

celeration. Elevated line pressure may not set or be caused by codes.

With the complaint of harsh shifts from 3 to 6 and 6 to 3, and C/K-1 pressure has not been elevated, you should tap TCC release (Figure 6). As mentioned, the TCM strategy brings the converter clutch on directly after the 2-3 shift. It will go to full application at light load. If you are graphing engine and turbine speed, lines should be overlaid at full application. TCC will be modulated off to disconnect the turbine shaft during subsequent upshifts and downshifts. If this control is not evident on your graph and release-pres-

sure test, inspect the TCC control bore for wear. The scan tool will indicate an amperage change, but the TCC release pressure will not be affected (Figure 7).

If the vehicle is driven in this condition for too long, the converter lining can be damaged.

Clutch-circuit testing

Transmission circuits can be tested in the vehicle as explained earlier or with the valve body removed. For a wet air test (WAT), prime the circuit with ATF, then follow by applying 40-60 psi of air. The familiar "dull thud" of a piston stroke confirms a good circuit. During the WAT, if the pressure

drops and the clutch does not apply, or vents, you have identified a leak. On the 09G, for example, if the K-2 piston does not stroke or fluid exhausts from another port, the K-2 case sleeve may have rotated.

Valve-body inspection

If you determine that the valve body is at

fault, or you are inspecting a valve-body core for future use, inspect the bores mentioned previously. Exploded view, vacuum-testing locations for each bore, and relief and spring identification are available at the Sonnax Web site, www.sonnax.com.

As mentioned, the TCC control tends to wear first, then solenoid modulators, followed by K-2/K-3 clutch control and then main or secondary regulator valves. If your test drive indicated a harsh shift in one gear and line pressure is good, focus on the specific clutch-control valve identified in the power-flow chart. Bore wear in this type of valve body is similar in appearance to that found in AW 55-50 or other units. Wear appears as a polished half-moon area, typically on the loaded side of the bore and at the ends of the valve travel. The valves themselves rarely have witness marks or evidence of a problem.

Diagnosis and the pileated problem

At this point you should realize that this transmission offers a large window of opportunity. The fact is that paper can help you isolate a problem in the AW 6; being hasty in your evaluation could cost money by unnecessary transmission removal and misdiagnosis.

For those of us with a pileated woodpecker breaking windows, we should remember the following:

Cover the windows with paper for at least two weeks, allowing time for the birds to find another territory. Taking the paper down too early will result in the woodpecker coming back to finish the job. This results in time and money to repair damage.

To examine the valve bodies, their vacuum-test locations and other problems refer to www.sonnax.com.

