sonnax
Technical Bulletin
Vol. 2 • No. 4

You Have QUESTIONS? We've Got ANSWERS

The Sonnax Technical Support Department is here to answer your questions about Sonnax products, and if the staff doesn't know the answer, they'll track down the information for you. Sometimes a customer will call with a question no one has ever heard, but often it's a query that has stumped transmission rebuilders with some frequency. Here are a few of the more commonly asked questions.

Question: Can I use the Sonnax **22771-09** manual valve and **22771A-02K** lube-regulated pressure regulator valve in a non-lockup unit?

Answer: To answer this question we need to know what style pressure regulator valve is in the transmission. The pressure regulator valve in your transmission needs to match the one sold by Sonnax (see Transmission Specialties Volume 5, page 183). Look at the inboard end of the pressure regulator valve (end that goes into the valve body first). The diameter of the last three spools should get progressively smaller toward the end.

If your valve is an exact match, then the manual valve and PR valve can be used. If the PR valve is different, then the Sonnax PR valve cannot be used, but keep in mind that the Sonnax manual valve cannot be used either. The manual valve was designed to work with the PR valve that has the small land on the end.

To prevent converter slippage, restricted cooler flow and possible hydraulic noise, remove the cooler line drainback valve after installing our manual and PR valves.

Question: Why do I have harsh shifts after installing a bypass clutch control sleeve and plunger on an AX4N?

(Continued on Page 2)

CONTENTS

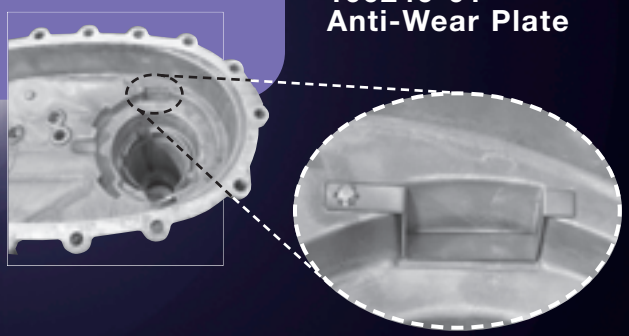
PRODUCT SPOTLIGHT

GM uses a wear plate to prevent the pump from wearing the magnesium case. However, the wear plate fails prematurely, allowing leaks to develop as the lugs wear through the case.

Sonnax now offers an improved version of the OEM wear plate, using harder materials for better wear resistance. This is a simple drop-in replacement for NP136, 236 and other units with magnesium cases. If the case has been worn through, it can be welded with specialized magnesium welding.

ANTI-WEAR PLATE
PART NO. 100246-01

FIX THESE COMMON COMPLAINTS
- Leaks
- Premature bearing failure



100246-01
Anti-Wear Plate

Answer: The large spool of the AX4N bypass clutch control plunger valves were manufactured with two different diameters. The large spool can be either .487" or .496". The Sonnax Bypass Clutch Control Sleeve & Plunger Kit **96206-03K** will fit AX4Ns with the .487" spool diameter. Sonnax now has available **96206-13K**, which will work in the units that have the larger .496" plunger valve. The 3.0L 24 valve is one unit known to require the larger valve. The quickest way to verify if the Sonnax **96206-03K** will work is by trying to install the OE plunger valve into the Sonnax sleeve. If it does not fit, you will need to use the **-13K**. Installing the wrong size kit will result in a variety of TCC apply or release complaints along with other possible issues.

Question: Can I use the **92835-03K** converter regulator valve kit with a Chrysler No. 33 plate?

Answer: The **92835-03K** is not compatible with the No. 33 plate design. Use of this plate design can lead to complaints of no TCC or engine stumble caused by the TCC dragging. In an attempt to improve lockup, Chrysler has made changes to the plate design over the years: plate No. 99 is the most recent design. You can update a 33 plate with a 46, 82, 96 or 99 plate and body. The plate and body must be used together and cannot be mixed.

Question: Why can the 741 code reappear in a CD4E after installing the Sonnax valves?

Answer: Whenever someone calls with a repeat code 741 after installing the Sonnax **73840-BK** and **73840-RK** valves we usually ask what their CT (converter turbine) pressure is. The response is usually, "My ***what*** pressure?" The CT pressure during lockup is an indicator of the clamping force that holds the torque converter piston to the front cover. It can be measured at the center port of the bank of three at the front of the transmission. Not checking this pressure when dealing with a repeat 741 complaint can have you pulling out your hair. Monitor the CT pressure when the unit goes into lockup. CT pressure during lockup should rise to 85 to 100 psi and hold steady. Performing the separator plate modification, part of the Sonnax valve installation, is highly recommended. It will increase the CT pressure when the unit goes into lockup. The key point is to see that CT pressure rises and holds when lockup is applied. If the pressure is normal when lockup is commanded but bleeds off slowly as you drive, then suspect the converter. If pressure does not rise to the desired range, re-check apply and release circuits, pump, sealing rings and bushings.

Question: I just purchased a **77754-TL** and it is missing the stop collar and the drill is different. Why?

Answer: To make it easier to use, Sonnax has revised the **77754-TL** tool kit. The new drill is called a core drill, and has three flutes. It is made to enlarge existing holes without grabbing and binding in the bore. This core drill does not require a stop collar because it is blunt on the tip. This blunt tip will stop when the bit has reached the bottom of the bore. The previous 2-fluted design bit will still function just fine, but it is our belief that the core drill is much easier to use. If you would like to update your current two-fluted bit to the three-fluted core drill, this item can be purchased separately.

Question: Why are the shift points not correct after installing the throttle control valve **22771-01K** on a 42-46-47RH/RE?

Answer: Keep in mind that the shifting problem may be TV and/or governor pressure-related. To help visualize what is happening between governor and TV, picture two sumo wrestlers in the ring. One is Throttle Valve Guy and the other is Governor Guy. The strongest one will be the winner. Let's say you have a leak in the governor circuit and the TV is operating properly: The unit will upshift late. Or you have a leak in the TV circuit and the governor system is operating properly. The unit will upshift early.

First, rule out the governor circuit as a potential problem. If the governor circuit is functioning properly and there are no leaks, then focus your attention on the TV circuit.

When installing the Sonnax TV kit, always use the OE spring, then modify as needed. It is hard to determine the exact effect the shims will have on the unit you are working on. Units will respond differently, depending on the amount of valve body wear, spring condition, governor circuit integrity, etc. The Sonnax spring was designed to allow builders to overcome an oversensitive 2-3, 3-2 condition. The spring is not as strong as the OE spring and should never be used without a least two shims. Using the Sonnax spring and two shims will reduce the TV pressure by 14 psi. This will cause the unit to upshift early; governor pressure is the dominant pressure. If you use the OEM spring and two shims, TV pressure will be increased by 14 psi. This will cause the unit to shift later; TV pressure is the dominant pressure.

Whether you need a quick and easy answer or a more detailed explanation of a job you're working on using Sonnax products, the Sonnax Technical Support Department is here to help, on our toll-free phone line and via e-mail at **TechSupport@sonnax.com.**