

SERVICE



LETTER

Service Letter No. 483

August 17, 1966

SUBJECT: AiResearch Aviation Service Company Service
Information Letter No. S.I.L. P-08

MODELS AFFECTED: All AiResearch Turbocharged PA-23-250 and
PA-E23-250 Aztecs

775

The AiResearch Aviation Service Company has released a Service Information Letter covering the effects of engine air filter impact ice at high altitude on turbocharged Aztecs.

A copy of the subject letter is printed on the reverse side of this letter

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PIPER AIRCRAFT CORPORATION, LOCK HAVEN, PA., U. S. A.



TURBOCHARGER SYSTEMS

SERVICE

INFORMATION

LETTER

NO. S.I.L. P-08

DATE August 10, 1966

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TO: ALL OWNERS/OPERATORS AND SERVICE FACILITIES FOR PIPER PA23-250 and PA E23-250
AIRCRAFT EQUIPPED WITH AIRESEARCH TURBOCHARGER SYSTEMS

SUBJECT: IMPACT ICING AT HIGH ALTITUDE

When flying in icing conditions at high altitudes it has been found that the engine ram air filter can flash over with impact ice.

When this occurs, the automatic alternate air door opens and delivers engine compartment air to the induction system. Due to the increase in temperature of the engine compartment air over the outside air, the turbocharger efficiency is reduced and can result in approximately 6 inches of manifold pressure loss.

This¹⁰⁰ could be concerning to the pilot on a first occurrence without the knowledge of what is happening. When it is realized that your Turbo Aztec can deliver at least 28 inches of manifold pressure at 20,000 feet density altitude, the 6 inch loss does not create an emergency and would leave 22 inches or more of available manifold pressure. This will allow altitude to be maintained with a respectable true airspeed. A further increase in power can be obtained by placing cowl flaps in trail position and increasing R.P.M. to 2500.

It is probable that a stagger in power¹⁰⁰ would accompany this condition, i.e., one engine may drop off more than the other. This would be caused by the amount of ice or differences in the maximum efficiency between engines. Due to the pressure referencing method in the fuel system, the fuel flow indication may also become staggered. When this happens, the engine with the highest manifold pressure will be indicating essentially correct fuel flow, while the engine with lower manifold pressure will indicate lower than actual fuel flow. Under these conditions mixture leaning should be done by feel or exhaust gas temperature indication.

⁴⁰As icing conditions cease, normal power and operation will gradually return.

SERVICE DEPARTMENT
AIRESEARCH AVIATION SERVICE COMPANY
TURBOCHARGER SYSTEMS OFFICE