

## Automatic Transmission

### DTC Troubleshooting (cont'd)

#### DTC P0730: Problem in Shift Control System

NOTE: Record all freeze data before you troubleshoot.

1. 1. Check whether the OBD scan tool, PGM Tester or **D** indicator light indicates another code.  
*Does the OBD scan tool, PGM Tester or D.gif indicator light indicate another code?*  
YES - Perform the troubleshooting Flowchart for the indicated Code(s). Recheck for code P0730 after troubleshooting. ■  
NO - Go to step 2.  
NOTE: Do not continue with this troubleshooting until the causes of any other DTCs have been corrected.
2. 2. Measure the 1st, 2nd, 3rd and 4th clutch pressure (see page [14-114](#)).  
*Is each clutch pressure within the service limit?*  
YES - Go to step 3.  
NO - Repair the hydraulic system as necessary. ■
3. 3. Replace the shift solenoid valves A and B (see page [14-117](#)).  
4. Replace the A/T clutch pressure control solenoid valves A and B (see page [14-119](#)).

1. 5. Turn the ignition switch OFF and reset the PCM memory by removing No.6 ECU (PCM) fuse in the under-hood fuse/relay box for more than 10 seconds.
2. 6. Warm up the engine to normal operating temperature (the radiator fan comes on). If a scan tool or the PGM Tester is available, check to be sure that the engine coolant temperature is 176°F (80 dig C) or above using the scan tool or the PGM Tester.
7. Drive the vehicle at speeds over 12 mph (20 km/h) in 1st, 2nd, 3rd and 4th gears in **D** position for more than 30 seconds.
8. Recheck for code P0730, 41-1, or 41.  
*Does the code P0730, 41-1, or 41 return?*  
YES - Overhaul the transmission. ■  
NO - The system is OK at this time. ■

## Automatic Transmission Road Test (cont'd)

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1. 7. Accelerate to about 35 mph (57 km/h) so the transmission is in 4th, then shift from **D** position to **2** position. The vehicle should immediately begin slowing down from engine braking.
2. 8. Check for abnormal noise and clutch slippage in the following positions.
  - 1** (1st Gear) Position (7-position)
    - Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
    - Upshifts should not occur with the shift lever in this position.
  - 2** (2nd Gear) Position
    - Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
    - Upshifts and downshifts should not occur with the shift lever in this position.
  - R** (Reverse) Position
    - Accelerate from a stop at full throttle and check for abnormal noise and clutch slippage.
3. 9. Test in **P** (Parking) Position.

Park the vehicle on a slope (about 16°), apply the parking brake and shift into **P** position. Release the brake; the vehicle should not move.

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### Stall Speed Test

1. 1. Set the parking brake and block the front wheels.
2. 2. Connect a tachometer to the engine and start the engine.
3. 3. Make sure the A/C switch is OFF.
4. 4. After the engine has warmed up to normal operating temperature (the radiator fan comes on), shift to 2.gif position.
5. 5. Fully press the brake pedal and accelerator for 6 to 8 seconds and note engine speed. Do not move the shift lever while raising engine speed.
6. 6. Allow 2 minutes for cooling, then repeat the test in **D**, **1** and **R** positions.

#### NOTE:

- Do not test stall speed for more than 10 seconds at a time.
- Stall speed tests should be used for diagnostic purposes only.
- Stall speed should be the same in **D**, **2**, **1** and **R** positions.
- Do not test stall speed with the A/T pressure gauges installed.
- **1** position is applied to 7-position transmission.

#### Stall Speed rpm:

D14Z5 engine:

Specification: 2,550 rpm (min<sup>-1</sup>)

Service Limit: 2,400-2,700 rpm (min<sup>-1</sup>)

D15Y2, D15Y3, D15Y5 and D15Y6 engines:

Specification: 2,650 rpm (min<sup>-1</sup>)

Service Limit: 2,500-2,800 rpm (min<sup>-1</sup>)

D16W7, D16W8, D16V2, D17A1, D17A2, D17A3, D17A4, D17A5 and D17Z1 engines:

Specification: 2,800 rpm (min<sup>-1</sup>)

Service Limit: 2,650-2,950 rpm (min<sup>-1</sup>)

1. 7. If the measurements are out of the service limit, problems and probable causes are listed in the table below:

Problem	Probable cause
Stall speed rpm high in <b>D</b> , <b>2</b> , <b>1</b> and <b>R</b> positions	<ul style="list-style-type: none"> <li>• Low fluid level or ATF pump output low</li> <li>• Clogged ATF strainer</li> <li>• Pressure regulator valve stuck closed</li> <li>• Slipping clutch</li> </ul>
Stall speed rpm high in <b>1</b> position	Slippage of 1st clutch
Stall speed rpm high in <b>2</b> position	Slippage of 2nd clutch
Stall speed rpm high in <b>R</b> position	Slippage of 4th clutch
Stall speed rpm low in <b>D</b> , <b>2</b> , <b>1</b> and <b>R</b> positions	<ul style="list-style-type: none"> <li>• Engine output low</li> <li>• Torque converter one-way clutch slipping</li> </ul>

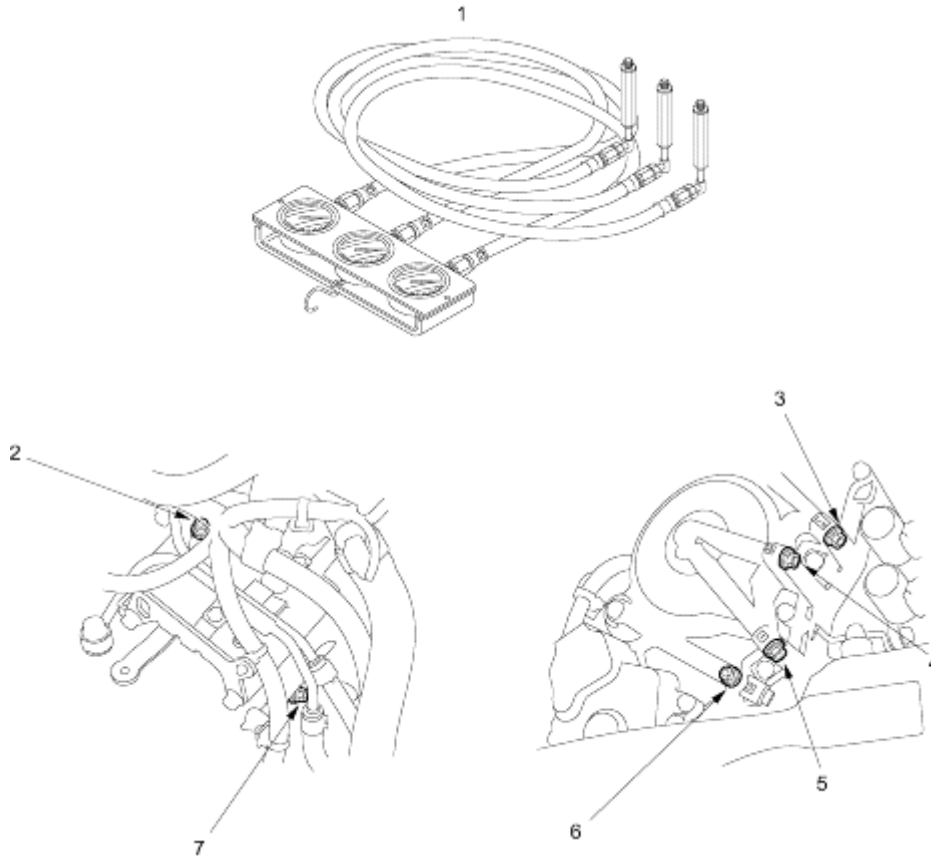
## Automatic Transmission Pressure Tests

### Special Tools Required

A/T oil pressure gauge set, 07406-0020004

1.
  1. Before testing, be sure the transmission fluid is filled to the proper level.
  2. Raise the front of the vehicle and make sure it is securely supported.
  3. Set the parking brake and block rear wheels securely.
  4. Allow the front wheels to rotate freely.
  5. Warm up the engine (the radiator fan comes on), then stop it and connect the tachometer.
  6. Connect the oil pressure gauges to each inspection hole and do not allow dust or other foreign particles to enter the holes while connecting the gauges.

TORQUE: 18 Nm (1.8 kgf/m, 13 lbf/ft)



1. A/T OIL PRESSURE GAUGE SET  
07406-0020004
2. A  
LINE PRESSURE INSPECTION  
HOLE
3. F  
1ST-HOLD CLUTCH PRESSURE  
INSPECTION HOLE  
(7-position transmission)
4. E  
4TH CLUTCH PRESSURE  
INSPECTION HOLE
5. B  
1ST CLUTCH PRESSURE  
INSPECTION HOLE
6. D  
3RD CLUTCH PRESSURE  
INSPECTION HOLE
7. C  
2ND CLUTCH PRESSURE  
INSPECTION HOLE

## Automatic Transmission

### Pressure Test (cont'd)

1. 7. Start the engine and run it at 2,000 rpm ( $\text{min}^{-1}$ )
8. Shift to **N** or **P** position and measure line pressure at the line pressure inspection hole (A).  
NOTE: Higher pressure may be indicated if measurements are made in shift lever positions other than N.gif or **P**
9. Shift to **D** position and measure 1st clutch pressure at the 1st clutch pressure inspection hole (B).
10. Shift to **2** position and measure 2nd clutch pressure at the 2nd clutch pressure inspection hole (C).
11. Shift to **D3** position and measure 3rd clutch pressure at the 3rd clutch pressure inspection hole (D).
12. Shift to **D** position and measure 4th clutch pressure at the 4th clutch pressure inspection hole (E).
13. Shift to **R** position and measure 4th clutch pressure at the 4th clutch pressure inspection hole (E).

14. For 7-position transmission; shift to **1** position and measure 1st-hold clutch pressure at the 1st-hold clutch pressure inspection hole (F).

PRESSURE	SHIFT LEVER POSITION	SYMPTOM	PROBABLE CAUSE	FLUID PRESSURE	
				Standard	Service Limit
Line (A)	<b>N</b> or <b>P</b>	No (or low) line pressure	Torque converter, ATF pump, pressure regulator valve, torque converter check valve	880-930 kPa (9.0-9.5 kgf/cm <sup>2</sup> , 130-140 psi)	830 kPa (8.5 kgf/cm <sup>2</sup> , 120 psi)
1st clutch (B)	<b>D</b>	No or low 1st clutch pressure	1st clutch		
2nd clutch (C)	<b>2</b>	No or low 2nd clutch pressure	2nd clutch	850-900 kPa (8.7-9.2 kgf/cm <sup>2</sup> , 120-130 psi)	800 kPa (8.2 kgf/cm <sup>2</sup> , 120 psi)
3rd clutch (D)	<b>D3</b>	No or low 3rd clutch pressure	3rd clutch		
4th clutch (E)	<b>D</b>	No or low 4th clutch pressure	4th clutch		
	<b>R</b>		Servo valve or 4th clutch		
1st-hold clutch (F) (7-position)	<b>1</b>	No or low 1st-hold clutch pressure	1st-hold clutch	880-930 kPa (9.0-9.5 kgf/cm <sup>2</sup> , 130-140 psi)	830 kPa (8.5 kgf/cm <sup>2</sup> , 120 psi)

15. Install the sealing bolt with a new sealing washers and tighten the bolts to the specified torque.

TORQUE: 18 Nm (1.8 kgf/m, 13 lbf/ft)

NOTE: Do not reuse old sealing washers.

## Automatic Transmission

## Torque Converter Clutch Solenoid Valve Test

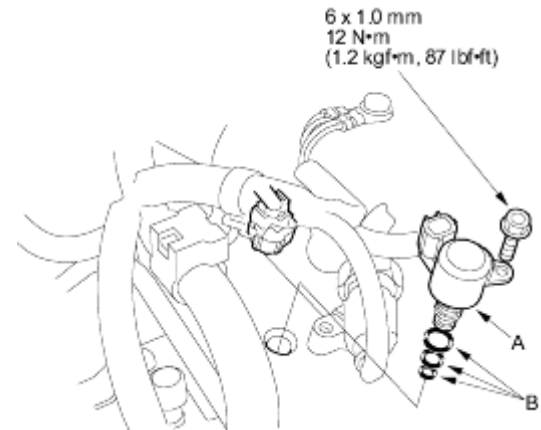
## 14-116 Torque Converter Clutch Solenoid Valve Replacement

1. 1. Disconnect the torque converter clutch solenoid valve connector.



2. 2. Measure the resistance between the No. 1 and No. 2 terminals of the torque converter solenoid valve connector.  
STANDARD: 12-25 ohm;
3. 3. Replace the torque converter clutch solenoid valve if the resistance is out of standard.
4. 4. If the resistance is within the standard, connect the No. 2 terminal to the battery positive terminal and connect the No. 1 terminal to the battery negative terminal. A clicking sound should be heard. Replace the torque converter clutch solenoid valve if no sound is heard when connecting the battery positive terminal.

1. 1. Remove the mounting bolt and the torque converter clutch solenoid valve (A).

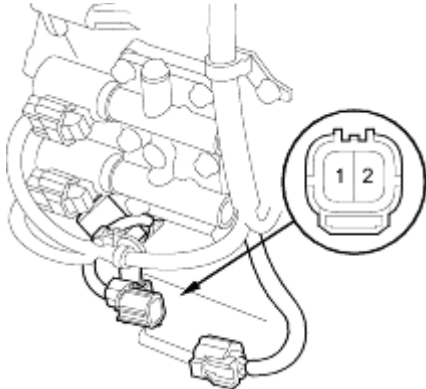


2. 2. Install a new torque converter clutch solenoid valve with new O-rings (B). While installing the valve, do not allow dust or other foreign particles to enter the transmission.
3. 3. Check the connector for rust, dirt, or oil, then connect the connector securely.

## Automatic Transmission

### Shift Solenoid Valves A and B Test

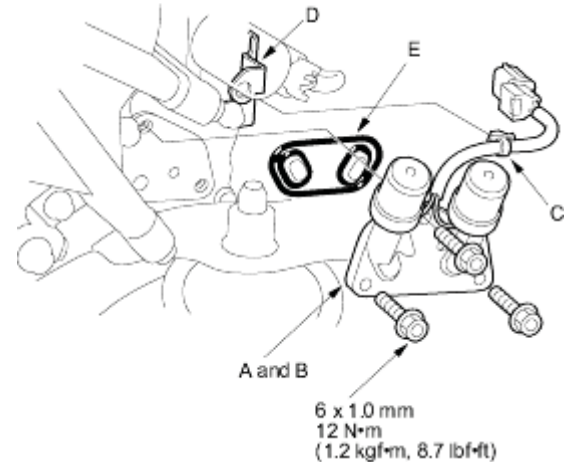
1. 1. Disconnect the shift solenoid valves A and B connector.



2. 2. Measure shift solenoid valve A resistance between the No. 1 terminal of the shift solenoid valves A and B connector and body ground and measure shift solenoid valve B resistance between the No. 2 terminal and body ground.  
STANDARD: 12-25 ohm;
3. Replace the shift solenoid valves A and B if either resistance is out of standard.
4. If the resistance is within the standard, connect the No. 1 terminal of the shift solenoid valve A to the battery positive terminal. A clicking sound should be heard. Connect the No. 2 terminal to the battery positive terminal. A clicking sound should be heard. Replace the shift solenoid valves A and B if no clicking sound is heard when either terminal is connected to the battery terminal.

NOTE: Shift solenoid valves A and B must be removed/replaced as an assembly.

1. 1. Remove the harness clamp (C) from the clamp bracket (D).
2. Remove the mounting bolts and the shift solenoid valves A and B.

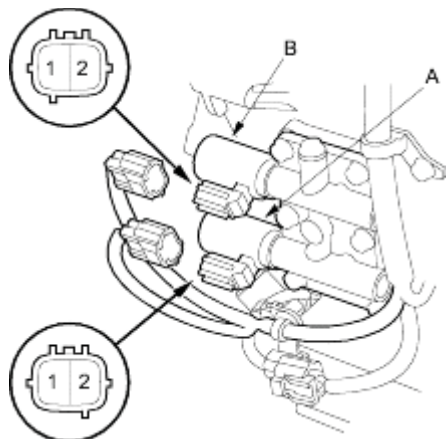


2. 3. Clean the mounting surface and fluid passage.
4. Install new shift solenoid valves A and B with a new filter/gasket (E) and install the harness clamp on the clamp bracket.
5. Check the connector for rust, dirt, or oil, then reconnect the connector securely.

## Automatic Transmission

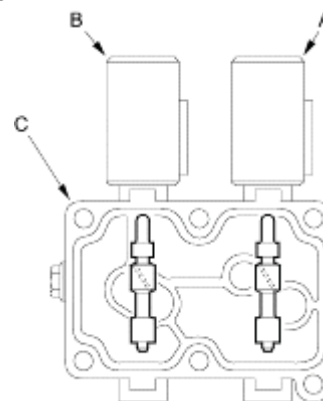
## A/T Clutch Pressure Control Solenoid Valves A and B Test

1. 1. Disconnect the connectors from the A/T clutch pressure control solenoid valves A and B.



2. 2. Measure the resistance of the A/T clutch pressure control solenoid valves A and B between the No. 1 and No. 2 terminals of each connector.  
STANDARD: About 5.0 ohm;
3. 3. If the resistance of either A/T clutch pressure control solenoid is out of standard, replace the A/T clutch pressure control solenoid valves A and B.
4. 4. Connect the No. 1 terminal of the A/T clutch pressure control solenoid valve A (and B) to the battery positive terminal and connect the No. 2 terminal to the battery negative terminal. A clicking sound should be heard.
5. 5. If no sound is heard, remove the A/T clutch pressure control solenoid valves A and B.

1. 6. Check the fluid passage of the A/T clutch pressure control solenoid valve for dust and dirt.
2. 7. Connect the No. 1 terminal of the A/T clutch pressure control solenoid valves A and B to the battery positive terminal and connect the No. 2 terminal to the battery negative terminal. Make sure the A/T clutch pressure control solenoid valves A and B move.



3. 8. Disconnect one of the battery terminal and check valve movement.

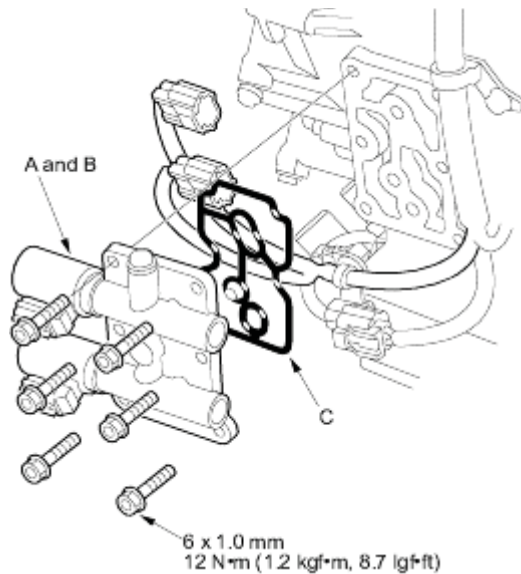
NOTE: You can see valve movement through the fluid passage in the mounting surface of the A/T clutch pressure control solenoid valves A and B body (C).

4. 9. If either valve binds or moves sluggishly, or if the A/T clutch pressure control solenoid does not operate, replace the A/T clutch pressure control solenoid valves A and B.

## Automatic Transmission

## A/T Clutch Pressure Control Solenoid Valves A and B Replacement

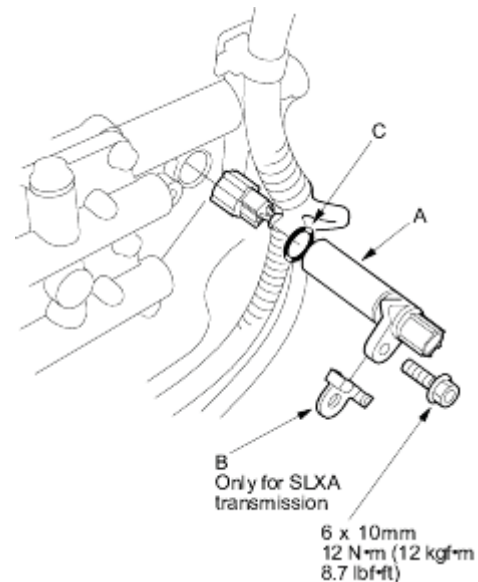
1. 1. Remove the mounting bolts and the A/T clutch pressure control solenoid valves A and B.



2. 2. Clean the mounting surface and fluid passage of the A/T clutch pressure control solenoid valves A and B and the transmission housing.
3. 3. Install the new filter/gasket (C) in the solenoid valve assembly body groove.
4. 4. Install the new A/T clutch pressure control solenoid valves A and B. Do not pinch the filter/gasket.
5. 5. Check the A/T clutch pressure control solenoid valve connectors for rust, dirt, or oil, then connect them securely.

1. 1. Disconnect the mainshaft speed sensor connector.
2. 2. Remove the mainshaft speed sensor (A) and sensor washer (B).

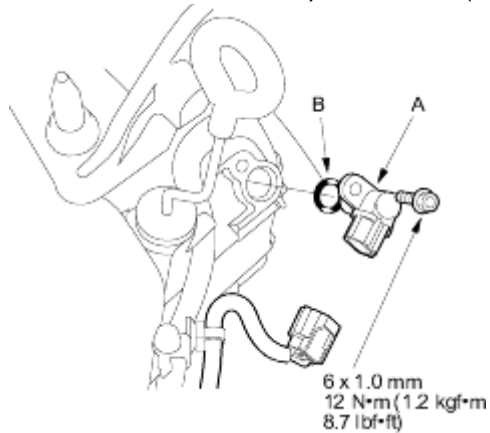
NOTE: The mainshaft speed sensor washer is equipped on the SLXA transmission; the BMXA transmission does not have it.



3. 3. Install the new mainshaft speed sensor with the new O-ring (C) and mainshaft speed sensor washer (SLXA transmission).
4. 4. Check the mainshaft speed sensor connector for rust, dirt, or oil, then connect the connector securely.

## Automatic Transmission Countershaft Speed Sensor Replacement

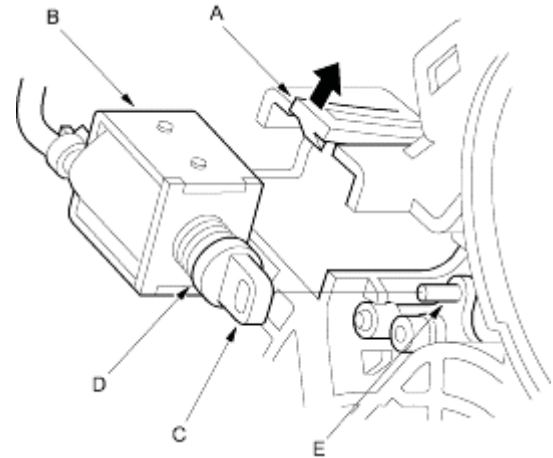
1. 1. Disconnect the countershaft speed sensor connector.
2. 2. Remove the countershaft speed sensor (A).



3. 3. Install the new countershaft speed sensor with the new O-ring (B).
4. 4. Check the countershaft speed sensor connector for rust, dirt, or oil, then connect the connector securely.

### 5-door Model

1. 1. Remove the shift lever assembly (see page [14-138](#)).
2. 2. Remove the D3 switch and A/T gear position indicator panel light socket, then remove the indicator light bulb from the socket.
3. 3. Pull the lock tab (A) up, then remove the shift lock solenoid (B).



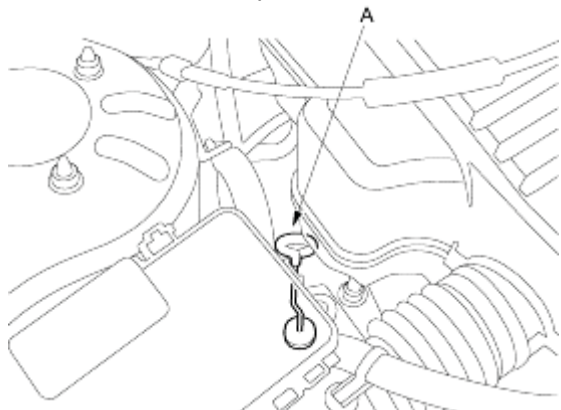
2. 4. Install the shift lock solenoid plunger (C) and plunger spring (D) in the new shift lock solenoid.
5. 5. Install the shift lock solenoid by aligning the joint of the shift lock solenoid plunger with the tip (E) of the shift lock/reverse lock stop.
6. 6. Install the D3 switch in the shift lever bracket base (see page [14-144](#)).
7. 7. Install the A/T gear position indicator panel light bulb in the socket, then install the indicator panel light socket in the indicator panel.
8. 8. Install the shift lever assembly (see page [14-141](#)).

## Automatic Transmission

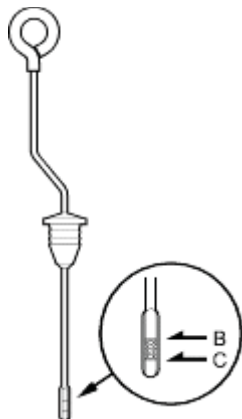
## ATF Level Check

NOTE: Keep all foreign particles out of the transmission.

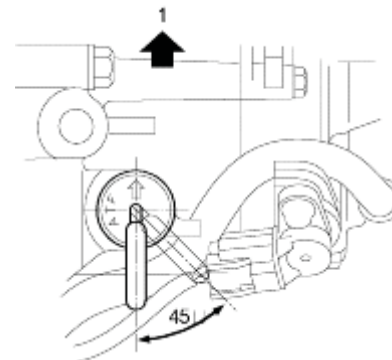
1. 1. Warm up the engine to normal operating temperature (the radiator fan comes on).
2. Park the vehicle on level ground and turn the engine off.
3. Remove the dipstick (yellow loop) (A) from the transmission and wipe it with a clean cloth.



2. 4. Insert the dipstick into the transmission.
5. Remove the dipstick and check the fluid level. It should be between the upper mark (B) and lower mark (C).



1. 6. If the level is below the lower mark, pour the recommended fluid into the dipstick hole to bring it to the upper mark. Always use genuine Honda ATF-Z1 Automatic Transmission Fluid (ATF). Using a non-Honda ATF can affect shift quality.
2. 7. Insert the dipstick back into the transmission in the direction shown.

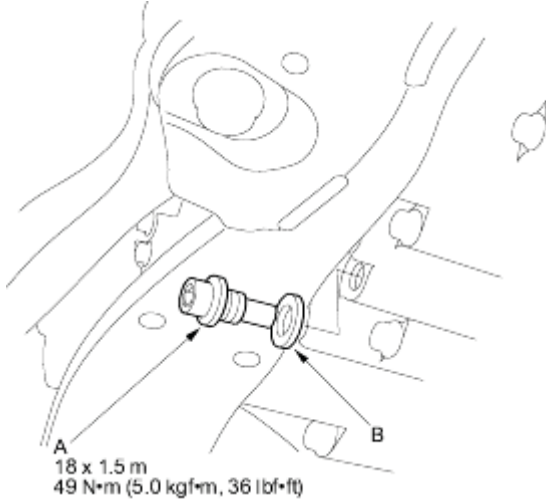


3. 1. Front

## Automatic Transmission ATF Replacement

NOTE: Keep all foreign particles out of the transmission.

1. Bring the transmission up to operating temperature (the radiator fan comes on) by driving the vehicle.
2. Park the vehicle on level ground and turn the engine off.
3. Remove the drain plug (A) and drain the automatic transmission fluid (ATF).



4. Reinstall the drain plug with a new sealing washer (B).
5. Refill transmission with the recommended fluid into dipstick hole to the upper mark on the dipstick. Always use genuine Honda ATF-Z1 Automatic Transmission Fluid (ATF). Using a non-Honda ATF can affect shift quality.

Automatic Transmission Fluid Capacity:  
2.7 l (2.9 US qt, 2.4 Imp qt) at change  
6.0 l (6.3 US qt, 5.3 Imp qt) at overhaul