



REPUBLIC AVIATION CORPORATION
FARMINGDALE, LONG ISLAND, NEW YORK
• • • SERVICE DEPARTMENT • • •

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FULL REVERSE THRUST

As you all know, the first several hundred Seabees are restricted to 1750 RPM in reverse to prevent failure of the engine reverse thrust bearing. Recently, Aircooled Motors has incorporated in a change which permits full thrust (2500 RPM) in reverse.

In order to permit as many owners as possible to get full advantage of the engine in reverse thrust, Aircooled Motors modified their engines with an "interim" fix as soon as manufacturing problems would permit.. This modification became effective with their engine 23501, a permanent production installation was incorporated and will be on all subsequent engines.

Due to the "interim" fix, it is necessary to modify the method of mounting the propeller actuating cylinder so that the hydraulic loads could be isolated from the thrust loads. This in turn required that four of the six mounting holes in the propeller cylinder be counterbored on the inside surface to provide "o-ring" oil seals. However, due to design changes made possible on the engine when retooling for a new production run, the need for counterboring the propeller cylinder holes was eliminated for engine No. 23501 and all subsequent engines.

This of course presents an interchangeability problem in the field when replacing either engines or propellers. To reduce the problem to its simplest terms, any engine with Serial numbers between 23281 and 23500 inclusive, must have a propeller cylinder with the counterbored holes.

The problem may appear a bit more complicated because of the large (10 inch) and small (7 inch) diameter propeller cylinders, these are interchangeable within the group provided the top cowl of the airplane has been cut away to clear the large diameter cylinder.

No attempt has been made to list the airplane serial numbers affected because the engines, of a necessity, are installed in airplanes in the order in which they are received.

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The following table has been prepared to help all concerned:

<u>Group</u>	<u>Engine Serial No.</u>	<u>Propellers</u>
I	23008 to 23280 Inclusive (1750 RPM limitation In reverse)	1. Small diameter cylinder <u>without</u> counterbored holes.
II	23281 to 23500 Inclusive “Interim” fix	1. Small diameter cylinder <u>with</u> counterbored holes. 2. Large diameter cylinder with counterbored holes.
III	23501 and up Production fix	1. Large cylinder <u>without</u> counterbored holes. 2. Small diameter cylinder <u>without counterbored holes.</u>

Small cylinders with counterbored holes can be used on Group I or III engines and large cylinders on Group III engines provided a spacer is used to fill up the counterbore. Two AN960-10 washers drilled out for the 5/16-diameter stud can be used in place of the spacer.

Whenever it is necessary to change a propeller on a Group II “Interim” fix engine, it is advised that whenever possible the prop cylinder and piston be left in place and that only the hub assembly, all of which are physically interchangeable, be replaced. This is due to the fact that any spare cylinders will have to be counterbored specially for spare parts while the cylinder assembly on the engine is already counterbored.

For the above reasons it is essential that whenever a spare propeller assembly is ordered, the engine serial number on which the propeller is to be installed must also be forwarded with the order.

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