

# THE TORQUE CONVERTER JOURNAL

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## *Another Great Sonnax Solution:* Salvage those worn out Ford RWD stator castings

**M**ore and more, torque converter rebuilders are finding unusable, worn out RWD stators on common Ford units. The problem results from substantial wear at the lugs of the inside diameter of the stator body casting. Sonnax now offers a drill jig **FD-DJ-1** and aluminum stator caps / bearing adapters **FD-WA-21** & **FD-WA-22** that allow torque converter rebuilders to modify and reuse stator castings with worn lugs. These stator casting lugs perform a couple of functions: not only do they index and keep the outer roller clutch race from rotating, they also secure and keep the phenolic plastic stator caps from spinning in the stator. Once the lugs can't do their job, other problems occur. The bottom line: even if you did all the right things in rebuilding that converter, if you fail to recognize the worn lugs in the stator casting as a problem, you could be setting yourself up for a major failure and comeback in a high dollar unit.

After disassembly and upon inspection, rebuilders are too often seeing that the ends of the lugs – the portion of the

*Figure 1*



lugs that keep the caps from spinning – have worn. **Figure 1** shows a stator with good lugs. These lugs are fully formed and show no signs of wear at the location where they engage the notches in the stator caps. **Figure 2** shows stators with significant lug wear. These worn out lugs do not have enough material to fully engage the notches in the phenolic stator caps. Without fully formed and intact lugs in the stator body, the plastic caps

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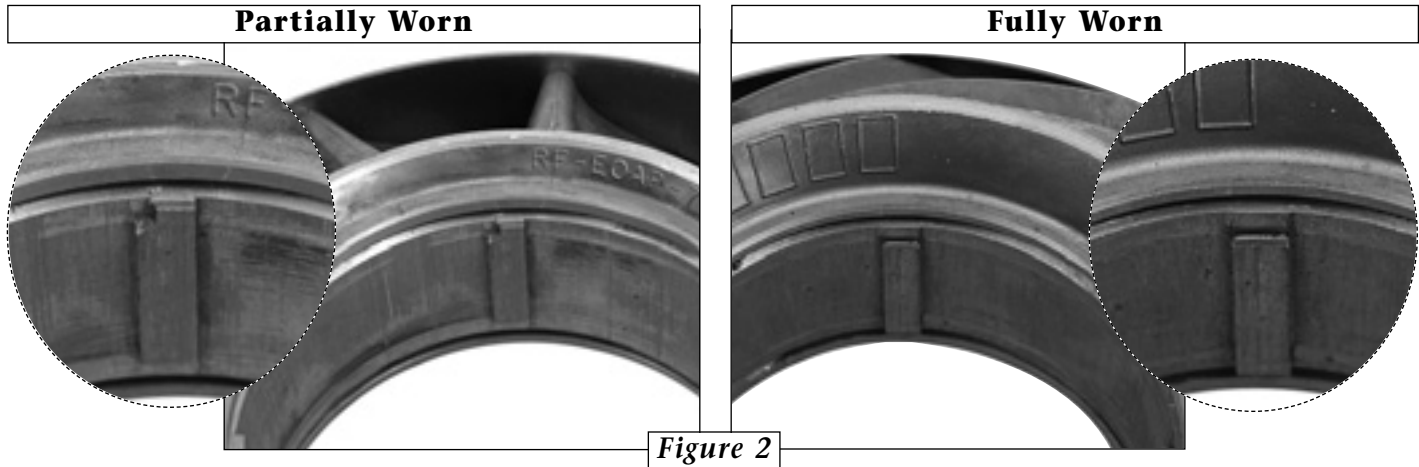


Figure 2

themselves can wear, fracture and rotate. When the phenolic caps start to spin in the stator, complete cap failure is not far behind. Even worse, full converter failure and substantial transmission contamination can occur quickly thereafter.

The Sonnax Drill Jig **FD-DJ-1** (*Figure 3*) allows you to salvage an OE stator with worn lugs by drilling new "pockets" into

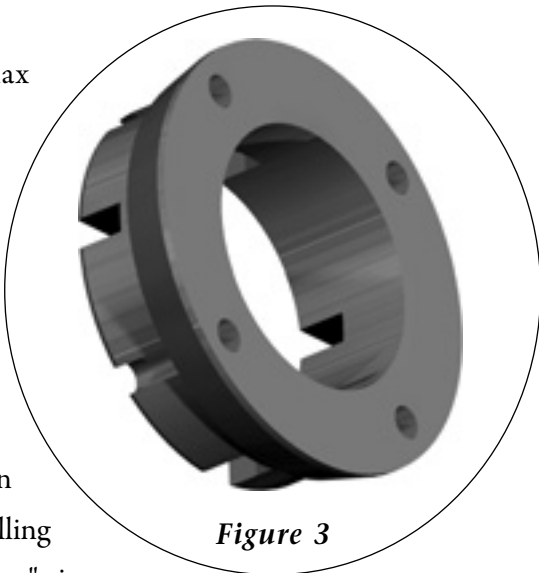


Figure 3

the stator casting. The jig insures the precise location of these 'pockets,' so that you consistently get the same results. With new pockets in the stator casting (*Figure 4*), you can then use the specially designed stator caps, **FD-WA-21** (impeller side) and **FD-DA-22** (turbine side) (*Figure 5*). These aluminum stator caps, which replace the

OE phenolic caps, each have 4 tabs on the O.D. of the cap that fit into the new pockets you drilled into the stator casting. As an additional benefit, the **FD-WA-21** and **FD-WA-22** also function as bearing adapters. The impeller side stator cap, **FD-WA-21**, uses the **GM-N-8HLT** bearing; the turbine side cap, **FD-WA-22**, uses the **CH-N-1** bearing. Use of these bearings is a great upgrade over the OE phenolic material. The bearings/cap combinations allow the stators to be used in applications ranging from vintage C4 and C6 transmissions up through late model, multi-disc 4R100 and 5R110 units.

Using the drill jig **FD-DJ-1** works well if you have a mill in your shop. If you don't have a mill, this repair requires, at



Figure 4

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minimum, that you have a drill press and drill vise (**Figure 6**). Although some rebuilders may be tempted to use a hand drill, that is not advised. As a cutting tool, the **FD-DJ-1** uses a standard 5/16" diameter drill bit; however, the drill bit is not included with the tool. Repairing worn stators does not require the use of an end mill bit or any other more exotic cutting tools. Additionally, **FD-DJ-1** comes with detailed instructions, and Sonnax is available with tech support as always.

In a nutshell, be on the lookout for worn lugs in the Ford RWD stator castings. And now, when you do find worn lugs, you have an alternative to searching through piles of cores. Sonnax has once again come to the aid of the converter rebuilder with a great fix.

At the same time, you will be upgrading your rebuild, using bearings instead of the OE phenolic caps. Most important of all, you might save yourself (and your customer) from a major failure and expensive comeback. ■

**Figure 5**



**Figure 6**

