



Technical Service Information

SATURN VUE & ION

2-3 FLARED SHIFT

COMPLAINT: The vehicle came in with a 2-3 flared shift. After overhaul, the 2-3 flared shift is still present, and there is now a flare on the 3-4 shift and the shifting is erratic and harsh.

CAUSE: The 2-3 flare is due to aeration of the transmission fluid resulting in a delayed apply of the third clutch.
The 3-4 flare and the erratic and harsh shifts are caused by the failure to do a mandatory TCM relearn procedure as seen in Figure 1.

CORRECTION: Once the relearn procedure has been completed, drive the vehicle and see if the shift complaints are gone. If any of the complaints are still present, a reflash may be in order, and in some cases the replacement of the valve body may be necessary depending on transmission and revision part number, as shown in the chart in Figure 2.

GM suggests that the valve body be replaced first after which the vehicle should be driven to reevaluate the shift quality and if necessary, then reflash the TCM.

Check the identification tag on top of the transmission for the part number as illustrated in Figure 3, and compare it to the chart in Figure 2.



SATURN TCM MANUAL RELEARN PROCEDURE

1. Drive vehicle until ATF operating temperature reaches at least 150°F (65°C).
2. Use your scan tool to reset the transaxle adaptive learns or, disconnect the battery cables and tape them together and turn the headlight switch and other electrical devices to “Brain Dead” the TCM.
3. Perform the following steps for the Garage Shifts Adaptive Relearn:
 - a. Apply the brakes.
 - b. Shift from *NEUTRAL* to *REVERSE* and keep it in *REVERSE* for 3 seconds.
 - c. Shift from *REVERSE* to *NEUTRAL*.
 - d. Repeat steps “b” and “c” *FIVE* times.
 - e. Shift from *NEUTRAL* to *DRIVE* and keep it in *DRIVE* for 3 seconds.
 - f. Shift from *DRIVE* to *NEUTRAL*.
 - g. Repeat steps “e” and “f” *FIVE* times.
4. Perform the following steps for Up/DownShifts Adaptive Relearn:
 - a. Drive the vehicle in *DRIVE* with light (15-20%) throttle until a speed of 31 mph (50 km/h) in *Fourth* gear.
 - b. Decelerate and apply the brakes until the vehicle comes to a stop. Brake the vehicle so that it takes at least 14 seconds to stop.
 - c. Repeat steps “a” and “b” *FIVE* times.
 - d. Drive the vehicle in *DRIVE* with medium (50-55%) throttle until the vehicle shifts into *Fifth* gear.
 - e. Decelerate and apply the brakes until the vehicle comes to a stop. Brake the vehicle slowly so that each downshift occurs.
 - f. Repeat steps “d” and “e” *FIVE* times.
5. Perform the following steps for 2-1 Manual Downshift Adaptive Relearn:
 - a. Drive the vehicle in *Intermediate* range until over 16 mph (25 km/h) in *Second* with any throttle position.
 - b. Decelerate, then shift from *Intermediate* range to *Low* range manually and stop the vehicle.
 - c. Repeat steps “a” and “b” *TEN* times.

Figure 1

ION SERVICE MATRIX			
TRANSAXLE PART NUMBER	CALIBRATION PART NUMBER	O.E. WHEEL SIZE	NEW VALVE BODY REQUIRED (PN 24226260)
24224464	24230087	16 INCH	YES
24224464	24230088	14 OR 15 INCH	YES
24226999	24231240	16 INCH	NO
24226999	24231241	14 OR 15 INCH	NO
24226418	24231240	16 INCH	NO
24226418	24231241	14 OR 15 INCH	NO

VUE SERVICE MATRIX			
TRANSAXLE PART NUMBER	CALIBRATION PART NUMBER	O.E. WHEEL SIZE	NEW VALVE BODY REQUIRED (PN 24226260)
24222116*	24230089	AWD	YES
24224782	24230089	AWD	NO
24225145	24230089	AWD	NO
24225145	24230090	FWD	NO

**Electrical harness (PN 24226258) must also be installed with new valve body.*

Figure 2

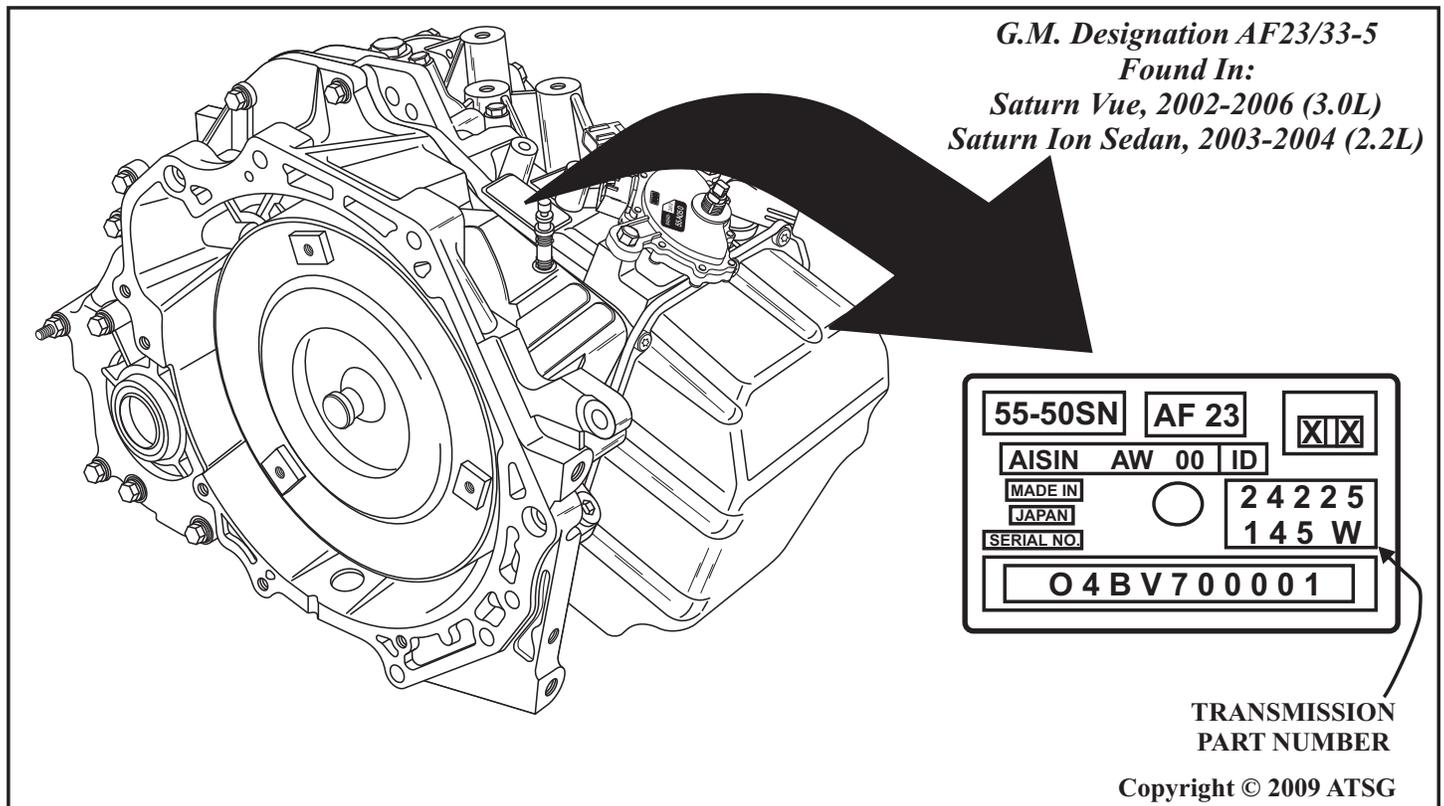


Figure 3