TECHNICALLY Speaking

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Changing converter designs change your approach

The 10" front-wheel-drive Chrysler converter used in the 604 and 606 (41TE & 42LE) transmissions has undergone some changes in recent years. From the outside you can see that the smooth surface of the impeller found on the earlier models now has dimples.

Figure 1
The impeller now has dimples.

Figure 2
On the inside you will notice the piston now has a piston damper assembly.

The welded-in spring retainer on the early models has been replaced by a riveted-in spring retainer. The turbine is no longer a factor in keeping the springs in place. The springs are also not serviceable on the newer model without removing the rivets from the retainer. Rebuilders will like not having to worry about a spring falling out during the rebuild process, and now clutch release clearance is less critical.

But there's one thing rebuilders are not going to like about this new unit. The hardness of the piston prevents the piston from being machined by conventional methods. The piston is about 65 RC. Keep in mind that a bearing race is about 60 RC. It is impossible to machine the piston smooth enough for a reaction surface with the best grade of carbide tool bit. The best finish that is achievable with a carbide tool bit is only marginally good enough for a bonding surface.

At this time, grinding with a tool post grinder or a flywheel grinder are the only options available to achieve a good reaction surface (see Figure 3). If you happen to be one of the "if it isn't broken, don't fix it" people, look at a piston after a light cut on the flywheel grinder. You will notice a shallow pocket above each spring cavity on a pristine looking piston (see Figure 4).

Figure 4

Most pistons will need to be resurfaced regardless of how good they look on the outside. When you are finished machining the piston, there is a trick for balancing the assembly. The pilot adapter for any ATI or TCRS balancer – which is used for 245mm GM rear-wheel-drives with the extended pilot converters – will work as

continued on page 2

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a centering device to balance front-wheel-drive Chrysler converters. The I.D. of the adapter is the perfect size to fit the front of the turbine hub, and the O.D. will allow the TCC clutch to fit over the adapter and rest on the balancer face plate. (See Figure 5).

Figure 5

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