

TECHNICAL SERVICE BULLETIN

SUBJECT: TORQUE CONVERTER VIBRATION		No: TSB-03-23-006
		DATE: October, 2003
		MODEL: See below
CIRCULATE TO:	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
	<input checked="" type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

This bulletin supercedes TSB-01-23-010, to include newer models and update diagnostic procedures.

PURPOSE

Some customers may complain of shudder, surge, and/or vibration (possibly intermittent) when driving 35-50 mph (56-80 kph) at steady throttle. This may be due to the breakdown of the A/T fluid, creating a torque converter damper clutch shudder, which can be eliminated by following the procedures in this bulletin.

NOTE

On 1999 Montero Sport rear-wheel-drive models, partial torque converter lock-up also causes rear leaf spring chatter.

AFFECTED VEHICLES

2003 Outlander
 2002-2003 Lancer
 1997-2002 Mirage
 1999-2003 Galant
 2000-2003 Eclipse
 2001-2003 Eclipse Spyder
 1997-2003 Diamante
 2001-2003 Montero
 1999-2003 Montero Sport

PROCEDURE

NOTE

The information in this bulletin applies to SP-III ATF only. The friction coefficient of SP-III is about 10% lower than that of SP-II, which was used in TSB-01-23-010. Therefore, these specifications are different than those in the previous TSB.

1. Test drive the vehicle to determine whether the shudder/surge/vibration is an engine or transmission concern. Be sure the engine reaches operating temperature. Then turn the engine off and inspect for engine mechanical problems. Check engine base settings and adjust if needed.
 - a. If the shudder/surge/vibration is an engine concern, refer to Group 11 in the appropriate service manual for diagnosis and repair procedures.
 - b. If the shudder/surge/vibration is a transmission concern, **NOT** an engine concern, continue with Step 2.

Continued

FILE UNDER:

Group 23 Automatic Transmission in the Dealer Service Information Binder (2603)

2. Test drive the vehicle to determine whether the condition occurs during torque converter clutch partial lock-up. Use the scan tool data list to drive within the following parameters. ATF temperature must be 158 degrees F (70 degrees C) or higher.

Note the TCC duty cycle reading when the shudder/surge/vibration occurs.

Vehicle	Year	A/T	A/T Gear	TPS Voltage	Output Shaft Speed	TCC Duty Cycle	TCC Slippage
Outlander	2003	F4A4 W4A4	3rd	0.6 - 1.8	1110 - 2310 rpm	45 - 55 %	40 - 120 rpm
Lancer	2002-2003	F4A4	3rd	0.6 - 1.9	1110 - 2300 rpm	45 - 55 %	40 - 120 rpm
Mirage	1997-2002	F4A4	3rd	0.6 - 1.4	1250 - 1500 rpm	45 - 55 %	40 - 120 rpm
Galant/Eclipse	1999-2003	F4A4	3rd	0.6 - 1.8	1110 - 2310 rpm	45 - 55 %	40 - 120 rpm
		F4A5	3rd	0.6 - 1.3	1050 - 2310 rpm	45 - 55 %	40 - 120 rpm
Diamante	1997-2003	F4A5	3rd	0.8 - 1.6	1110 - 2310 rpm	45 - 55 %	40 - 120 rpm
Montero	2001-2003	V4A5	4th	1.1 - 2.6	1470 - 2580	45 - 55 %	40 - 120 rpm
		V5A5	5th	1.1 - 2.4	1470 - 2580	45 - 55 %	40 - 120 rpm
Montero Sport	1999-2003	R4A5	3rd	0.7 - 1.6	870 - 1260 rpm	45 - 55 %	40 - 120 rpm
		V4A5	3rd	1.0 - 2.5	870 - 1890 rpm	45 - 55 %	40 - 120 rpm

- a. If shudder/surge/vibration **occurs when the TCC duty cycle is approximately 45% - 55%**, the condition may be due to the breakdown of the A/T fluid. Go to Step 3 for repair instructions.
 - b. If shudder/surge/vibration does **NOT** occur when the TCC duty cycle is approximately 45% - 55%, diagnose for the following possible causes. Use an electronic vibration analyzer (Kent-Moore J-38792 or equivalent) as described in the "Noise, Vibration and Waterleaks (NVW)" training skill module available through the Mitsubishi Academy.
 - Tire vibration
 - Front axle vibration
 - Damage to A/T internal components
 - Transfer case damage
3. If shudder/surge/vibration occurs when the TCC duty cycle is approximately 45% - 55%:
 - a. Flush the A/T system as described in the "A/T Fluid Replacement" and "Flushing Coolers and Tubes" procedures in Group 23 of the service manual. Backflush the transmission oil cooler when you flush the system. If a flushing tool is not available, refer to TSB-99-23-011 for details on using an aerosol A/T oil cooler flush solution.
 - b. Refill with new **SPIII** automatic transmission fluid. It is important to use **SPIII** to eliminate torque converter damper clutch shudder.
 - c. With the engine idling and at normal operating temperature, check the ATF temperature by reading "A/T Temperature Sensor" on the scan tool data list. When the ATF temperature is between 158 - 176 degrees F (70-80 degrees C), the ATF level must be just below the "F" mark on the dipstick. Go to Step 4.

- d. Test drive to confirm the repair. A small amount of vibration may still exist, which will go away eventually (with 1-60 minutes of driving) as the SPIII works into the clutch material.

If the shudder/surge/vibration condition continues even after the vehicle has been driven for 60 minutes after the repair, or if the customer later returns the vehicle with the same condition, replace the torque converter as described in Group 23 of the appropriate service manual.

WARRANTY INFORMATION

Normal warranty procedures apply.