

Durant and Star Car Clutch Thrust bearing rebuild

by Franz Fraitzl



Pear style and Barrel style Clutch Thrust bearing assembly.
Bearing manufacturer are:
BCA # AC 3001A
Nice # 4958
Third unidentified make



Durant used different thrust bearings in all of his cars. He changed the style of the housing from Pear shape to barrel shape but the bearing size stayed the same. The BCA bearing numbers was AC 3001A and the Nice number is 4958 and for the third bearing I have no number. To my knowledge the bearing number AC 3001 A was discontinued in 1932. I have come across three different styles of bearings. The way they were installed varies but was not dependent on what style housing they were installed in.

Nice Bearing number 4958
Usually very easy to remove from the housing, by a light tap from the back with a brass drift.



BCA Bearing AC 3001 A
Very difficult to remove!
In order to remove a special removal tool is required.



Not identified
Usually very easy to remove from the housing. Has similar removal procedure as the Nice bearing.



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For the rebuilding of the clutch thrust bearing I am using a modern replacement sealed bearing unit. These replacements are used in Honda passenger vehicles and have proven their reliability. Unfortunately the new bearings do not just pop in place. The housing requires a bushing to reduce the internal diameter and the bearing needs to have a shoulder bushing machined and pressed in place. This requires a bit of machining time.

This picture shows all the new parts required to rebuild the clutch thrust bearing assembly. In comparison the original Nice bearing.



For the bushing in the housing I am using mechanical tubing. It is strong, does not have a seam and it can be easily machined.

The first step, after cleaning the housing in the sandblasting cabinet, is the installation of the bushing. Machined to press fit tolerances the bushing is glued and pressed in place. To ensure that the bushing does not spin during machining I use a special bushing retaining compound from Loctite. After the curing, the housing is chucked into the lathe and turned until the inside diameter is big enough to press in the new bearing.

Before the installation of the bearing I install the shoulder bushing into the bearing.

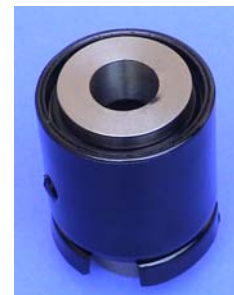
After the shoulder bushing is installed



Before installation of new bearing



After a few hours of cleaning, machining and sometimes a small repair on the back, were the clutch lifting lever presses on to the bearing housing, and paint. The clutch thrust bearing assembly is ready for many more miles.



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