



## FRANKLIN SERVICE BULLETIN

NO. 69

DATE: August 17, 1948

**SUBJECT:** CYLINDERS USED ON MODEL 6A4-150-B3 AND B31 ENGINES IN THE EARLY 11,000 SERIAL NUMBER SERIES ON STINSON AND BELLANCA INSTALLATIONS

On the early 11,000 serial number series of the above subject engines manufactured shortly after the war, we have had reported several cases of cylinder base flange failure.

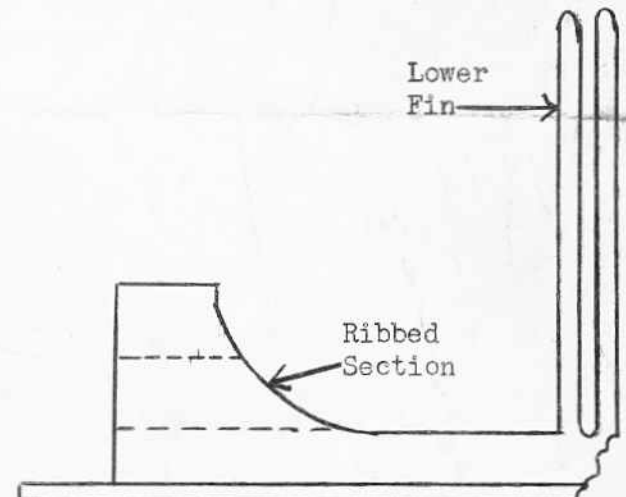
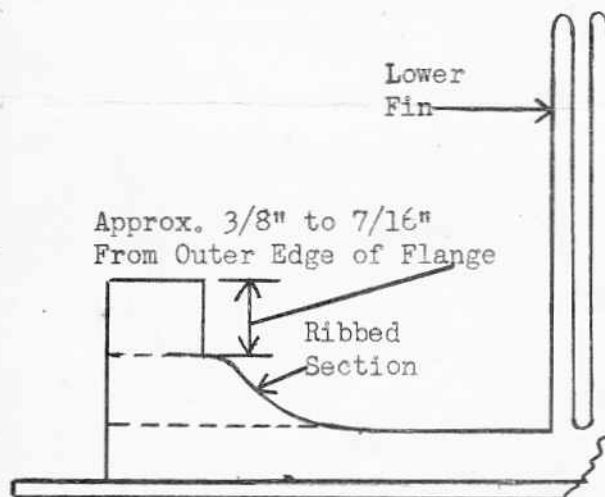
Examination of several cylinders indicates that cracks develop just above the base flange where the cylinder is bolted to the crankcase. Cracks are indicated in the thin wall section and also carry around the top section of the base flange in the pockets where the cylinder hold-down nuts are located.

This condition has been experienced only on the early engines which did not have the ribbed section below the fins extending out close to the outer section of the base flange itself. The ribbed sections are located in the area between the cylinder hold-down stud holes.

### CYLINDER BASE SECTION

EARLY TYPE

LATE TYPE



Note on early type cylinders the ribbed section stops abruptly at the base flange section facing toward the fins. The base flange section from that point to the outer edge of the flange is flat for a distance of approximately  $3/8$ " to  $7/16$ ", as shown.

Note that on the late type the ribbed section carries out in a gradual radius close to the edge of the flange and the base flange does not have the 3/8" flat section, as mentioned previously.

To avoid error in determining cylinder types, we believe it advisable, if possible, to look at an early 11,000 serial number engine and compare it with one in the 12,000 or 13,000 series or with a Stinson with the 165 hp engine. These later units all have late type flanges, as described above.

Although very few early type cylinders were available for spare parts stock in the field, your stock of new cylinders on hand should be checked. If you have new early type cylinders on hand, they should be properly packaged and returned to us. Subject to our inspection, if they are new early type, we will replace such cylinders with equivalent new late type at no charge. Cylinders (early type) out of your new spare parts stock should be returned prior to Sept. 15, 1948.

With reference to engines in aircraft, since in some cases cylinders were replacements in the field, it is possible that some engines may have both types of cylinders on them. As a protective measure, visual inspection of cylinder base flanges should be made on all engines in the 11,000 to 13,000 series, inclusive.

Also, at top overhaul and major overhaul, or if for any other reason cylinders are removed, all early type cylinders must be replaced with late type.

It is mandatory that replacement of early type cylinders on engines in aircraft be made and visual inspection should be made for cracks every 25 hours until replacement is made.

Where early type cylinders are returned to us, we will make replacement for the late type at a special net price of \$25.00 per cylinder assembly (early type) returned. Cylinders furnished on this basis will be less valves and springs and will be shipped transportation charges collect on the above basis on receipt of early type assemblies less valves and springs.

This special replacement will apply through January, 1949.

AIRCOOLED MOTORS, INC.

Syracuse, New York