

A/T Fluid Change

S7RS0B5106003

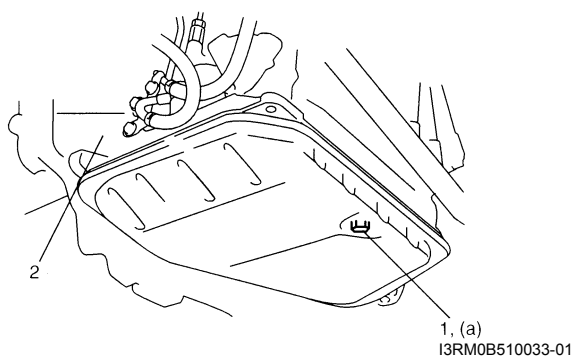
⚠ CAUTION

Do not use any fluid other than the specified ATF. Use of any fluid other than the specified ATF may cause juddering or some other faulty condition to occur.

- 1) Lift up vehicle.
- 2) When engine is cool, remove drain plug (1) from transaxle housing (2) and drain A/T fluid.
- 3) Install drain plug (1).

Tightening torque

A/T fluid drain plug (a): 17 N·m (1.7 kgf-m, 12.5 lb-ft)



- 4) Lower vehicle and pour proper amount of SUZUKI ATF 3317 or Mobil ATF 3309.
- 5) Check fluid level referring to "A/T Fluid Level Check".

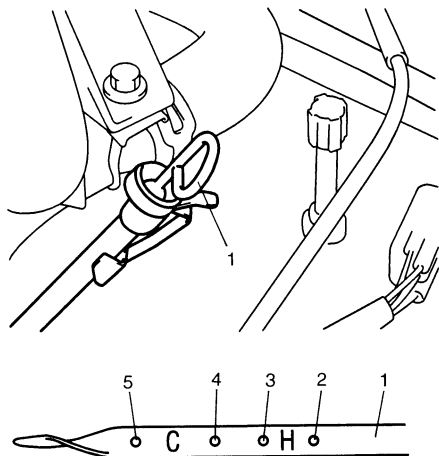
Automatic transaxle fluid

: SUZUKI ATF 3317 or Mobil ATF 3309

Automatic transaxle fluid capacity

When draining from drain plug hole: 3.3 liters (6.97 / 5.81 US/Imp. pt.)

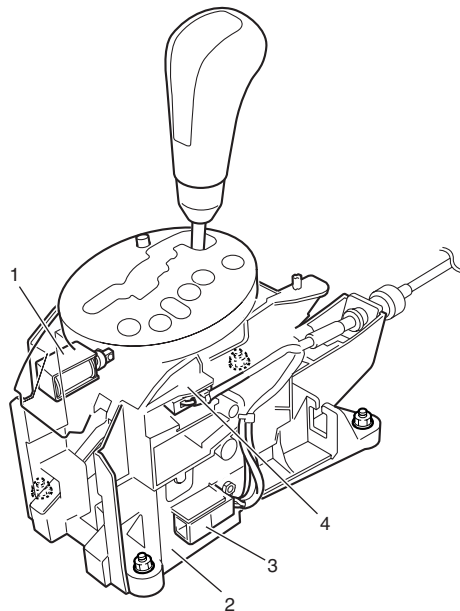
When overhauling: 5.6 liters (11.83 / 9.86 US/Imp. pt.)



1. Fluid level gauge	3. "LOW HOT" mark	5. "LOW COLD" mark
2. "FULL HOT" mark	4. "FULL COLD" mark	

Select Lever Components

S7RS0B5106004



I4RS0A510052-01

1. Shift lock solenoid	3. Connector
2. Select lever assembly	4. "3" position switch

Select Lever Assembly Removal and Installation

S7RS0B5106005

Remove and install select lever referring to "Select Lever Components." When installing select lever noting the following.

- After installing select lever, adjust select cable referring to "Select Cable Adjustment".

Select Lever Knob Installation

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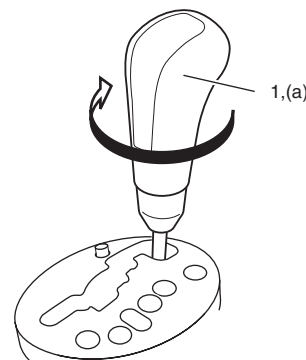
Screw select lever knob onto select lever by specified numbers of rotation below.

Rotation numbers for select lever knob installation

(a): 11 – 12 rotations

⚠ CAUTION

When installing select lever knob, do not turn more than specified numbers of rotation. Otherwise select lever knob is damaged.



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Select Lever Inspection

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Check select lever for smooth and clear-cut movement individually. If a malfunction is found, replace select lever assembly.

"3" Position Switch Inspection

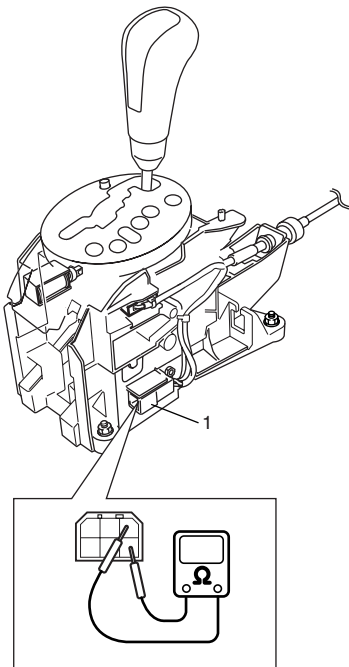
S7RS0B5106008

- 1) Remove console box referring to "Console Box Components in Section 9H".
- 2) Disconnect "3" position switch connector (1).
- 3) Check continuity between "3" position switch terminals.

"3" position switch specification

Shift select lever to "3" or "2" range: Continuity

Shift other above range: No continuity

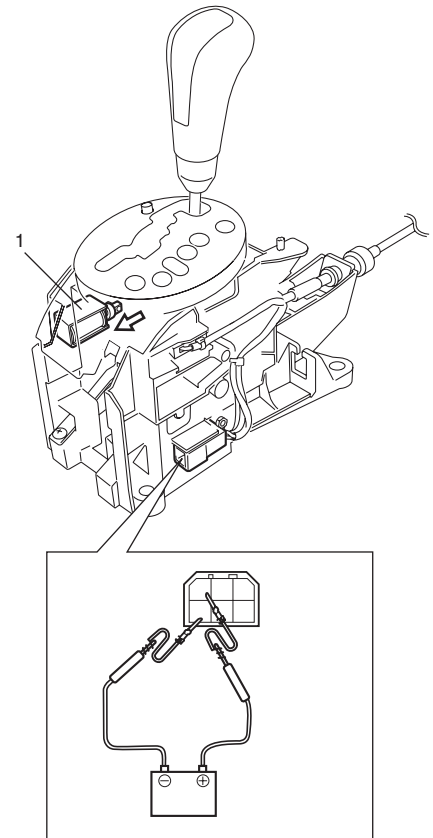


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Shift Lock Solenoid Inspection

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Check that shift lock solenoid rod (1) moves smoothly when battery voltage is conducted and it moves back. If solenoid rod does not move smoothly, replace.

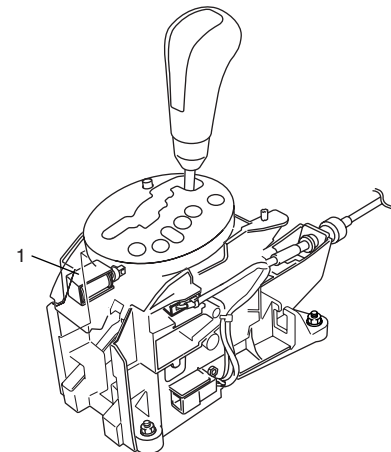


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Shift Lock Solenoid Replacement

S7RS0B5106010

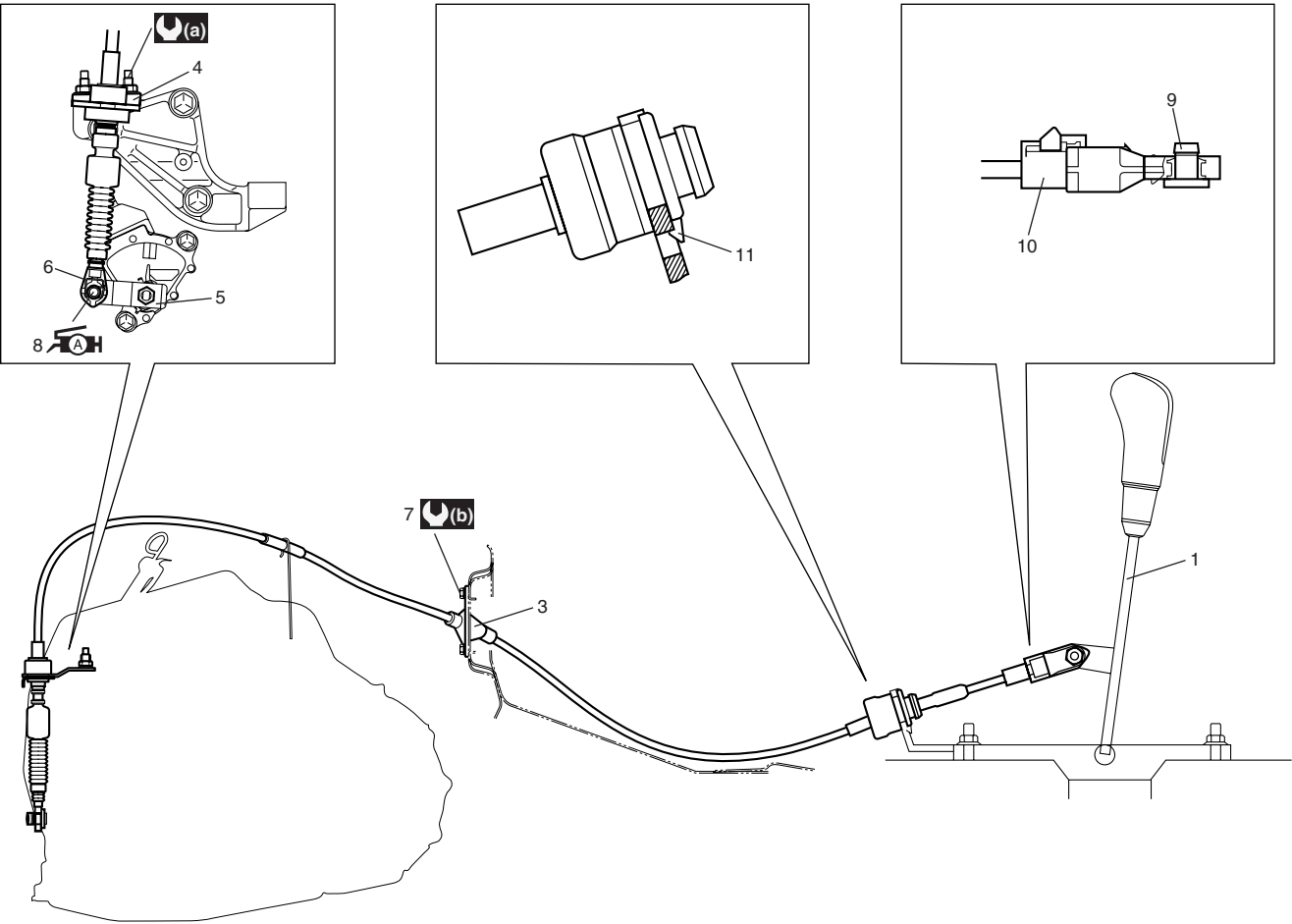
- 1) Remove console box referring to "Console Box Components in Section 9H".
- 2) Replace shift lock solenoid (1) using flat head or like.
- 3) Install covers as they were.



I4RS0A510053-01

Select Cable Components

S7RS0B5106011



I4RS0A510025-01

1. Select lever assembly	6. Clip	11. Lock
2. Select cable	7. Select cable retainer bolt	(a) : 23 N·m (2.0 kgf-m, 17.0 lb-ft)
3. Select cable retainer	(AH) 8. Manual select lever pin : Apply lithium grease 99000-25011 to all around pin (0.15 g)	(b) : 5.0 N·m (0.55 kgf-m, 4.0 lb-ft)
4. Cable bracket	(AH) 9. Select lever pin : Apply lithium grease 99000-25011 to all around pin (0.15 g)	
5. Manual select lever	10. Adjuster case	

Select Cable Removal and Installation

S7RS0B5106012

Removal

- 1) Remove parking brake lever cover.
- 2) Remove console box.
- 3) Disconnect select cable from select lever and then detach from bracket.
- 4) Remove clip and disconnect select cable from manual select lever.
- 5) Remove select cable retainer from dash panel.

Installation

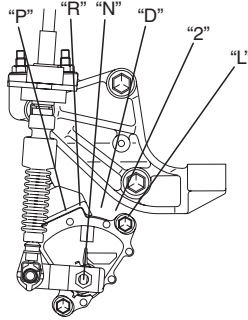
Install select cable by reversing removal procedure. The important steps in installation are as follows.

- Apply grease to pin and cable joint.
- Tighten bolts to specified torque referring to “Select Cable Components”.
- Adjusting procedure is as follows. Refer to “Select Cable Adjustment”.

Select Cable Adjustment

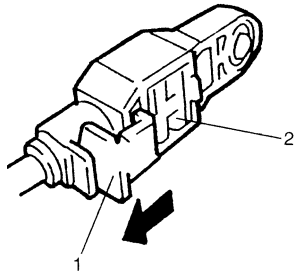
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- 1) Shift manual shift lever to "N" range (transmission range sensor "N" range).



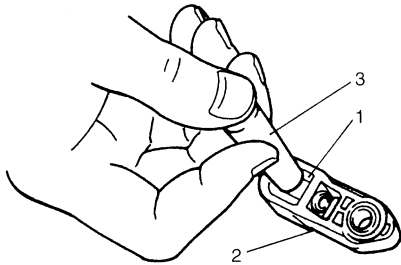
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- 2) Remove adjuster (cable end) from select lever pin of select lever assembly.
- 3) Release lock plate (1) which restrict moving of cable end holder (2).



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- 4) Push cable end holder (1) out from eye-end (2) using an appropriate tool (3) to disengage cable.

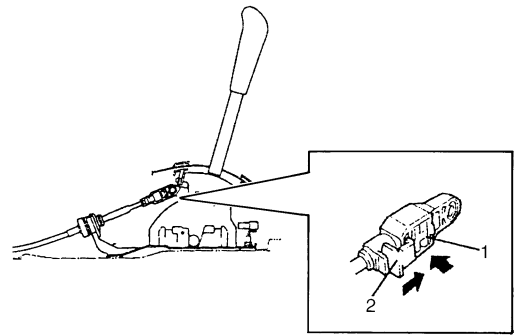


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- 5) Shift select lever to "N" position.
- 6) Apply grease to select lever pin and install adjuster (cable end) to it.

: Grease 99000-25011 (SUZUKI Super Grease A)

- 7) With both select lever and transmission range sensor kept each "N" position, drive cable end holder (1) in until it locks cable.
- 8) Slide lock plate (2) to secure cable end holder in position.



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- 9) After select cable was installed, check for the following.

- Push vehicle with select lever shifted to "P" range. Vehicle should not move.
- Vehicle can not be driven in "N" range.
- Vehicle can be driven in "D", "3", "2" and "L" ranges.
- Vehicle can be backed in "R" range.

Key Interlock Cable Removal and Installation

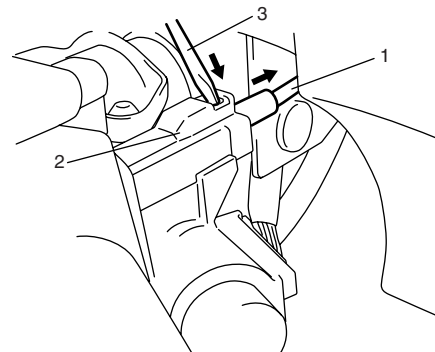
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NOTE

Don't bend interlock cable excessively when removing and installing it, or system will not operate correctly.

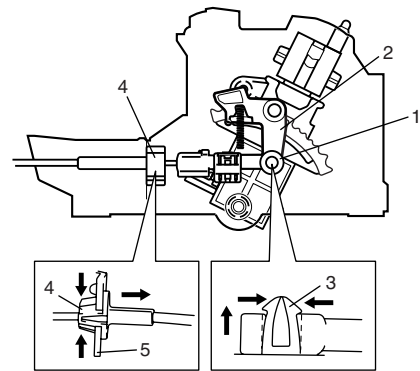
Removal

- 1) If the vehicle is equipped with air bag system, disconnect negative cable at battery and disable air bag system, referring to "Disabling Air Bag System in Section 8B".
- 2) Remove steering column cover.
- 3) Turn ignition switch to ACC position.
- 4) Pull out key interlock cable (1) from key cylinder cover (2) while pressing check hook with slotted screwdriver (3) or the like.



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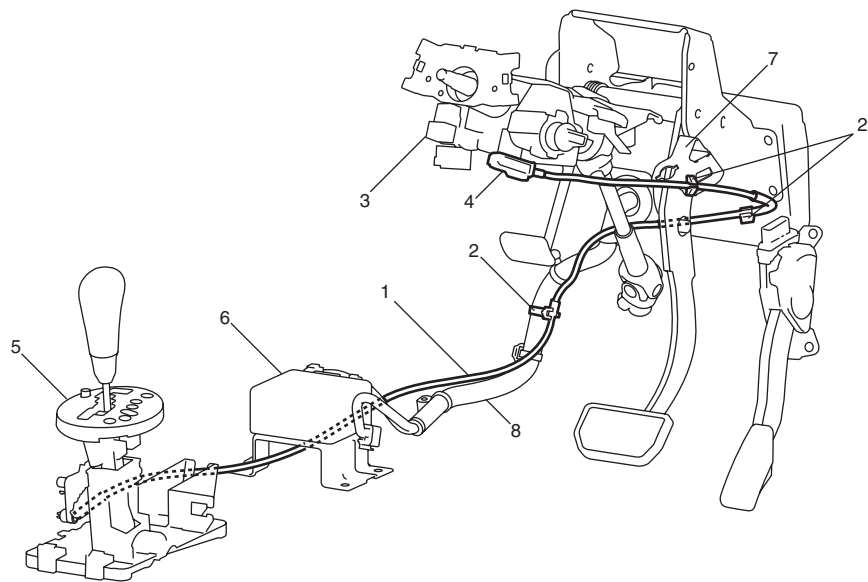
- 5) Turn ignition switch to LOCK position.
- 6) Remove parking brake cover and console box.
- 7) Detach cable end (1) from interlock cam (2) while pressing claws (3) of interlock cam boss. At this time, be careful not to cause damage to its claws.
- Detach cable casing cap (4) from selector bracket (5) while pressing check hook.
- 8) Remove interlock cable.



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Installation

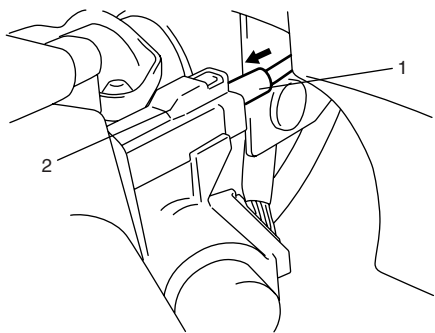
- 1) Lay interlock cable to its original cabling route.



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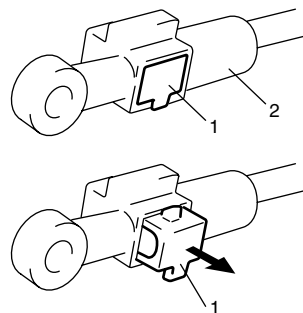
1. Key interlock cable	4. Key cylinder cover	7. Brake switch bracket
2. Clamp	5. Select lever assembly	8. Wiring harness
3. Steering lock assembly / Steering lock unit (Keyless start model)	6. EPS control module	9. Marking

- 2) Turn ignition switch to ACC position.
- 3) Insert cable casing cap (1) into key cylinder cover (2) securely.



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- 4) Pull out lock button (1) of selector side cable end (2).



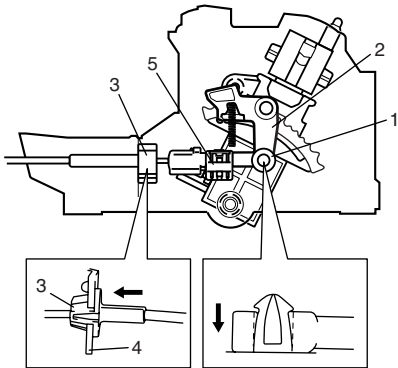
I2RH01510086-01

- 5) Shift select lever to "N" position.

NOTE

If select lever is in "P" position, shift select lever referring to "Select Lever Inspection".

- 6) Install cable casing cap (3) to selector bracket (4).
 7) Connect cable end (1) to interlock cam (2) with ignition switch turned to ACC position.
 8) Drive lock button (5) in cable end until it locks cable expansion and contraction.



I4RS0A510055-01

- 9) With select lever set at "P" position, turn ignition key to ACC position and then check for the following conditions.
- With knob button released, ignition key can be turned from ACC position to LOCK position.
 - With knob button pressed, ignition key cannot be turned from ACC position to LOCK position.
- 10) Install steering column cover.
 11) If the vehicle is equipped with air bag system, connect negative cable at battery and enable air bag system, referring to "Enabling Air Bag System in Section 8B".

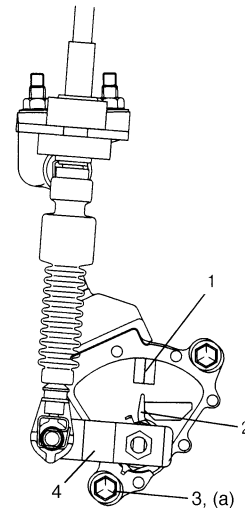
Transmission Range Sensor (Shift Switch) Inspection and Adjustment

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- 1) Shift manual select lever (4) to "N" range.
 2) Check that needle direction shaped on lock washer (2) and "N" reference line (1) on transmission range sensor are aligned. If not, loosen sensor bolts (3) and align them.

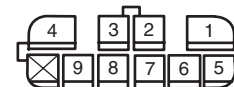
Tightening torque

Transmission range sensor bolt (a): 5.5 N·m (0.55 kgf-m, 4.0 lb-ft)



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- 3) Check that engine starts in "N" and "P" ranges but it doesn't start in "D", "2", "L" or "R" range. Also, check that back-up lamp lights in "R" range.
 If faulty condition cannot be corrected by adjustment, disconnect transmission range sensor connector and check that continuity exists as shown by moving manual select lever.



		Terminal No.								
		1	2	3	4	5	6	7	8	9
Sensor Position	P	○			○			○		○
	R							○	○	
	N	○			○	○		○		
	D			○				○		
	2						○	○		
	L	○						○		

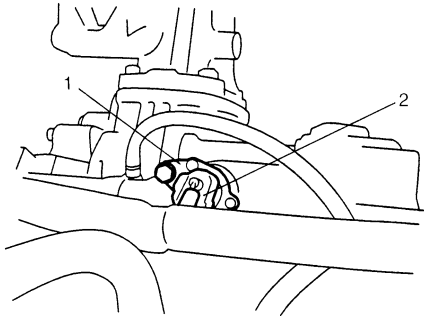
I3RM0B510039-01

Output Shaft Speed Sensor Removal and Installation

S7RS0B5106016

Removal

- 1) Disconnect negative cable at battery.
- 2) Disconnect output shaft speed sensor connector (2).
- 3) Remove output shaft speed sensor (1) by removing its bolt.



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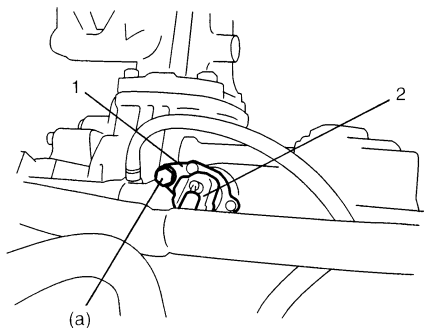
Installation

- 1) Apply A/T fluid to output shaft speed sensor O-ring.
- 2) Install output shaft speed sensor (1) to A/T case and tighten bolt to specified torque.

Tightening torque

Output shaft speed sensor bolt (a): 13 N·m (1.3 kgf-m, 9.5 lb-ft)

- 3) Connect output shaft speed sensor connector (2) to output shaft speed sensor (1).



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- 4) Connect negative cable to battery.

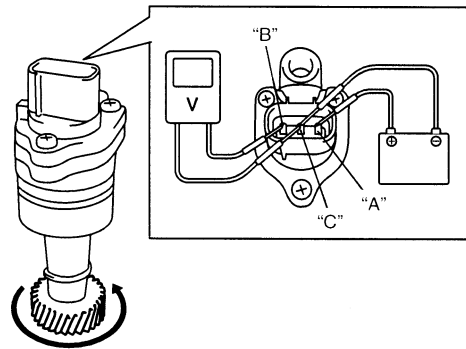
Output Shaft Speed Sensor Inspection

S7RS0B5106017

- 1) Connect positive cable of 12 volt battery to "A" terminal of sensor and ground cable to "C" terminal. Then using voltmeter, check voltage between "B" terminal and "C" terminal with output shaft speed sensor driven gear rotated. If measured voltage (pulse signal) is not as specified, replace sensor.

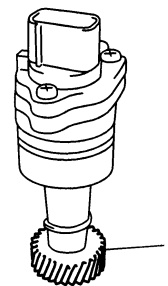
Output shaft speed sensor output voltage

Pulse signal of alternating 0 – 1 V and 10 – 14 V



I2RH0B510045-01

- 2) Check output shaft speed sensor driven gear (1) for wear. Replace if necessary.



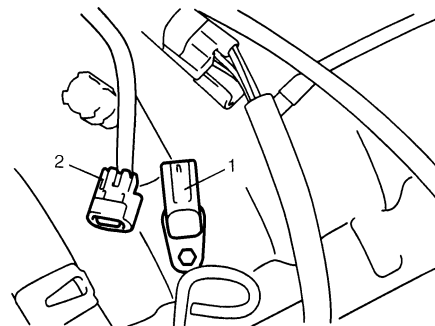
I2RH0B510046-01

Input Shaft Speed Sensor Removal and Installation

S7RS0B5106018

Removal

- 1) Disconnect negative cable at battery.
- 2) Disconnect input shaft speed sensor connector (2).
- 3) Remove input shaft speed sensor (1) by removing its bolt.



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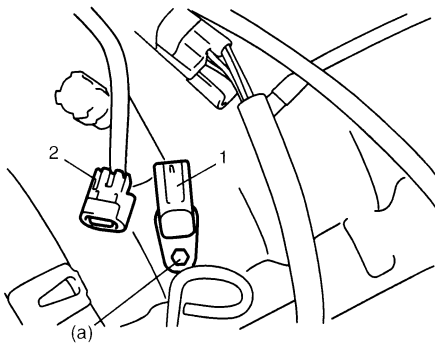
Installation

- 1) Apply A/T fluid to input shaft speed sensor O-ring.
- 2) Install input shaft speed sensor (1) to A/T case and tighten bolt to specified torque.

Tightening torque

Input shaft speed sensor bolt (a): 5.5 N·m (0.55 kgf-m, 4.0 lb-ft)

- 3) Connect input shaft speed sensor connector (2) to input shaft speed sensor (1).



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- 4) Connect negative cable to battery.

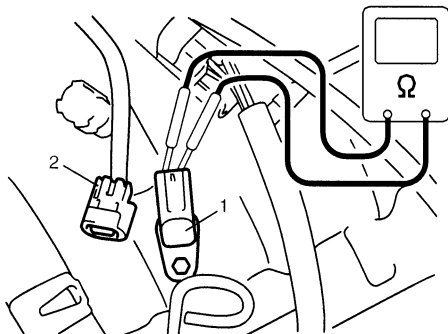
Input Shaft Speed Sensor Inspection

S7RS0B5106019

- 1) Disconnect negative cable at battery.
- 2) Disconnect input shaft speed sensor connector (2).
- 3) Check resistance between input shaft speed sensor (1) terminals.

Input shaft speed sensor resistance

Standard: 560 – 680 Ω at 20 °C (68 °F)



I2RH0B510049-01

Transmission Fluid Temperature Sensor Removal and Installation

S7RS0B5106020

Removal

- 1) Disconnect negative cable at battery.
- 2) Lift up vehicle.
- 3) With engine is cool, remove drain plug and drain A/T fluid.
- 4) Install drain plug. Refer to "A/T Fluid Change".
- 5) Remove A/T oil pan.
- 6) Remove oil strainer assembly.

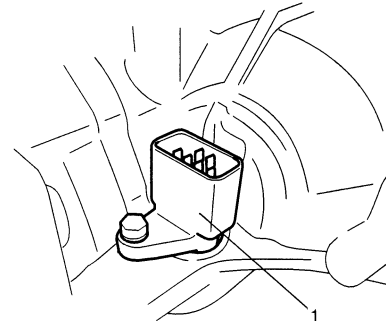
- 7) Remove valve body assembly referring to "Automatic Transaxle Unit Disassembly".

⚠ CAUTION

When pulling solenoid wire harness out of transaxle case, take care not to damage transmission fluid temperature sensor at narrow exit of case.

Careless sensor treatment might cause sensor malfunction.

- 8) Remove solenoid wire harness (1).



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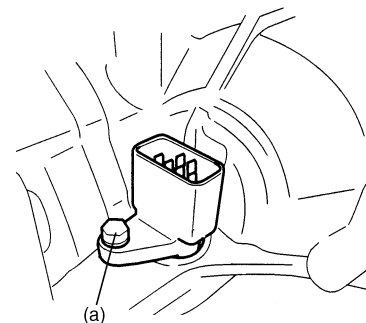
Installation

Reverse removal procedure to install solenoid wire harness and valve body assembly noting the following points.

- For details of valve body assembly and their connectors installation, refer to "Automatic Transaxle Unit Assembly".
- For details of A/T oil pan installation, refer to "Automatic Transaxle Unit Assembly". Use new oil pan gasket.
- Tighten valve body harness connector bolt to specified torque.

Tightening torque

Valve body harness connector bolt (a): 7.0 N·m (0.7 kgf-m, 5.0 lb-ft)



I2RH0B510051-01

- Pour A/T fluid and check fluid level according to procedure described in "A/T Fluid Change".
- Check for fluid leakage after warming up A/T.

Transmission Fluid Temperature Sensor Inspection

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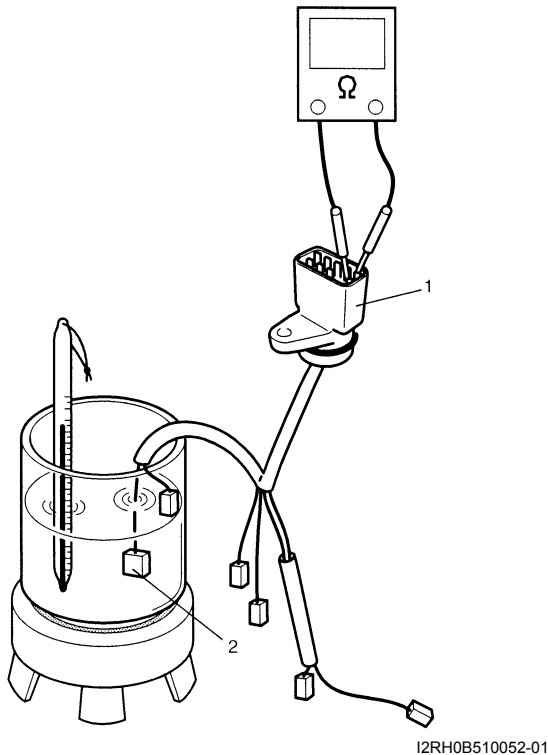
Warm up transmission fluid temperature sensor (2). Check resistance between terminals of valve body harness connector (1). Thus make sure its resistance decrease as its temperature increase.

Transmission fluid temperature sensor resistance

10 °C (50 °F): 5.8 – 7.1 k Ω

110 °C (230 °F): 231 – 263 Ω

145 °C (293 °F): 105 – 117 Ω



I2RH0B510052-01

Solenoid Valves (Shift Solenoid Valves and Timing Solenoid Valve) Removal and Installation

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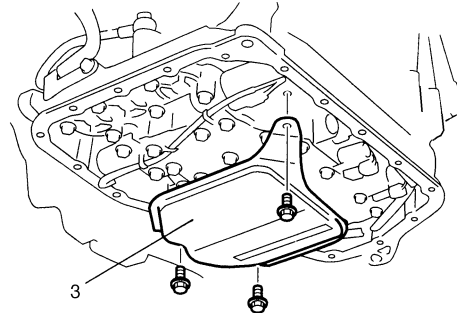
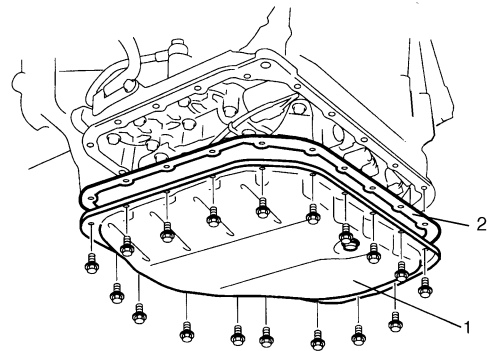
Removal

- 1) Disconnect negative cable at battery.
- 2) Lift up vehicle.
- 3) Remove drain plug and drain A/T fluid.
- 4) Install drain plug.

Tightening torque

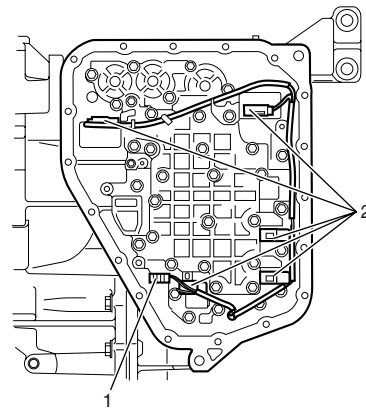
A/T fluid drain plug: 17 N·m (1.7 kgf-m, 12.5 lb-ft)

- 5) Remove A/T oil pan (1) and oil pan gasket (2).
- 6) Remove oil strainer assembly (3).



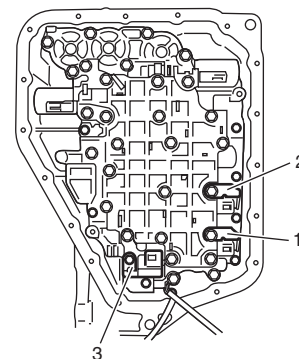
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- 7) Remove transmission fluid temperature sensor (1) from sensor clamp.
- 8) Disconnect solenoid connectors (2).



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- 9) Remove shift solenoid valve-A (No.1) (1), shift solenoid valve-B (No.2) (2) and timing solenoid valve (3) by removing bolts.



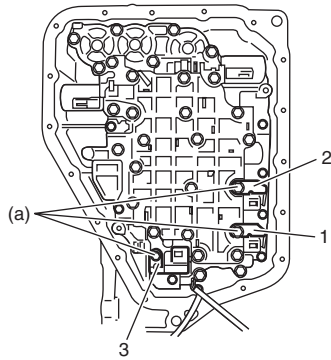
I4RS0A510028-01

Installation

- 1) Install shift solenoid valve-A (No.1) (1), shift solenoid valve-B (No.2) (2) and timing solenoid valve (3).

Tightening torque

Shift solenoid bolt (a): 11 N·m (1.1 kgf-m, 8.0 lb-ft)

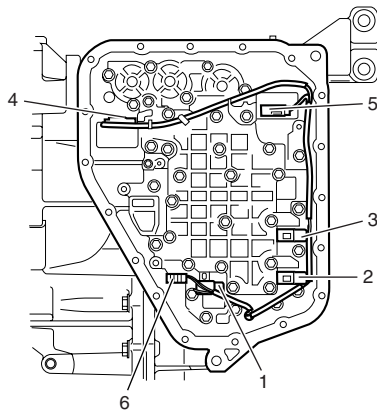


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- 2) Connect solenoid connectors identifying their installing positions by wire color.

Solenoid coupler	Wire color
Shift solenoid valve-A (No.1) (2)	White
Shift solenoid valve-B (No.2) (3)	Black
Timing solenoid valve (1)	Yellow
TCC pressure control solenoid valve (4)	Light green / Brown
Pressure control solenoid valve (5)	Green / Gray

- 3) Install transmission fluid sensor (6) and sensor wire to clamp.

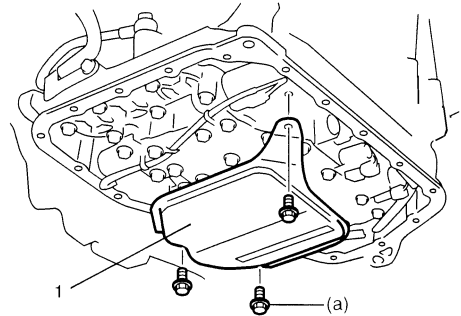


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- 4) Install oil strainer assembly (1).

Tightening torque

Oil strainer bolt (a): 10 N·m (1.0 kgf-m, 7.5 lb-ft)



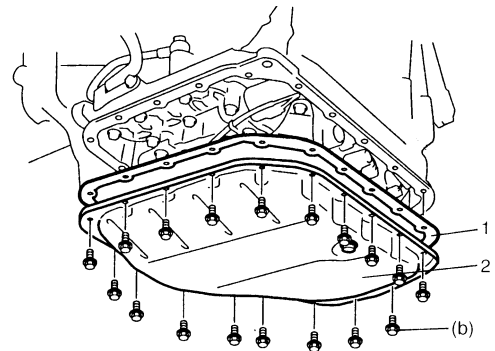
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- 5) Install new oil pan gasket (1) and oil pan (2).

- 6) Tighten oil pan bolts to specified torque diagonally and little by little.

Tightening torque

Oil pan bolt (b): 7.0 N·m (0.7 kgf-m, 5.0 lb-ft)



I2RH0B510060-01

Solenoid Valves (Shift Solenoid Valves, and Timing Solenoid Valve) Inspection

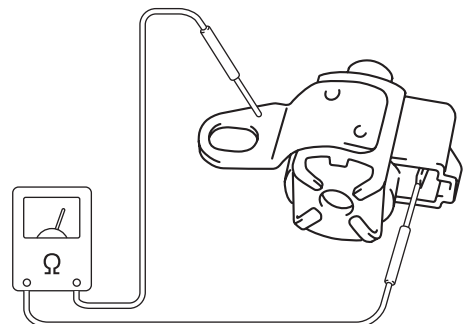
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Resistance Check

Check shift solenoid valves and timing solenoid valve.

Shift solenoid valves and timing solenoid valve resistance

Standard: 11 – 15 Ω at 20 °C (68 °F)



I2RH0B510061-01