

Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> Does the shift shock occur only when the engine is cold? 	Yes Go to the next step.
		No Go to Step 3.
2	<ul style="list-style-type: none"> Inspect the TFT sensor and related wiring harness: vibration, intermittent open/short circuit. (See 05-17-15 TRANSAXLE FLUID TEMPERATURE (TFT) SENSOR INSPECTION [AW6A-EL, AW6AX-EL].) Is it normal? 	Yes Go to the next step.
		No Repair or replace part if necessary.
3	<ul style="list-style-type: none"> Perform the initial learning procedure. (See 05-03-22 Initial Learning.) Does symptom eliminate? 	Yes Troubleshooting is completed.
		No Go to the next step.
4	<ul style="list-style-type: none"> Is the line pressure normal? (See 05-17-3 MECHANICAL SYSTEM TEST [AW6A-EL, AW6AX-EL].) 	Yes Go to the next step.
		No Repair or replace any malfunctioning parts according to the inspection results.
5	<ul style="list-style-type: none"> Is stall speed normal? (See 05-17-3 MECHANICAL SYSTEM TEST [AW6A-EL, AW6AX-EL].) 	Yes Go to the next step.
		No Repair or replace any malfunctioning parts according to the inspection results.
6	<ul style="list-style-type: none"> Stop the engine. Inspect following solenoids. (See 05-17-25 SOLENOID VALVE INSPECTION [AW6A-EL, AW6AX-EL].) <ul style="list-style-type: none"> Line pressure control solenoid Shift solenoid C Shift solenoid E Are they normal? 	Yes Inspect the ATF condition. <ul style="list-style-type: none"> If a large amount of metal specks are found, replace the transaxle. (See 05-17-36 AUTOMATIC TRANSAXLE REMOVAL/INSTALLATION [AW6A-EL, AW6AX-EL].) If a large amount of metal specks are not found, replace the control valve body. (See 05-17-44 CONTROL VALVE BODY REMOVAL/INSTALLATION [AW6A-EL, AW6AX-EL].)
		No <ul style="list-style-type: none"> Replace the control valve body. (See 05-17-44 CONTROL VALVE BODY REMOVAL/INSTALLATION [AW6A-EL, AW6AX-EL].)
7	<ul style="list-style-type: none"> Verify test results. <ul style="list-style-type: none"> If normal, return to the diagnostic index to service any additional symptoms. If malfunction remains, inspect the related Service Bulletins and/or On-line Repair Information and perform repair or diagnosis. <ul style="list-style-type: none"> If the vehicle is repaired, troubleshooting completed. If the vehicle is not repaired or additional diagnostic information is not available, replace the TCM. 	

Initial Learning

Warning

- When performing initial learning, be aware of other vehicles, people, and other impediments in order to avoid an accident.

Note

- While self-learning control gradually reduces shock during normal driving, initial learning is performed to initially learn a certain amount of driving conditions.

1. Warm-up

- Increase the ATF temperature by leaving the vehicle idling or performing city driving. Verify that the ATF temperature is between 66—110 °C {151—230 °F}. If the ATF temperature is outside this range, work to bring it inside the range.

Caution

- Do not raise the ATF temperature by stalling the engine.

Note

- If the ATF temperature is not between 66—110 °C {151—230 °F}, initial learning cannot be performed. Before learning, inspect for variable shift shock.

2. Garage shift learning

- With the vehicle standing still, depress the brake pedal and keep the selector lever in N position for 3 s. Then, shift the selector lever from the N position into D range, and maintain in this condition for 3 s. Repeat this procedure 5 times. Then repeat it 5 times in the same way for R position.

- Gear shift control learning
 - In D range, with the accelerator opening between 25—30%, drive until you reach 6th gear and a vehicle speed of 80 km/h {50 mph} or higher. Then, release the accelerator pedal and coast, and bring the vehicle to a stop in at least 60 s. Repeat this procedure 10 times.
- Inspect learning results
 - Verify that variable speed shock and shift shock have decreased compared to the conditions before learning.

NO.18 EXCESSIVE SHIFT SHOCK IS GIVEN WHEN UPSHIFTING AND DOWNSHIFTING [AW6A-EL, AW6AX-EL]

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18	Excessive shift shock is given when upshifting and downshifting
DESCRIPTION	<ul style="list-style-type: none"> Excessive shift shock is felt when depressing the accelerator pedal at upshifting. During cruising, excessive shift shock is felt when depressing accelerator pedal at downshifting.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Shift shock may worsen when the fail-safe is operating. The shift shock may worsen if the accelerator pedal position sensor, APP sensor, input/turbine speed sensor, or VSS signal malfunctions. <ul style="list-style-type: none"> Clutch slippage, burnt (C1 clutch, C2 clutch, C3 clutch, B1 brake) <ul style="list-style-type: none"> Line pressure low, high Incorrect accelerator opening signal VSS malfunction Input/turbine speed sensor malfunction TFT sensor malfunction Shift solenoid C malfunction Shift solenoid D malfunction Shift solenoid E malfunction Line pressure control solenoid malfunction TCC control solenoid malfunction Shift solenoid F malfunction Body GND and sensor GND malfunction Control valve body malfunction Poor hydraulic operation (Malfunction in range change)

NO.19 EXCESSIVE SHIFT SHOCK ON TORQUE CONVERTER CLUTCH (TCC) [AW6A-EL, AW6AX-EL]

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19	Excessive shift shock on torque converter clutch (TCC)
DESCRIPTION	<ul style="list-style-type: none"> Strong shock is felt when the TCC is engaged.
POSSIBLE CAUSE	<ul style="list-style-type: none"> The troubleshooting flow is the same as No.16 "Judder upon torque converter clutch (TCC) operation".