

2007 TRANSMISSION

P311 Hybrid Transmission / Transaxle - Camry Hybrid

HYBRID TRANSAXLE SYSTEM

ON-VEHICLE INSPECTION

1. INSPECT FLUID PRESSURE OF OIL PUMP

NOTE: Do the test at normal operating fluid temperature 50 to 80°C (122 to 176°F).

- a. Lift up the vehicle.
- b. Remove the fluid pump cover plug and install SST.

SST 09992-00095 (09992-00112, 09992-00271)

- c. Set the vehicle to inspection mode. (See PRECAUTION (2006/03-2006/10))
- d. Measure the fluid pressure.

Fluid pressure:

9.8 kPa (0.1 kgf/cm² , 1.4 psi) or more

NOTE: Be sure to cancel the inspection mode immediately after the fluid pressure check is completed. (See PRECAUTION (2006/03-2006/10))

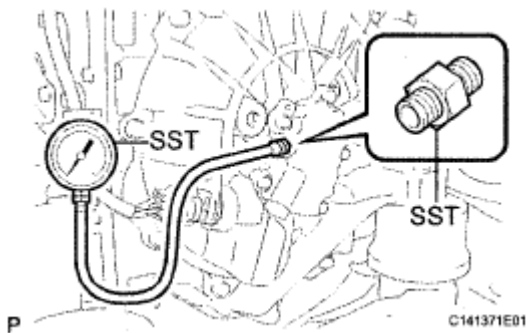


Fig. 1: Identifying Fluid Pressure Gauge
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Install a new O-ring and fluid pump cover plug.

Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

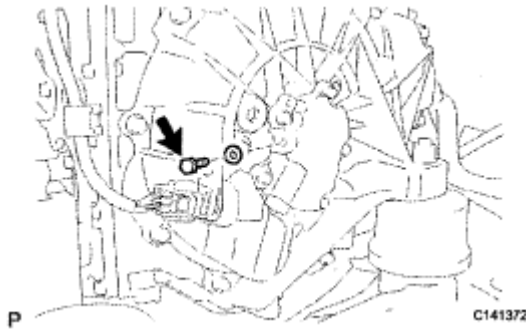


Fig. 2: Locating Fluid Pump Cover Plug
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HYBRID TRANSAXLE FLUID

REPLACEMENT

1. DRAIN HYBRID TRANSAXLE FLUID

- Using a socket hexagon wrench 10 mm, remove the filler plug and gasket.
- Using a socket hexagon wrench 10 mm, remove the drain plug and gasket.
- Using a socket hexagon wrench 10 mm, install the drain plug, and a new gasket.

Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)

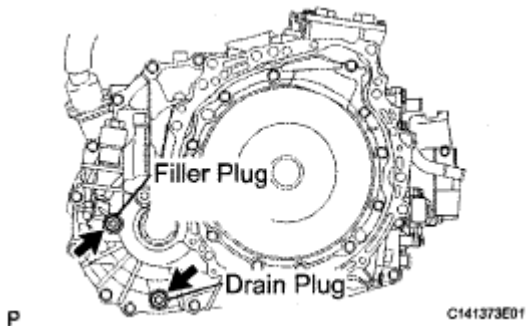


Fig. 3: Locating Filler Plug And Drain Plug
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. ADD HYBRID TRANSAXLE FLUID

- Add fluid.

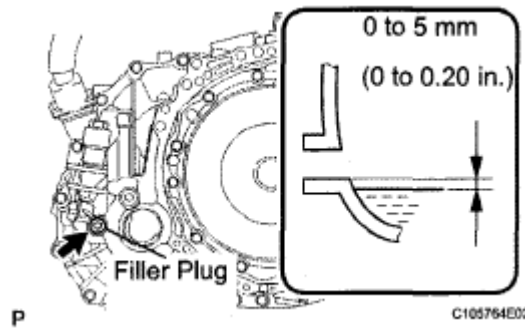
HINT:

Fluid capacity: 3.8 liters (4.0 US qts, 3.3 Imp. qts.)

- Check that the fluid surface is within 5 mm (0.20 in.) from the lowest position of the inner surface of the differential filler plug opening.

NOTE:

- Stop the vehicle on a flat road.
- Recheck the transaxle fluid level after driving when exchanging fluid.
- Insufficient or excessive amounts of transaxle fluid may be the cause of some trouble.

**Fig. 4: Checking Oil Level****Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

- c. Check the oil level.
- d. Using a socket hexagon wrench 10 mm, install the filler plug, and a new gasket.

Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)**3. INSPECT HYBRID TRANSAXLE FLUID**

- a. Using a socket hexagon wrench 10 mm, remove the filler plug and gasket.
- b. Check that the fluid surface is within 5 mm (0.20 in.) from the lowest position of the inner surface of the differential filler plug opening.

NOTE:

- Stop the vehicle on a flat road.
- Recheck the transaxle fluid level after driving when exchanging fluid.
- Insufficient or excessive amounts of transaxle fluid may be the cause of some trouble.

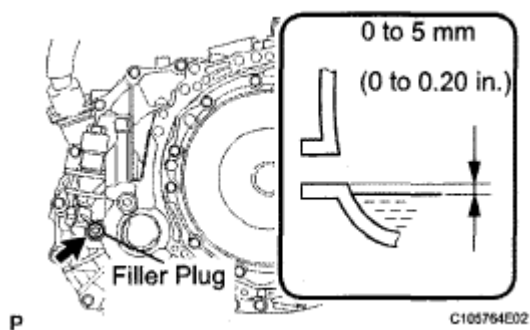


Fig. 5: Checking Oil Level

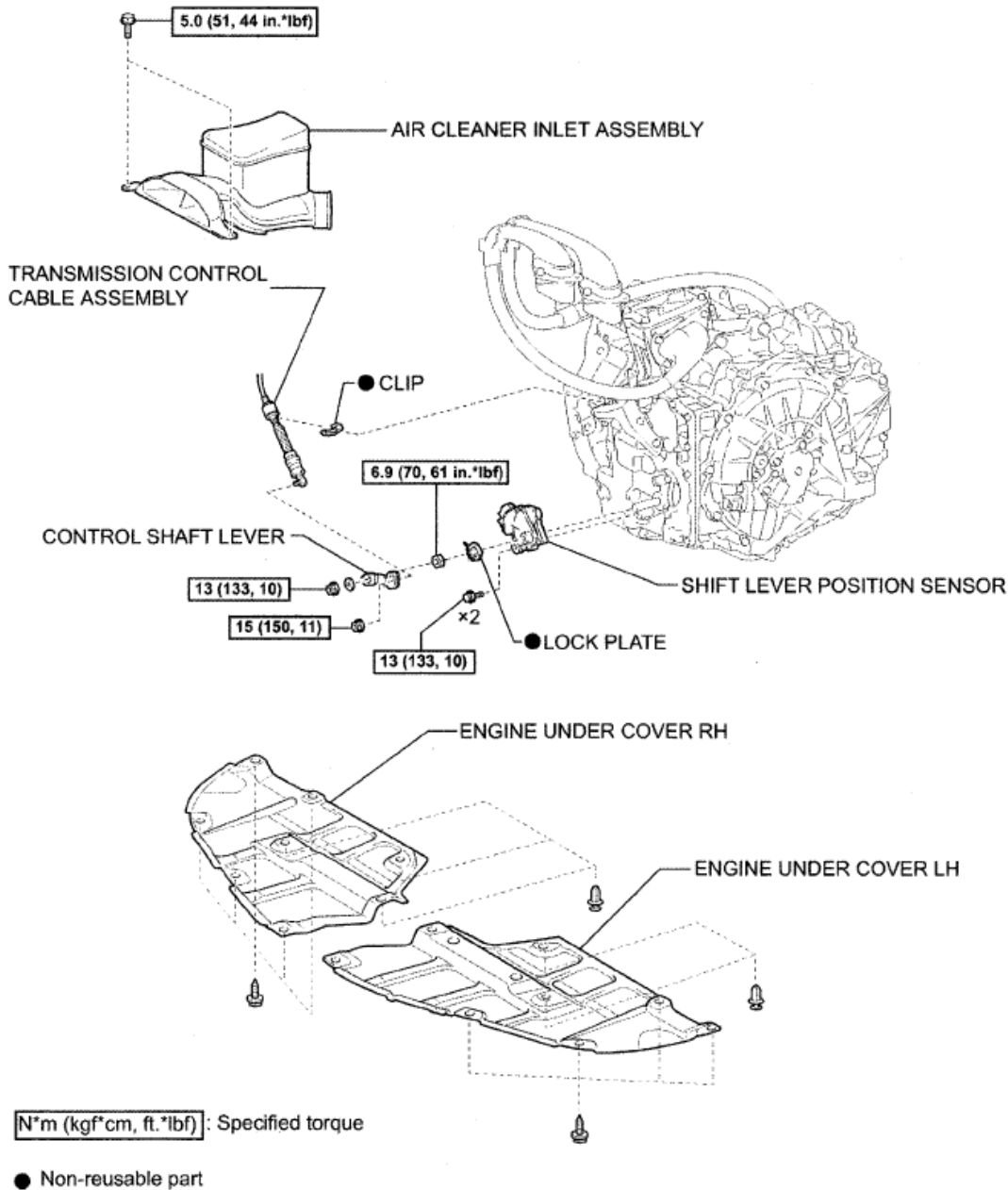
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Check for leaks if the quantity of fluid is low.
- d. Using a socket hexagon wrench 10 mm, install the filler plug, and a new gasket.

Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)

SHIFT LEVER POSITION SENSOR

COMPONENTS



P

C141374E01

Fig. 6: Identifying Shift Lever Position Sensor Components With Torque Specification
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL (2006/03-2006/10)

1. **DISCONNECT CABLE FROM BATTERY NEGATIVE TERMINAL**
2. **REMOVE ENGINE UNDER COVER RH**
3. **REMOVE ENGINE UNDER COVER LH**
4. **REMOVE AIR CLEANER INLET ASSEMBLY** (See **REMOVAL (2006/03-2006/10)**)

5. SEPARATE TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Remove the nut from the control shaft lever.

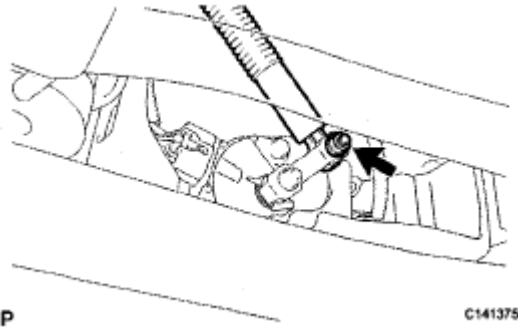


Fig. 7: Locating Control Shaft Lever Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a screwdriver, disengage the 2 claws, and disconnect the transmission control cable assembly with the clip from the control cable bracket.

HINT:

Tape the screwdriver tip before use.

- c. Remove the clip.

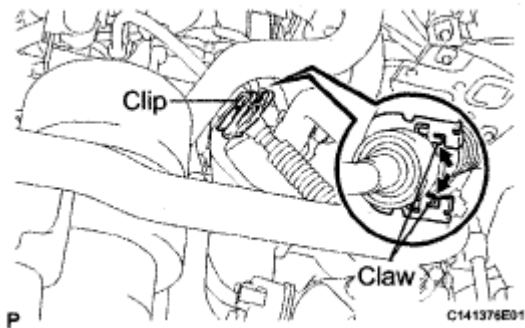


Fig. 8: Identifying Clip And Claws
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. REMOVE SHIFT LEVER POSITION SENSOR

- a. Disconnect the shift lever position sensor connector.

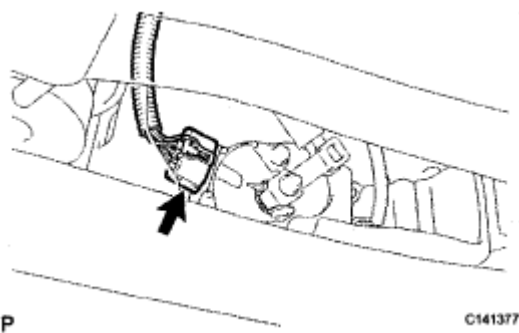


Fig. 9: Locating Shift Lever Position Sensor Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the nut, washer, and control shaft lever.

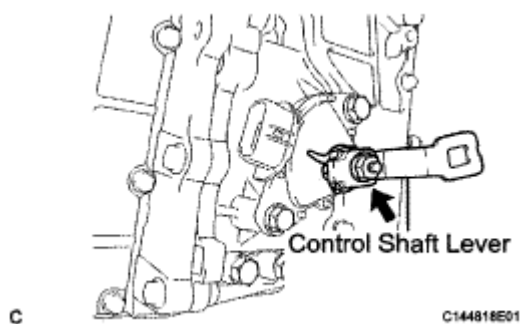


Fig. 10: Locating Control Shaft Lever
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Using a screwdriver, pry the tabs of the lock plate.

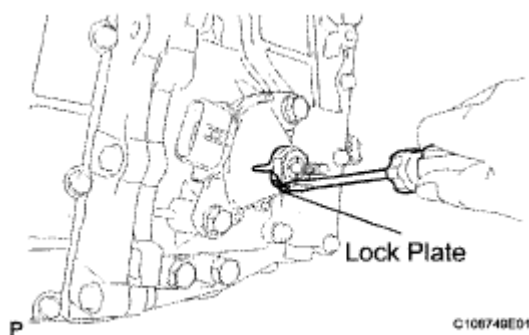


Fig. 11: Prying Out Lock Plate
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Remove the lock nut and lock plate.

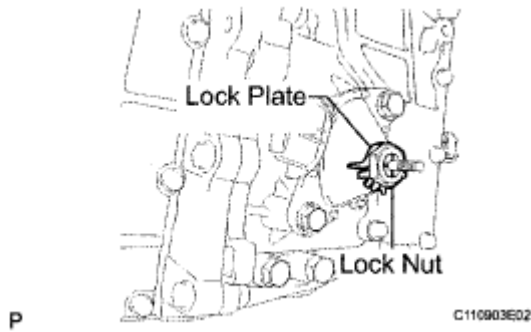


Fig. 12: Identifying Lock Nut And Lock Plate

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Remove the 2 bolts and pull out the shift lever position sensor.

REMOVAL (2006/10-)

1. **DISCONNECT CABLE FROM BATTERY NEGATIVE TERMINAL**
2. **REMOVE ENGINE UNDER COVER RH**

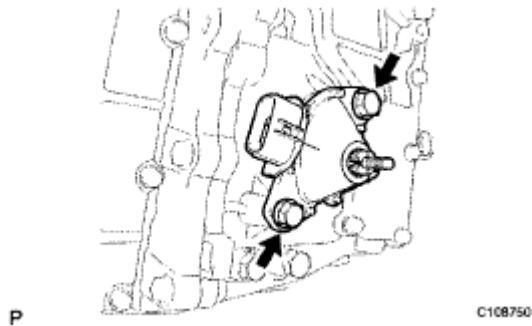
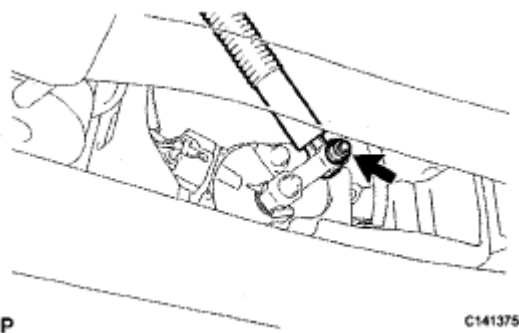


Fig. 13: Locating Shift Lever Position Sensor Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **REMOVE ENGINE UNDER COVER LH**
4. **REMOVE AIR CLEANER INLET ASSEMBLY (See REMOVAL (2006/10-))**
5. **SEPARATE TRANSMISSION CONTROL CABLE ASSEMBLY**
 - a. Remove the nut from the control shaft lever.

**Fig. 14: Locating Control Shaft Lever Nut**

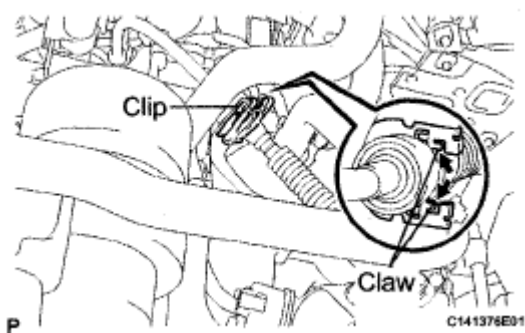
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a screwdriver, disengage the 2 claws, and disconnect the transmission control cable assembly with the clip from the control cable bracket.

HINT:

Tape the screwdriver tip before use.

- c. Remove the clip.

**Fig. 15: Identifying Clip And Claws**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. REMOVE SHIFT LEVER POSITION SENSOR

- a. Disconnect the shift lever position sensor connector.

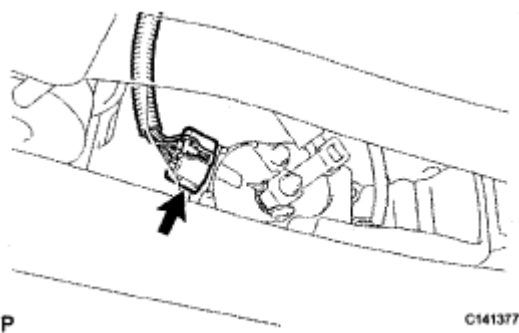


Fig. 16: Locating Shift Lever Position Sensor Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the nut, washer, and control shaft lever.

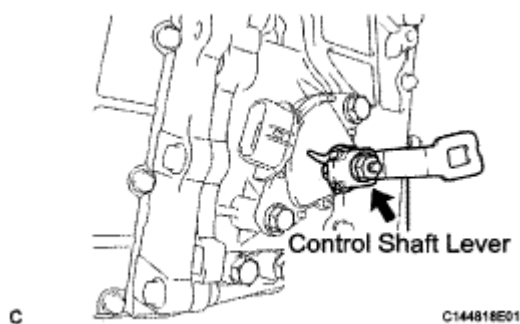


Fig. 17: Locating Control Shaft Lever
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Using a screwdriver, pry the tabs of the lock plate.

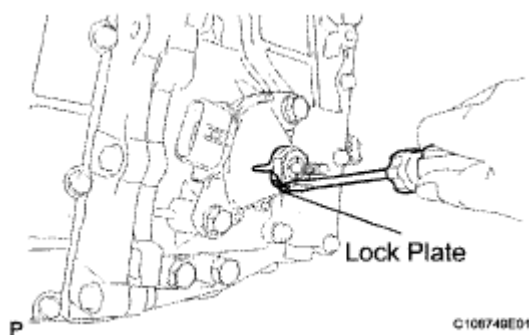


Fig. 18: Prying Out Lock Plate
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Remove the lock nut and lock plate.

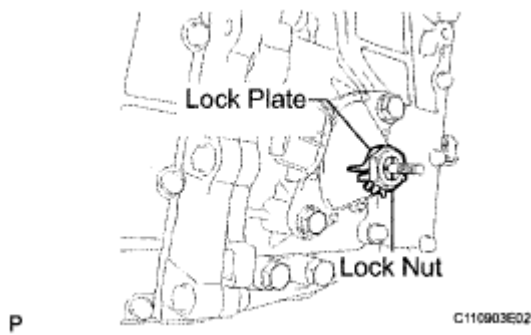


Fig. 19: Identifying Lock Nut And Lock Plate
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Remove the 2 bolts and pull out the shift lever position sensor.

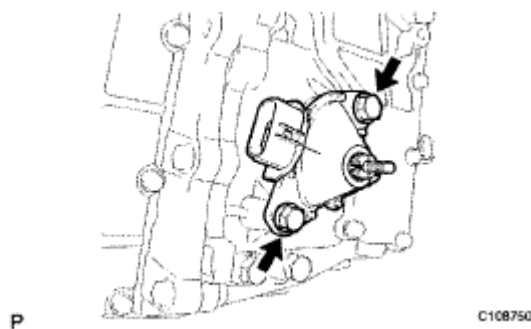


Fig. 20: Locating Shift Lever Position Sensor Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSPECTION

1. INSPECT SHIFT LEVER POSITION SENSOR

- a. Measure the resistance according to the value(s) in the table below when the shift lever is moved to each position.

Switch Side: (Connector Front View):

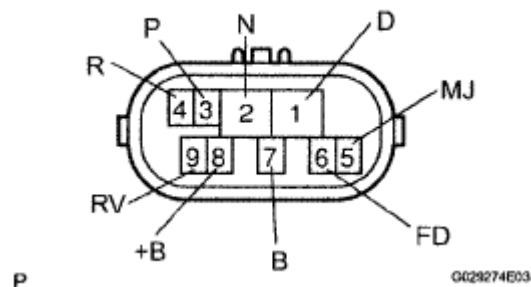


Fig. 21: Identifying Shift Lever Position Sensor Connector Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE SPECIFICATION

	8 (+B) - 1 (D)	8 (+B) - 2 (N)	8(+B)-3 (P)	8 (+B) - 4 (R)	8 (+B) - 5 (MJ)	8 (+B) - 6 (FD)	8 (+B) - 7 (B)	8 (+B) - 9 (RV)
P position	10 kohms or higher	4.2 to 5.1 kohms	Below 1 ohms	10 kohms or higher	Below ohms	10 kohms or higher	10 kohms or higher	10 kohms or higher
R position	10 kohms or higher	4.2 to 5.1 kohms	10 kohms or higher	Below 1 ohms	Below 1 ohms	10 kohms or higher	10 kohms or higher	Below 1 ohms
N position	10 kohms or higher	Below 1 ohms	10 kohms or higher	10 kohms or higher	Below 1 ohms	10 kohms or higher	10 kohms or higher	10 kohms or higher
D position	Below 1 ohms	4.2 to 5.1 kohms	10 kohms or higher	10 kohms or higher	Below 1 ohms	Below 1 ohms	10 kohms or higher	10 kohms or higher
B position	10 kohms or higher	4.2 to 5.1 kohms	10 kohms or higher	10 kohms or higher	Below 1 ohms	Below 1 ohms	Below 1 ohms	10 kohms or higher

If operation cannot be done as specified, replace the shift lever position sensor.

ADJUSTMENT

1. ADJUST SHIFT LEVER POSITION SENSOR

- Loosen the 2 bolts of the shift lever position sensor and set the shift lever to the N position.

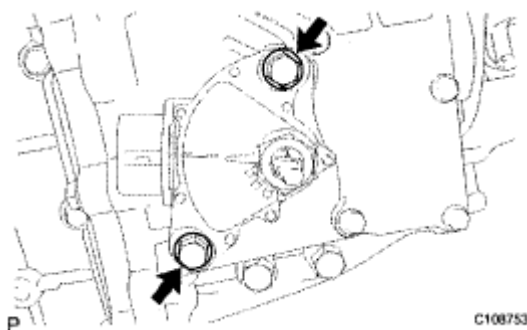


Fig. 22: Locating Shift Lever Position Sensor Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Align the protruding part with the neutral basic line.

NOTE: There is play on the nut stopper side (protruding part). Align the center point of the range of the play with the neutral basic line.

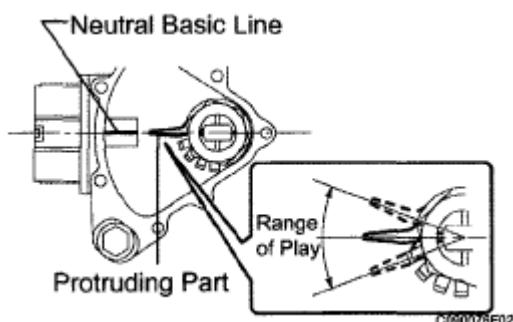


Fig. 23: Aligning Protruding Part With Neutral Basic Line
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Tighten the 2 bolts in the order shown in the illustration.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

2. INSPECT SHIFT LEVER POSITION SENSOR (See INSPECTION)

INSTALLATION (2006/03-2006/10)

1. INSTALL SHIFT LEVER POSITION SENSOR

- a. Install the shift lever position sensor to the manual valve shaft.

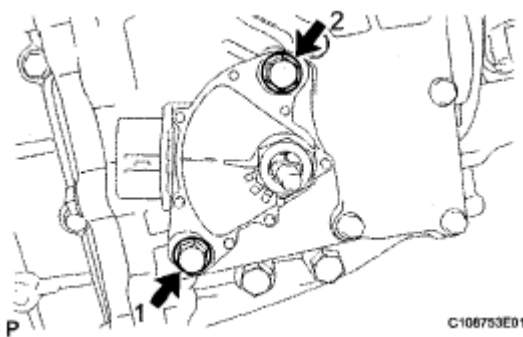


Fig. 24: Tightening Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Temporarily install the 2 bolts.

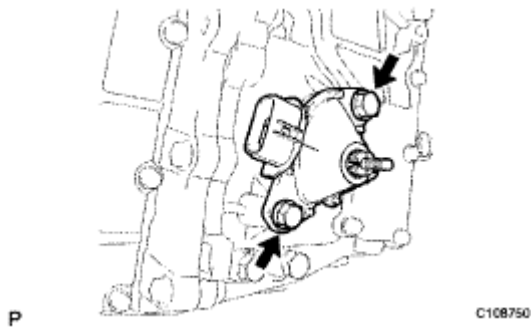


Fig. 25: Locating Shift Lever Position Sensor Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install a new lock plate and tighten the nut.

Torque: 6.9 N*m (70 kgf*cm, 61 in.*lbf)

- d. Temporarily install the control shaft lever.

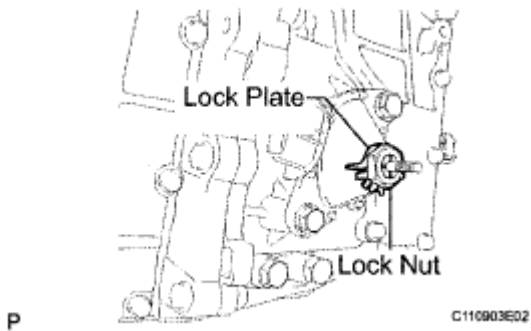


Fig. 26: Identifying Lock Nut And Lock Plate
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Turn the lever clockwise until it stops, then turn it counterclockwise 2 notches.
f. Remove the control shaft lever.

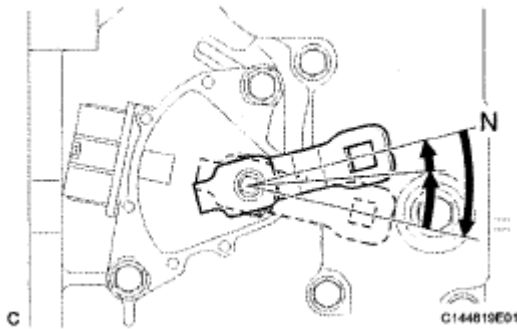


Fig. 27: Turning Control Shaft Lever
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- g. Align the protruding part with the neutral basic line.

NOTE: There is play on the nut stopper side (protruding part). Align the center point of the range of the play with the neutral basic line.

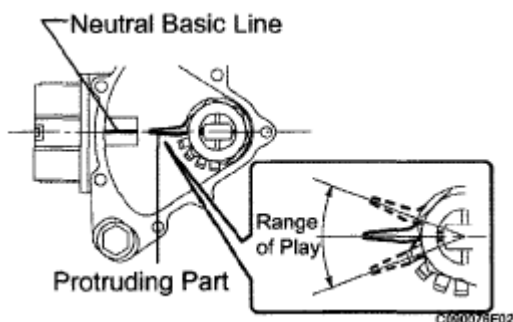


Fig. 28: Aligning Protruding Part With Neutral Basic Line
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- h. Tighten the 2 bolts in the order shown in the illustration.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

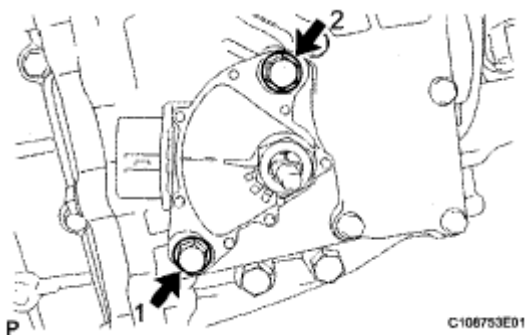


Fig. 29: Tightening Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- i. Using a screwdriver, secure the nut with the lock plate.

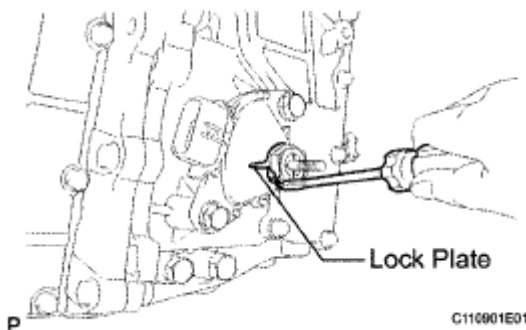


Fig. 30: Securing Nut With Lock Plate Using Screw Driver
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- j. Install the control shaft lever, washer, and nut.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

2. CONNECT TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Move the shift lever to the N position.
b. Install a new clip to the control bracket.

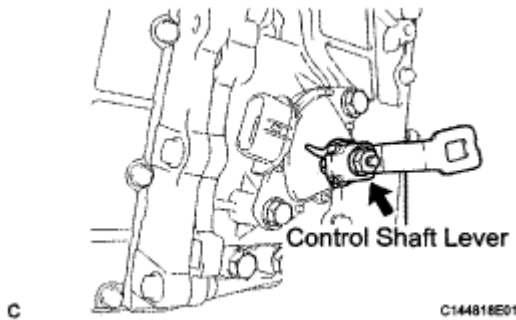


Fig. 31: Locating Control Shaft Lever
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install the transmission control cable assembly to the control bracket.

NOTE:

- Make sure that the A claws on the clip are securely fit into the bracket holes.
- Make sure that the cable is securely installed inside the B claws of the clip.

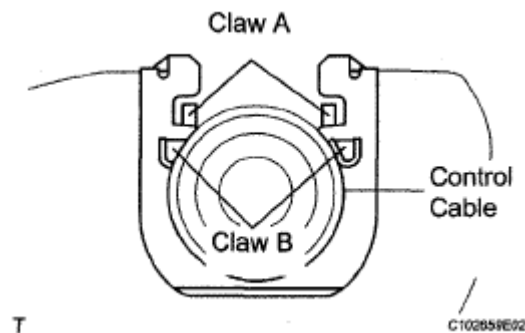


Fig. 32: Identifying Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Connect the shift lever position sensor connector.
e. Move the control shaft lever to the N position.

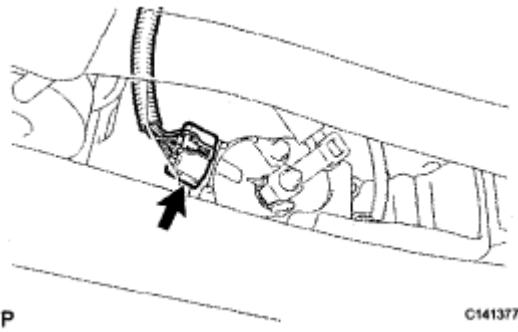


Fig. 33: Locating Shift Lever Position Sensor Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Connect the transmission control cable assembly to the control shaft lever with the nut.

Torque: 15 N*m (150 kgf*cm, 11 ft.*lbf)

3. **INSPECT SHIFT LEVER POSITION** (See ADJUSTMENT)
4. **ADJUST SHIFT LEVER POSITION** (See ADJUSTMENT)
5. **ADJUST TRANSMISSION CONTROL CABLE ASSEMBLY** (See ADJUSTMENT)
6. **INSPECT SHIFT LEVER OPERATION** (See ADJUSTMENT)

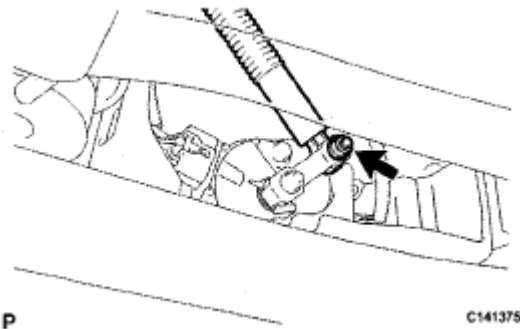


Fig. 34: Locating Control Shaft Lever Nut
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL AIR CLEANER INLET ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
8. **INSTALL ENGINE UNDER COVER LH**
9. **INSTALL ENGINE UNDER COVER RH**
10. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

11. **PERFORM INITIALIZATION**
 - a. Perform initialization (See INITIALIZATION).

NOTE: Certain systems need to be initialized after reconnecting the cable to the negative (-) battery terminal.

INSTALLATION (2006/10-)

1. INSTALL SHIFT LEVER POSITION SENSOR

- a. Install the shift lever position sensor to the manual valve shaft.
- b. Temporarily install the 2 bolts.

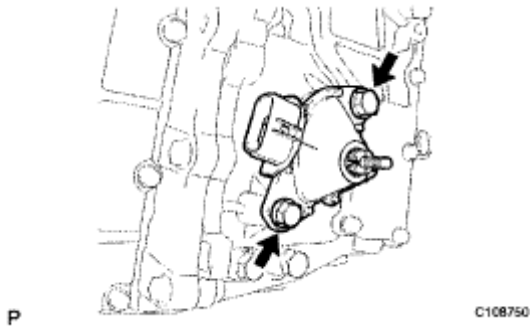


Fig. 35: Locating Shift Lever Position Sensor Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install a new lock plate and tighten the nut.

Torque: 6.9 N*m (70 kgf*cm, 61 in.*lbf)

- d. Temporarily install the control shaft lever.

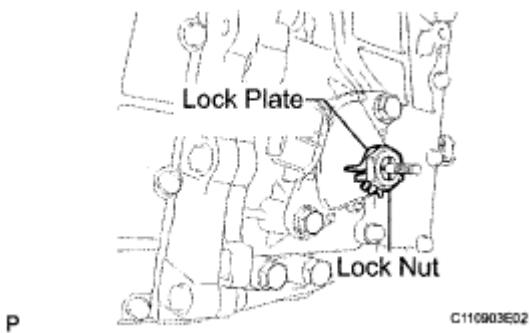


Fig. 36: Identifying Lock Nut And Lock Plate
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Turn the lever clockwise until it stops, then turn it counterclockwise 2 notches.
- f. Remove the control shaft lever.

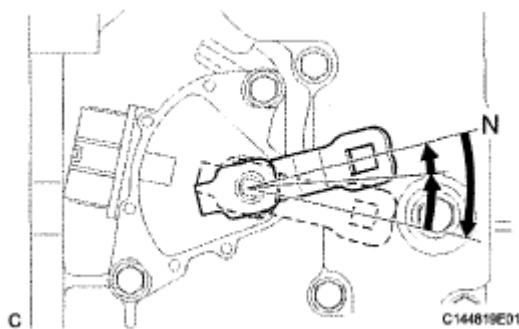


Fig. 37: Turning Control Shaft Lever

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- g. Align the protruding part with the neutral basic line.

NOTE: There is play on the nut stopper side (protruding part). Align the center point of the range of the play with the neutral basic line.

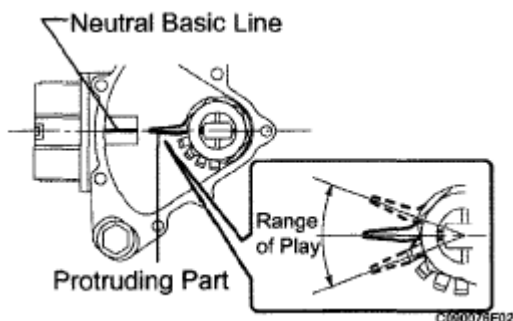


Fig. 38: Aligning Protruding Part With Neutral Basic Line

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- h. Tighten the 2 bolts in the order shown in the illustration.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

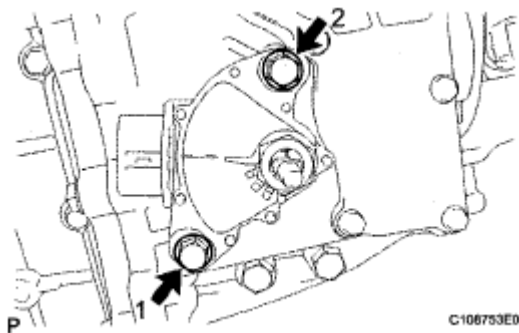


Fig. 39: Tightening Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- i. Using a screwdriver, secure the nut with the lock plate.

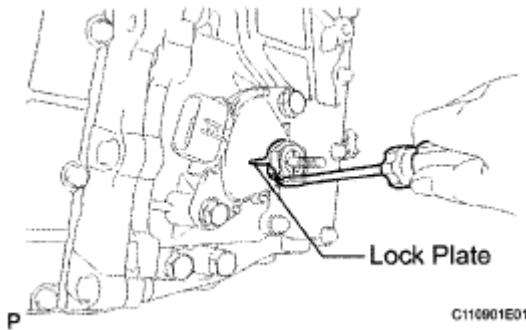


Fig. 40: Staking Nut With Lock Plate

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- j. Install the control shaft lever, washer, and nut.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

2. CONNECT TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Move the shift lever to the N position.
- b. Install a new clip to the control bracket.

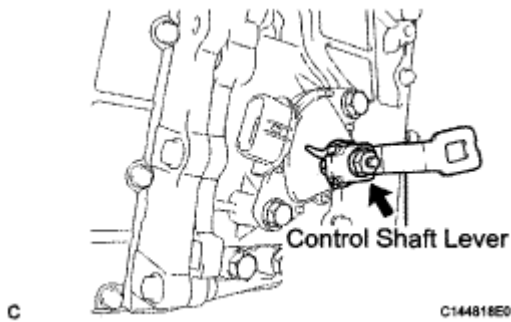


Fig. 41: Locating Control Shaft Lever

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Install the transmission control cable assembly to the control bracket.

NOTE:

- Make sure that the A claws on the clip are securely fit into the bracket holes.
- Make sure that the cable is securely installed inside the B claws of the clip.

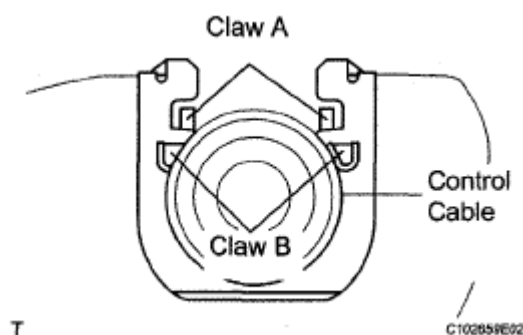


Fig. 42: Identifying Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Connect the shift lever position sensor connector.
- e. Move the control shaft lever to the N position.

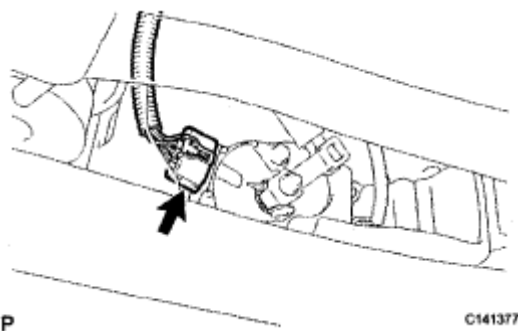


Fig. 43: Locating Shift Lever Position Sensor Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Connect the transmission control cable assembly to the control shaft lever with the nut.

Torque: 15 N*m (150 kgf*cm, 11 ft.*lbf)

- 3. **INSPECT SHIFT LEVER POSITION** (See ADJUSTMENT)
- 4. **ADJUST SHIFT LEVER POSITION** (See ADJUSTMENT)
- 5. **ADJUST TRANSMISSION CONTROL CABLE ASSEMBLY** (See ADJUSTMENT)
- 6. **INSPECT SHIFT LEVER OPERATION** (See ADJUSTMENT)

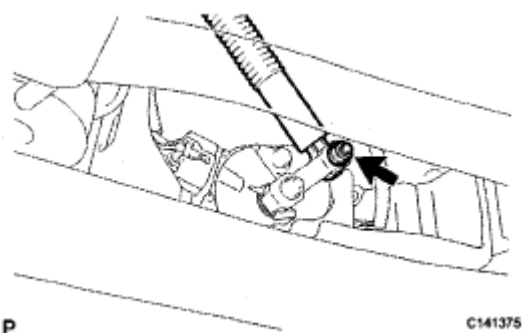


Fig. 44: Locating Control Shaft Lever Nut

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **INSTALL AIR CLEANER INLET ASSEMBLY** (See INSTALLATION (2006/10-))
8. **INSTALL ENGINE UNDER COVER LH**
9. **INSTALL ENGINE UNDER COVER RH**
10. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

11. PERFORM INITIALIZATION

- a. Perform initialization (See INITIALIZATION).

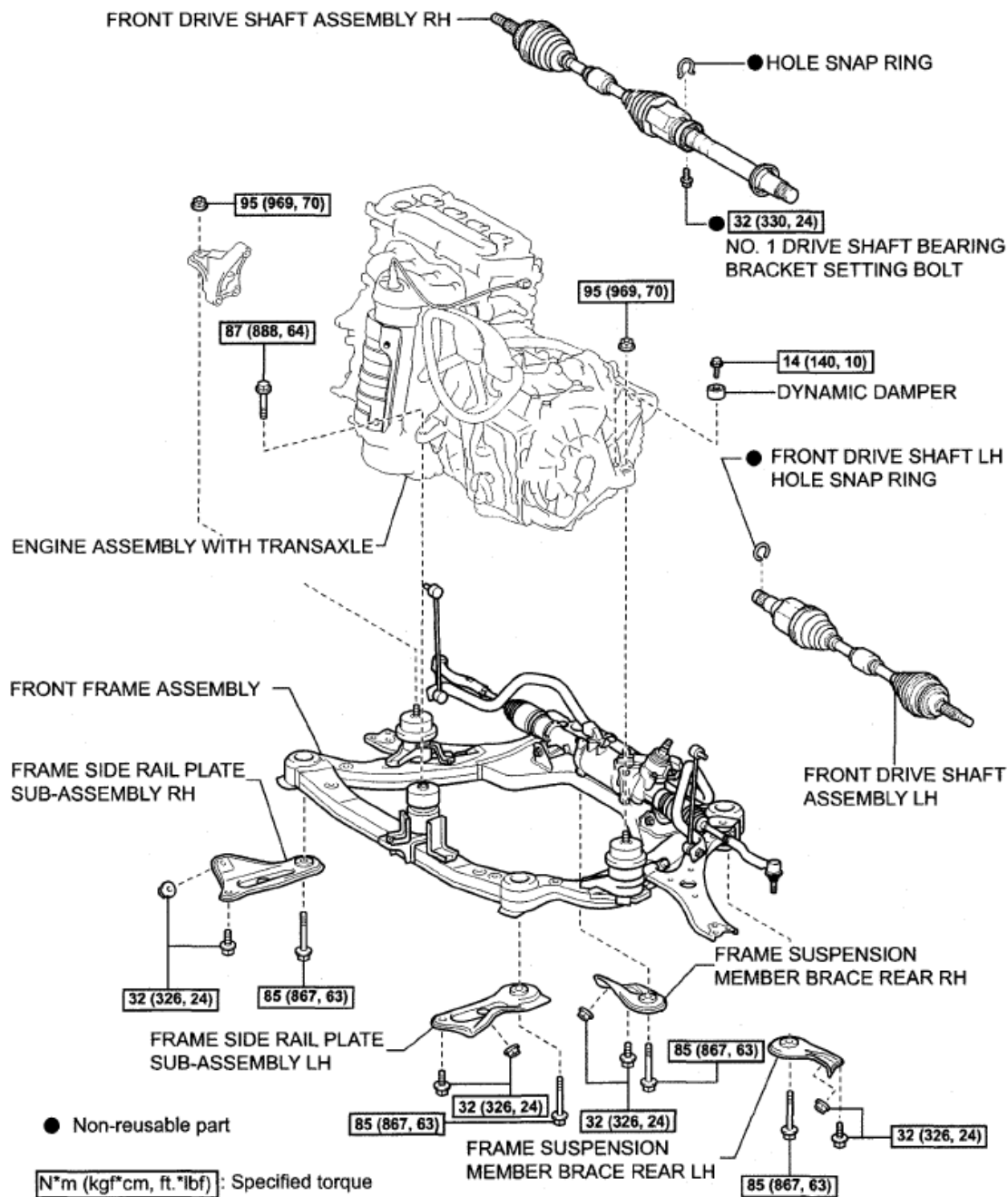
NOTE: Certain systems need to be initialized after reconnecting the cable to the negative (-) battery terminal.

HYBRID VEHICLE TRANSAXLE ASSEMBLY

COMPONENTS

2007 Toyota Camry Hybrid

2007 TRANSMISSION P311 Hybrid Transmission / Transaxle - Camry Hybrid



G144614E01

Fig. 45: Identifying Hybrid Vehicle Transaxle Assembly Components With Torque Specification (1 Of 2)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2007 TRANSMISSION P311 Hybrid Transmission / Transaxle - Camry Hybrid

**REMOVAL (2006/03-2006/10)**

1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

HINT:

(See **REMOVAL (2006/03-2006/10)**)

2. REMOVE DYNAMIC DAMPER (See **REMOVAL (2006/03-2006/10)**)**3. REMOVE FRONT FRAME ASSEMBLY** (See **REMOVAL (2006/03-2006/10)**)**4. REMOVE FRONT DRIVE SHAFT ASSEMBLY LH** (See **REMOVAL**)**5. REMOVE FRONT DRIVE SHAFT ASSEMBLY RH** (See **REMOVAL**)**6. REMOVE FLYWHEEL HOUSING UNDER COVER**

- a. Remove the flywheel housing under cover from the hybrid vehicle transaxle assembly.

7. SEPARATE ENGINE WIRE

- a. Remove the bolt and ground wire.
- b. Disconnect the wire harnesses from the clamps.

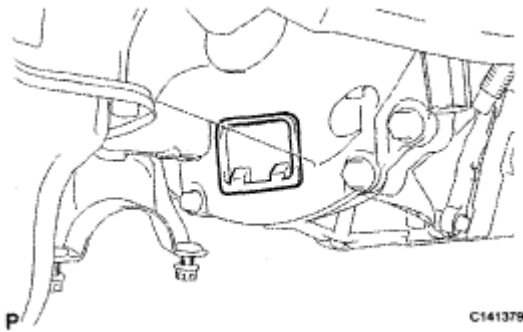


Fig. 47: Identifying Engine Wire

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the connectors.

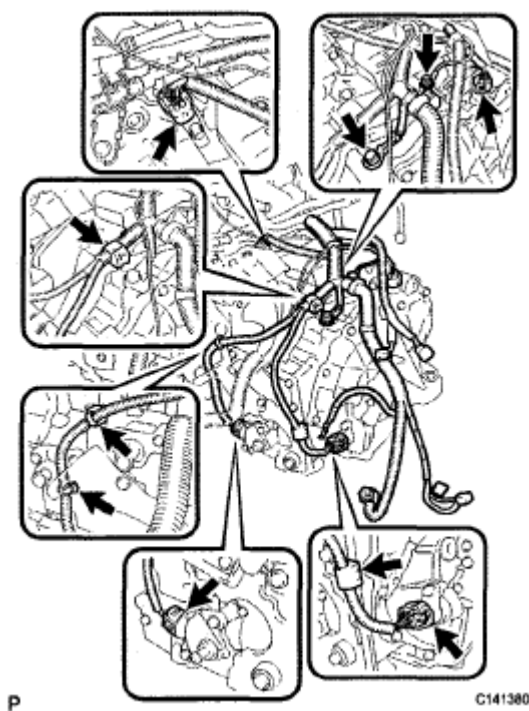


Fig. 48: Locating Connectors

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Remove the 3 bolts and 3 clamps.

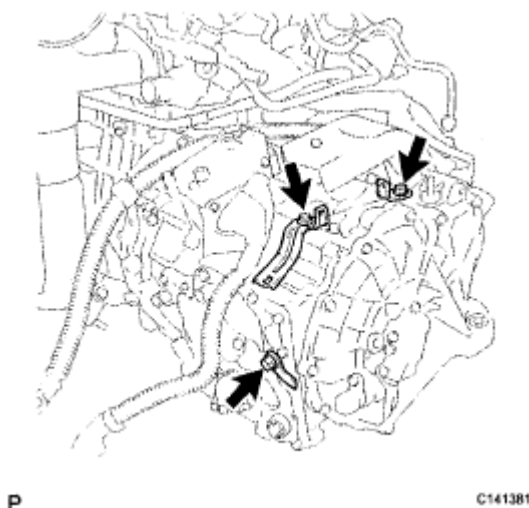


Fig. 49: Identifying Clamps With Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. REMOVE NO. 1 TRANSMISSION CONTROL CABLE BRACKET

- a. Remove the 2 bolts and No. 1 transmission control cable bracket.

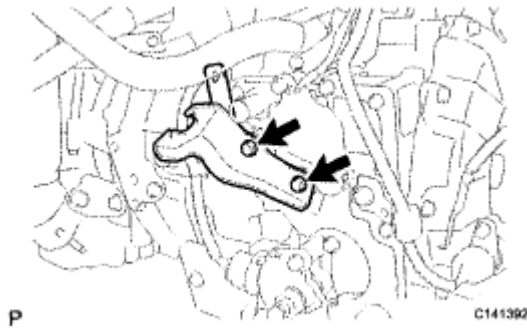


Fig. 50: Identifying No. 1 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. REMOVE NO. 2 TRANSMISSION CONTROL CABLE BRACKET

- a. Remove the bolt and No. 2 transmission control cable bracket.

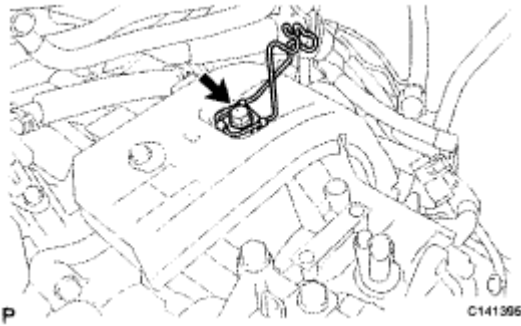


Fig. 51: Identifying No. 2 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. REMOVE NO. 3 TRANSMISSION CONTROL CABLE BRACKET

- a. Remove the bolt and No. 3 transmission control cable bracket.
- b. Remove the bolt and HV inverter protector.

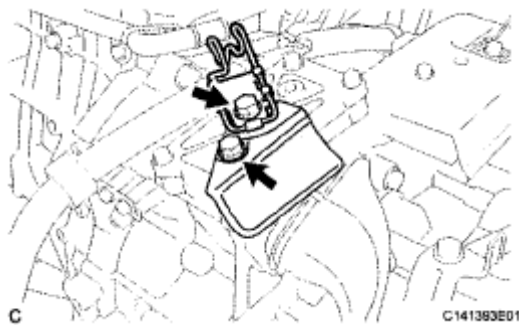


Fig. 52: Identifying No. 3 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. REMOVE AUTOMATIC TRANSMISSION CASE COVER

- a. Remove the bolt from the hybrid transaxle.
- b. Disconnect the 3 wire harness clamps from the automatic transmission case cover.
- c. Remove the 2 bolts, and bracket from the hybrid transaxle.

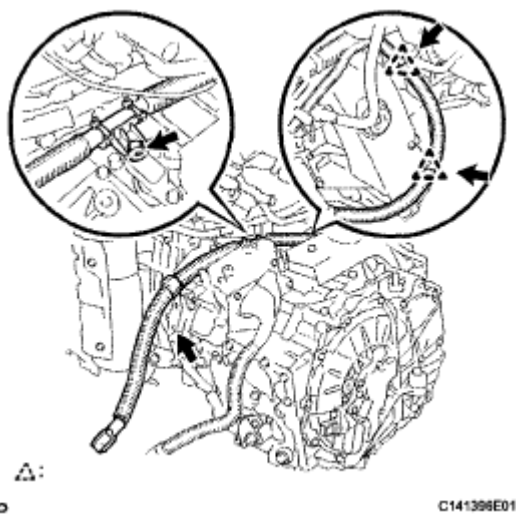


Fig. 53: Locating Wire Harness Clamps

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Remove the transmission case cover.

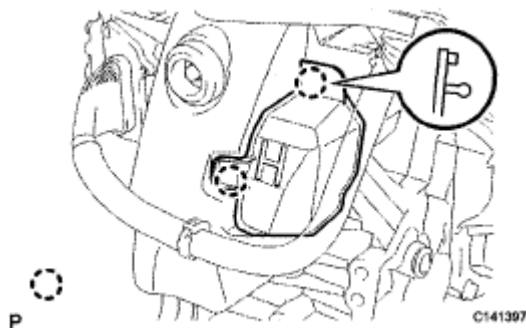


Fig. 54: Identifying Transmission Case Cover

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Remove the 2 bolts, clip, and automatic transmission case cover from the hybrid transaxle.
12. **REMOVE HV TRANSAXLE MASS DAMPER**
 - a. Remove the HV transaxle mass damper and gasket.
 13. **REMOVE TRANSMISSION OIL PUMP COVER PLUG**
 - a. Remove the 2 transmission oil pump cover plugs and 2 O-rings.

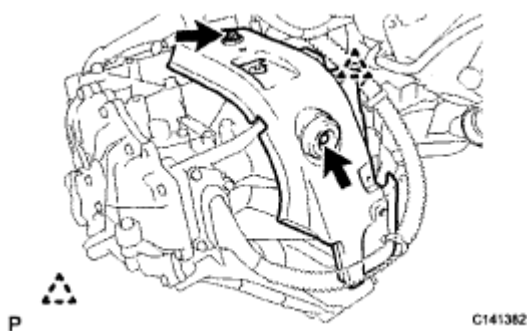


Fig. 55: Locating Automatic Transmission Case Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. REMOVE WATER HOSE

- a. Disconnect the water hose from the hybrid transaxle.

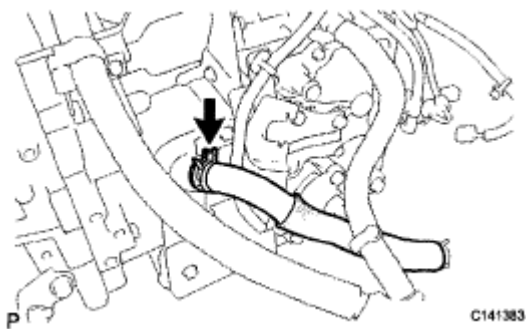


Fig. 56: Locating Water Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. REMOVE FRONT ENGINE MOUNTING BRACKET

- a. Remove the 3 bolts and engine mounting bracket.

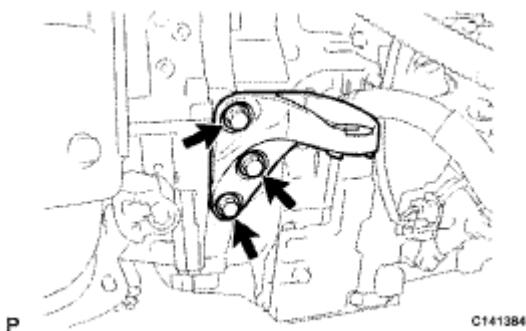


Fig. 57: Locating Engine Mounting Bracket With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. REMOVE HYBRID VEHICLE TRANSAXLE ASSEMBLY

- a. Remove the 9 bolts.
- b. Separate and remove the hybrid vehicle transaxle.

NOTE: Do not pry between the transaxle assembly and engine more than necessary to prevent the knock pin from being damaged.

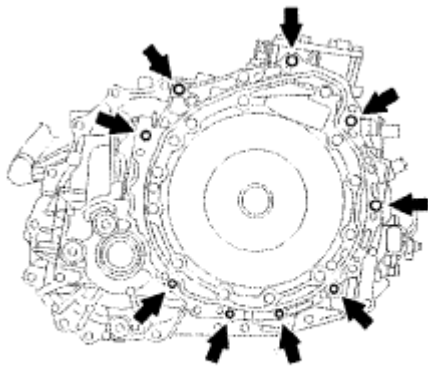
REMOVAL (2006/10-)

1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

HINT:

(See REMOVAL (2006/10-))

2. REMOVE DYNAMIC DAMPER (See REMOVAL (2006/10-))



C144893

Fig. 58: Locating Hybrid Vehicle Transaxle Assembly With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. REMOVE FRONT FRAME ASSEMBLY (See REMOVAL (2006/10-))
4. REMOVE FRONT DRIVE SHAFT ASSEMBLY LH (See REMOVAL)
5. REMOVE FRONT DRIVE SHAFT ASSEMBLY RH (See REMOVAL)
6. REMOVE FLYWHEEL HOUSING UNDER COVER
 - a. Remove the flywheel housing under cover from the hybrid vehicle transaxle assembly.
7. SEPARATE ENGINE WIRE
 - a. Remove the bolt and ground wire.
 - b. Disconnect the wire harnesses from the clamps.

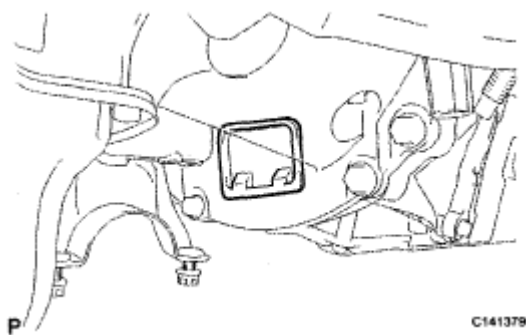


Fig. 59: Identifying Flywheel Housing Under Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Disconnect the connectors.

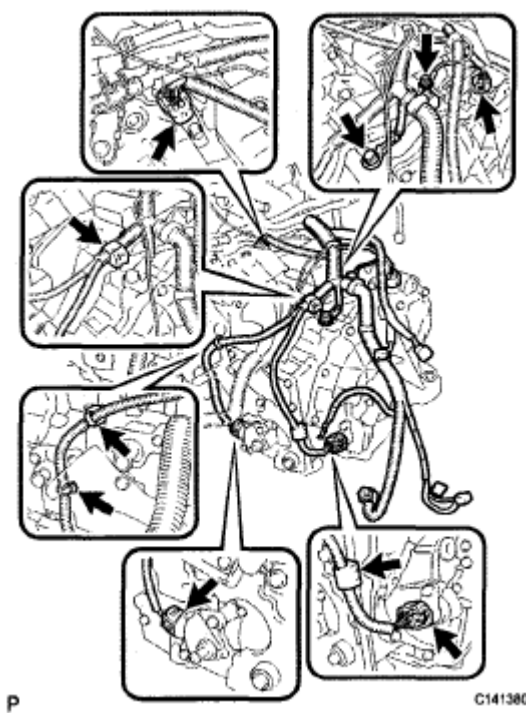


Fig. 60: Locating Connectors
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Remove the 3 bolts and 3 clamps.



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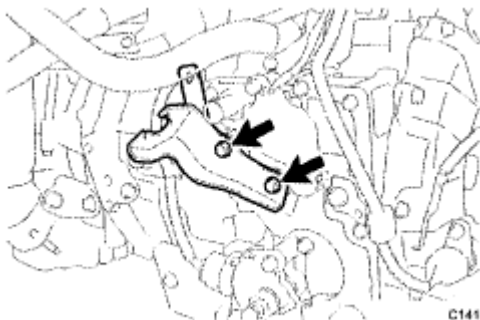
C141381

Fig. 61: Identifying Clamps With Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. REMOVE NO. 1 TRANSMISSION CONTROL CABLE BRACKET

- a. Remove the 2 bolts and No. 1 transmission control cable bracket.



P

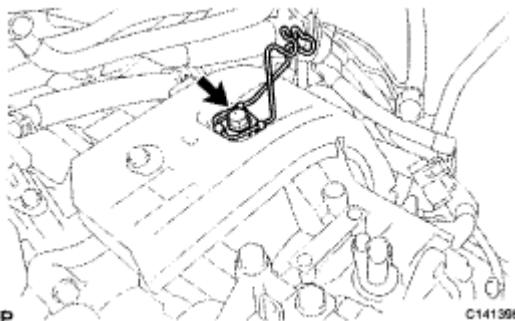
C141392

Fig. 62: Identifying No. 1 Transmission Control Cable Bracket

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. REMOVE NO. 2 TRANSMISSION CONTROL CABLE BRACKET

- a. Remove the bolt and No. 2 transmission control cable bracket.



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Fig. 63: Locating No. 2 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. REMOVE NO. 3 TRANSMISSION CONTROL CABLE BRACKET

- a. Remove the bolt and No. 3 transmission control cable bracket.
- b. Remove the bolt and HV inverter protector.

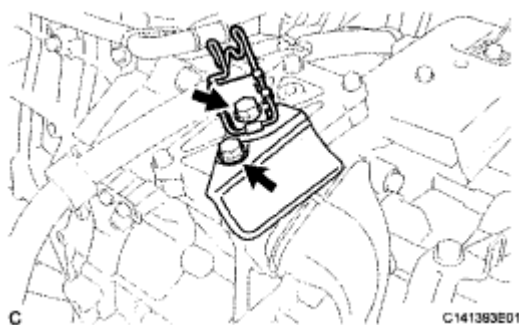


Fig. 64: Identifying No. 3 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. REMOVE AUTOMATIC TRANSMISSION CASE COVER

- a. Remove the bolt from the hybrid transaxle.
- b. Disconnect the 3 wire harness clamps from the automatic transmission case cover.
- c. Remove the 2 bolts, and bracket from the hybrid transaxle.

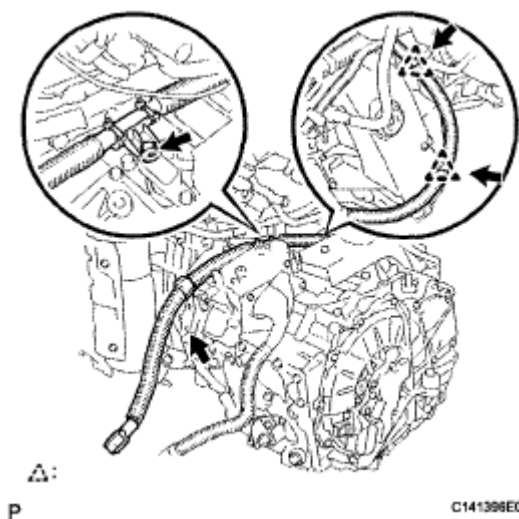


Fig. 65: Locating Wire Harness Clamps
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Remove the transmission case cover.

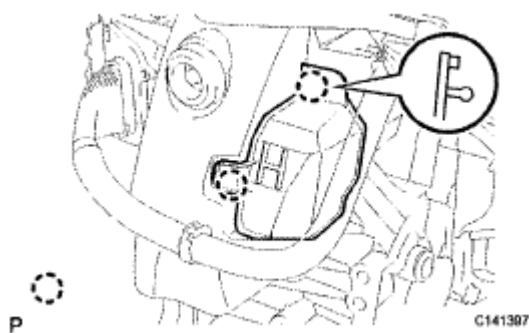


Fig. 66: Identifying Transmission Case Cover

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Remove the 2 bolts, clip, and automatic transmission case cover from the hybrid transaxle.

12. REMOVE HV TRANSAXLE MASS DAMPER

- a. Remove the HV transaxle mass damper and gasket.

13. REMOVE TRANSMISSION OIL PUMP COVER PLUG

- a. Remove the 2 transmission oil pump cover plugs and 2 O-rings.

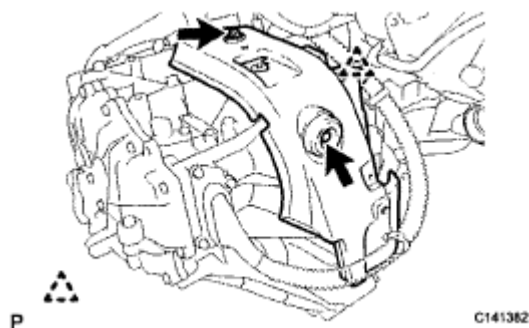


Fig. 67: Locating Transmission Oil Pump Cover Plugs

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. REMOVE WATER HOSE

- a. Disconnect the water hose from the hybrid transaxle.

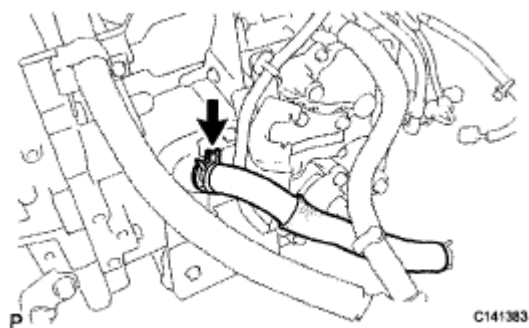


Fig. 68: Locating Water Hose

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. REMOVE FRONT ENGINE MOUNTING BRACKET

- a. Remove the 3 bolts and engine mounting bracket.

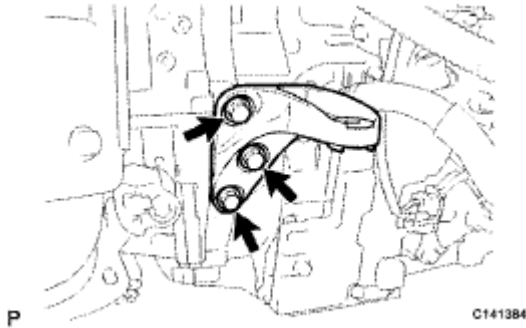


Fig. 69: Locating Engine Mounting Bracket

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

16. REMOVE HYBRID VEHICLE TRANSAXLE ASSEMBLY

- a. Remove the 9 bolts.
- b. Separate and remove the hybrid vehicle transaxle.

NOTE: Do not pry between the transaxle assembly and engine more than necessary to prevent the knock pin from being damaged.

INSTALLATION (2006/03-2006/10)**1. INSTALL HYBRID VEHICLE TRANSAXLE ASSEMBLY**

- a. Make sure that the knock pins are installed on the engine.

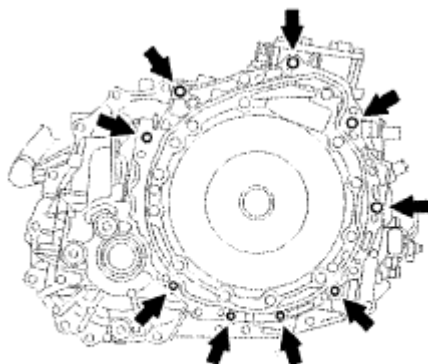


Fig. 70: Locating Hybrid Vehicle Transaxle Assembly With Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the hybrid vehicle transaxle and the 9 bolts shown in the illustration to the engine.

Torque: Bolt A

64 N*m (653 kgf*cm, 47 ft.*lbf)

Bolt B

46 N*m (469 kgf*cm, 34 ft.*lbf)

Bolt C

28 N*m (286 kgf*cm, 21 ft.*lbf)

Bolt D

44 N*m (450 kgf*cm, 33 ft.*lbf)

NOTE:

- Do not forcibly pry on the hybrid vehicle transaxle assembly.
- Do not apply grease either to the spline or to the input shaft.

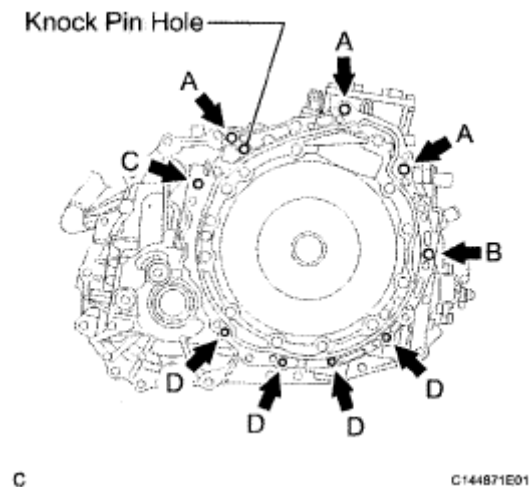


Fig. 71: Locating Hybrid Vehicle Transaxle Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

BOLT LENGTH SPECIFICATION

Bolt	Installation direction	Diameter	Bolt length
A	From transaxle to engine	12 mm (0.47 in.)	55 mm (2.17 in.)
B	From transaxle to engine	10 mm (0.39 in.)	65 mm (2.56 in.)
C	From engine to transaxle	8 mm (0.32 in.)	38 mm (1.47 in.)
D	From engine to transaxle	10 mm (0.39 in.)	32 mm (1.26 in.)

2. INSTALL FRONT ENGINE MOUNTING BRACKET

- a. Install the front engine mounting bracket with the 3 bolts.

Torque: 64 N*m (653 kgf*cm, 47 ft.*lbf)

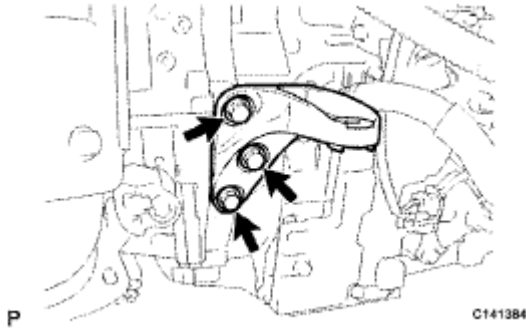


Fig. 72: Locating Front Engine Mounting Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. INSTALL WATER HOSE

- a. Install the water hose with the clamp.

4. INSTALL TRANSMISSION OIL PUMP COVER PLUG

- a. Install 2 new O-rings and the 2 transmission oil pump cover plugs.

Torque: 27 N*m (275 kgf*cm, 20 ft.*lbf)

5. INSTALL HV TRANSAXLE MASS DAMPER

- a. Install a new gasket and the HV transaxle mass damper.

Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)

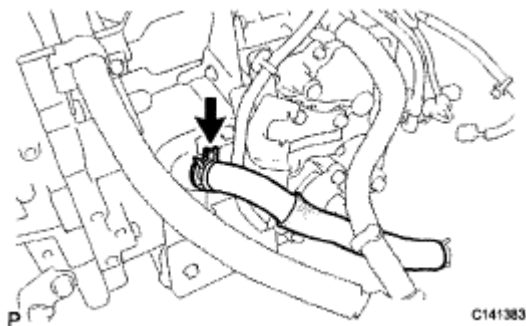


Fig. 73: Locating Water Hose
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. INSTALL AUTOMATIC TRANSMISSION CASE COVER

- a. Install the automatic transmission case cover with the 2 bolts and clip.

Torque: 7.0 N*m (71 kgf*cm, 62 in.*lbf)

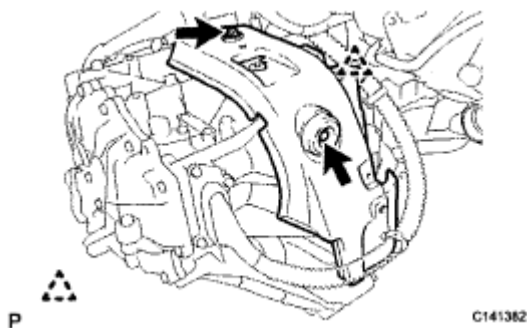


Fig. 74: Locating Transmission Oil Pump Cover Plugs
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the transmission case cover.
- c. Install the bracket with the 2 bolts.

Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

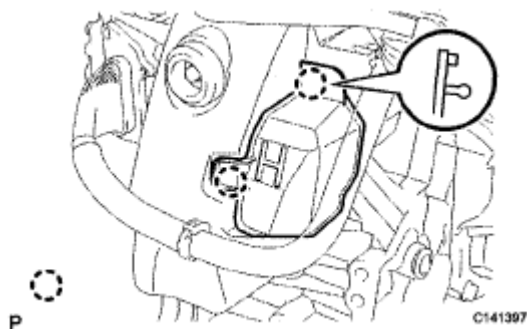


Fig. 75: Identifying Transmission Case Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Connect the wire harness with the bolt and 3 clamps.

Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

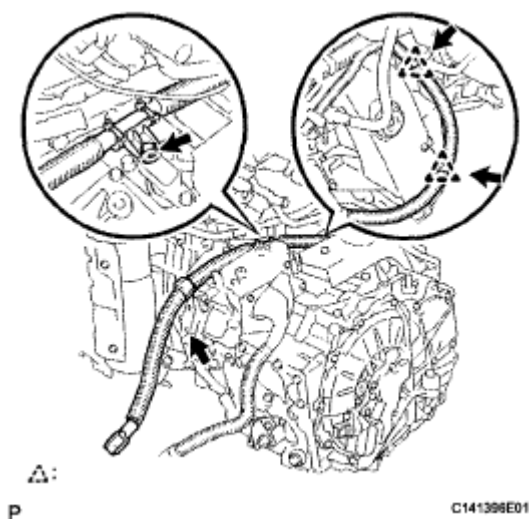


Fig. 76: Locating Wire Harness Clamps

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. INSTALL NO. 3 TRANSMISSION CONTROL CABLE BRACKET

- a. Install the hybrid inverter protector with the bolt.

Torque: 10 N*m (102 kgf*cm, 7 ft.*lbf)

- b. Install the No. 3 transmission control cable bracket.

Torque: 14 N*m (143 kgf*cm, 10 ft.*lbf)

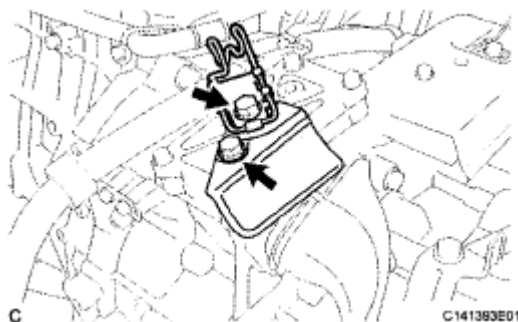


Fig. 77: Identifying No. 3 Transmission Control Cable Bracket

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. INSTALL NO. 2 TRANSMISSION CONTROL CABLE BRACKET

- a. Install the No. 2 transmission control cable bracket with the bolt.

Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)

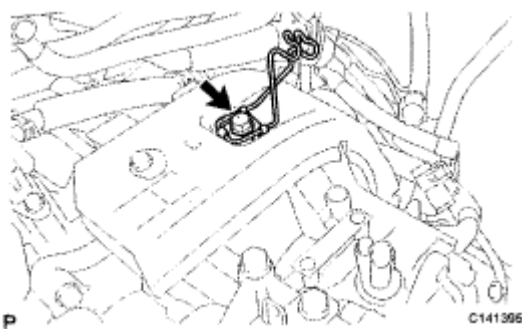


Fig. 78: Locating No. 2 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. INSTALL NO. 1 TRANSMISSION CONTROL CABLE BRACKET

- a. Install the No. 1 transmission control cable bracket with the 2 bolts.

Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)

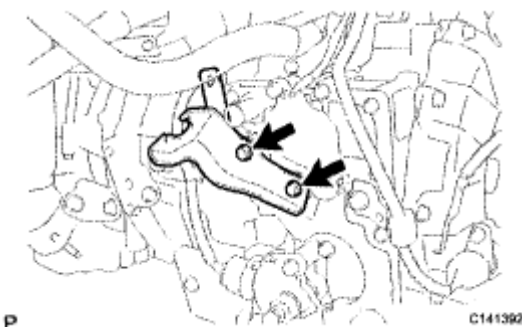


Fig. 79: Identifying No. 1 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. CONNECT ENGINE WIRE

- a. Install the 3 wire harness brackets with the 3 bolts.

Torque: 8.4 N*m (86 kgf*cm, 74 in.*lbf)



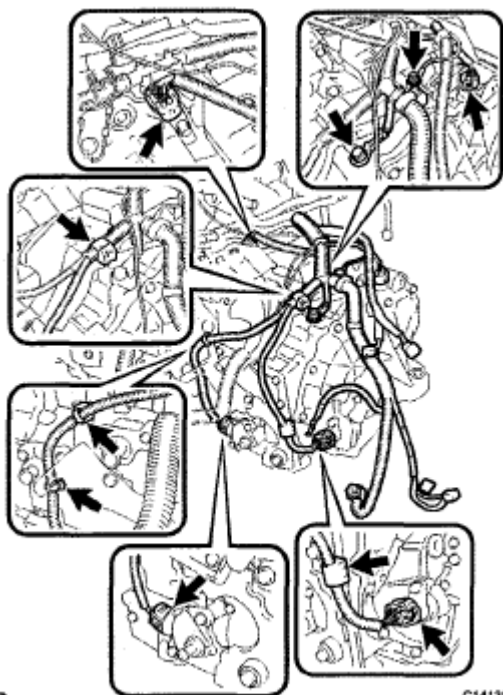
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Fig. 80: Identifying Clamps With Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the connectors.
- c. Connect the wire harnesses to the wire harness clamps.
- d. Install the ground wire with the bolt.

Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)

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Fig. 81: Locating Connectors

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. INSTALL FLYWHEEL HOUSING UNDER COVER

- a. Install the flywheel housing under cover to the hybrid vehicle transaxle assembly.

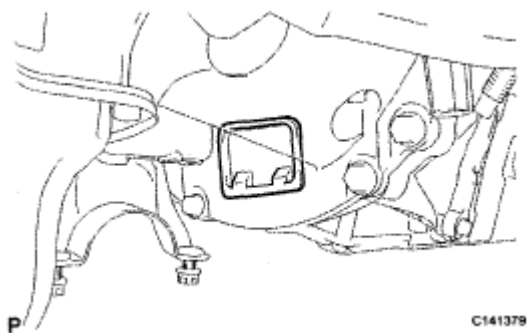
12. INSTALL FRONT DRIVE SHAFT ASSEMBLY LH (See INSTALLATION (2006/03-2006/10))**13. INSTALL FRONT DRIVE SHAFT ASSEMBLY RH (See INSTALLATION (2006/03-2006/10))****14. INSTALL FRONT FRAME ASSEMBLY (See INSTALLATION (2006/03-2006/10))**

Fig. 82: Identifying Flywheel Housing Under Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

15. INSTALL DYNAMIC DAMPER (See INSTALLATION (2006/03-2006/10))**16. INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

HINT:

(See INSTALLATION (2006/03-2006/10))

INSTALLATION (2006/10-)**1. INSTALL HYBRID VEHICLE TRANSAXLE ASSEMBLY**

- a. Make sure that the knock pins are installed on the engine.
- b. Install the hybrid vehicle transaxle and the 9 bolts shown in the illustration to the engine.

Torque: Bolt A

64 N*m (653 kgf*cm, 47 ft.*lbf)

Bolt B

46 N*m (469 kgf*cm, 34 ft.*lbf)

Bolt C

28 N*m (286 kgf*cm, 21 ft.*lbf)

Bolt D

44 N*m (450 kgf*cm, 33 ft.*lbf)

NOTE:

- Do not forcibly pry on the hybrid vehicle transaxle assembly.
- Do not apply grease either to the spline or to the input shaft.

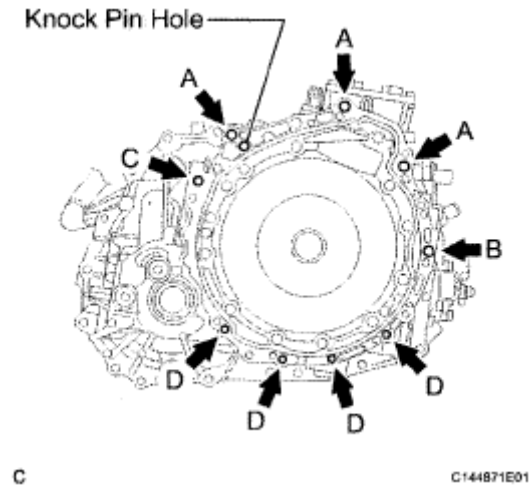


Fig. 83: Locating Hybrid Vehicle Transaxle Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

BOLT LENGTH SPECIFICATION

Bolt	Installation direction	Diameter	Bolt length
A	From transaxle to engine	12 mm (0.47 in.)	55 mm (2.17 in.)
B	From transaxle to engine	10 mm (0.39 in.)	65 mm (2.56 in.)
C	From engine to transaxle	8 mm (0.32 in.)	38 mm (1.47 in.)
D	From engine to transaxle	10 mm (0.39 in.)	32 mm (1.26 in.)

2. INSTALL FRONT ENGINE MOUNTING BRACKET

- Install the front engine mounting bracket with the 3 bolts.

Torque: 64 N*m (653 kgf*cm, 47 ft.*lbf)

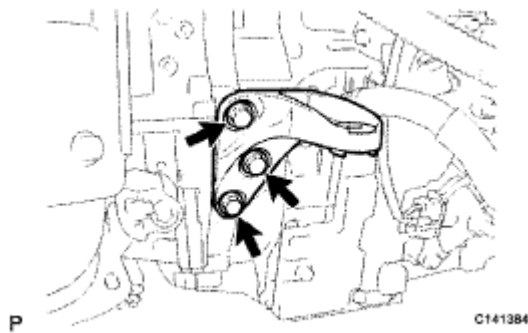


Fig. 84: Locating Front Engine Mounting Bracket

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. INSTALL WATER HOSE

- a. Install the water hose with the clamp.

4. INSTALL TRANSMISSION OIL PUMP COVER PLUG

- a. Install 2 new O-rings and the 2 transmission oil pump cover plugs.

Torque: 27 N*m (275 kgf*cm, 20 ft.*lbf)

5. INSTALL HV TRANSAXLE MASS DAMPER

- a. Install a new gasket and the HV transaxle mass damper.

Torque: 39 N*m (398 kgf*cm, 29 ft.*lbf)

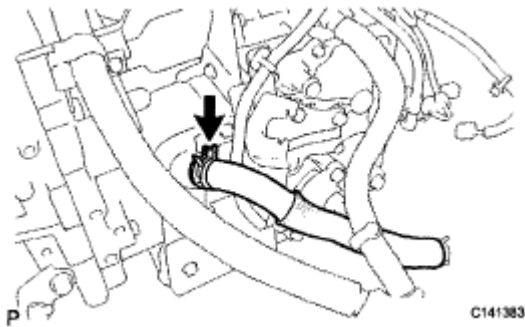


Fig. 85: Locating Water Hose

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. INSTALL AUTOMATIC TRANSMISSION CASE COVER

- a. Install the automatic transmission case cover with the 2 bolts and clip.

Torque: 7.0 N*m (71 kgf*cm, 62 in.*lbf)

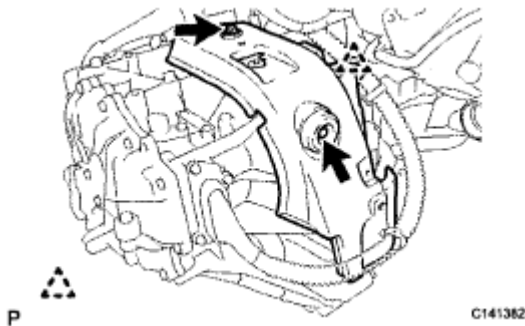


Fig. 86: Locating Transmission Oil Pump Cover Plugs

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the transmission case cover.

- c. Install the bracket with the 2 bolts.

Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

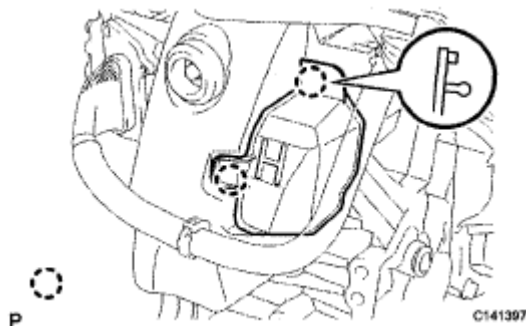


Fig. 87: Identifying Transmission Case Cover
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Connect the wire harness with the bolt and 3 clamps.

Torque: 8.0 N*m (82 kgf*cm, 71 in.*lbf)

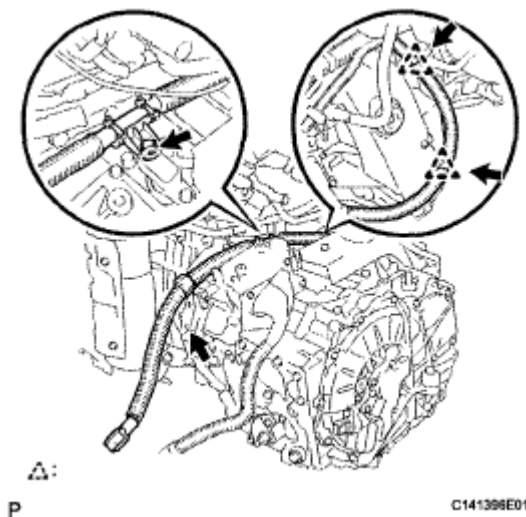


Fig. 88: Locating Wire Harness Clamps
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. INSTALL NO. 3 TRANSMISSION CONTROL CABLE BRACKET

- a. Install the hybrid inverter protector with the bolt.

Torque: 10 N*m (102 kgf*cm, 7 ft.*lbf)

- b. Install the No. 3 transmission control cable bracket.

Torque: 14 N*m (143 kgf*cm, 10 ft.*lbf)

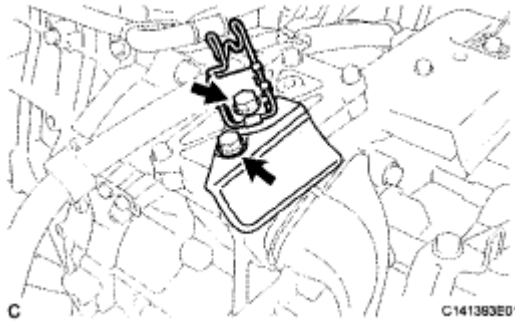


Fig. 89: Identifying No. 3 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. INSTALL NO. 2 TRANSMISSION CONTROL CABLE BRACKET

- a. Install the No. 2 transmission control cable bracket with the bolt.

Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)

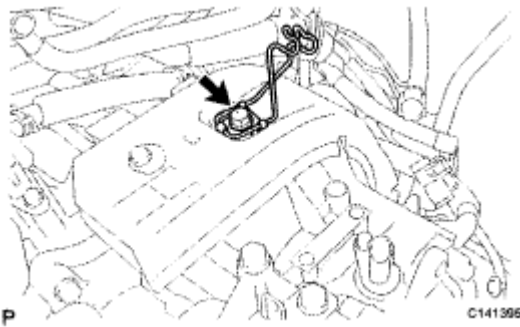


Fig. 90: Locating No. 2 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. INSTALL NO. 1 TRANSMISSION CONTROL CABLE BRACKET

- a. Install the No. 1 transmission control cable bracket with the 2 bolts.

Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)

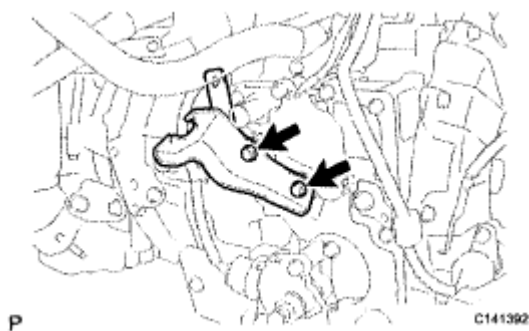


Fig. 91: Identifying No. 1 Transmission Control Cable Bracket
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. CONNECT ENGINE WIRE

- a. Install the 3 wire harness brackets with the 3 bolts.

Torque: 8.4 N*m (86 kgf*cm, 74 in.*lbf)

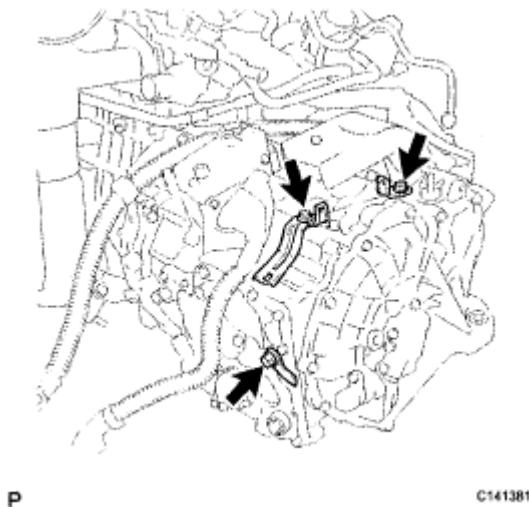
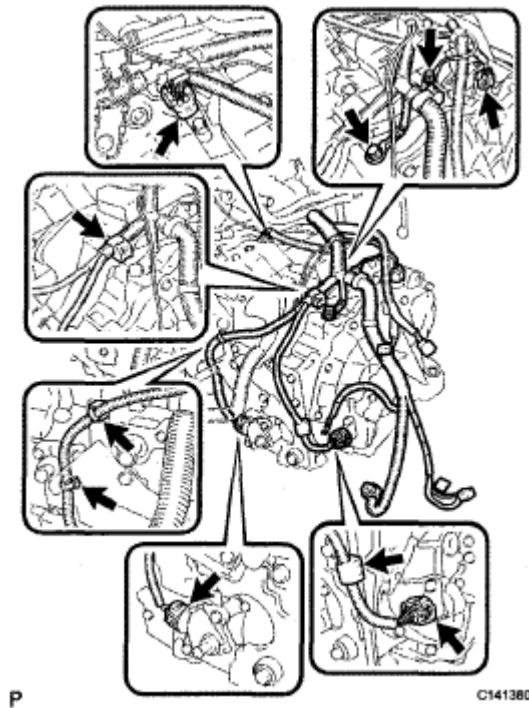


Fig. 92: Locating Wire Harness Brackets With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the connectors.
- c. Connect the wire harnesses to the wire harness clamps.
- d. Install the ground wire with the bolt.

Torque: 12 N*m (120 kgf*cm, 9 ft.*lbf)

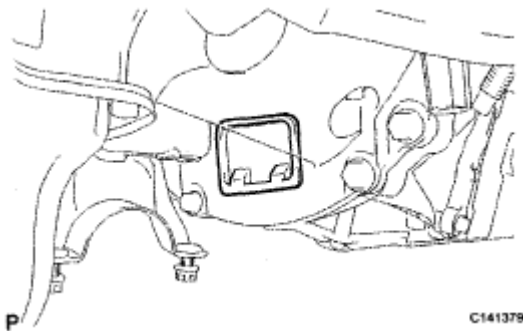
**Fig. 93: Locating Connector**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

11. INSTALL FLYWHEEL HOUSING UNDER COVER

- a. Install the flywheel housing under cover to the hybrid vehicle transaxle assembly.

- 12. **INSTALL FRONT DRIVE SHAFT ASSEMBLY LH** (See INSTALLATION (2006/10-))
- 13. **INSTALL FRONT DRIVE SHAFT ASSEMBLY RH** (See INSTALLATION (2006/10-))
- 14. **INSTALL FRONT FRAME ASSEMBLY** (See INSTALLATION (2006/10-))

**Fig. 94: Identifying Flywheel Housing Under Cover**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

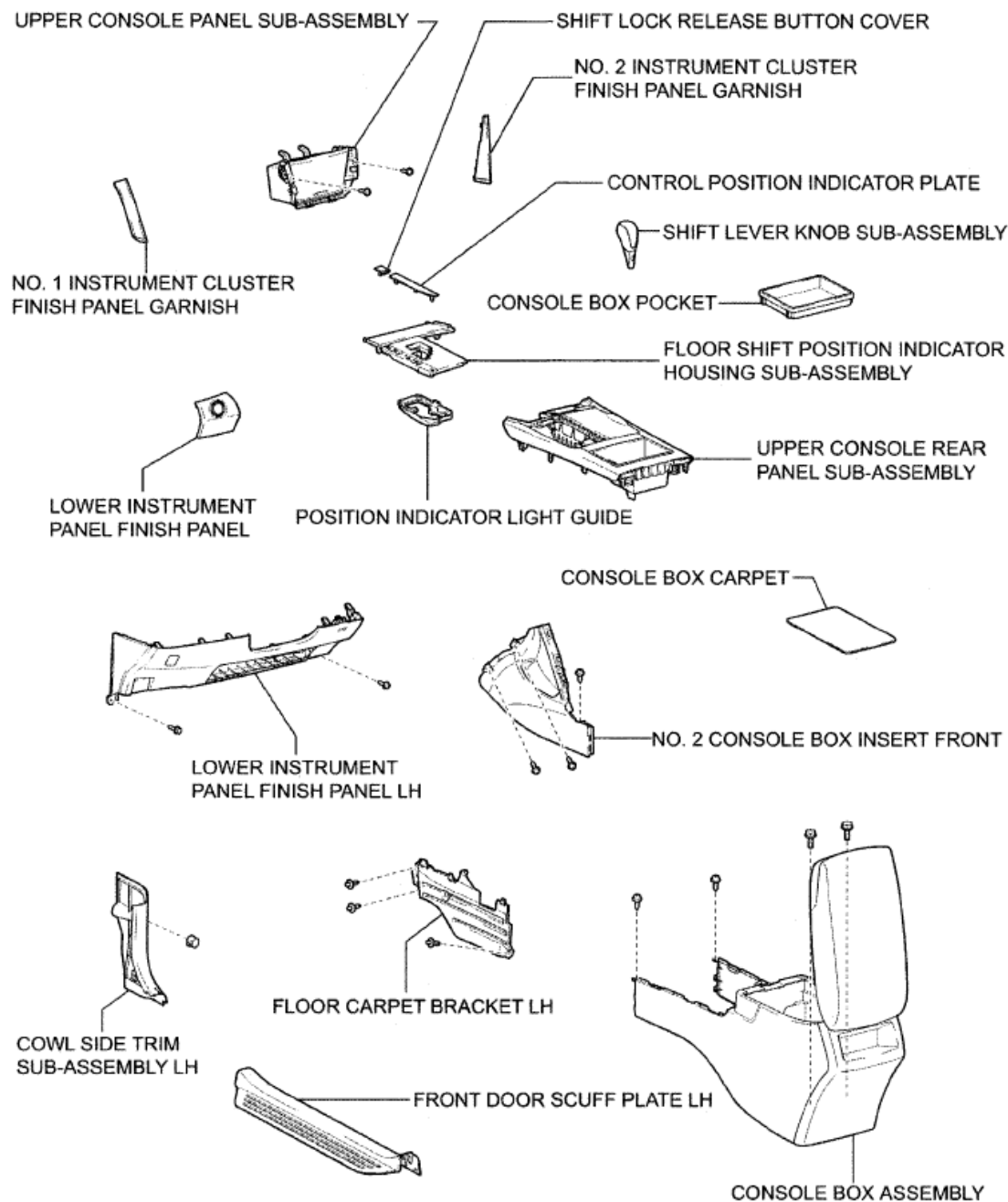
- 15. **INSTALL DYNAMIC DAMPER** (See INSTALLATION (2006/10-))
- 16. **INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

HINT:

(See INSTALLATION (2006/10-))

SHIFT LEVER

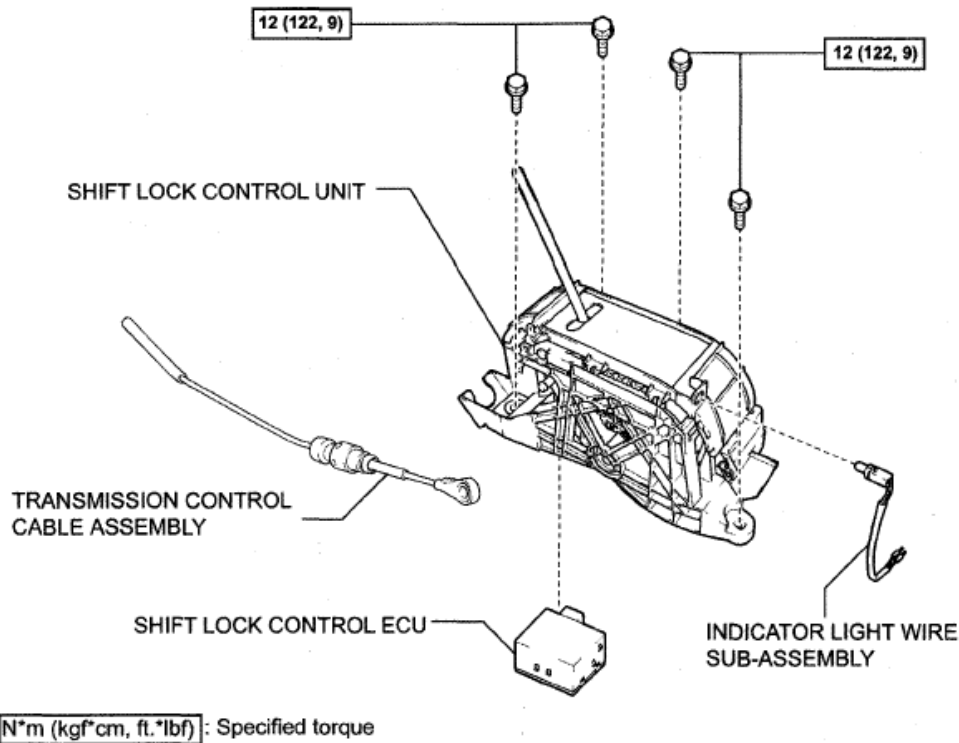
COMPONENTS



P

C141396E01

Fig. 95: Identifying Shift Lever Component (1 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



C135729E03

Fig. 96: Identifying Shift Lever Components With Torque Specification (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ON-VEHICLE INSPECTION

1. CHECK SHIFT LOCK OPERATION

- Move the shift lever to the P position.
- Turn the power switch off.
- Check that the shift lever cannot be adjusted to any position other than P.
- Turn the power switch on (READY), depress the brake pedal and check that the shift lever can be adjusted to the other positions.
- Check that the back-up light comes on and the reverse warning buzzer sounds when the shift lever is set in the R position, but the light and buzzer do not operate in other positions. If a failure is found, check the shift lever position sensor for continuity.

2. CHECK SHIFT LOCK RELEASE BUTTON OPERATION

- Using a screwdriver, remove the shift lock release cover.
- When operating the shift lever with the shift lock release button pressed, check that the lever can be adjusted to any position other than P.

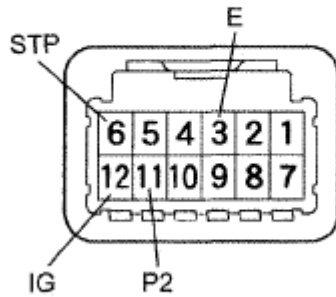
3. INSPECT SHIFT LOCK CONTROL UNIT ASSEMBLY

- Measure the voltage according to the value(s) in the table below.

HINT:

Do not disconnect the shift lock control unit assembly connector.

**Wire Harness Side
(Connector Rear View):**



C129009E09

Fig. 97: Identifying Shift Lock Control Unit Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard voltage

VOLTAGE SPECIFICATION

Terminal	Measuring Condition	Voltage (V)
12 (IG) - 3 (E)	Power switch on (IG)	10 to 14
12 (IG) - 3 (E)	Power switch off	Below 1
6 (STP) - 3 (E)	Brake pedal depressed	10 to 14
6 (STP) - 3 (E)	Brake pedal released	Below 1
11 (P2) - 3 (E)	Shift lever in P position	10 to 14
11 (P2) - 3 (E)	Shift lever in any position except P	Below 1.5

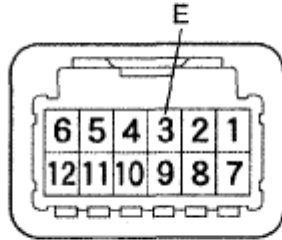
If the result is not done as specified, replace the shift lever assembly.

- b. Measure the resistance according to the value(s) in the table below.

HINT:

Do not disconnect the shift lock control unit assembly connector.

Wire Harness Side
(Connector Rear View):



C129009E10

Fig. 98: Identifying Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Standard resistance

RESISTANCE SPECIFICATION

Terminal	Measuring Condition	Specified Value
3 (E) - Body ground	Always	Below 1 ohms

If the result is not done as specified, replace the shift lever assembly.

REMOVAL (2006/03-2006/10)

1. REMOVE CABLE FROM NEGATIVE BATTERY TERMINAL

NOTE: Wait for 90 seconds after disconnecting the cable to prevent airbag deployment (See PRECAUTION (2006/03-2006/10)).

2. REMOVE FRONT DOOR SCUFF PLATE LH (See REMOVAL (2006/03-2006/10))
3. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH (See REMOVAL (2006/03-2006/10))
4. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL LH (See REMOVAL)
5. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL (See REMOVAL)
6. REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY
 - a. Turn the shift lever knob counterclockwise and remove the shift lever knob sub-assembly.

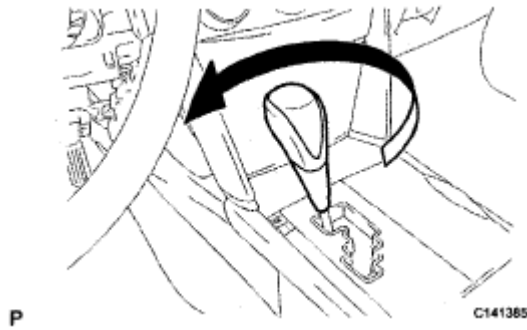


Fig. 99: Turning Shift Lever Knob

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH (See REMOVAL)
8. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH (See REMOVAL)
9. REMOVE FLOOR SHIFT POSITION INDICATOR HOUSING SUB-ASSEMBLY (See REMOVAL)
10. REMOVE UPPER CONSOLE REAR PANEL SUB-ASSEMBLY (See REMOVAL)
11. REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY (See REMOVAL)
12. REMOVE CONSOLE BOX POCKET (See REMOVAL)
13. REMOVE CONSOLE BOX CARPET (See REMOVAL)
14. REMOVE CONSOLE BOX ASSEMBLY (See REMOVAL)
15. REMOVE NO. 2 CONSOLE BOX INSERT FRONT (See REMOVAL)
16. REMOVE FLOOR CARPET BRACKET LH (See REMOVAL)
17. REMOVE TRANSMISSION CONTROL CABLE ASSEMBLY
 - a. Disconnect the end of the transmission control cable assembly from the shift lock control unit.
 - b. Disconnect the transmission control cable assembly from the shift lock control unit.

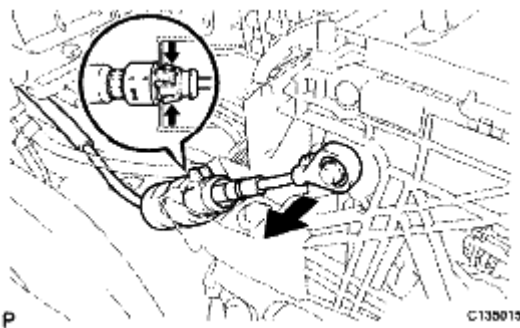


Fig. 100: Disconnecting Transmission Control Cable Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

18. REMOVE SHIFT LOCK CONTROL UNIT
 - a. Disconnect the shift lock control ECU connector and transmission control switch wire connector.

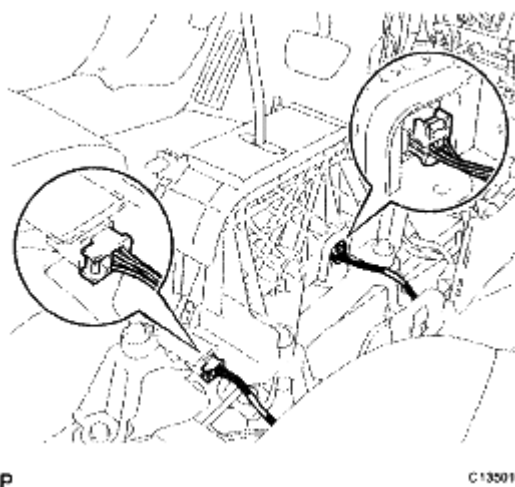


Fig. 101: Identifying Shift Lock Control ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the 4 bolts and shift lever.

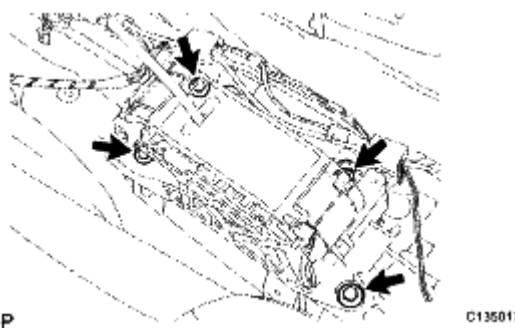


Fig. 102: Locating Shift Lever Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL (2006/10-)

1. REMOVE CABLE FROM NEGATIVE BATTERY TERMINAL

NOTE: Wait for 90 seconds after disconnecting the cable to prevent airbag deployment (See **PRECAUTION (2006/10-)**).

- 2. REMOVE FRONT DOOR SCUFF PLATE LH (See **REMOVAL (2006/10-)**)**
- 3. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH (See **REMOVAL (2006/10-)**)**
- 4. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL LH (for TMC Made) (See **REMOVAL**)**
- 5. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL LH (for TMMK Made) (See **REMOVAL**)**
- 6. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL (for TMC Made) (See **REMOVAL**)**

7. **REMOVE LOWER INSTRUMENT PANEL FINISH PANEL (for TMMK Made) (See REMOVAL)**
8. **REMOVE SHIFT LEVER KNOB SUB-ASSEMBLY**
 - a. Turn the shift lever knob counterclockwise and remove the shift lever knob sub-assembly.

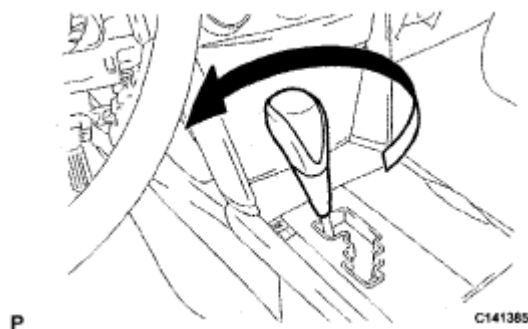


Fig. 103: Turning Shift Lever Knob

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. **REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMC Made) (See REMOVAL)**
10. **REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMMK Made) (See REMOVAL)**
11. **REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMC Made) (See REMOVAL)**
12. **REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMMK Made) (See REMOVAL)**
13. **REMOVE FLOOR SHIFT POSITION INDICATOR HOUSING SUB-ASSEMBLY (for TMC Made) (See REMOVAL)**
14. **REMOVE FLOOR SHIFT POSITION INDICATOR HOUSING SUB-ASSEMBLY (for TMMK Made) (See REMOVAL)**
15. **REMOVE UPPER CONSOLE REAR PANEL SUB-ASSEMBLY (for TMC Made) (See REMOVAL)**
16. **REMOVE UPPER CONSOLE REAR PANEL SUB-ASSEMBLY (for TMMK Made) (See REMOVAL)**
17. **REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY (for TMC Made) (See REMOVAL)**
18. **REMOVE UPPER CONSOLE PANEL SUB-ASSEMBLY (for TMMK Made) (See REMOVAL)**
19. **REMOVE CONSOLE BOX POCKET (for TMC Made) (See REMOVAL)**
20. **REMOVE CONSOLE BOX POCKET (for TMMK Made) (See REMOVAL)**
21. **REMOVE CONSOLE BOX CARPET (for TMC Made) (See REMOVAL)**
22. **REMOVE CONSOLE BOX CARPET (for TMMK Made) (See REMOVAL)**
23. **REMOVE CONSOLE BOX ASSEMBLY (for TMC Made) (See REMOVAL)**
24. **REMOVE CONSOLE BOX ASSEMBLY (for TMMK Made) (See REMOVAL)**
25. **REMOVE NO. 2 CONSOLE BOX INSERT FRONT (for TMC Made) (See REMOVAL)**

26. **REMOVE NO. 2 CONSOLE BOX INSERT FRONT (for TMMK Made)** (See **REMOVAL**)
27. **REMOVE FLOOR CARPET BRACKET LH (for TMC Made)** (See **REMOVAL**)
28. **REMOVE FLOOR CARPET BRACKET LH (for TMMK Made)** (See **REMOVAL**)
29. **REMOVE TRANSMISSION CONTROL CABLE ASSEMBLY**
 - a. Disconnect the end of the transmission control cable assembly from the shift lock control unit.
 - b. Disconnect the transmission control cable assembly from the shift lock control unit.

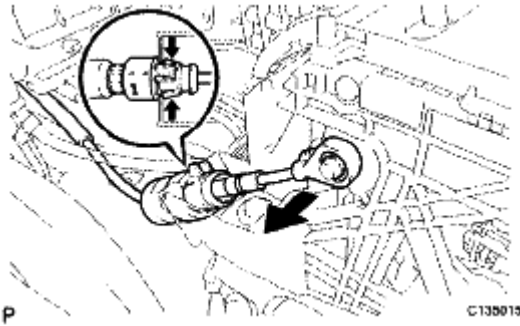


Fig. 104: Disconnecting Transmission Control Cable Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

30. **REMOVE SHIFT LOCK CONTROL UNIT**
 - a. Disconnect the shift lock control ECU connector and transmission control switch wire connector.

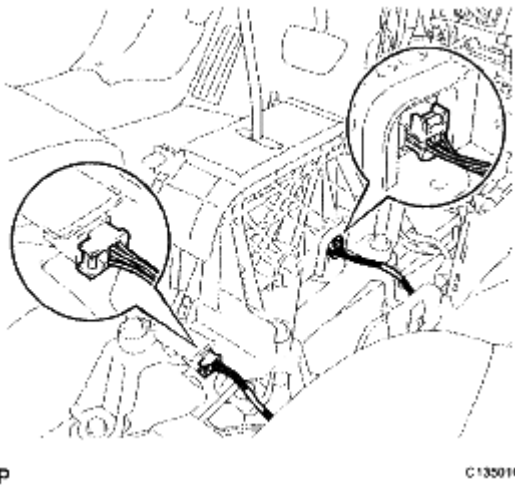
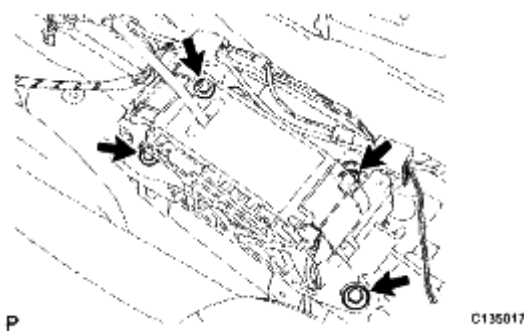


Fig. 105: Identifying Shift Lock Control ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the 4 bolts and shift lever.

**Fig. 106: Locating Shift Lever Bolts**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

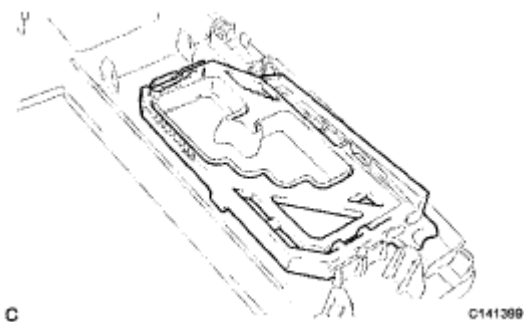
DISASSEMBLY

1. REMOVE POSITION INDICATOR LIGHT GUIDE

- Remove the position indicator light guide.

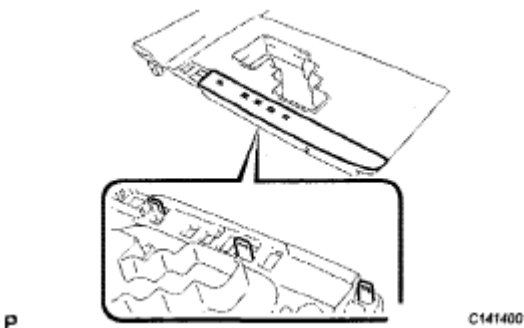
2. REMOVE CONTROL POSITION INDICATOR PLATE

- Remove the shift lock release button cover.

**Fig. 107: Identifying Shift Lock Release Button Cover**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- Remove control position indicator plate.

**Fig. 108: Identifying Control Position Indicator Plate**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. REMOVE INDICATOR LIGHT WIRE SUB-ASSEMBLY

- a. Using a screwdriver, release the stopper.
- b. Using a screwdriver, disengage the locking lug of terminals (4) and (8), and pull the terminals out from the rear of the connector.

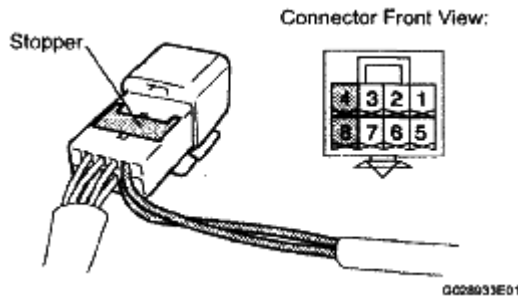


Fig. 109: Identifying Indicator Light Connector Terminal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Release the indicator light wire from the clamp on the shift lock control unit.
- d. Turn the indicator light guide counterclockwise.
- e. Align the indicator light guide key with the groove on the shift lock control unit to remove the indicator light wire.

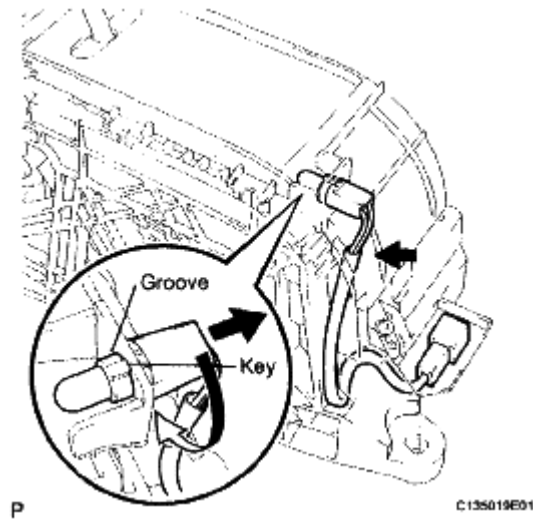
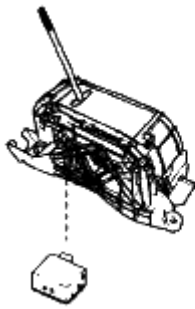


Fig. 110: Locating Indicator Light
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. REMOVE SHIFT LOCK CONTROL ECU

- a. Remove the shift lock control ECU from the shift lock control unit.



C135730

Fig. 111: Identifying Shift Lock Control Unit
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ADJUSTMENT

1. INSPECT SHIFT LEVER POSITION

- a. Apply the parking brake.
- b. Lock the wheels with chocks to secure the vehicle.
- c. Put the vehicle into the READY-on state.
- d. Move the shift lever to the D position and release the brake pedal.

NOTE: Be sure to apply the parking brake and lock the wheels with chocks to secure the vehicle.

- e. Slowly move the shift lever to the N position and measure moving distance (A) of the shift lever from the original point to the gear activation point.

NOTE: Be sure to move the shift lever slowly.

- f. Move the shift lever to the R position and release the brake pedal.

NOTE: Be sure to apply the parking brake and lock the wheels with chocks to secure the vehicle.

- g. Slowly move the shift lever to the N position and measure moving distance (B) of the shift lever from the original point to the gear activation point.

NOTE: Be sure to move the shift lever slowly.

- h. Check that moving distances (A) and (B) shown in the illustration are almost the same.

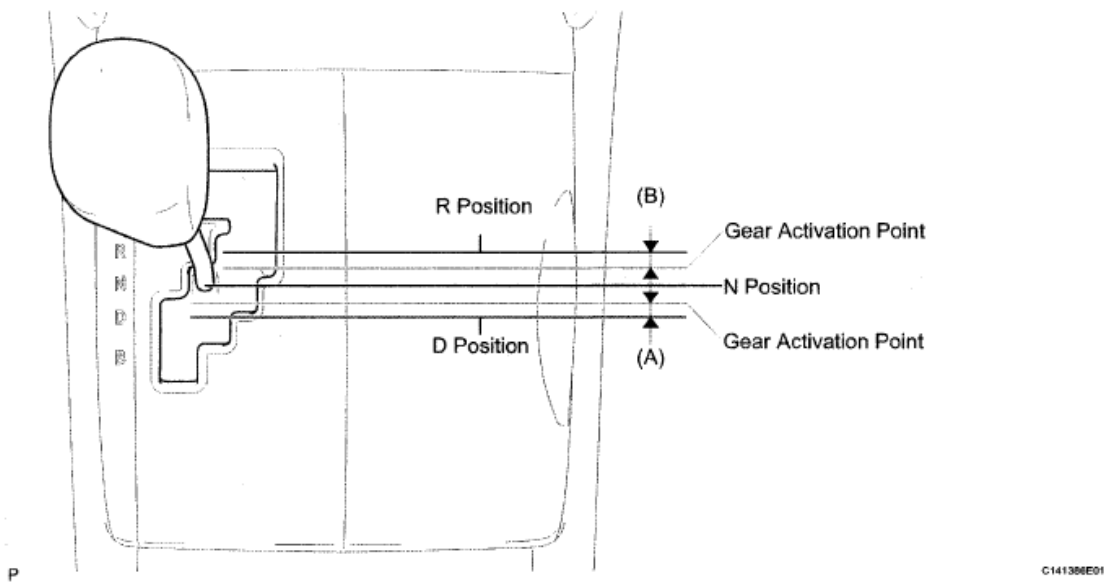


Fig. 112: Identifying Shift Lever Distances
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

- If moving distances (A) and (B) are almost the same, adjustment of the shift lever position is not necessary.
- If moving distance (A) is shorter than (B), perform adjustment of the shift lever position [*1].
- If moving distance (B) is shorter than (A), perform adjustment of the shift lever position [*2].

2. ADJUST SHIFT LEVER POSITION

- If moving distance (A) is shorter than (B) [*1]:

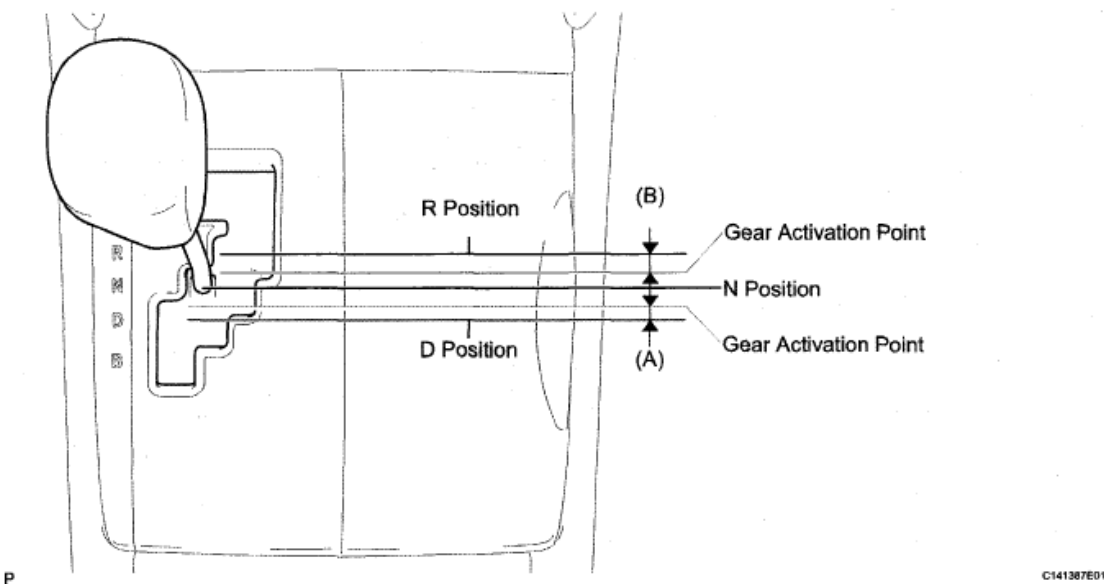


Fig. 113: Adjusting Shift Lever Position

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

If the shift lever is moved from the R to the N position, the moving distance of the shift lever from the original point to the gear activation point becomes longer.

1. Move the shift lever to the N position.
2. Loosen the 2 bolts.

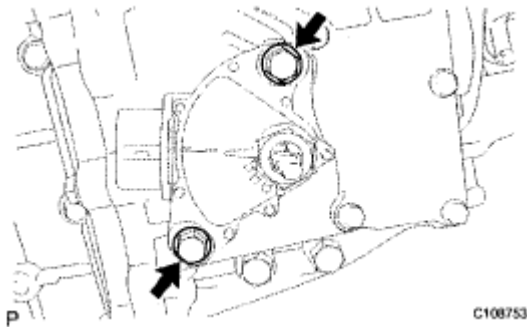


Fig. 114: Loosening Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. Slightly turn the shift lever position switch counterclockwise.

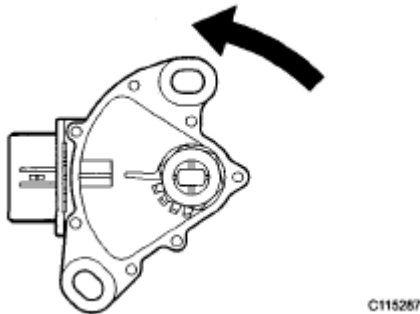


Fig. 115: Turning Shift Lever Position Switch Counterclockwise

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. Tighten the 2 bolts in the order shown in the illustration.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

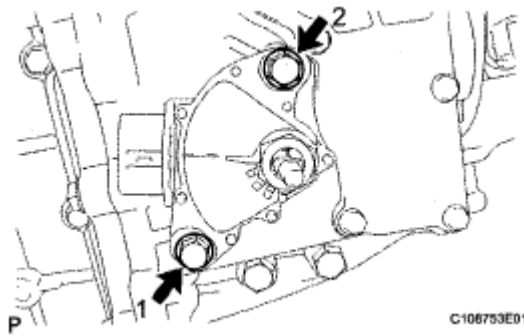


Fig. 116: Tightening Bolts

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. Recheck the shift lever position.
- b. If moving distance (B) is shorter than (A) [*2]:

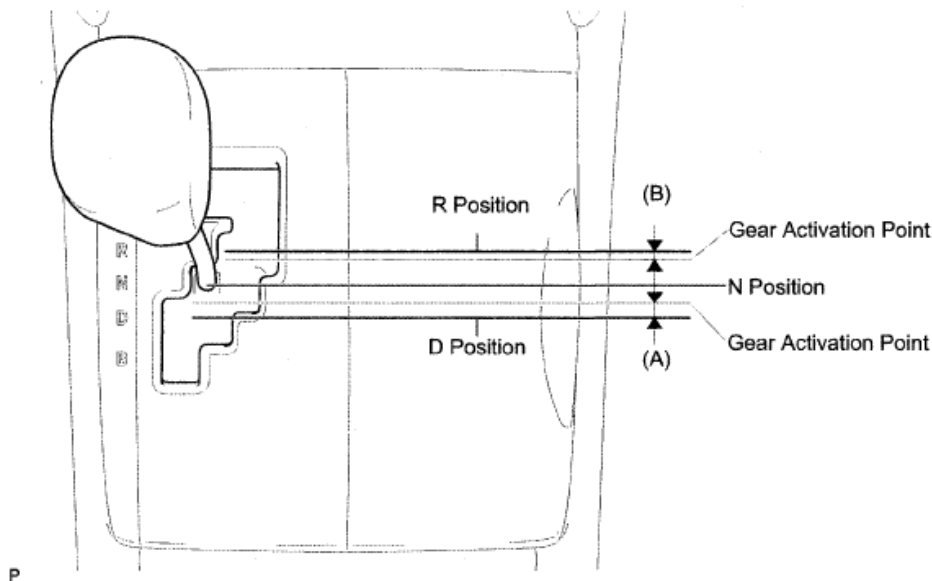


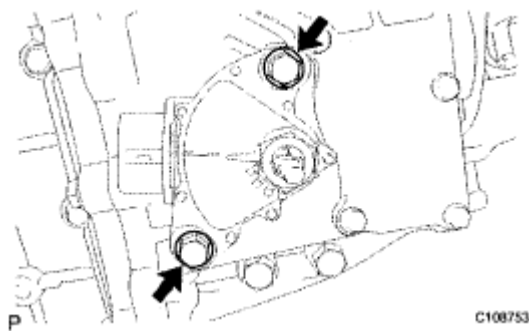
Fig. 117: Identifying Shift Lever Position

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

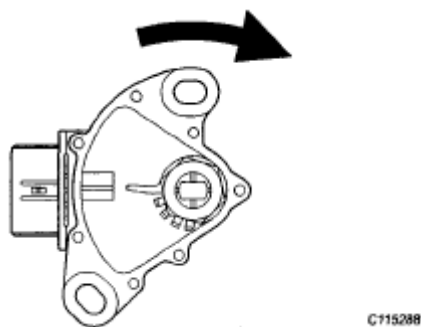
If the shift lever is moved from the D to the N position, the moving distance of the shift lever from the original point to the gear activation point becomes longer.

1. Move the shift lever to the N position.
2. Loosen the 2 bolts.

**Fig. 118: Loosening Bolts**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

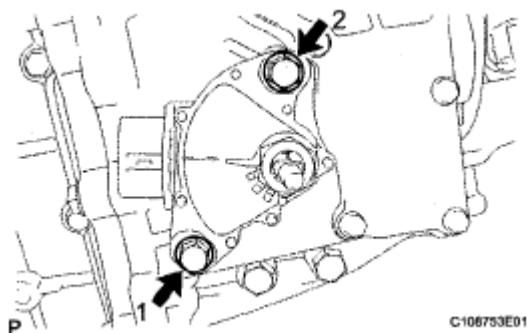
3. Slightly turn the shift lever position switch clockwise.

**Fig. 119: Turning Shift Lever Position Switch Clockwise**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. Tighten the 2 bolts in the order shown in the illustration.

Torque: 13 N*m (133 kgf*cm, 10 ft.*lbf)

**Fig. 120: Tightening Bolts**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

5. Recheck the shift lever position.

3. INSPECT SHIFT LEVER OPERATION

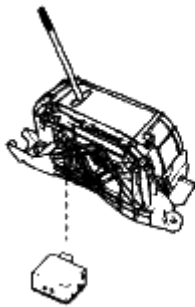
- a. While moving the shift lever from the N position to each position, check that the lever moves smoothly and that the shift position indicator comes on properly according to the shift lever position.
- b. Turn the power switch on (READY) and check the following:
 1. When the shift lever is moved to the D position, the vehicle moves forward.
 2. When the shift lever is moved to the R position, the buzzer sounds and the vehicle moves in reverse.

NOTE: **The vehicle should not move when the shift position indicator is off.**

REASSEMBLY

1. INSTALL SHIFT LOCK CONTROL ECU

- a. Install the shift lock control ECU to the shift lever.



C135730

Fig. 121: Identifying Shift Lock Control Unit
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL INDICATOR LIGHT WIRE SUB-ASSEMBLY

- a. Insert the indicator light wire into the shift lock control unit while aligning the groove on the unit with the indicator light guide key.
- b. Install the indicator light guide by turning it clockwise until it securely locks.
- c. Install the indicator light wire to the clamp on the shift lock control unit.

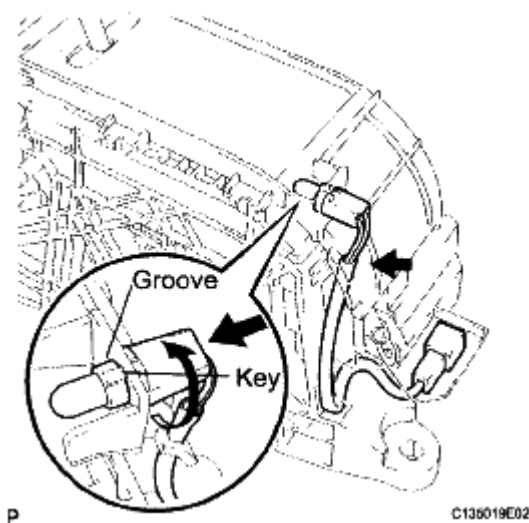


Fig. 122: Aligning Groove On Unit With Indicator Light Guide Key
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Connect terminals (4) and (8) of the indicator light wire.
- e. Push the stopper.

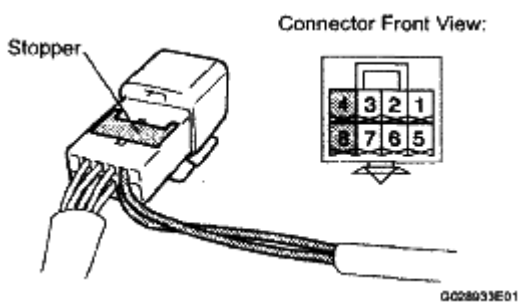


Fig. 123: Identifying Indicator Light Terminals
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. INSTALL CONTROL POSITION INDICATOR PLATE

- a. Install the control position indicator plate.
- b. Install the shift lock release button cover.



Fig. 124: Identifying Control Position Indicator Plate
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. INSTALL POSITION INDICATOR LIGHT GUIDE

- a. Install the position indicator light guide.

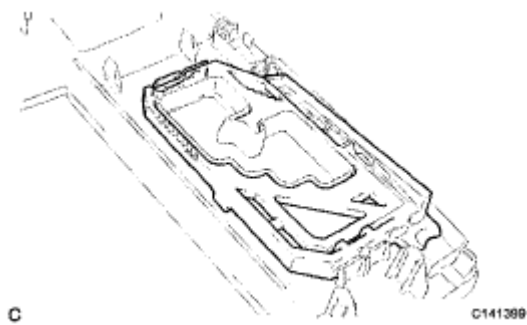


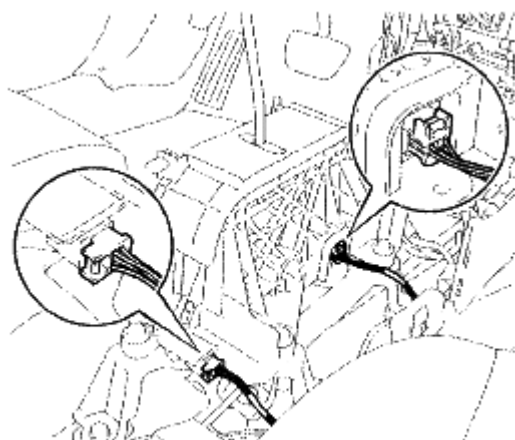
Fig. 125: Identifying Position Indicator Light Guide
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION (2006/03-2006/10)

1. INSTALL SHIFT LOCK CONTROL UNIT

- a. Connect the shift lock ECU connector and transmission control switch wire connector.
- b. Install the shift lock control unit with the 4 bolts.

Torque: 12 N*m (122 kgf*cm, 9 ft.*lbf)



P

C135016

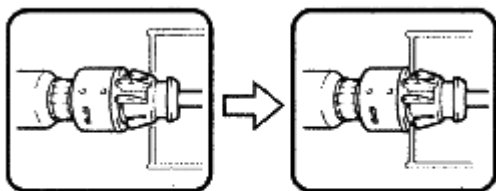
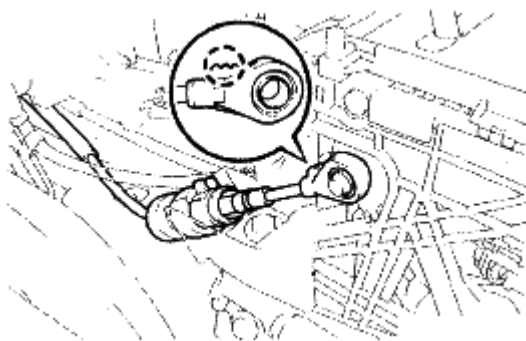
Fig. 126: Identifying Shift Lock Control ECU Connector
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Install the transmission control cable assembly as shown in the illustration.

HINT:

- Install the floor shift cable with the uneven surface facing up.
- Securely engage the claws of the floor shift cable.



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Fig. 127: Identifying Transmission Control Cable Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL FLOOR CARPET BRACKET LH**
4. **INSTALL NO. 2 CONSOLE BOX INSERT FRONT** (See INSTALLATION)
5. **INSTALL CONSOLE BOX ASSEMBLY** (See INSTALLATION)
6. **INSTALL CONSOLE BOX CARPET** (See INSTALLATION)
7. **INSTALL CONSOLE BOX POCKET** (See INSTALLATION)
8. **INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY** (See INSTALLATION)
9. **INSTALL UPPER CONSOLE REAR PANEL SUB-ASSEMBLY** (See INSTALLATION)
10. **INSTALL FLOOR SHIFT POSITION INDICATOR HOUSING SUB-ASSEMBLY** (See INSTALLATION)
11. **INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH** (See INSTALLATION)
12. **INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH** (See INSTALLATION)
13. **INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY**
 - a. Install the shift lever knob sub-assembly.

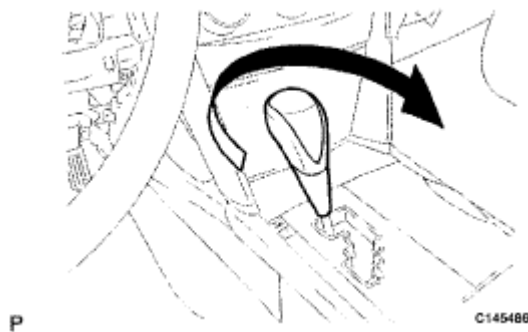


Fig. 128: Identifying Shift Lever Knob Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

14. **INSTALL LOWER INSTRUMENT PANEL FINISH PANEL** (See INSTALLATION)
15. **INSTALL LOWER INSTRUMENT PANEL FINISH PANEL LH** (See INSTALLATION)
16. **INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH** (See INSTALLATION (2006/03-2006/10))
17. **INSTALL FRONT DOOR SCUFF PLATE LH** (See INSTALLATION (2006/03-2006/10))
18. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

19. **INSPECT SHIFT LEVER POSITION** (See ADJUSTMENT)
20. **ADJUST SHIFT LEVER POSITION** (See ADJUSTMENT)
21. **ADJUST TRANSMISSION CONTROL CABLE ASSEMBLY** (See ADJUSTMENT)
22. **INSPECT SHIFT LEVER OPERATION** (See ADJUSTMENT)
23. **PERFORM INITIALIZATION**

- a. Perform initialization (See **INITIALIZATION**).

NOTE: Certain systems need to be initialized after reconnecting the cable to the negative (-) battery terminal.

INSTALLATION (2006/10-)

1. INSTALL SHIFT LOCK CONTROL UNIT

- a. Connect the shift lock ECU connector and transmission control switch wire connector.
- b. Install the shift lock control unit with the 4 bolts.

Torque: 12 N*m (122 kgf*cm, 9 ft.*lbf)

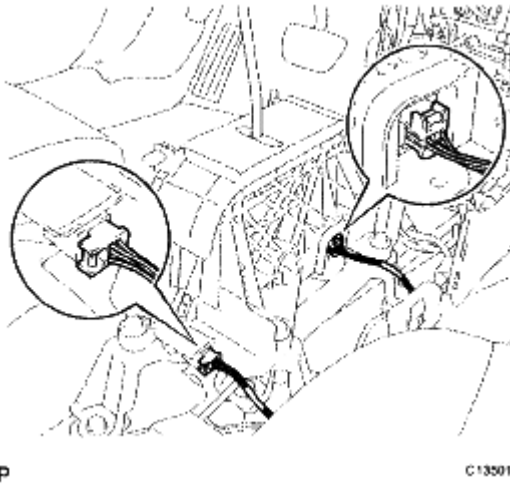


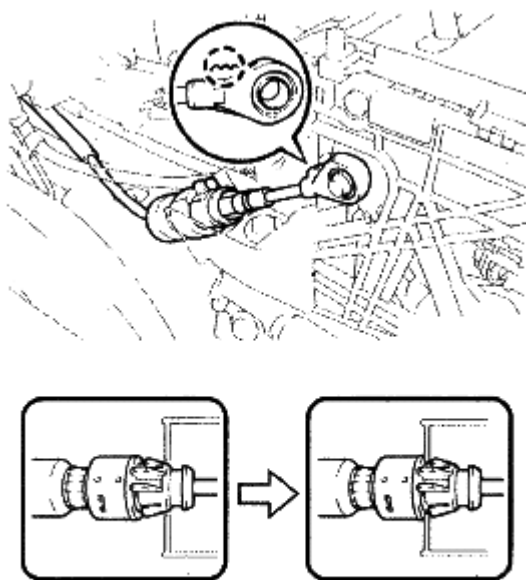
Fig. 129: Identifying Shift Lock Control ECU Connector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Install the transmission control cable assembly as shown in the illustration.

HINT:

- Install the floor shift cable with the uneven surface facing up.
- Securely engage the claws of the floor shift cable.



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Fig. 130: Identifying Transmission Control Cable Assembly

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

3. **INSTALL FLOOR CARPET BRACKET LH**
4. **INSTALL NO. 2 CONSOLE BOX INSERT FRONT (for TMC Made) (See INSTALLATION)**
5. **INSTALL NO. 2 CONSOLE BOX INSERT FRONT (for TMMK Made) (See INSTALLATION)**
6. **INSTALL CONSOLE BOX ASSEMBLY (for TMC Made) (See INSTALLATION)**
7. **INSTALL CONSOLE BOX ASSEMBLY (for TMMK Made) (See INSTALLATION)**
8. **INSTALL CONSOLE BOX CARPET (for TMC Made) (See INSTALLATION)**
9. **INSTALL CONSOLE BOX CARPET (for TMMK Made) (See INSTALLATION)**
10. **INSTALL CONSOLE BOX POCKET (for TMC Made) (See INSTALLATION)**
11. **INSTALL CONSOLE BOX POCKET (for TMMK Made) (See INSTALLATION)**
12. **INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY (for TMC Made) (See INSTALLATION)**
13. **INSTALL UPPER CONSOLE PANEL SUB-ASSEMBLY (for TMMK Made) (See INSTALLATION)**
14. **INSTALL UPPER CONSOLE REAR PANEL SUB-ASSEMBLY (for TMC Made) (See INSTALLATION)**
15. **INSTALL UPPER CONSOLE REAR PANEL SUB-ASSEMBLY (for TMMK Made) (See INSTALLATION)**
16. **INSTALL FLOOR SHIFT POSITION INDICATOR HOUSING SUB-ASSEMBLY (for TMC Made) (See INSTALLATION)**
17. **INSTALL FLOOR SHIFT POSITION INDICATOR HOUSING SUB-ASSEMBLY (for TMMK Made) (See INSTALLATION)**

18. **INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMC Made) (See INSTALLATION)**
19. **INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMMK Made) (See INSTALLATION)**
20. **INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMC Made) (See INSTALLATION)**
21. **INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL GARNISH (for TMMK Made) (See INSTALLATION)**
22. **INSTALL SHIFT LEVER KNOB SUB-ASSEMBLY**
 - a. Install the shift lever knob sub-assembly.

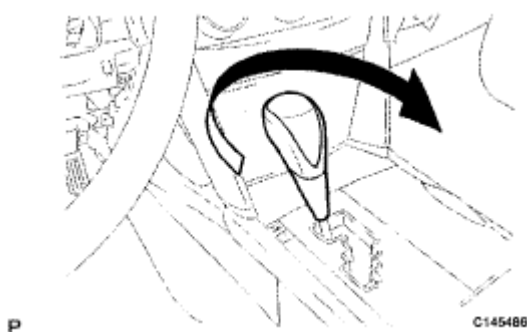


Fig. 131: Identifying Shift Lever Knob Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

23. **INSTALL LOWER INSTRUMENT PANEL FINISH PANEL (for TMC Made) (See INSTALLATION)**
24. **INSTALL LOWER INSTRUMENT PANEL FINISH PANEL (for TMMK Made) (See INSTALLATION)**
25. **INSTALL LOWER INSTRUMENT PANEL FINISH PANEL LH (for TMC Made) (See INSTALLATION)**
26. **INSTALL LOWER INSTRUMENT PANEL FINISH PANEL LH (for TMMK Made) (See INSTALLATION)**
27. **INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH (See INSTALLATION (2006/10-))**
28. **INSTALL FRONT DOOR SCUFF PLATE LH (See INSTALLATION (2006/10-))**
29. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

Torque: 5.4 N*m (55 kgf*cm, 48 in.*lbf)

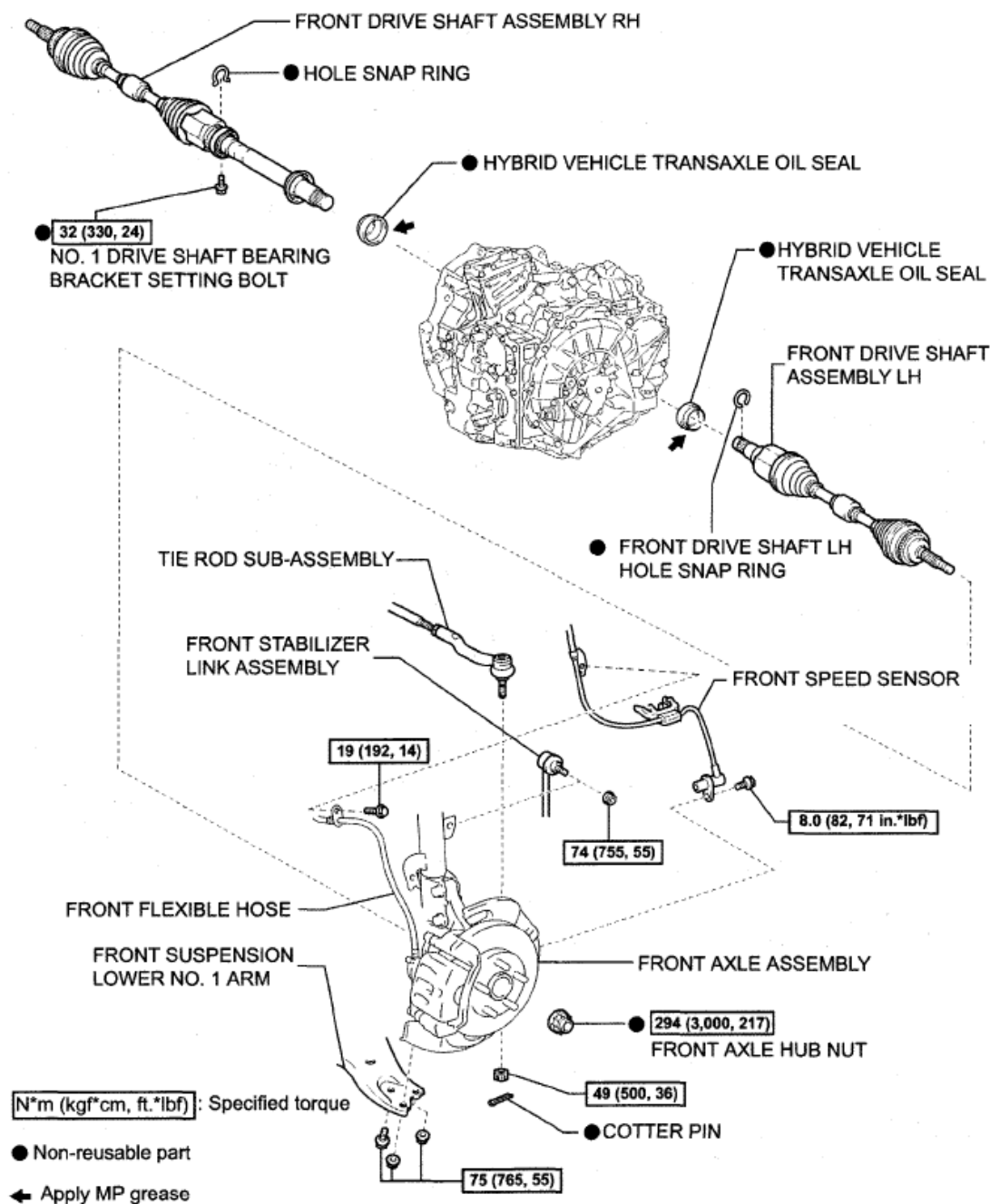
30. **INSPECT SHIFT LEVER POSITION (See ADJUSTMENT)**
31. **ADJUST SHIFT LEVER POSITION (See ADJUSTMENT)**
32. **ADJUST TRANSMISSION CONTROL CABLE ASSEMBLY (See ADJUSTMENT)**
33. **INSPECT SHIFT LEVER OPERATION (See ADJUSTMENT)**
34. **PERFORM INITIALIZATION**

- a. Perform initialization (See **INITIALIZATION**).

NOTE: Certain systems need to be initialized after reconnecting the cable to the negative (-) battery terminal.

HYBRID TRANSAXLE OIL SEAL

COMPONENTS



C144667E02

Fig. 132: Identifying Hybrid Transaxle Oil Seal Components With Torque Specification
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

1. **DRAIN HYBRID TRANSAXLE FLUID** (See **REPLACEMENT**)
2. **REMOVE FRONT WHEEL**
3. **REMOVE FRONT AXLE HUB NUT** (See **REMOVAL**)

4. **SEPARATE FRONT STABILIZER LINK ASSEMBLY** (See **REMOVAL**)
5. **SEPARATE FRONT SPEED SENSOR** (See **REMOVAL**)
6. **SEPARATE TIE ROD SUB-ASSEMBLY** (See **REMOVAL**)
7. **SEPARATE FRONT SUSPENSION LOWER NO. 1 ARM** (See **REMOVAL**)
8. **SEPARATE FRONT AXLE ASSEMBLY** (See **REMOVAL**)
9. **REMOVE FRONT DRIVE SHAFT ASSEMBLY LH** (See **REMOVAL**)
10. **REMOVE FRONT DRIVE SHAFT ASSEMBLY RH** (See **REMOVAL**)
11. **SECURE FRONT AXLE ASSEMBLY** (See **REMOVAL**)
12. **REMOVE HYBRID VEHICLE TRANSAXLE OIL SEAL**
 - a. Remove the oil seal LH side.
 1. Using SST, remove the oil seal.

SST 09514-35011

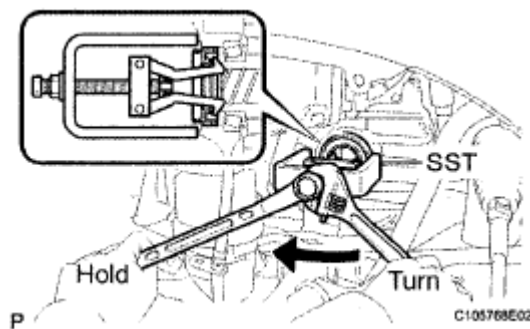


Fig. 133: Removing Oil Seal LH Side Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the oil seal RH side.
 1. Using SST, remove the oil seal.

SST 09612-30012

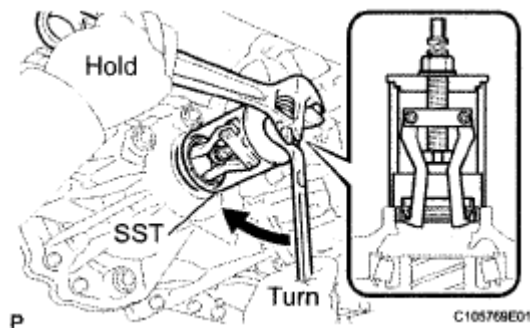


Fig. 134: Removing Oil Seal RH Side Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION (2006/03-2006/10)**1. REMOVE HYBRID VEHICLE TRANSAXLE OIL SEAL****a. Install the oil seal LH side.**

1. Using SST and a hammer, tap in a new oil seal until its surface is flush with the case edge.

SST 09223-15020, 09950-70010 (09951 - 07150)

Oil seal installation depth:

-0.5 to 0.5 mm (-0.020 to 0.020 in.)

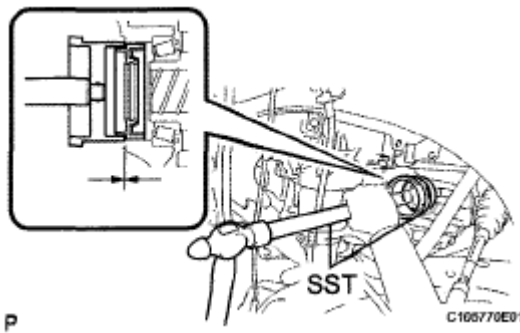


Fig. 135: Installing Oil Seal On LH Side Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Coat the lip of the oil seal with MP grease.

b. Install the oil seal RH side.

1. Using SST and a hammer, tap in a new oil seal until its surface is flush with the case edge.

SST 09950-70010 (09951 -07150), 09710-30050

Oil seal installation depth:

-0.5 to 0.5 mm (-0.020 to 0.020 in.)

2. Coat the lip of the oil seal with MP grease.

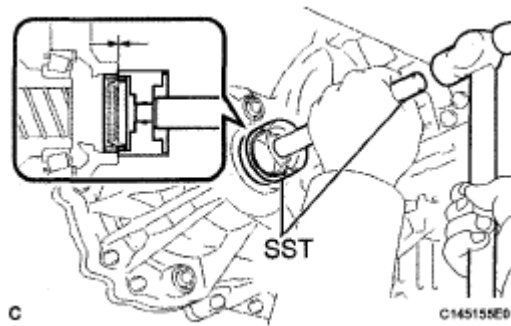


Fig. 136: Installing Oil Seal On RH Side Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT DRIVE SHAFT ASSEMBLY LH** (See INSTALLATION (2006/03-2006/10))
3. **INSTALL FRONT DRIVE SHAFT ASSEMBLY RH** (See INSTALLATION (2006/03-2006/10))
4. **INSTALL FRONT AXLE ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
5. **INSTALL FRONT SUSPENSION LOWER NO. 1 ARM** (See INSTALLATION (2006/03-2006/10))
6. **INSTALL TIE ROD SUB-ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
7. **INSTALL FRONT SPEED SENSOR** (See INSTALLATION (2006/03-2006/10))
8. **INSTALL FRONT STABILIZER LINK ASSEMBLY** (See INSTALLATION (2006/10-))
9. **INSTALL FRONT AXLE HUB NUT** (See INSTALLATION (2006/10-))
10. **INSTALL FRONT WHEEL** (See INSTALLATION (2006/10-))
11. **ADD HYBRID TRANSAXLE FLUID** (See REPLACEMENT)
12. **INSPECT HYBRID TRANSAXLE FLUID** (See REPLACEMENT)
13. **ADJUST FRONT WHEEL ALIGNMENT**

HINT:

(See ADJUSTMENT (2006/03-2006/10)).

14. **CHECK ABS SPEED SENSOR SIGNAL**

HINT:

(See TEST MODE PROCEDURE (2006/03-2006/10)).

INSTALLATION (2006/10-)

1. REMOVE HYBRID VEHICLE TRANSAXLE OIL SEAL

- a. Install the oil seal LH side.

1. Using SST and a hammer, tap in a new oil seal until its surface is flush with the case edge.

SST 09223-15020, 09950-70010 (09951 - 07150)

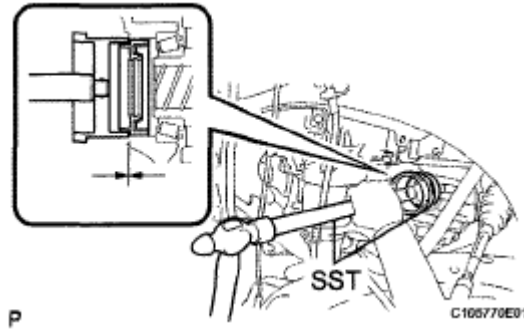
Oil seal installation depth:**-0.5 to 0.5 mm (-0.020 to 0.020 in.)**

Fig. 137: Installing Hybrid Transaxle Oil Seal LH Side Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. Coat the lip of the oil seal with MP grease.
- b. Install the oil seal RH side.
 1. Using SST and a hammer, tap in a new oil seal until its surface is flush with the case edge.

SST 09950-70010 (09951 -07150), 09710-30050**Oil seal installation depth:****-0.5 to 0.5 mm (-0.020 to 0.020 in.)**

2. Coat the lip of the oil seal with MP grease.

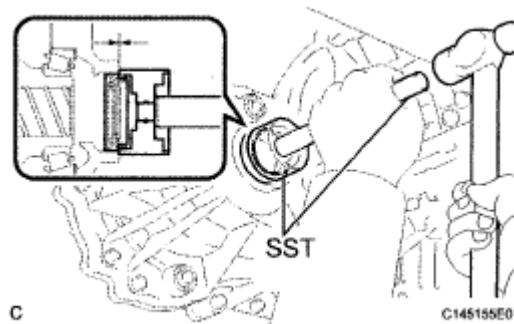


Fig. 138: Installing Hybrid Transaxle Oil Seal RH Side Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL FRONT DRIVE SHAFT ASSEMBLY LH** (See **INSTALLATION (2006/10-)**)
3. **INSTALL FRONT DRIVE SHAFT ASSEMBLY RH** (See **INSTALLATION (2006/10-)**)
4. **INSTALL FRONT AXLE ASSEMBLY** (See **INSTALLATION (2006/10-)**)
5. **INSTALL FRONT SUSPENSION LOWER NO. 1 ARM** (See **INSTALLATION (2006/10-)**)

6. **INSTALL TIE ROD SUB-ASSEMBLY** (See INSTALLATION (2006/10-))
7. **INSTALL FRONT SPEED SENSOR** (See INSTALLATION (2006/10-))
8. **INSTALL FRONT STABILIZER LINK ASSEMBLY** (See INSTALLATION (2006/10-))
9. **INSTALL FRONT AXLE HUB NUT** (See INSTALLATION (2006/10-))
10. **INSTALL FRONT WHEEL** (See INSTALLATION (2006/10-))
11. **ADD HYBRID TRANSAXLE FLUID** (See REPLACEMENT)
12. **INSPECT HYBRID TRANSAXLE FLUID** (See REPLACEMENT)
13. **ADJUST FRONT WHEEL ALIGNMENT**

HINT:

(See ADJUSTMENT (2006/10-)).

14. **CHECK ABS SPEED SENSOR SIGNAL**

HINT:

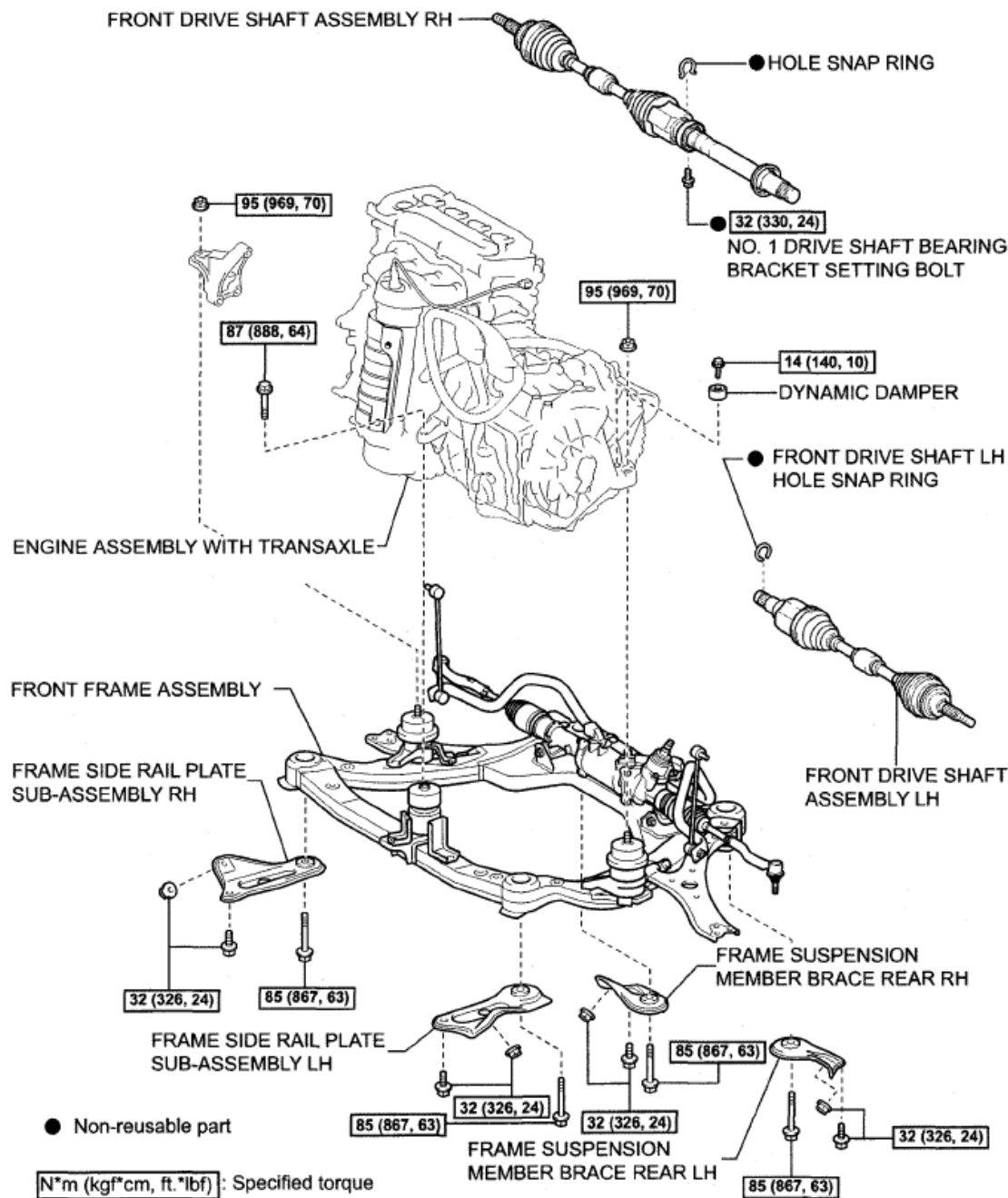
(See TEST MODE PROCEDURE (2006/10-)).

INPUT SHAFT OIL SEAL

COMPONENTS

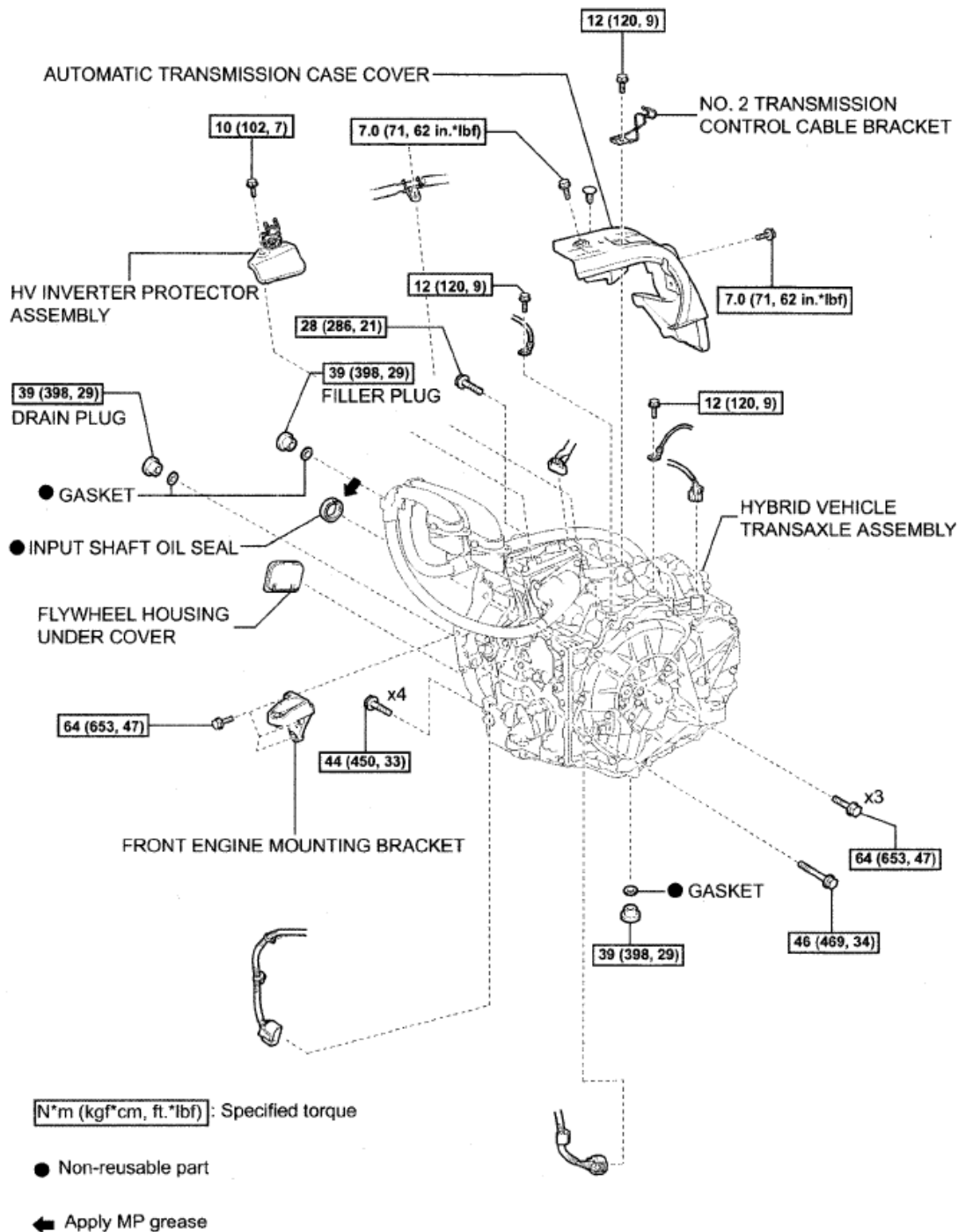
2007 Toyota Camry Hybrid

2007 TRANSMISSION P311 Hybrid Transmission / Transaxle - Camry Hybrid



C144814E01

Fig. 139: Identifying Input Shaft Oil Seal Components With Torque Specification (1 Of 2)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



C14139/E01

Fig. 140: Identifying Input Shaft Oil Seal Components With Torque Specification (2 Of 2)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL (2006/03-2006/10)

1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

HINT:

(See **REMOVAL (2006/03-2006/10)**).

2. **REMOVE DYNAMIC DAMPER** (See **REMOVAL (2006/03-2006/10)**)
3. **REMOVE FRONT FRAME ASSEMBLY** (See **REMOVAL (2006/03-2006/10)**)
4. **REMOVE FRONT DRIVE SHAFT ASSEMBLY LH** (See **REMOVAL**)
5. **REMOVE FRONT DRIVE SHAFT ASSEMBLY RH** (See **REMOVAL**)
6. **REMOVE FLYWHEEL HOUSING UNDER COVER** (See **REMOVAL (2006/03-2006/10)**)
7. **SEPARATE ENGINE WIRE** (See **REMOVAL (2006/03-2006/10)**)
8. **REMOVE NO. 2 TRANSMISSION CONTROL CABLE BRACKET** (See **REMOVAL (2006/10-)**)
9. **REMOVE HV INVERTER PROTECTOR ASSEMBLY**

Remove the bolt and HV inverter protector.

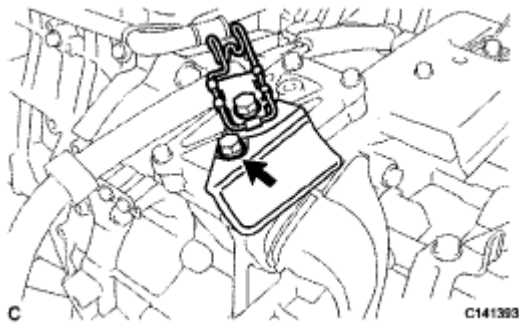


Fig. 141: Locating HV Inverter Protector With Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. **REMOVE AUTOMATIC TRANSMISSION CASE COVER** (See **REMOVAL (2006/10-)**)
11. **REMOVE FRONT ENGINE MOUNTING BRACKET** (See **REMOVAL (2006/10-)**)
12. **REMOVE HYBRID VEHICLE TRANSAXLE ASSEMBLY** (See **REMOVAL (2006/10-)**)
13. **REMOVE INPUT SHAFT OIL SEAL**
 - a. Using a screwdriver with its tip taped, remove the oil seal.

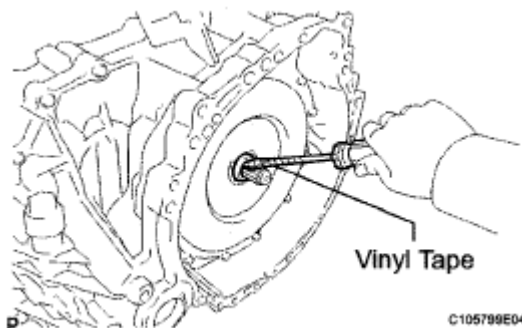


Fig. 142: Removing Input Shaft Oil Seal

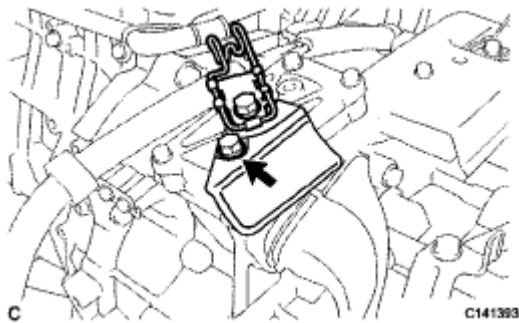
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL (2006/10-)**1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE**

HINT:

(See **REMOVAL (2006/10-)**).**2. REMOVE DYNAMIC DAMPER (See REMOVAL (2006/10-))****3. REMOVE FRONT FRAME ASSEMBLY (See REMOVAL (2006/10-))****4. REMOVE FRONT DRIVE SHAFT ASSEMBLY LH (See REMOVAL)****5. REMOVE FRONT DRIVE SHAFT ASSEMBLY RH (See REMOVAL)****6. REMOVE FLYWHEEL HOUSING UNDER COVER (See REMOVAL (2006/10-))****7. SEPARATE ENGINE WIRE (See REMOVAL (2006/10-))****8. REMOVE NO. 2 TRANSMISSION CONTROL CABLE BRACKET (See REMOVAL (2006/10-))****9. REMOVE HV INVERTER PROTECTOR ASSEMBLY**

Remove the bolt and HV inverter protector.

**Fig. 143: Locating HV Inverter Protector With Bolt**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

10. REMOVE AUTOMATIC TRANSMISSION CASE COVER (See REMOVAL (2006/10-))**11. REMOVE FRONT ENGINE MOUNTING BRACKET (See REMOVAL (2006/10-))****12. REMOVE HYBRID VEHICLE TRANSAXLE ASSEMBLY (See REMOVAL (2006/10-))****13. REMOVE INPUT SHAFT OIL SEAL**

- a. Using a screwdriver with its tip taped, remove the oil seal.

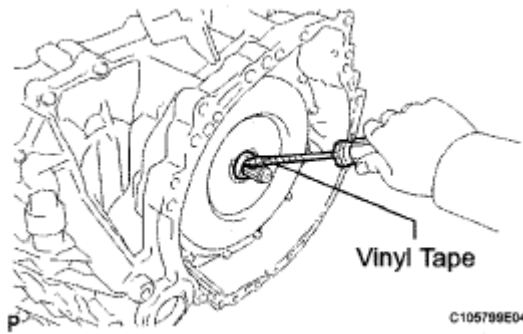


Fig. 144: Removing Input Shaft Oil Seal
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

INSTALLATION (2006/03-2006/10)

1. INSTALL INPUT SHAFT OIL SEAL

- a. Using SST and a hammer, drive in a new oil seal.

SST 09388-40010

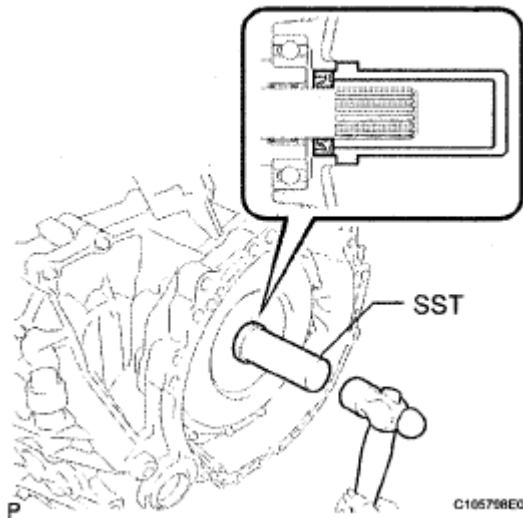


Fig. 145: Installing Input Shaft Oil Seal Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL HYBRID VEHICLE TRANSAXLE ASSEMBLY (See **REMOVAL (2006/10-)**)
3. INSTALL FRONT ENGINE MOUNTING BRACKET (See **INSTALLATION (2006/10-)**)
4. INSTALL AUTOMATIC TRANSMISSION CASE COVER (See **INSTALLATION (2006/10-)**)
5. INSTALL HV INVERTER PROTECTOR ASSEMBLY
 - a. Install the HV inverter protector with the bolt.

Torque: 10 N*m (102 kgf*cm, 7 ft.*lbf)

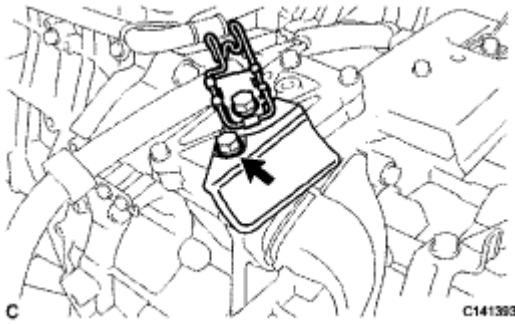


Fig. 146: Locating HV Inverter Protector With Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL NO. 2 TRANSMISSION CONTROL CABLE BRACKET** (See INSTALLATION (2006/10-))
7. **CONNECT ENGINE WIRE** (See INSTALLATION (2006/10-))
8. **INSTALL FLYWHEEL HOUSING UNDER COVER** (See INSTALLATION (2006/10-))
9. **INSTALL FRONT DRIVE SHAFT ASSEMBLY LH** (See INSTALLATION (2006/03-2006/10))
10. **INSTALL FRONT DRIVE SHAFT ASSEMBLY RH** (See INSTALLATION (2006/03-2006/10))
11. **INSTALL FRONT FRAME ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
12. **INSTALL DYNAMIC DAMPER** (See INSTALLATION (2006/03-2006/10))
13. **INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

HINT:

(See INSTALLATION (2006/03-2006/10)).

INSTALLATION (2006/10-)

1. INSTALL INPUT SHAFT OIL SEAL

- a. Using SST and a hammer, drive in a new oil seal.

SST 09388-40010

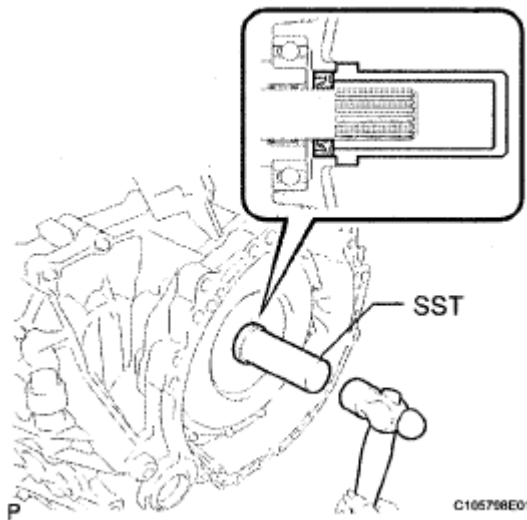


Fig. 147: Installing Input Shaft Oil Seal Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. **INSTALL HYBRID VEHICLE TRANSAXLE ASSEMBLY** (See INSTALLATION (2006/10-))
3. **INSTALL FRONT ENGINE MOUNTING BRACKET** (See INSTALLATION (2006/10-))
4. **INSTALL AUTOMATIC TRANSMISSION CASE COVER** (See INSTALLATION (2006/10-))
5. **INSTALL HV INVERTER PROTECTOR ASSEMBLY**
 - a. Install the HV inverter protector with the bolt.

Torque: 10 N*m (102 kgf*cm, 7 ft.*lbf)

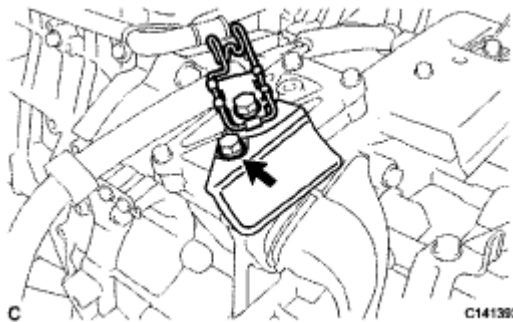


Fig. 148: Locating HV Inverter Protector With Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

6. **INSTALL NO. 2 TRANSMISSION CONTROL CABLE BRACKET** (See INSTALLATION (2006/10-))
7. **CONNECT ENGINE WIRE** (See INSTALLATION (2006/10-))
8. **INSTALL FLYWHEEL HOUSING UNDER COVER** (See INSTALLATION (2006/10-))
9. **INSTALL FRONT DRIVE SHAFT ASSEMBLY LH** (See INSTALLATION (2006/10-))
10. **INSTALL FRONT DRIVE SHAFT ASSEMBLY RH** (See INSTALLATION (2006/10-))

11. INSTALL FRONT FRAME ASSEMBLY (See INSTALLATION (2006/10-))
12. INSTALL DYNAMIC DAMPER (See INSTALLATION (2006/10-))
13. INSTALL ENGINE ASSEMBLY WITH TRANSAXLE

HINT:

(See INSTALLATION (2006/10-)).

TRANSAXLE CONTROL CABLE ASSEMBLY

COMPONENTS

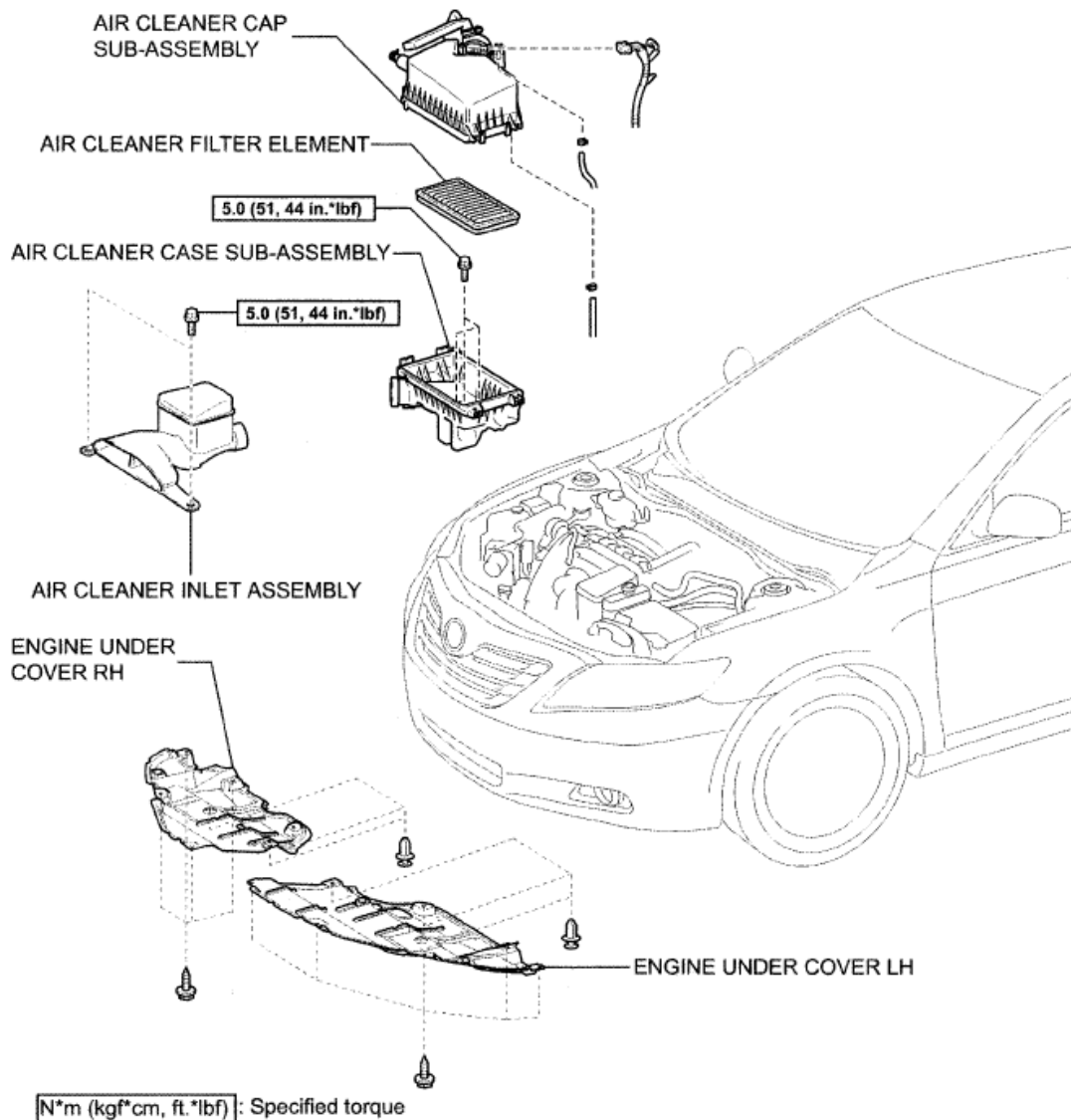
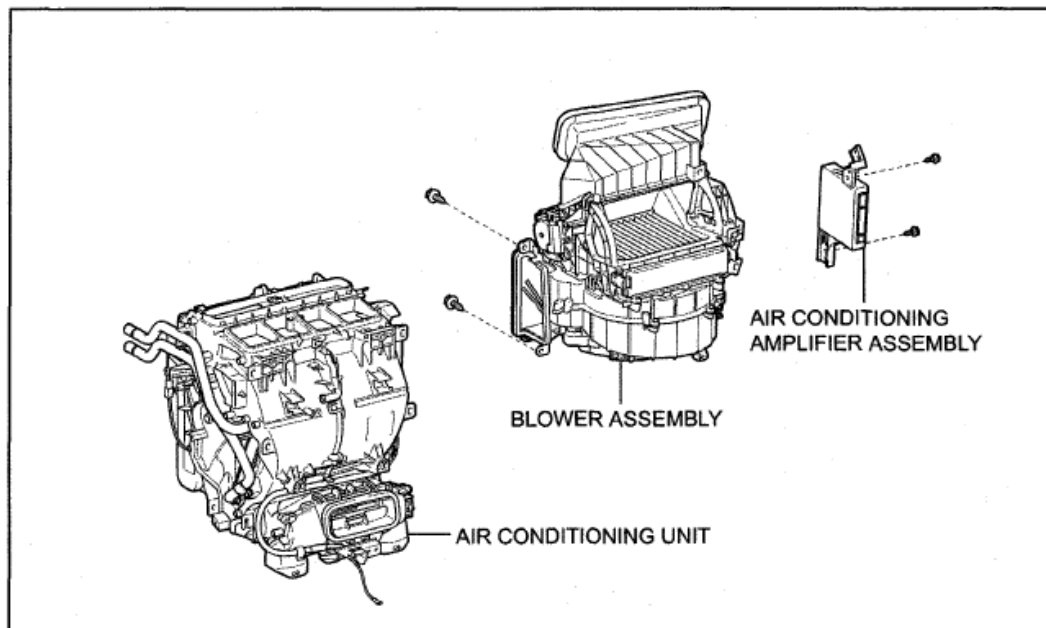
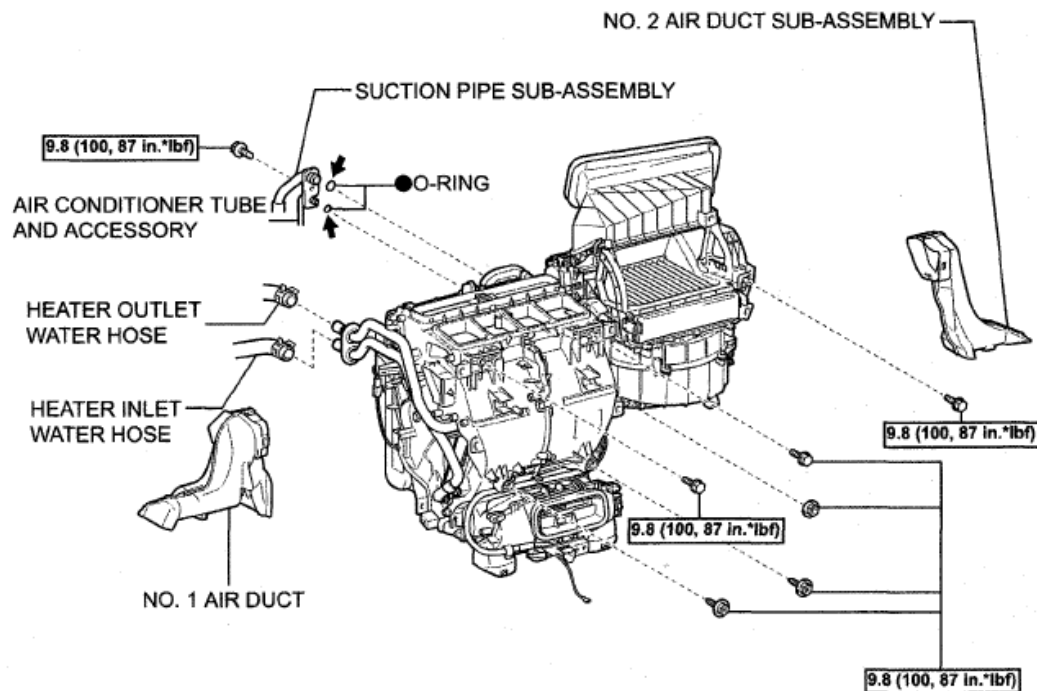


Fig. 149: Identifying Transaxle Control Cable Assembly Components With Torque Specification (1 Of 3)

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

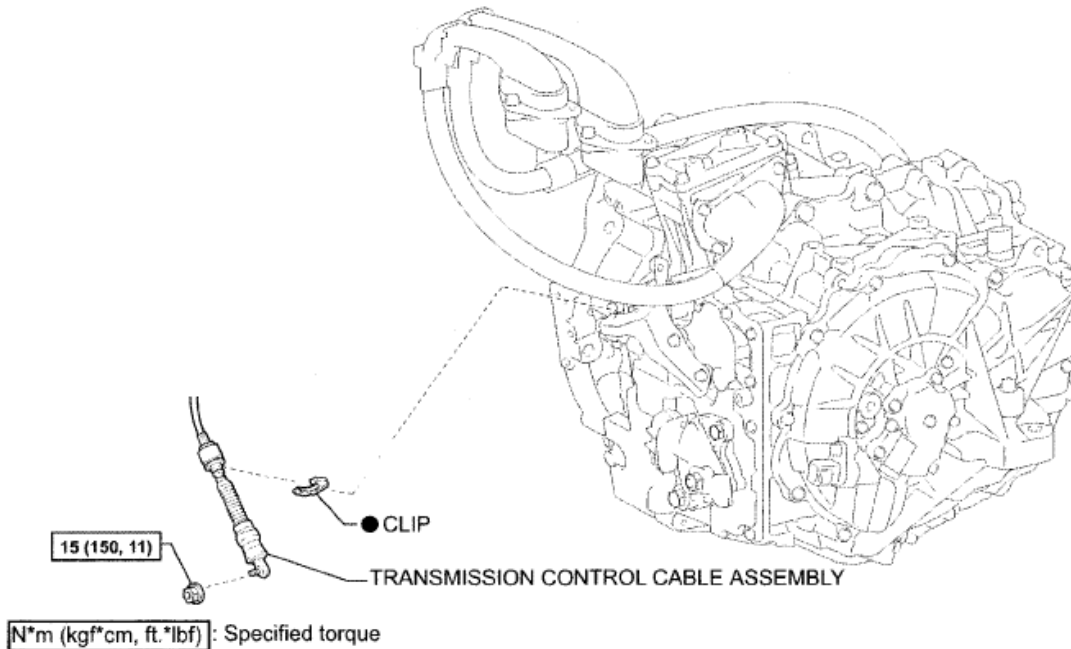
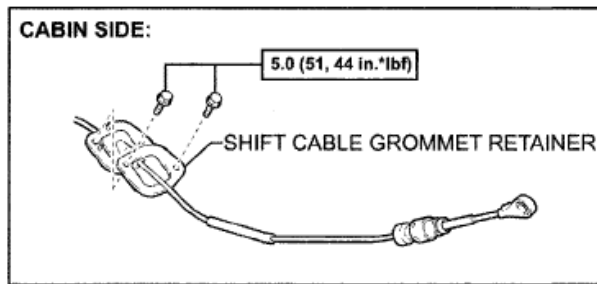


← Compressor oil ND-OIL 8 or equivalent

● Non-reusable part [N*m (kgf*cm, ft.*lbf)]: Specified torque

E133722E04

Fig. 150: Identifying Transaxle Control Cable Assembly Components With Torque Specification (2 Of 3)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.



● Non-reusable part

C141391E01

Fig. 151: Identifying Transaxle Control Cable Assembly Components With Torque Specification (3 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL (2006/03-2006/10)

1. REMOVE AIR CONDITIONING UNIT

HINT:

(See **REMOVAL**).

2. REMOVE ENGINE UNDER COVER RH

3. REMOVE ENGINE UNDER COVER LH

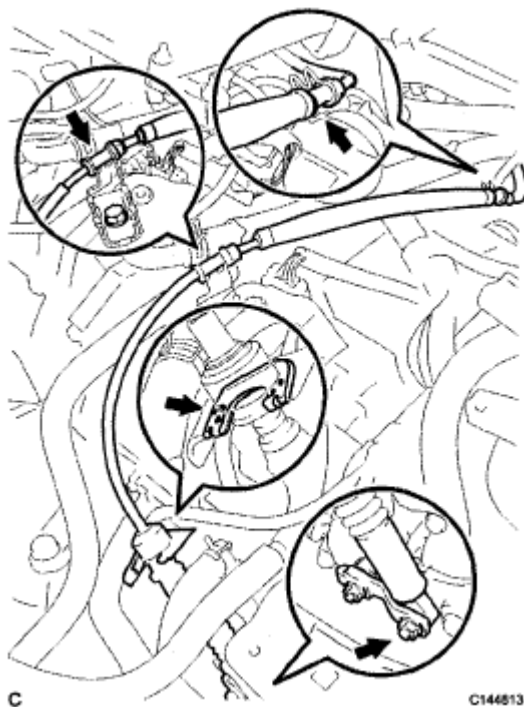
4. REMOVE AIR CLEANER INLET ASSEMBLY (See **REMOVAL (2006/03-2006/10)**)

5. REMOVE AIR CLEANER CAP SUB-ASSEMBLY (See **REMOVAL (2006/03-2006/10)**)

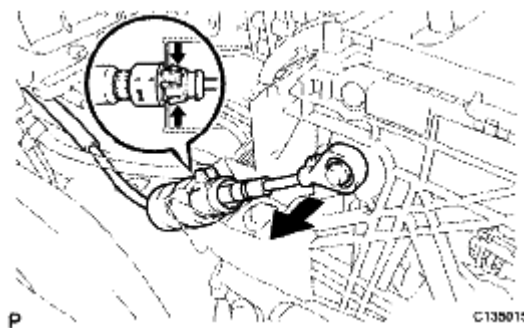
6. REMOVE AIR CLEANER CASE SUB-ASSEMBLY (See **REMOVAL (2006/03-2006/10)**)

7. SEPARATE TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Remove the nut from the control shaft lever.
- b. Disconnect the transmission control cable assembly from the control shaft lever.
- c. Remove the clip and disconnect the transmission control cable assembly from the No. 1 control cable bracket.
- d. Disconnect the transmission control cable assembly from the No. 2 transmission control cable bracket and No. 3 transmission control cable bracket.

**Fig. 152: Locating Transmission Control Cable****Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

- e. Disconnect the transmission control cable assembly from the transmission floor shift assembly while pushing the 2 claws of the floor shift cable.

**Fig. 153: Disconnecting Transmission Control Cable Assembly****Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.**

8. REMOVE TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Turn back the carpet.
- b. Remove the 2 bolts and disconnect the shift cable grommet retainer.
- c. Remove the shift cable grommet retainer.
- d. Pull out the transmission control cable assembly from the body.

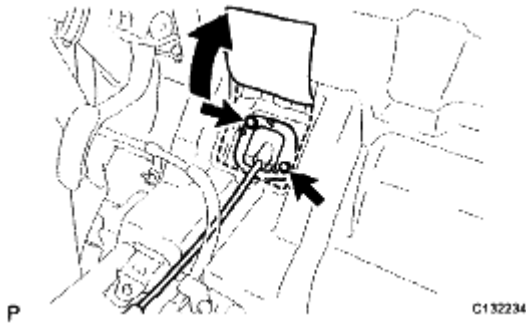


Fig. 154: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL (2006/10-)**1. REMOVE AIR CONDITIONING UNIT (for TMC Made)**

HINT:

(See **REMOVAL**).

2. REMOVE AIR CONDITIONING UNIT (for TMMK Made)

HINT:

(See **REMOVAL**).

3. REMOVE ENGINE UNDER COVER RH**4. REMOVE ENGINE UNDER COVER LH****5. REMOVE AIR CLEANER INLET ASSEMBLY (See **REMOVAL (2006/10-)**)****6. REMOVE AIR CLEANER CAP SUB-ASSEMBLY (See **REMOVAL (2006/10-)**)****7. REMOVE AIR CLEANER CASE SUB-ASSEMBLY (See **REMOVAL (2006/10-)**)****8. SEPARATE TRANSMISSION CONTROL CABLE ASSEMBLY**

- a. Remove the nut from the control shaft lever.
- b. Disconnect the transmission control cable assembly from the control shaft lever.
- c. Remove the clip and disconnect the transmission control cable assembly from the No. 1 control cable bracket.
- d. Disconnect the transmission control cable assembly from the No. 2 transmission control cable

bracket and No. 3 transmission control cable bracket.

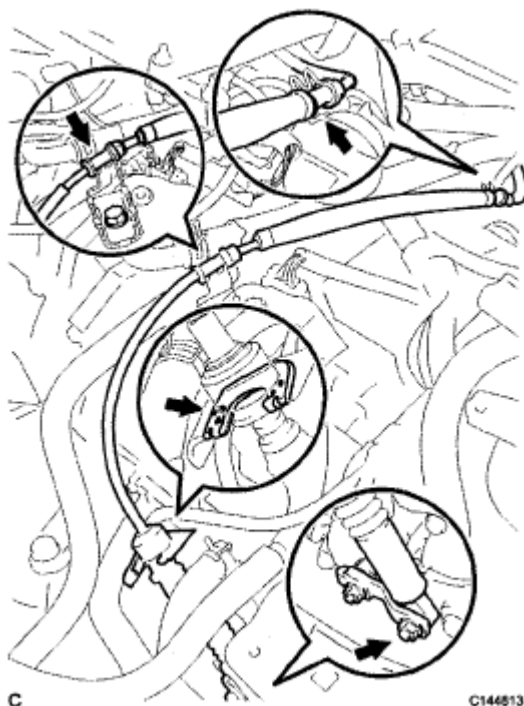


Fig. 155: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Disconnect the transmission control cable assembly from the transmission floor shift assembly while pushing the 2 claws of the floor shift cable.

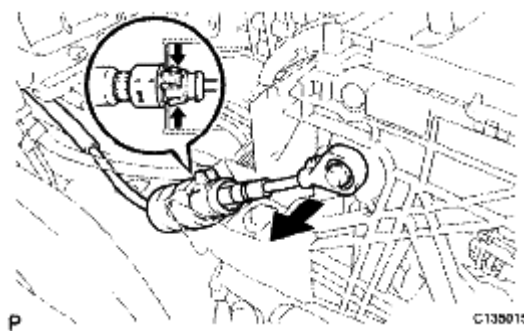


Fig. 156: Disconnecting Transmission Control Cable Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. REMOVE TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Turn back the carpet.
- b. Remove the 2 bolts and disconnect the shift cable grommet retainer.
- c. Remove the shift cable grommet retainer.
- d. Pull out the transmission control cable assembly from the body.

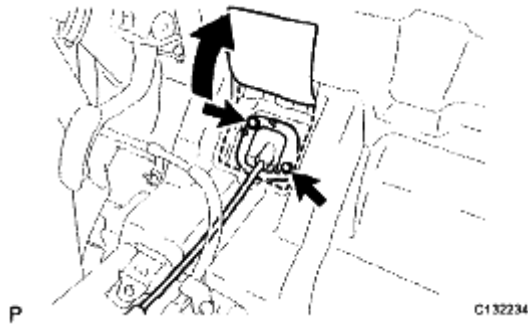


Fig. 157: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ADJUSTMENT

1. ADJUST TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Move the shift lever to the N position.
- b. Remove the nut from the control shaft lever.
- c. Disconnect the transmission control cable assembly from the control shaft lever.

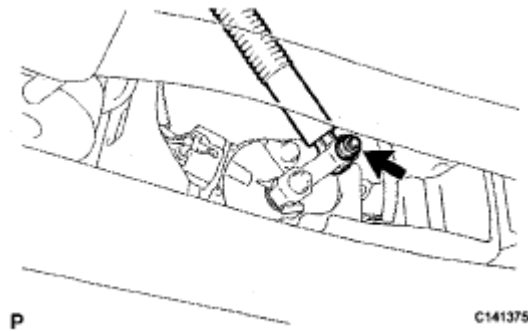


Fig. 158: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- d. Push the control shaft fully downward.
- e. Return the control shaft lever 2 notches to the N position.

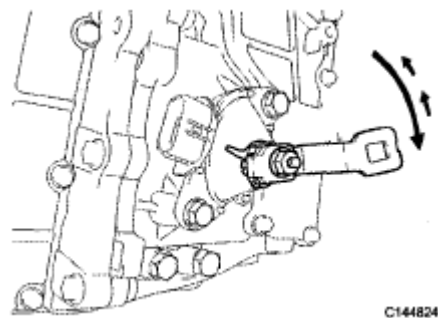
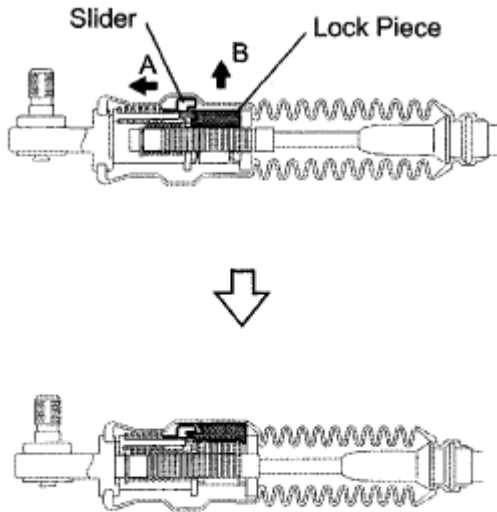


Fig. 159: Turning Control Shaft Lever

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. Move the slider in the direction indicated by arrow A and pull up the lock piece in the direction indicated by arrow B.

NOTE: Do not damage the boot.



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Fig. 160: Pulling Up Lock Piece

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- g. Install the transmission control cable to the control shaft lever with the nut.

Torque: 15 N*m (150 kgf*cm, 11 ft.*lbf)

NOTE:

- If the control cable end is excessively pushed up, the shift lever cannot be adjusted.
- When tightening the nut, confirm that the control cable is properly stretched.

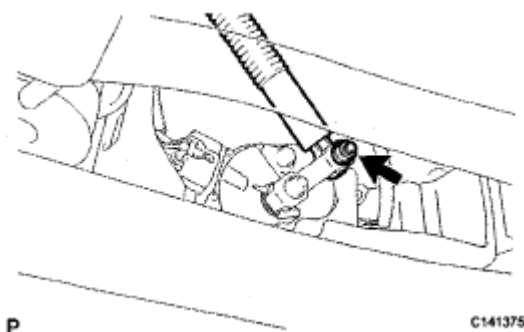


Fig. 161: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- h. Push in the lock piece.

NOTE:

- Before pushing in the lock piece, make sure that the shift lever and control shaft lever are in the N position.
- Firmly push in the lock piece until the slider lock is engaged.

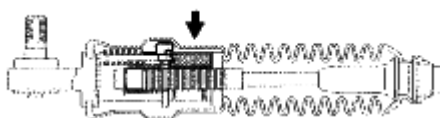


Fig. 162: Pushing Lock Piece
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- i. Start the engine and make sure that the vehicle moves forward when moving the lever from the N to the D position and moves rearward when moving it to the R position.

If it becomes hard to move the shift lever, readjust the shift lever position.

INSTALLATION (2006/03-2006/10)

1. INSTALL NO. 2 SHIFT CABLE GROMMET RETAINER

- a. Pass the transmission control cable assembly from the cabin to the engine compartment.
- b. Install the shift cable grommet retainer to the transmission control cable assembly.
- c. Install the shift cable grommet retainer with the 2 bolts.

Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

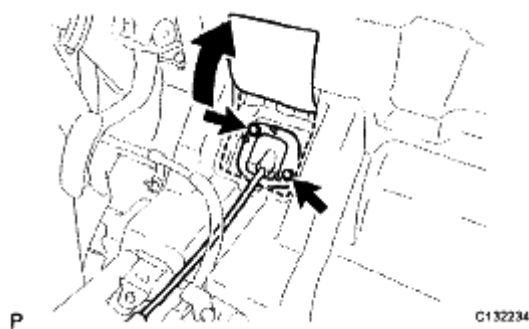


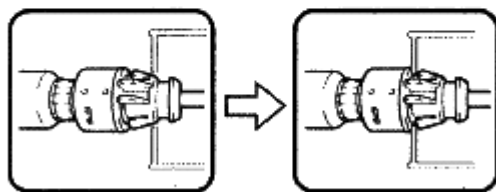
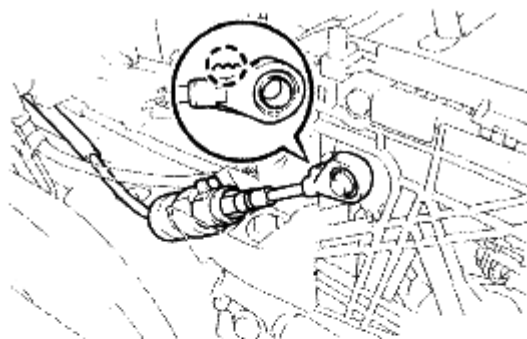
Fig. 163: Locating Shift Cable Grommet Retainer With Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Install the transmission control cable assembly as shown in the illustration.

HINT:

- Install the floor shift cable with the uneven surface facing up.
- Securely engage the claws of the floor shift cable.



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Fig. 164: Identifying Transmission Control Cable Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the transmission control cable assembly to the No. 2 transmission control cable bracket and No. 3 transmission control cable bracket.

- c. Connect the transmission control cable assembly to the transmission control cable bracket No. 1 with a new clip.
- d. Install the transmission control cable to the control shaft lever with the nut.

Torque: 15 N*m (150 kgf*cm, 11 ft.*lbf)

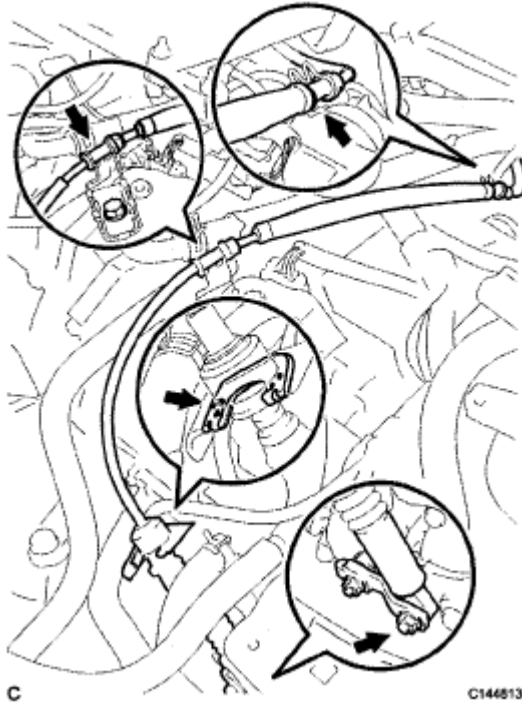


Fig. 165: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Push in the lock piece of the transmission control cable.

NOTE:

- Before pushing in the lock piece, make sure that the shift lever and control shaft lever are in the N position.
- Firmly push in the lock piece until the slider lock is engaged.

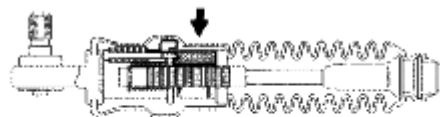


Fig. 166: Pushing Lock Piece Of Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

After pushing in the lock piece, make sure that the boot is not deformed.

3. **INSTALL AIR CLEANER CASE SUB-ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
4. **INSTALL AIR CLEANER CAP SUB-ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
5. **INSTALL AIR CLEANER INLET ASSEMBLY** (See INSTALLATION (2006/03-2006/10))
6. **INSTALL ENGINE UNDER COVER LH**
7. **INSTALL ENGINE UNDER COVER RH**
8. **INSTALL AIR CONDITIONING UNIT**

HINT:

(See INSTALLATION).

9. **INSPECT SHIFT LEVER POSITION** (See ADJUSTMENT)
10. **ADJUST SHIFT LEVER POSITION** (See ADJUSTMENT)
11. **INSPECT SHIFT LEVER OPERATION** (See ADJUSTMENT)
12. **REMOVE PERFORM INITIALIZATION**
 - a. Perform initialization (See INITIALIZATION).

NOTE: Certain systems need to be initialized after reconnecting the cable to the negative (-) battery terminal.

INSTALLATION (2006/10-)

1. **INSTALL NO. 2 SHIFT CABLE GROMMET RETAINER**
 - a. Pass the transmission control cable assembly from the cabin to the engine compartment.
 - b. Install the shift cable grommet retainer to the transmission control cable assembly.
 - c. Install the shift cable grommet retainer with the 2 bolts.

Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)

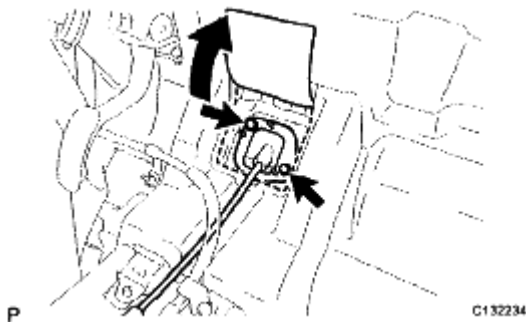


Fig. 167: Locating Shift Cable Grommet Retainer With Bolts

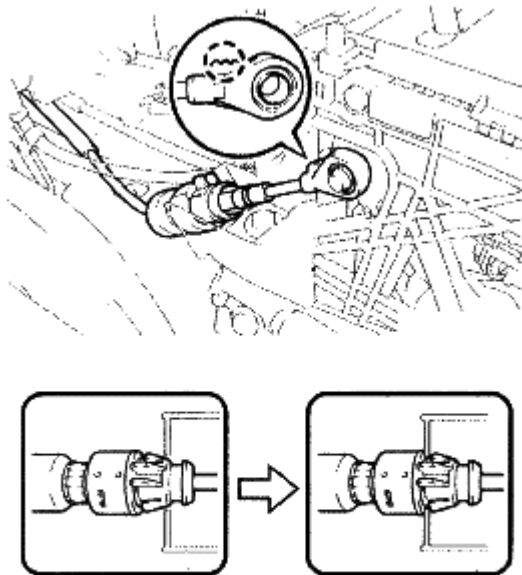
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. INSTALL TRANSMISSION CONTROL CABLE ASSEMBLY

- a. Install the transmission control cable assembly as shown in the illustration.

HINT:

- Install the floor shift cable with the uneven surface facing up.
- Securely engage the claws of the floor shift cable.



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Fig. 168: Identifying Transmission Control Cable Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Connect the transmission control cable assembly to the No. 2 transmission control cable bracket and No. 3 transmission control cable bracket.
- c. Connect the transmission control cable assembly to the transmission control cable bracket No. 1 with a new clip.
- d. Install the transmission control cable to the control shaft lever with the nut.

Torque: 15 N*m (150 kgf*cm, 11 ft.*lbf)

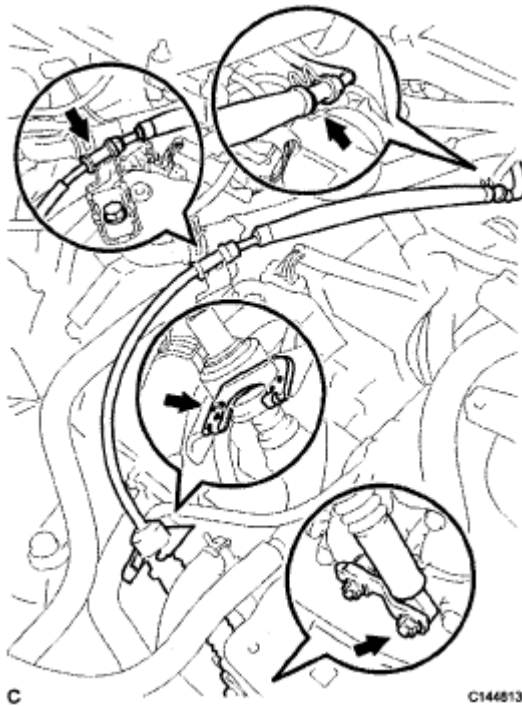


Fig. 169: Locating Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Push in the lock piece of the transmission control cable.

NOTE:

- Before pushing in the lock piece, make sure that the shift lever and control shaft lever are in the N position.
- Firmly push in the lock piece until the slider lock is engaged.

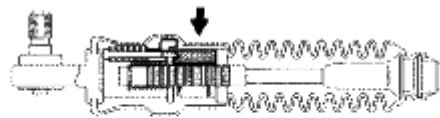


Fig. 170: Pushing Lock Piece Of Transmission Control Cable
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

After pushing in the lock piece, make sure that the boot is not deformed.

3. **INSTALL AIR CLEANER CASE SUB-ASSEMBLY** (See INSTALLATION (2006/10-))
4. **INSTALL AIR CLEANER CAP SUB-ASSEMBLY** (See INSTALLATION (2006/10-))

5. **INSTALL AIR CLEANER INLET ASSEMBLY** (See INSTALLATION (2006/10-))
6. **INSTALL ENGINE UNDER COVER LH**
7. **INSTALL ENGINE UNDER COVER RH**
8. **INSTALL AIR CONDITIONING UNIT (for TMC Made)**

HINT:

(See INSTALLATION).

9. **INSTALL AIR CONDITIONING UNIT (for TMMK Made)**

HINT:

(See INSTALLATION).

10. **INSPECT SHIFT LEVER POSITION** (See ADJUSTMENT)
11. **ADJUST SHIFT LEVER POSITION** (See ADJUSTMENT)
12. **INSPECT SHIFT LEVER OPERATION** (See ADJUSTMENT)
13. **PERFORM INITIALIZATION**
 - a. Perform initialization (See INITIALIZATION).

NOTE: **Certain systems need to be initialized after reconnecting the cable to the negative (-) battery terminal.**