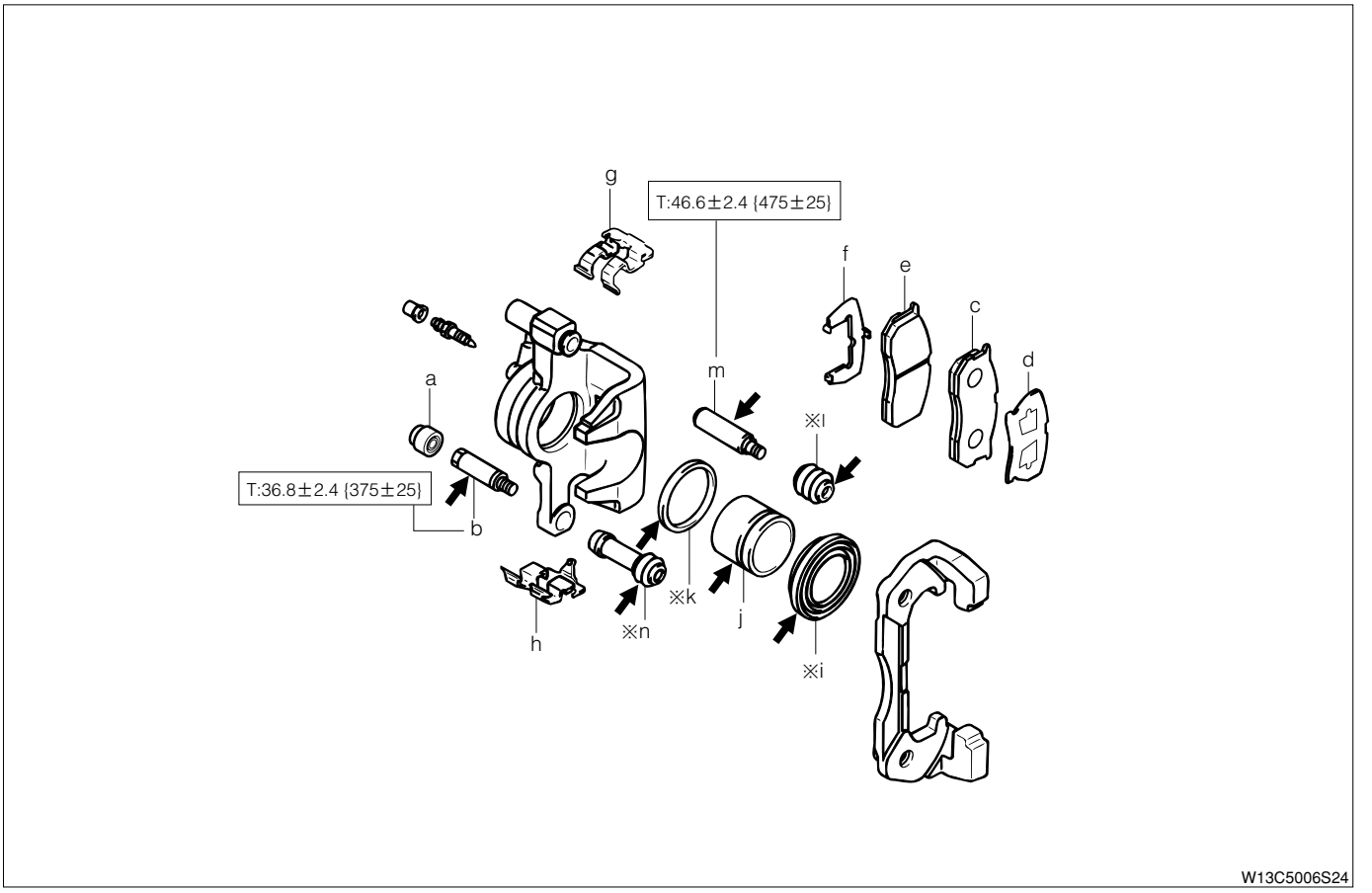
2-2-1 ENTRY EXAMPLE

(1) Components



➡ : Rubber grease
※: Non−reusable part
Unit:N·m{kgf·cm}

(2) Disassembly and assembly procedures

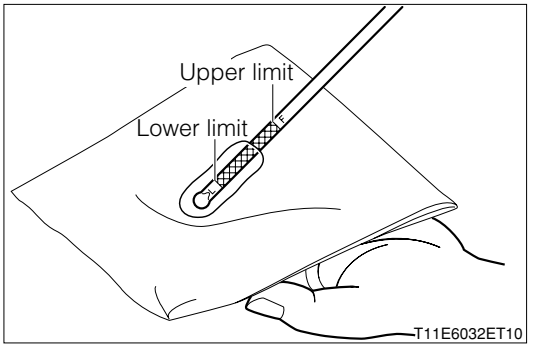
	1	a	Cap, cylinder slide pin	8	h	Plate, disc brake pad guide
	2	b	Pin, cylinder slide, No.1	9	i	Boot, cylinder
▲	3	c	Pad, disc brake, No.2	▼ 10	j	Piston, disc brake
	4	d	Shim, anti squeal, No.1	11	k	Seal, piston
▲	5	e	Pad, disc brake w/ indicator. No.1	12	l	Boot, pin
	6	f	Shim, anti squeal, No.1	13	m	Pin, cylinder slide, No.1
	7	g	Plate, disc brake pad guide	14	n	Bush, cylinder slide

2-3 DESCRIPTION OF SERVICE STANDARD VALUE

The necessary service standard value for inspection and service operation are described with bold letter in the text as standard and allowable limit. The details of terms are described in the section for definition of terms.

1-2-2 CHECK OF ENGINE OIL LEVEL

1.Stop the engine. Perform the check on a level place.
2.Pull out the oil level gauge. Wipe out the oil adhered to the gauge and insert it again.
3.Check that the oil level is between the lower limit (L) and the upper limit (F).
4.Check the condition of smear and that there is no white turbidity in the engine oil by observing the oil adhered to the oil level gauge.

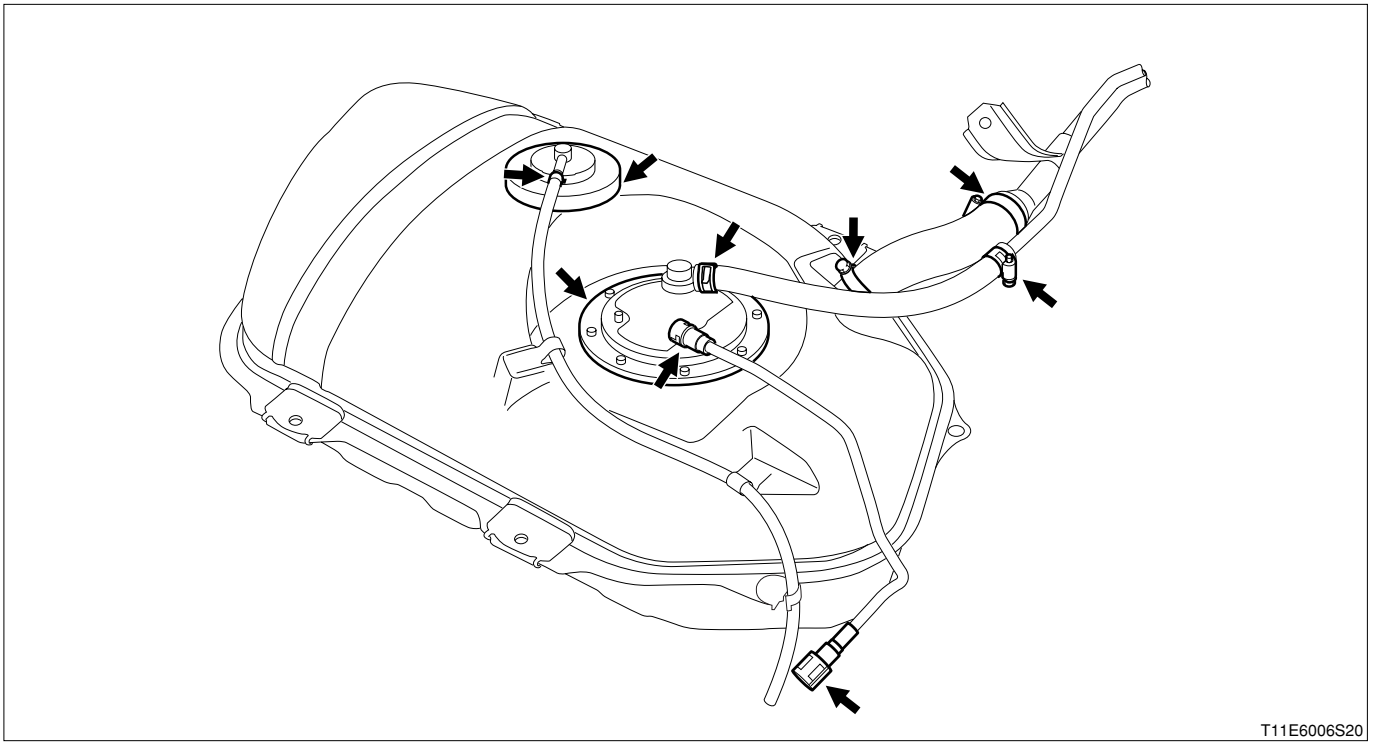


1-2-3 ENGINE OIL LEAKAGE CHECK

1.Visually check that there is no oil leakage from the cylinder head cover, oil pan and drain plug.

1-2-4 FUEL LEAKAGE CHECK

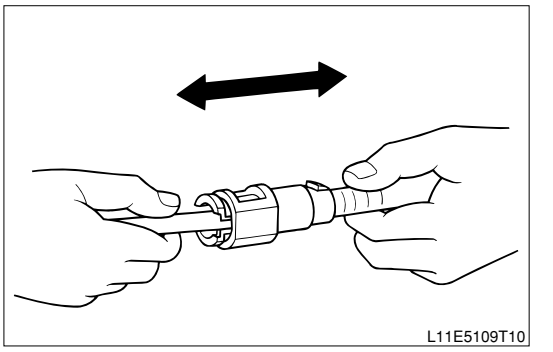
1.Visually check the fuel tank main body, fuel pump, hoses and pipes for fuel leakage.
2.Visually check that there is no crack or damage in the fuel hoses and pipes. Also, check that the installation of the clamp for each hose and pipe is not loosened.



1-2-5 CONDITION OF AIR CLEANER ELEMENT

1.Remove the air cleaner element. Then, visually check that there is no smear, clog or damage.
2.In cases where the air cleaner element exhibits smear or clog, clean by blowing compressed air.

2.After completion of the assembly, pull the connector and the mate fuel pipe so as to ensure that they are connected securely.



2-1-3 OPERATION AFTER INSTALLATION

1.With the fuel pressure applied, check the fuel system for leakage.

2-2 REPLACEMENT

2-2-1 REPLACEMENT PROCEDURE

1.Remove the connector and the mate fuel pipe, following the aforesaid procedure. As for the fuel pump side, remove the retainer from the pump.

2.With the connecter aligned with the axis of the corresponding fuel pipe, push in the connector securely, until you hear a sound of the retainer.

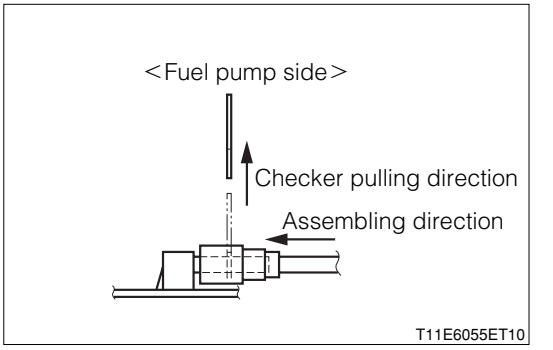
3.Pull out the checker in the vertical direction in relation to the assembled direction.

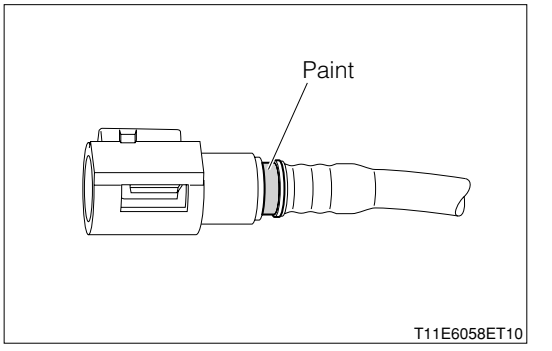
Checker color

Fuel pump side	Red

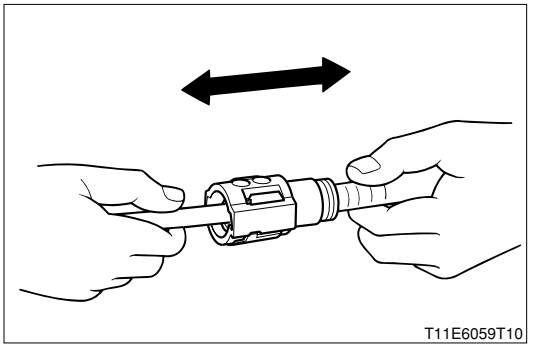
Tube identification paint

2WD vehicle	Not provided





4.After completion of the assembly, pull the connector and the mate fuel pipe so as to ensure that they are connected securely.



2-2-2 OPERATION AFTER REPLACEMENT

1.With the fuel pressure applied, check the fuel system for leakage.

Σ>5. Check of short in harness or inside EFI ECU (1).

1.After turning "OFF" the main switch of the tester, turn "LOCK" the IG switch.
2.Disconnect the connector of the engine coolant temperature sensor sensor.
3.After turning "ON" the IG switch, turn "ON" the main switch of the tester.
4.Read the "Engine coolant temperature" of the diagnosis tester (DS-21/DS-Ⅱ) or OBD Ⅱ generic scan tool.
SPECIFIED VALUE: −40°C

▼If it is OK, replace the engine coolant temperature sensor.
Refer to Page B8-7.

▼If it is NG, go to Σ>6.

Σ>6. Check of short in harness or inside EFI ECU (2).

1.Perform continuity check between each of the following terminals.
(1) Between sensor connection vehicle harness side connector 1 (E2) - ECU connection vehicle harness side connector 19 (E2)
(2) Between sensor connection vehicle harness side connector 2 (THW) - ECU connection vehicle harness side connector 54 (THW)
SPECIFIED VALUE: Continuity exists.

▼If it is OK, repair or replace the harness or connector.
▼If it is NG, check or replace the EFI ECU.

② **When not using diagnosis tester (DS-21/DS-Ⅱ) or OBD Ⅱ generic scan tool:**

Σ>1. EFI ECU signal check

1.Connect the SST.
SST: 09842-97209-000

2.Perform voltage measurement between the following terminals when the IG switch is "ON".
(1) Between SST 54 (THW) - 19 (E2)
SPECIFIED VALUE: 0.15 V - 4.85 V(Changes according to the water temperature)

▼If it is OK, check the EFI ECU circuit.
Refer to Page A1-24.

▼If it is NG, proceed to Σ>2.

Σ>2. Check of wire harness continuity

1.Perform continuity check between each of the following terminals.
(1) Between sensor connection vehicle harness side connector 1 (E2) - ECU connection vehicle harness side connector 19 (E2)
(2) Between sensor connection vehicle harness side connector 2 (THW) - ECU connection vehicle harness side connector 54 (THW)
SPECIFIED VALUE: Continuity exists.

▼If it is OK, proceed to Σ>3.
▼If it is NG, repair the harness and connectors.

(4) Checking method

① When using diagnosis tester (DS-21/DS-Ⅱ) or OBD Ⅱ generic scan tool:

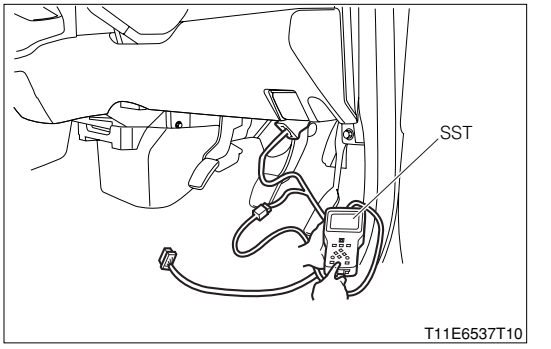
Σ>1. Diagnosis code confirmation (ABS related)

1.IG switch turned "LOCK".

2.Connect the diagnosis tester to DLC.

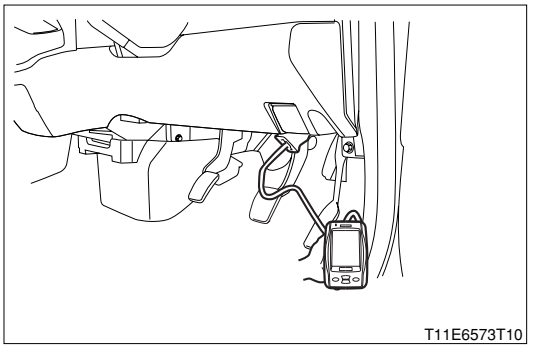
(1) In case of DS-21, connect the DS-21 diagnosis tester to DLC through the SST.

SST: 09991-87404-000



(2) In case of DS-Ⅱ, connect the DS-Ⅱ diagnosis tester directly to DLC.

(3) In case of the OBD Ⅱ generic scan tool, connect the OBD Ⅱ generic scan tool directly to DLC.



3.Check to see if the diagnosis code of the ABS is outputted (No.C0200/21 - No.C0215/24: short circuit or open wire of wheel speed sensor, No.C1235/25 - No.C1238/28: period abnormality of wheel speed sensor, No.C1237/29: Rotor tooth missing abnormality)

▼If it is outputted, proceed to Σ>2.

▼If it is not outputted, proceed to Σ>4.

Σ>2. Trouble shooting according to diagnosis code (ABS related)

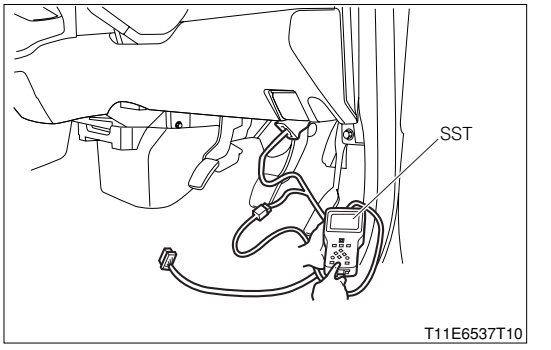
1.Perform trouble shooting for the diagnosis code outputted in Σ>1.

Refer to Page E3-26.

2.After completion of the repairs, connect the diagnosis tester to DLC.

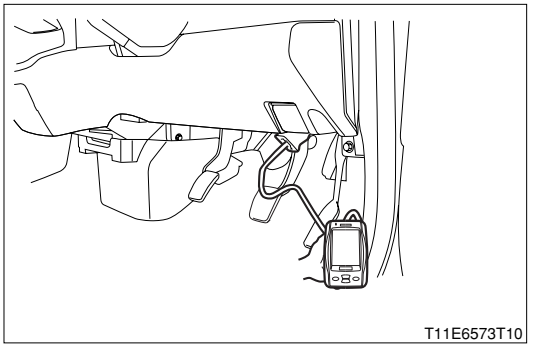
(1) In case of DS-21, connect the DS-21 diagnosis tester to DLC through the SST.

SST: 09991-87404-000



(2) In case of DS-Ⅱ, connect the DS-Ⅱ diagnosis tester directly to DLC.

(3) In case of the OBD Ⅱ generic scan tool, connect the OBD Ⅱ generic scan tool directly to DLC.



(4) Defective running

Malfunction phenomena	Possible causes		
	System	Components	Malfunction mode
Hesitation takes place when acceler-ating.	Fuel system	Fuel line, fuel filter	Clogging
		Injector	Flow rate decrease
		Fuel pump	
	Ignition system	Ignition coil	Ignition missing
		Spark plug	Misfire
		Ignition timing	Deviated
	Control system	Manifold absolute pressure sensor	Characteristics deviated, open wire, short circuit
		Water temperature sensor	
		Throttle position sensor	
		Knock sensor	Open wire and short circuit
Back fire, after fire	Fuel system	Injector	Flow rate decrease
	Ignition system	Ignition coil	Poor connection
		Spark plug	Misfire
		Ignition timing	Deviated
	Control system	Manifold absolute pressure sensor	Malfunction
		Intake air temperature sensor	Characteristics deviated
		Water temperature sensor	
		Camshaft position sensor	Defective output signal
		Oil control valve	Malfunction
Insufficient output	Fuel system	Fuel line, Fuel filter	Fuel pressure will not rise.
		Injector	Flow rate decrease
		Fuel pump	Fuel pressure will not rise.
	Ignition system	Spark plug	Misfire
	Control system	Manifold absolute pressure sensor	Characteristics deviated, open wire, short circuit
		Intake air temperature sensor	
		Water temperature sensor	
		Throttle position sensor	Characteristics deviated
		Camshaft position sensor	Defective output signal
		Oil control valve	Malfunction
Emits black smoke.	Fuel system	Injector	Constant injection
	Control system	Manifold absolute pressure sensor	Characteristics deviated, open wire, short circuit
		Intake air temperature sensor	Characteristics deviated
		Water temperature sensor	
		Throttle position sensor	
Hunting takes place while running.	Fuel system	Fuel line, fuel filter	Clogging
		Injector	Malfunction
	Ignition system	Ignition coil	Poor connection
	Control system	Throttle position sensor	Characteristics deviated
		Camshaft position sensor	Defective output signal
		Oil control valve	Malfunction
Abnormal knocking takes place.	Control system	Manifold absolute pressure sensor	Characteristics deviated, open wire, short circuit
		Throttle position sensor	Characteristics deviated
		Knock sensor	Characteristics deviated, open wire, short circuit

Σ5. Check of CAN line for open wire (RHD vehicles)

1.Set the IG switch to the "LOCK" position.
2.Disconnect all of the connectors for the EFI ECU and A/T ECU.
3.Perform continuity check between the following terminals.
(1) Between EFI ECU connection vehicle harness side connector 6 (CANL) - EFI ECU connection vehicle harness side connector 7 (CANH)
(2) Between A/T ECU connection vehicle harness side connector B9 (HCN1) - A/T ECU connection vehicle harness side connector B19 (LCN1)
SPECIFIED VALUE: No continuity exists

▼If it is OK, go to Σ6.
▼If it is NG, repair or replace malfunctioning sections.

Σ6. Check of CAN line for open wire (LHD vehicles)

1.Set the IG switch to the "LOCK" position.
2.Disconnect all of the connectors for the EFI ECU and A/T ECU.
3.Perform continuity check between the following terminals.
(1) Between combination meter connection vehicle harness side connector 1 (CANH) - combination meter connection vehicle harness side connector 2 (CANL)
(2) Between A/T ECU connection vehicle harness side connector B9 (HCN1) - A/T ECU connection vehicle harness side connector B19 (LCN1)
SPECIFIED VALUE: No continuity exists

▼If it is OK, go to Σ7.
▼If it is NG, repair or replace malfunctioning sections.

Σ7. Check of CAN line for short circuit

1.Perform continuity check between the following terminals.
(1) Between A/T ECU connection vehicle harness side connector B19 (LCN1) - battery positive (+) terminal
(2) Between A/T ECU connection vehicle harness side connector B9 (HCN1) - battery positive (+) terminal
(3) Between A/T ECU connection vehicle harness side connector B19 (LCN1) - body earth
(4) Between A/T ECU connection vehicle harness side connector B9 (HCN1) - body earth
SPECIFIED VALUE: No continuity exists

▼If it is OK, go to Σ8.
▼If it is NG, repair or replace malfunctioning sections.

Σ8. Check of EFI ECU internal resistance

1.Disconnect all of the EFI ECU connectors.
2.Measure the resistance between the following terminals.
(1) Between EFI ECU side connector 6 (CANL) - EFI ECU side connector 7 (CANH)
(2) Between EFI ECU side connector 8 (LCAN) - EFI ECU side connector 9 (HCAN)
SPECIFIED VALUE: 110 - 130Ω

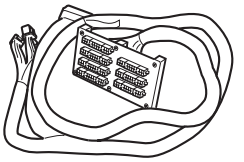
▼If it is OK, go to Σ9.
▼If it is NG, replace the EFI ECU.
Refer to Page B8-1.

2 SPARK PLUG

2-1 REMOVAL AND INSTALLATION

2-1-1 ARTICLES TO BE PREPARED

SST

Shape	Part No.	Part name
	09842-97209-000	Sub-harness,EFI computer check

Instrument

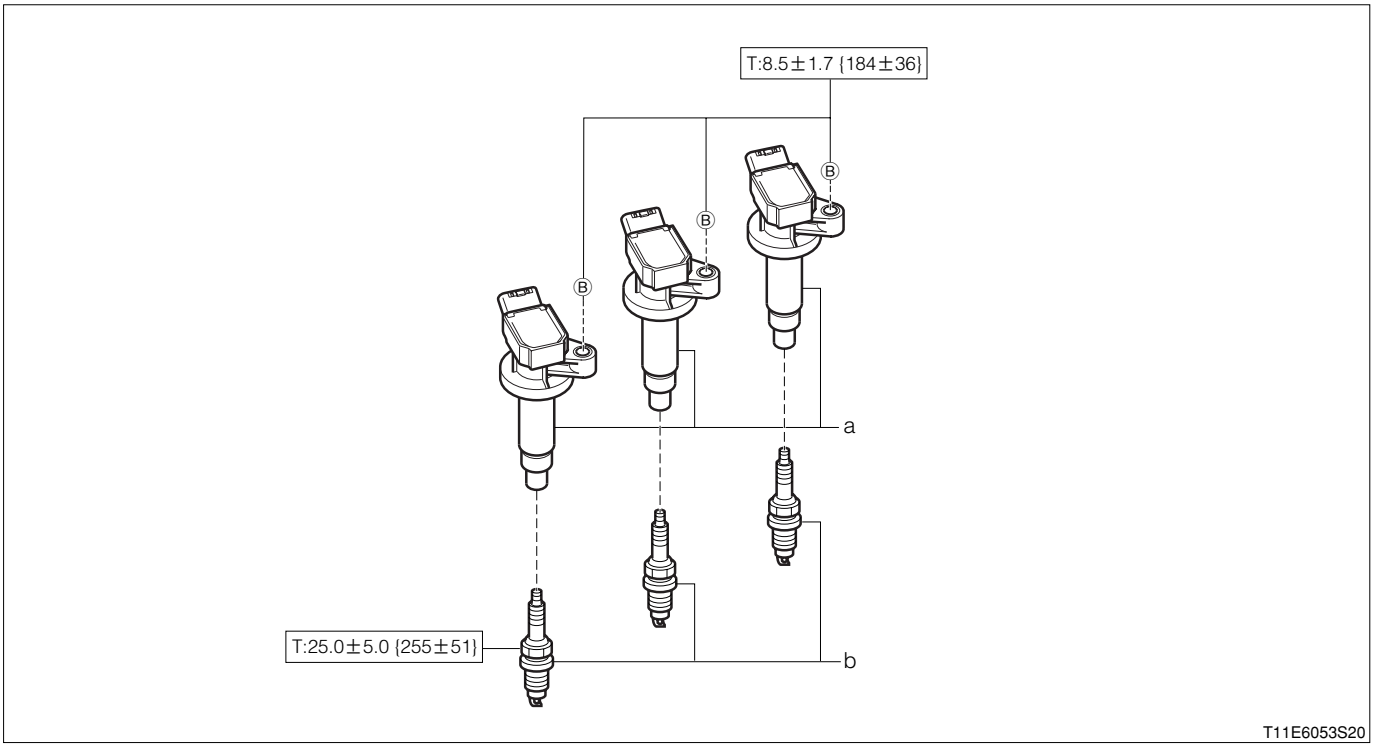
Torque wrench

2-1-2 OPERATION BEFORE REMOVAL

1.Remove the hose S/A, air cleaner.
Refer to Page B3-1.

2-1-3 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



Unit:N·m{kgf·cm}

(2) Removeal and installation procedures

1 a Coil Ay, W/igniter
2 b Plug, spark

Tool

Snap ring pliers

Instrument

Dial gauge,Torque wrench

2-1-2 OPERATION BEFORE REMOVAL

1.Lift up the vehicle.
2.Remove the front wheel.
3.Remove the front wheel speed sensor.(ABS equipped vehicles)
Refer to Page E3-4.

4.Remove the front disc brake caliper assembly and hang it, using a wire or the like.
Refer to Page E1-53.

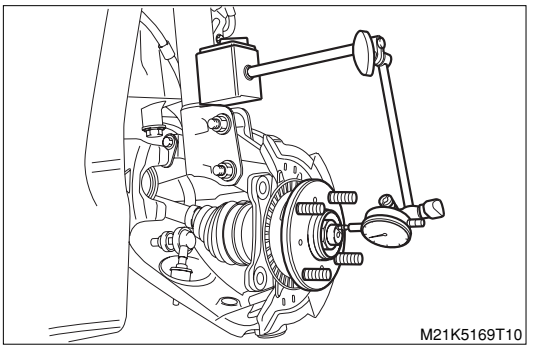
CAUTION
- Be very careful not to damage the flexible hose.

5.Remove the brake disc.

2-1-3 INSPECTION

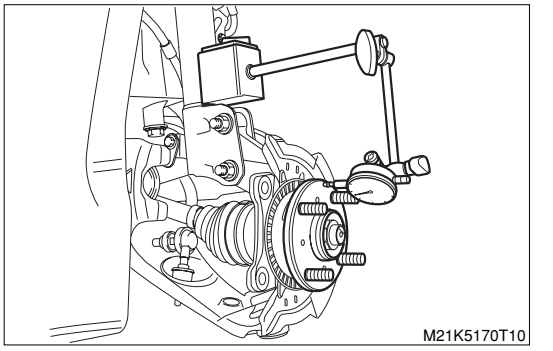
(1) Check of bearing for axial play

1.Set a dial gauge to a point on the periphery at the tip-end of the drive shaft. Check the bearing for axial play.
If the play exceeds the limit, replace the axle hub and radial ball bearing.
ALLOWABLE LIMIT: 0.05mm


M21K5169T10

(2) Check of front axle runout

1.Set a dial gauge to the outer periphery of the axle hub. Turn the axle hub to check the runout.
If the runout exceeds the limit, replace the axle hub and radial ball bearing.
ALLOWABLE LIMIT: 0.05mm


M21K5170T10

14-1-4 INSPECTION

(1) Piston S/A, wheel brake cylinder

1.Check for wear and damage.

(2) Body, wheel brake cylinder, rear

1.Check the cylinder inner surface for wear and damage.

14-1-5 POINTS OF ASSEMBLY

(1) Body, wheel brake cylinder, rear

1.Apply brake fluid to the entire periphery of the cylinder inner surface of the body.
LUBRICANT: Brake fluid(DOT3)

(2) Piston S/A, wheel brake cylinder

1.Apply brake grease to the entire periphery of the piston S/A.
LUBRICANT: Brake grease

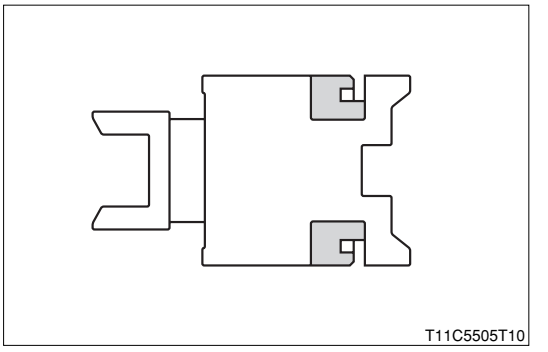
(3) Cup, cylinder

1.Apply brake grease to the entire periphery of the inner and outer surfaces of the cup.
LUBRICANT: Brake grease

2.Install the cup to the wheel brake cylinder piston S/A.

CAUTION

- Make sure that the cup is installed in the correct direction.



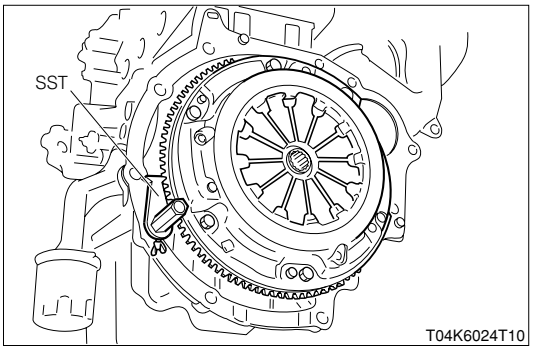
14-1-6 OPERATION AFTER ASSEMBLY

1.Install the rear wheel brake cylinder assembly.
Refer to Page E1-65.

4-1-4 POINTS OF REMOVAL

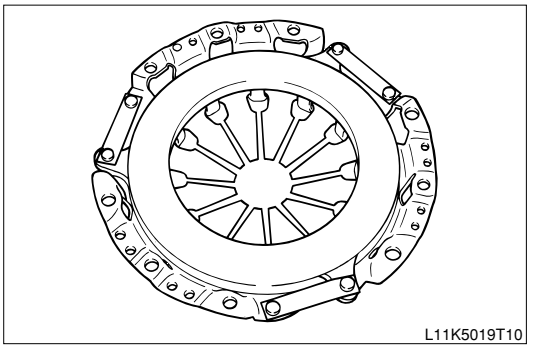
(1) Cover Ay, clutch, and disk Ay, clutch

1.Prevent the ring gear from turning, using the SST. Under this condition, remove the clutch cover assembly and clutch disc assembly.
SST: 09210-87701-000

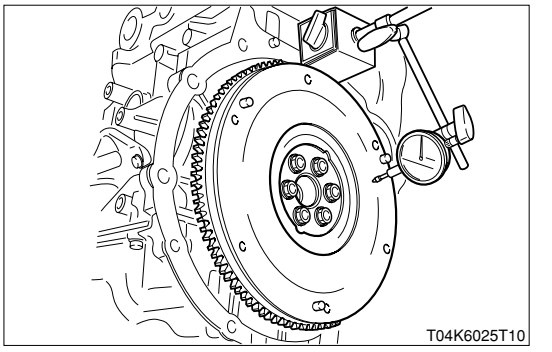


4-1-5 INSPECTION

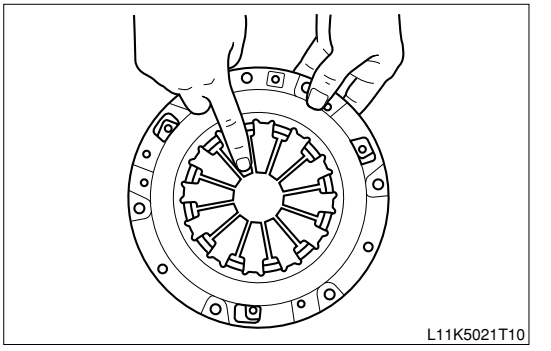
1.Check the following items. Replace any faulty part.
(1) Flywheel and pressure plate surface of clutch cover assembly for streak, cracks and discoloration.



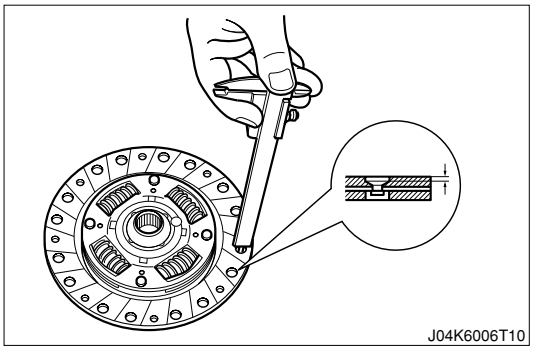
(2) Clean the flywheel surface. Then, check the runout.
ALLOWABLE LIMIT: 0.10mm



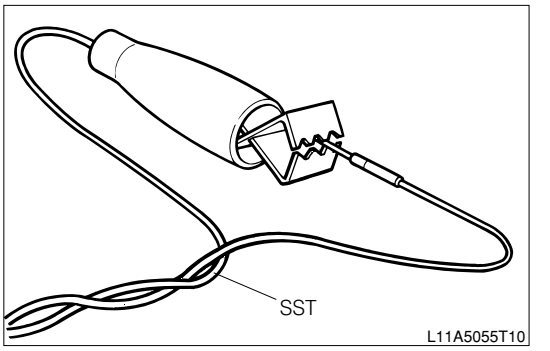
(3) Pressure plate (Diaphragm spring finger section) of clutch cover assembly for wear, rust formation and breakage



(4) Clutch disc assembly for wear and runout
ALLOWABLE LIMIT: Wear limit
0.3mm(Sagging of rivet)
Lateral runout limit
1.0mm



3.Short the terminal with the alligator clip of the SST.
SST: 09082-87710-000



4.Remove the front door scuff plate RH/LH.
Refer to Page I2-48.

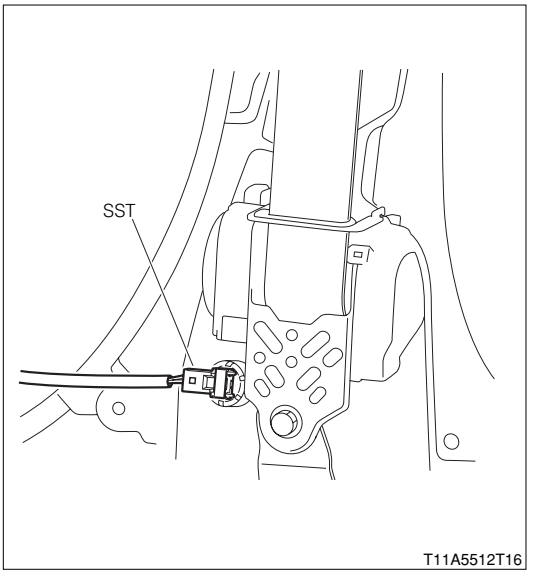
5.Remove the rear door scuff plate RH/LH.
Refer to Page I2-48.

6.Remove the center pillar lower garnish RH/LH.
Refer to Page I2-48.

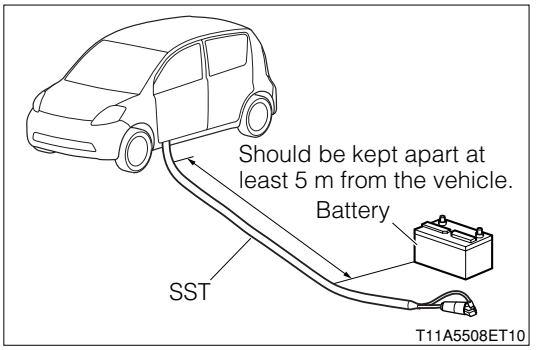
7.Disconnect the connector for the pretensioner.
8.Connect the connector of the SST to the pretensioner.
SST: 09082-97201-000

WARNING

- Ensure that there is no excessive play at the pretensioner installing section.
- Check that the belt section of the outside (Front) belt Ay has no looseness.
- Do not cut the belt of the outside (Front) belt Ay before the actuation is completed.
- At this time, close all the doors and windows.



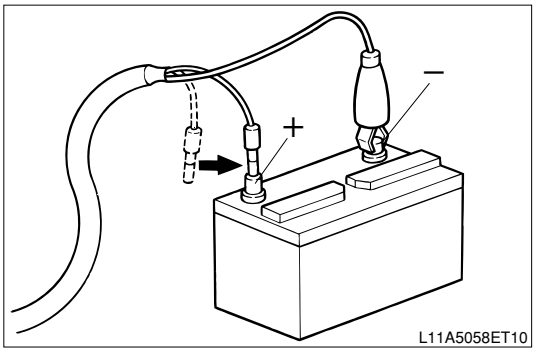
9.Extend the SST fully. Place the battery at least 5 m away from the vehicle.



10.Confirm safety inside and around the vehicle. Then, connect the SST to the battery (The alligator clip to the negative (−) terminal of the battery; the terminal to the positive (+) terminal) so as to actuate the pretensioner.

WARNING

- Make sure that there is no one inside and around the vehicle.
- Give warning loudly to those nearby before actuating the pretensioner.



10 HOOD LOCK CONTROL CABLE

10-1 REMOVAL AND INSTALLATION(RHD VEHICLES)

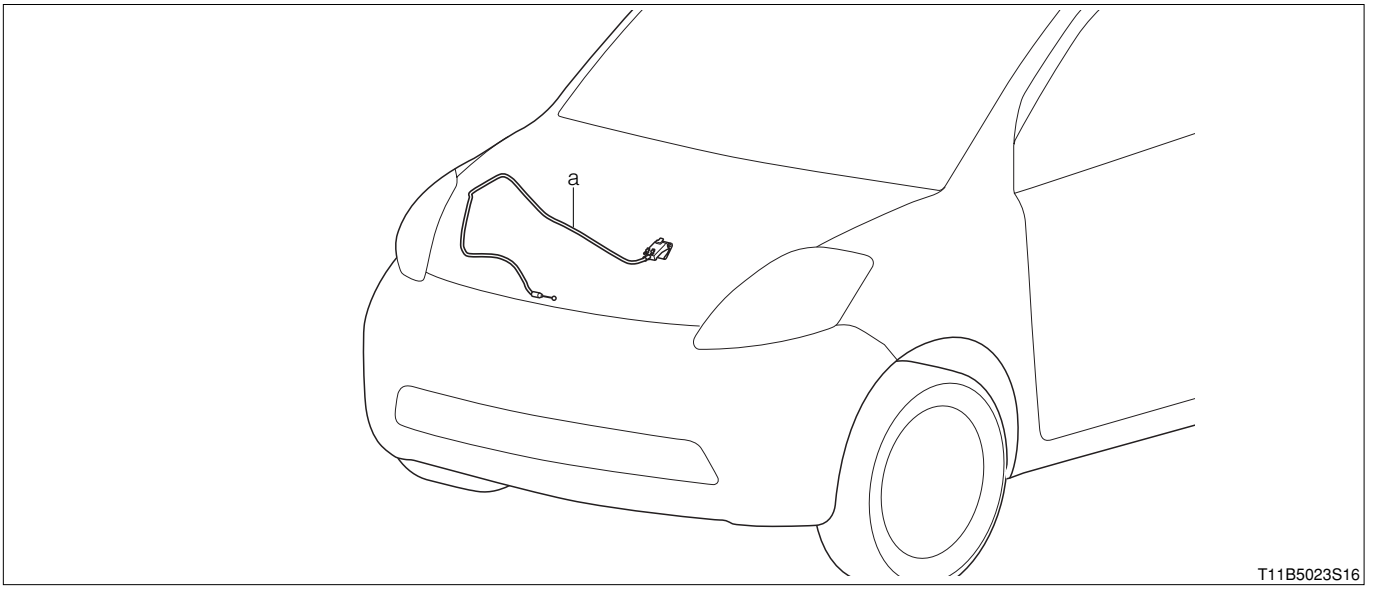
10-1-1 OPERATION BEFORE REMOVAL

1.Remove the front bumper cover.
Refer to Page I2-2.

2.Remove the front fender liner RH.
Refer to Page I2-24

10-1-2 REMOVAL AND INSTALLATION PROCEDURES

(1) Components



(2) Removal and installation procedures

▲ 1 a Cable Ay, hood lock control