO.	TURBOCHARGER MODEL
TVO-435-A, B	LW13297	TA-1108
TVO-435-D, F, G	LW13293	TE-0659
TIVO-540-A	LW13297	T-1112
TIO-540-A	LW13293	TE-0659
TIO-540-C	LW13293	TE-0659
TIO-541-A	LW13295	T-1823
TIO-541-E	LW13296	T-1879
TIO-541-E	LW13295	T-1823
TIGO-541-E	LW13294	T-18A21
IO-540-J4A5	LW13293	TE-0659

An appropriate labor allowance (as described in the following note) is provided for each turbocharger corrected by kit installation upon application and filing of a completed warranty claim through your Avco Lycoming distributor.

## NOTE

A labor allowance of \$30.00 per unit is provided for removal and replacement of any turbocharger that is presently installed and is returned to AID facilities for correction. Any uninstalled turbocharger that requires modification should be returned to AID for replacement.

Likewise, a labor allowance of \$40.00 per unit is provided for each unit that is corrected by kit installation. (File a completed warranty claim through your Avco Lycoming distributor).


Many turbochargers built with defective pins were corrected prior to delivery of the turbocharger, or engine, to the customer from Avco Lycoming; on these, the turbocharger nameplate is stamped with the letter "M". However, between July 1, 1972 and October 31, 1972 turbochargers and engines shown in the following lists were shipped from the factory in Williamsport and should be inspected, and if required, modified in compliance with this bulletin.

ENGINES: Turbochargers in these engines may, or may not, require modification.

AVCO LYCOMING ENGINE MODEL	ENGINE S/N	TURBOCHARGER S/N	AVCO LYCOMING ENGINE MODEL	ENGINE S/N	TURBOCHARGER S/N
TIO-540	RL-221-61	BGR-1176	TIO-540	RL-1445-61	BG-0143
TIO-540	RL-471-61	BGR-1185	TIO-540	L-2489-61	BH-0103
TIO-540	RL-550-61	BGR-1186	TIO-540	L-2491-61	BH-0110
TIO-540	RL-741-61	BGR-1180	TIO-541-E	L-847-59	BG-0113
TIO-540	RL-759-61	BGR-1172	TVO-435-G	RL-2804-52	BGR-1137
TIO-540	RL-806-61	BGR-1181	TVO-435-G	RL-2984-52	BGR-1168

TURBOCHARGERS: The units in this list may, or may not, require modification.

QUANTITY	AVCO LYCOMING P/N	AID P/N	MODEL	FOR USE ON AVCO LYCOMING ENGINE
1	75225	406610-6	TE-0659	TVO-435-D, F, G
39	76663	406610-2	TE-0659	TIO-540-A
3	LW11336	406610-17	TE-0659	TIO-540-C
1	LW11975	407540-2	T-1879	TIO-541-E
5	LW11976	407800-2	T-18A21	TIO-541-E

	<b>AIRESEARCH INDUSTRIAL DIVISION</b> LOS ANGELES CALIFORNIA		DATE 12/11/72	PAGE OF
	TITLE SERVICE BULLETIN		NO 1172-1A	
			S AID	

TO: All users of AiResearch Industrial Division Light Aircraft Turbochargers

SUBJECT: Modification of all turbochargers with serial number prefixes BG, BH, BI, BJ, BGR, BHR, BIR, and BJR, unless modified in which case the nameplate has been metal stamped with the letter "M" in the lower right-hand corner or following the serial number.

## MODELS AFFECTED:

MODEL NO.	AID NEW P/N	AID REMANUFACTURED P/N	CUSTOMER P/N
TE-0657	406970-1	406970-9001	C295001-0102
TE-0659	406610-2	406610-9001	632729-1
		406610-9002	76663
		406610-9003	Same as AID P/N
		406610-9004	632729-2
	406610-5	406610-9005	C295001-0101

MODEL NO.	AID NEW P/N	AID REMANUFACTURED P/N	CUSTOMER P/N
	406610-6	406610-9006	75225
		406610-9007	632729-3
	406610-8	406610-9008	632729-4
		406610-9009	632729-5
		406610-9010	632729-6
		406610-9011	632729-7
		406610-9012	632729-8
	406610-13	406610-9013	LW10075
	406610-14	406610-9014	632729-9
	406610-17	406610-9017	LW11336
	406610-18	406610-9018	C295001-0103
	406610-19		632729-10
T1106		404350-9001	629844-1
T1107		404360-9004	630374-4
TA-1108		404460-9002	76692
TH0867		406990-9003	633724-3
		406990-9004	633724-4
TH0871	408610-1	408610-9001	637374-1
TH08A60	409170-1	409170-9001	LW12463
TH08A67	407810-1	407810-9001	635630
T1823	406110-5		LW11968
		406110-9006	LW11969
T1879	407540-2	407540-9002	LW11975
T18A21	407800-2	407800-9002	LW11976
T18A44	408590-2		635034-2

Certain new and remanufactured units of the models listed, built between July 1, 1972, and October 31, 1972, have inboard thrust bearing anti-rotating pins not to specification, which could cause a turbocharger malfunction, resulting in significant engine power loss. All affected units bear BG, BH, BI, BJ, BGR, BHR, BIR or BJR serial number prefixes.

All units currently in inventory or on engines and aircraft not delivered to customers must be modified by AiResearch Industrial Division personnel or returned to AiResearch Industrial Division for modification at no charge.

All units delivered to customers must be modified by May 1, 1973, or in accordance with the following service hours schedule, whichever comes first:

1. Units with less than 500 hours service must be modified at or before the next 100 hour engine inspection.
2. Units having over 500 hours service must be modified within the next 25 hours of engine operation.

Any unmodified turbocharger which bears the listed part and serial numbers will be repaired at no charge by AiResearch if returned to any of their Service and Overhaul facilities shown below:

U. S. A

AiResearch Industrial Division, The Garrett Corporation  
9225 Aviation Blvd. Los Angeles, California 90009

West Germany

Garrett GmbH, 6096 Raunheim/Main  
Frankfurter Strasse 51, West Germany

Australia

Normalair-Garrett Pty., Ltd.  
26-32 Fraser St., Airport West, Victoria 3042, Australia

Japan

Shimadzu Seisakusho Ltd., Aircraft Equipment Div.  
18, Kawabara-Cho, Nishinokyo, Nakagyo-Ku, Kyoto, Japan

Argentina

Turbodina, Rectificaciones Buenos Aires, S. A. I. C  
Girardot 1429/31, Buenos Aires, Argentina

Brazil

Lacom Componentes Industriais, S. A.  
Caixa Postal 5380, Sao Paulo, Capital, Brazil

Canada

Garrett Manufacturing Limited  
255 Attwell Drive, Rexdale 605, Ontario, Canada

To qualify for priority handling, all purchase orders, packing sheets and the carton containing the turbocharger must be marked "for modification per Service Bulletin 1172-1." AiResearch Industrial Division shall be responsible only for charges incurred for modifications made at their facilities and will not be responsible for incidental or consequential damages. Units other than those identified above or bearing the letter "M" after the serial number or on the lower right-hand corner of the nameplate do not require modification and will be returned at sender's expense.

Field Modification by qualified licensed power plant mechanics in accordance with AiResearch Service Instruction 1172-2A is approved as an option should the owner not wish to return the turbocharger to AiResearch. Modification parts, along with the appropriate labor allowance, are available from the appropriate airframe or engine manufacturer.