TOYOTA
Technical Service Bulletin

Repair Manual Supplement: Transaxle Replacement

Service Category Drivetrain

Section Automatic Transmission/Transaxle **Market** USA

Toyota Supports ASE Certification

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2007 – 2014	Camry	Engine(s): 2AZ, 2AR Transmission(s): 5AT, 6AT VDS(s): BE46K, BF1FK, BF3EK

REVISION NOTICE

July 29, 2014 Rev1:

- **Applicability has been updated to include 2012 – 2014 model year Camry vehicles.**

Any previous printed versions of this bulletin should be discarded.

NOTE

This Service Bulletin applies to 4 cylinder Camry vehicles only. The V6 Camry is covered in a separate bulletin.

Introduction

This bulletin supplements the Repair Manual procedures for transaxle removal and replacement, with details on the use of a new Engine Support Bar (ESB), SST P/N 00002-ESUPPT-01, to assist in the removal and installation of the transaxle assembly. With the use of the Engine Support Bar, it is no longer required for the engine assembly to be removed from the vehicle when removing and installing the transaxle assembly.

Repair Manual Supplement: Transaxle Replacement

Warranty Information

OP CODE	DESCRIPTION	TRANS	TIME	OFP	T1	T2
TC1010	R & R Transaxle	U250E U760E	5.6	*	*	*

* OFP, T1, and T2 information will vary based on the cause of defect.

APPLICABLE WARRANTY

Warranty application is limited to defects in material or workmanship under normal use. Length of coverage is determined by the OFP. For more information regarding warranty coverage, please refer to the Warranty Policy & Procedures Manual. For more information regarding the Engine Support Bar, please refer to Warranty Procedures Bulletin PRO10-26.

Parts Information

PART NUMBER	PART NAME	QTY
12281-36020	No. 1 Engine Hanger	1
12282-36020	No. 2 Engine Hanger	1
91552-81040*	Bolt	1
91552-81025*		1
00289-ATFWS	ATF WS	As Needed

* Or equivalent.

Required Tools & Equipment

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Engine Support Bar*	00002-ESUPPT-01	1
Safety Support Strap*	00002-2SUPP	2
Transmission Fill System*	00002-11100-02	1
Drive Shaft Nut Chisel*	09930-00010-01	1
Drive Shaft Remover Attachment*	09520-01010-02	1
Slide Hammer (5 lb.)*	09520-32040-01	1
Crankshaft Pulley Holding Tool*	09213-54015-01	1
Subframe Alignment Pins*	00002-90080	1
Companion Flange Holding Tool*	09330-00021	1

* Essential SST.

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Required Tools & Equipment (Continued)

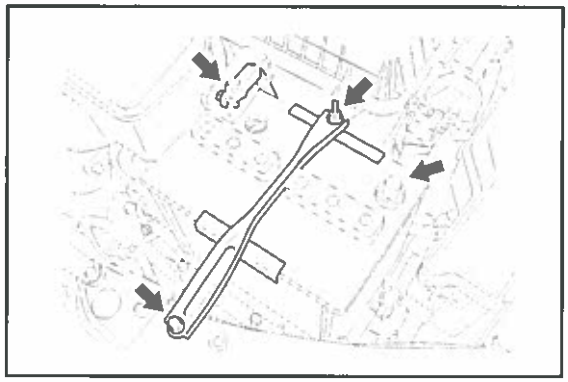
NOTE
Additional SSTs may be ordered by calling 1-800-933-8335.

REQUIRED MATERIAL	QUANTITY
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent	As Needed
Toyota Genuine Clutch Spline Grease or equivalent	As Needed

Repair Procedure: Removal

1. Remove the battery.
   A. Loosen the nut, and separate the negative (–) battery terminal.
   B. Loosen the nut, and separate the positive (+) battery terminal.
   C. Loosen the nut, and remove the bolt and battery clamp.
   D. Remove the battery and battery tray.

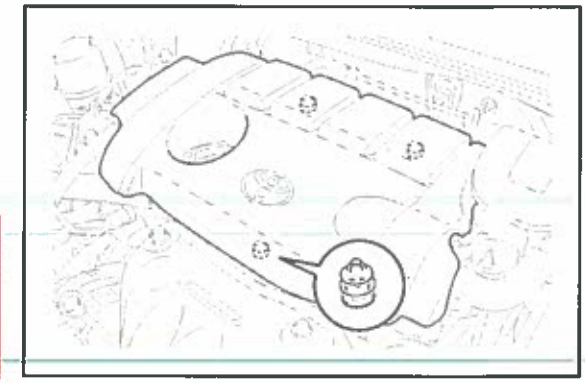
Figure 1.



2. Remove the No. 1 engine cover sub-assembly.
   A. Lift the rear of the engine cover to detach the cover from the 2 pins.
   B. Lift the front of the engine cover to detach the cover from the pin and remove the engine cover.

NOTICE
Attempting to disengage both front and rear clips at the same time may cause the cover to break.

Figure 2.

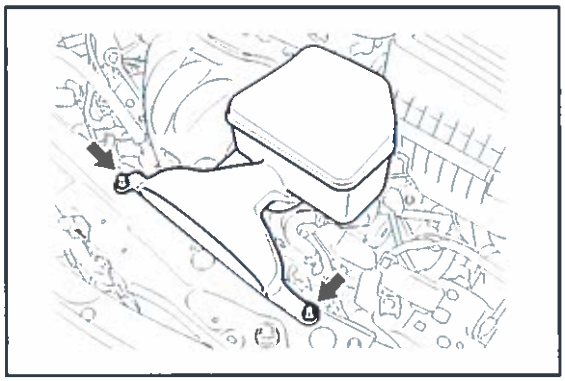


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

3. Remove the inlet air cleaner assembly by removing the 2 bolts.

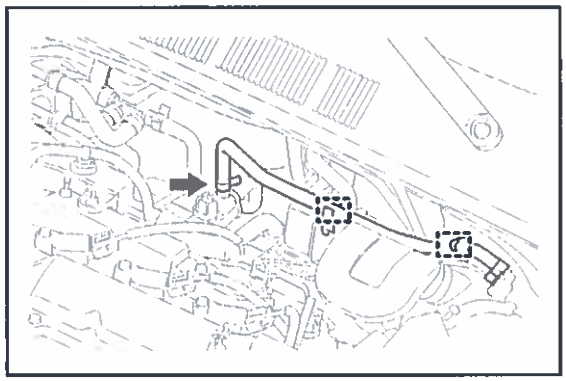
Figure 3.



4. **For PZEV vehicles:** Remove the air cleaner cap sub-assembly.

   Disconnect the vacuum hose and separate it from the air cleaner hose.

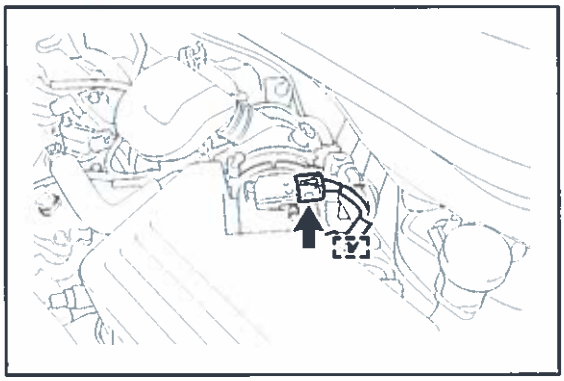
Figure 4.



5. Remove the air cleaner cap sub-assembly **(for PZEV and non PZEV)**.

   A. Disconnect the mass air flow meter connector and separate the wire harness clamp from the air cleaner cap.

Figure 5.

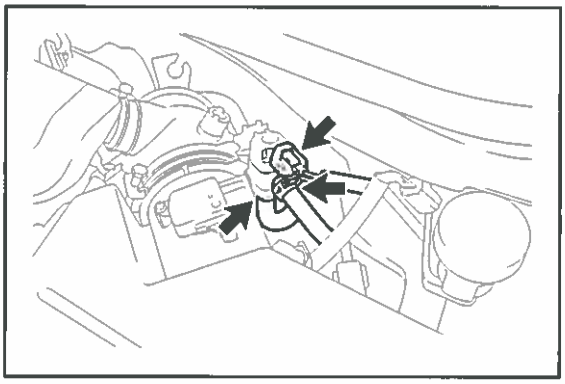


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

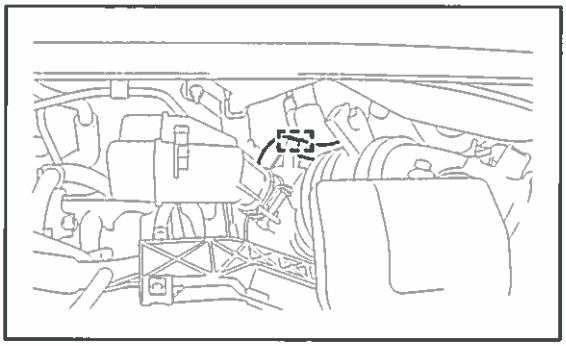
B. Disconnect the vacuum switching valve connector and 2 hoses.

Figure 6.



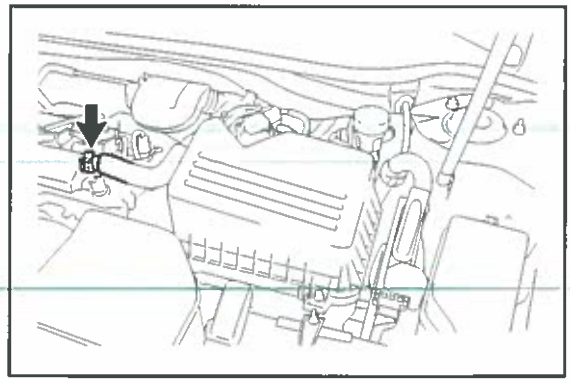
C. Separate the hose from the air cleaner cap sub-assembly.

Figure 7.



D. Loosen the hose clamp and disconnect the hose.

Figure 8.

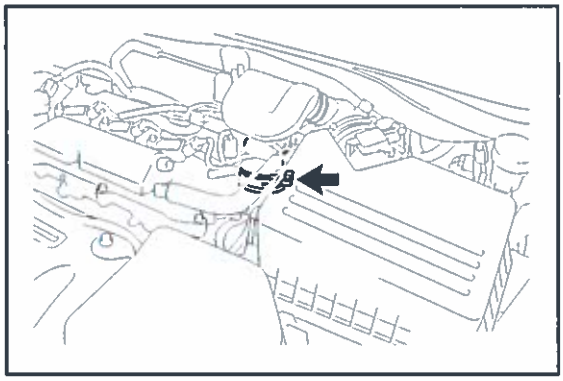


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

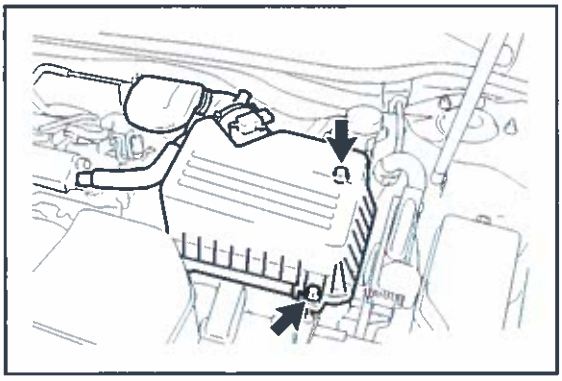
E. Loosen the hose clamp and disconnect the air cleaner hose.

Figure 9.



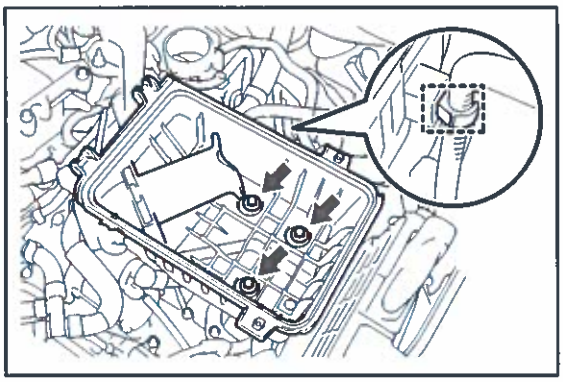
F. Remove the 2 bolts and the air cleaner cap sub-assembly.

Figure 10.



6. Remove the air cleaner case sub-assembly.
   A. Disconnect the wire harness clamp.
   B. Remove the 3 bolts and air cleaner case sub-assembly.

Figure 11.



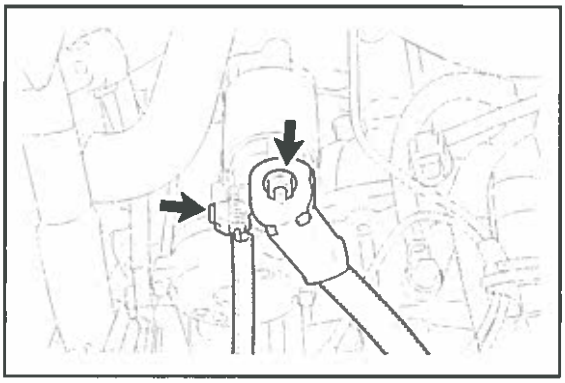
7. Remove the starter.

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

A. Disconnect the terminal 50 connector from the starter assembly.

Figure 12.

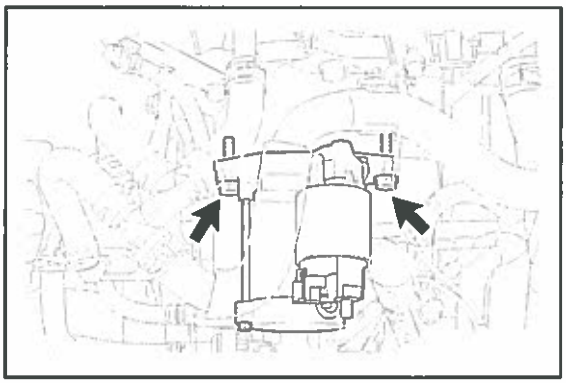


B. Turn back the terminal cap.

C. Remove the nut and disconnect the wire harness from terminal 30.

D. Remove the 2 bolts and starter assembly.

Figure 13.



8. Disconnect the engine wire.

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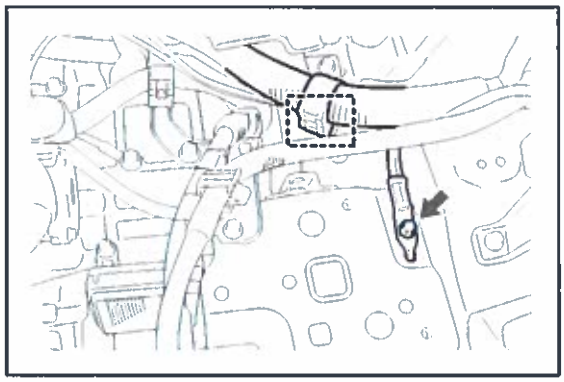
Repair Procedure: Removal (Continued)

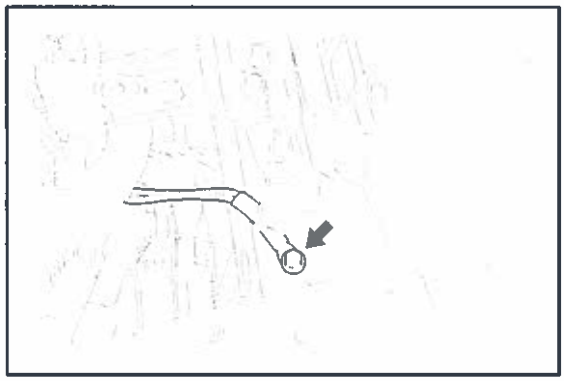
A. Disconnect the engine wire clamp, then remove the bolt and separate the ground cable.

Figure 14.



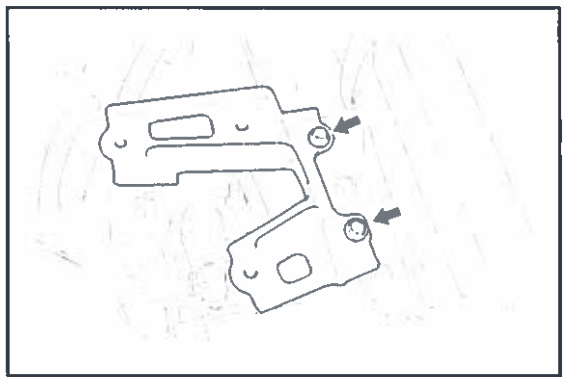
B. Remove the bolt and separate the ground cable.

Figure 15.



C. Remove the 2 bolts and air cleaner bracket.

Figure 16.



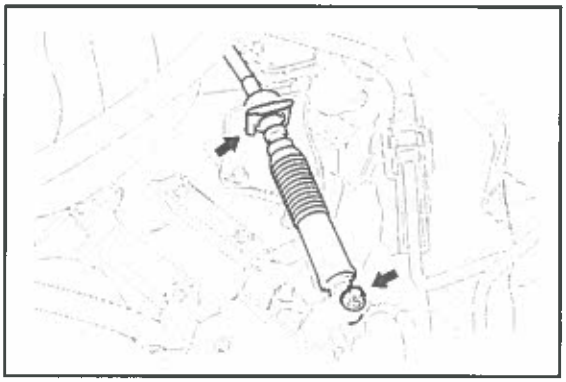
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

9. Disconnect the transmission control cable.

   Remove the clip and nut, and separate the transmission control cable.

Figure 17.

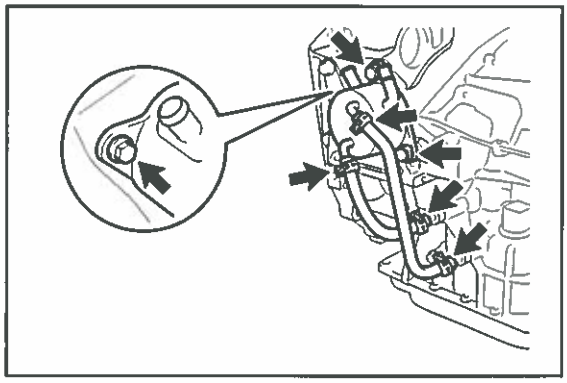


10. Remove the transmission oil cooler.

    A. Remove the transmission oil cooler to the front engine mounting bracket with the 3 bolts.

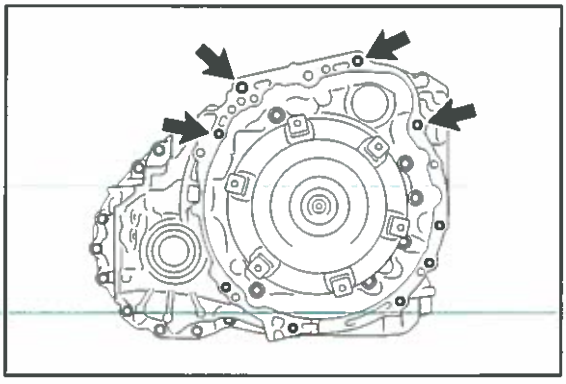
    B. Disconnect the No. 1 oil cooler outlet hose and No. 1 oil cooler inlet hose.

Figure 18.



11. Remove the upper bell housing (4) bolts.

Figure 19.



Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

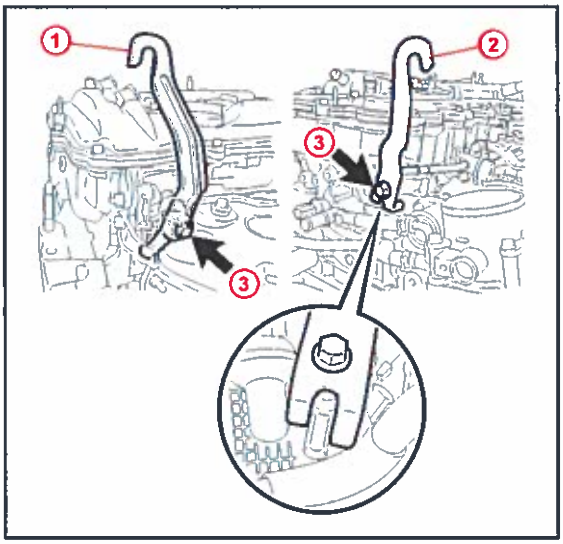
12. Install the 2 engine hangers with the 2 bolts as shown in the illustration.

    Part Number:

    - **No. 1 Engine Hanger: P/N 12281-36020**
    - **No. 2 Engine Hanger: P/N 12282-36020**
    - **Bolts: P/N 91552-81040, 91552-81025 (or equivalent)**

    Torque: 43 N*m (438 kgf*cm, 32 ft*lbf)

Figure 20.



1	No. 1 Engine Hanger (P/N 12281-36020)
2	No. 2 Engine Hanger (P/N 12282-36020)
3	Bolts (P/N 91552-81040, 91552-81025, or equivalent)

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Repair Procedure: Removal (Continued)

13. Install the Engine Support Bar and secure engine weight with a chain.
    Engine Support Bar SST: 00002-ESUPPT-01

> **NOTE**
> **Refer to the Engine Support Bar Assembly Instructions posted on the Technical Information System (TIS), *Diagnostics – Tools & Equipment – Engine Support Bar.***

A. Assemble and place the main bar onto the vehicle's strut towers.

> **NOTICE**
> - **To prevent damage caused by contact between the main bar legs and body panels, apply protective tape on the strut tower before installing the main bar.**
> - **To prevent dents in the strut tower panel, please assure that the main bar legs with 90 degree brackets are installed.**

> **NOTE**
> - **Ensure that the main bar swivel is already installed on the main bar and that the main bar legs are oriented correctly (passenger side/drivers side).**
> - **The plastic cowl cover and/or cowl may need to be removed to accommodate the bar.**

Figure 21.

Figure 22.

Repair Manual Supplement: Transaxle Replacement

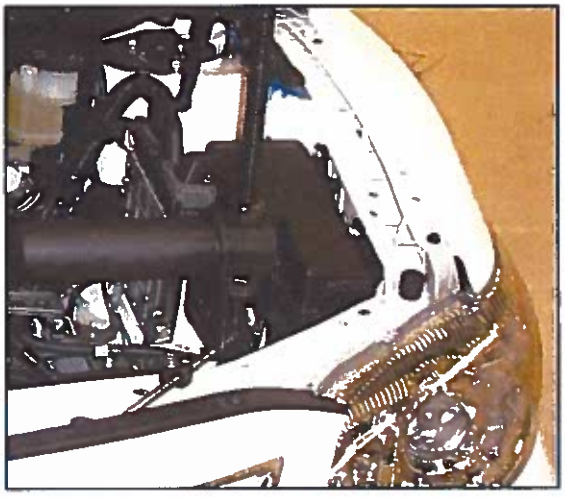
Repair Procedure: Removal (Continued)

B. Assemble the front bar assembly and position the legs so they can sit onto the right and left frame rails.

Figure 23.

C. Adjust the front bar arms so they can be bolted to the upper radiator core support mounting holes.

Figure 24.



D. Place the front bar on the vehicle with the legs sitting firmly on the right and left frame rails near the radiator support, and secure the front bar arms to the radiator core support.

Figure 25.

> NOTE
>
> **Once in position, ensure that the hex nuts on the front bar legs are tight and the front bar is still square after installation.**

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

E. Install the Engine Support Bar hook #2 onto the crossbar and place the crossbar assembly through the swivel on the main bar.

HINT

The main bar swivel may be placed above or below the main bar.

NOTICE

Be sure not to let the main bar swivel fall and damage the windshield, or damage the hood when installing the crossbar assembly.

Figure 26.

F. Insert the straddle bar into the crossbar.

Figure 27.

G. Adjust the height of the crossbar so it is level and insert the quick release pin through the nearest open slot in the straddle bar.

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

H. Attach the chain from the engine hooks to the hook #2 of the Engine Support Bar and place tension on the chain until the Engine Support Bar self centers.

CAUTION

Ensure the Engine Support Bar is stable when fully assembled and mounted to the vehicle to ensure no damage to vehicle or technician.

Figure 28.

14. Remove the front wheels.
15. Remove the front axle hub nut.
    A. Using the Drive Shaft Nut Chisel and a hammer, release the staked part of the front axle hub nut.

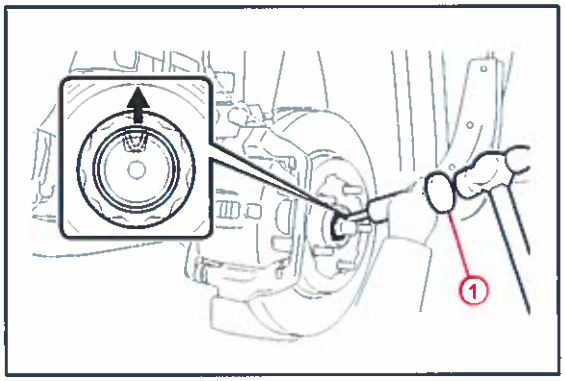
    Drive Shaft Nut Chisel SST: 09930-00010-01

    NOTICE

    Loosen the staked part of the nut completely; otherwise the thread of the drive shaft may be damaged.

    B. While applying the brakes, remove the front axle hub nut.

Figure 29.



1	Drive Shaft Nut Chisel

16. Remove the front wheel opening extension pad LH.
17. Remove the engine under cover LH.
18. Remove the front wheel opening extension pad RH.
19. Remove the front fender apron seal LH.
20. Remove the front fender apron seal RH.

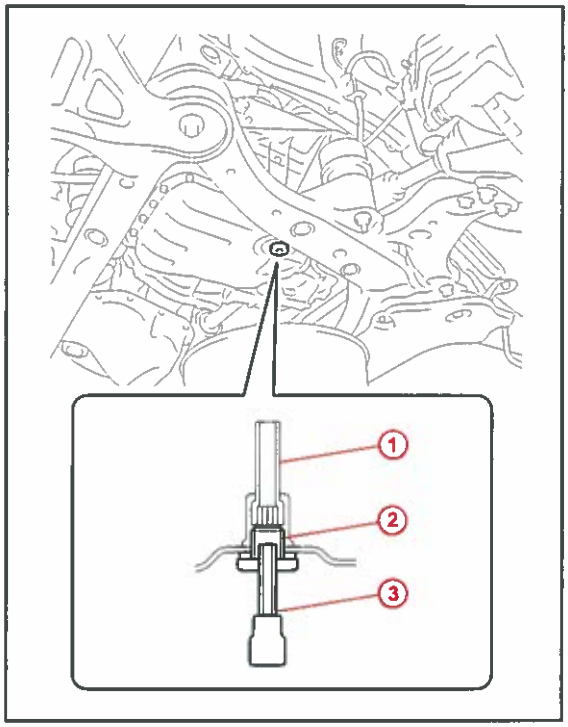
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

21. Drain the automatic transaxle fluid.

A. Using a 6 mm hexagon socket wrench, remove the overflow plug and gasket from the automatic transaxle.

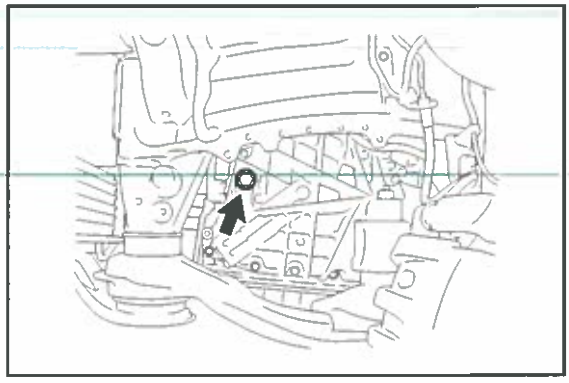
Figure 30.



1	No. 1 Transmission Oil Filler Tube
2	Overflow Plug
3	Hexagon Socket Wrench

B. Remove the refill plug and gasket from the automatic transaxle.

Figure 31.

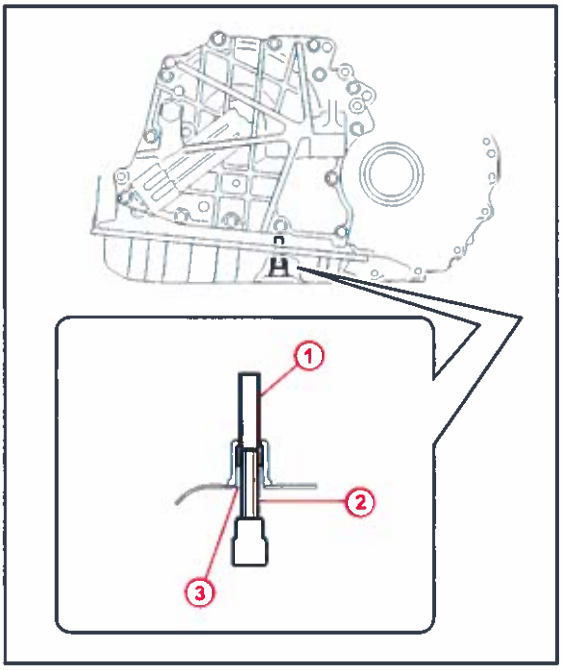


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

C. Using a 6 mm hexagon socket wrench, remove the No. 1 transmission oil filler tube.

Figure 32.



1	No. 1 Transmission Oil Filler Tube
2	Hexagon Socket Wrench
3	Overflow Plug Hole

D. Drain the automatic transaxle fluid from the automatic transaxle.

E. Using a 6 mm hexagon socket wrench, install the No. 1 transmission oil filler tube.
Torque: 0.8 N*m (8 kgf*cm, 7 in*lbf)

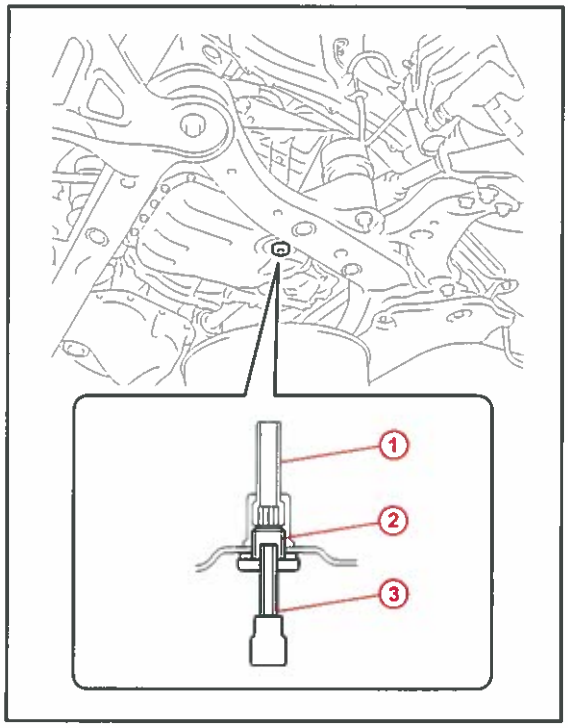
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

F. Using a 6 mm hexagon socket wrench, install the gasket and the overflow plug to the automatic transaxle.

Torque: 40 N*m (408 kgf*cm, 30 ft*lbf)

Figure 33.

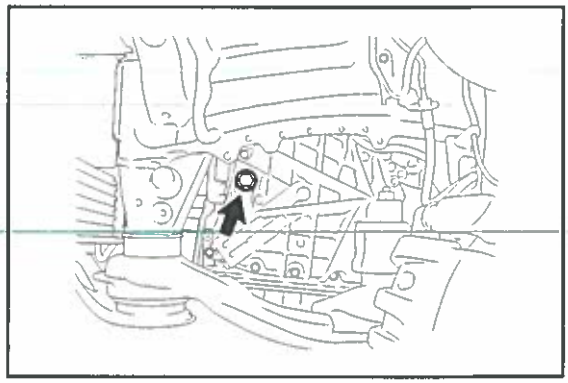


1	No. 1 Transmission Oil Filler Tube
2	Overflow Plug
3	Hexagon Socket Wrench

G. Install the refill plug.

Torque: 49 N*m (500 kgf*cm, 36 ft*lbf)

Figure 34.



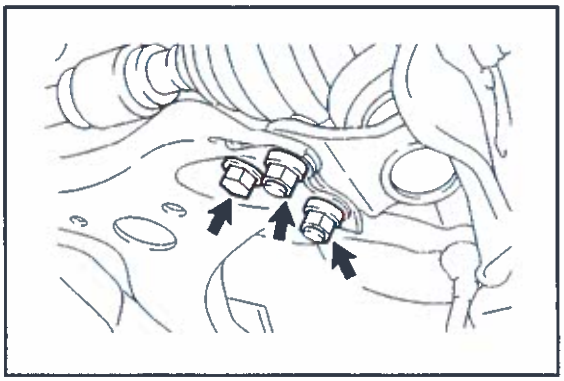
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

22. Separate the front suspension lower No. 1 arms.

    Remove the bolt and 2 nuts, and separate the front suspension lower No. 1 arm from the lower ball joint.

Figure 35.



23. Separate the front axle assembly.

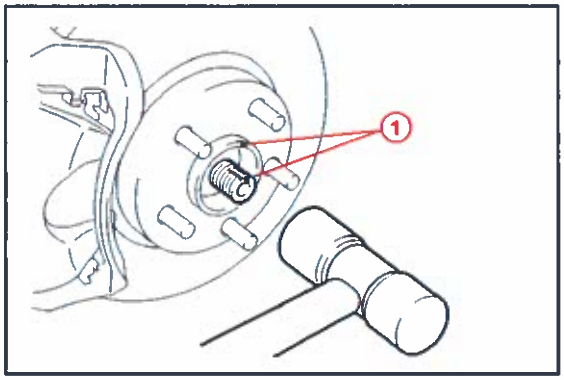
    A. Put matchmarks on the front drive shaft assembly and the axle hub.

    B. Using a plastic hammer, separate the front drive shaft assembly from the front axle assembly.

NOTICE

Be careful NOT to damage the drive shaft boot and speed sensor rotor.

Figure 36.



1	Matchmarks

24. Using the Drive Shaft Remover Attachment and Slide Hammer (5 lb.), remove the front drive shaft assembly LH.

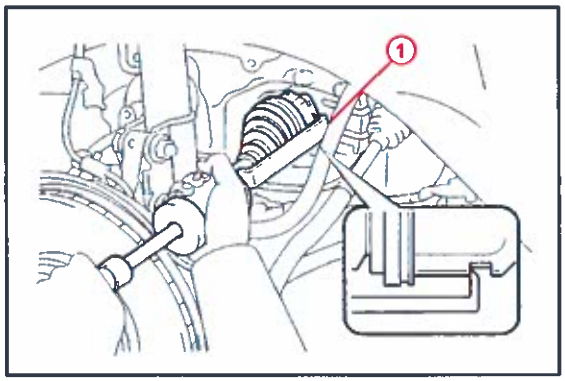
    Drive Shaft Remover Attachment SST: 09520-01010-02

    Slide Hammer (5 lb.) SST: 09520-32040-01

NOTICE

- **Be careful NOT to damage the drive shaft dust cover, boot, or oil seal.**
- **Be careful NOT to drop the drive shaft assembly.**

Figure 37.



1	SSTs (Drive Shaft Remover Attachment & Slide Hammer [5 lb.])

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Repair Procedure: Removal (Continued)

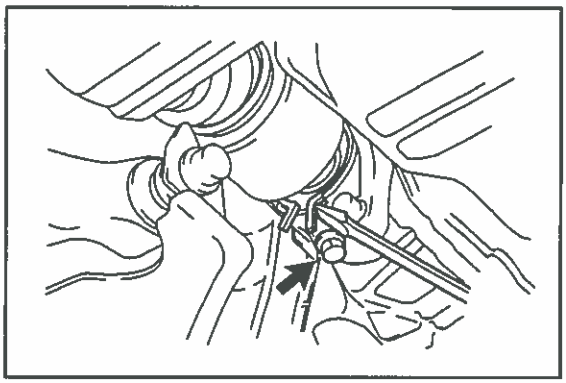
25. Remove the front drive shaft assembly RH.

    A. Using a screwdriver, remove the bearing bracket hole snap ring.

    B. Remove the bolt and front drive shaft assembly RH from the drive shaft bearing bracket.

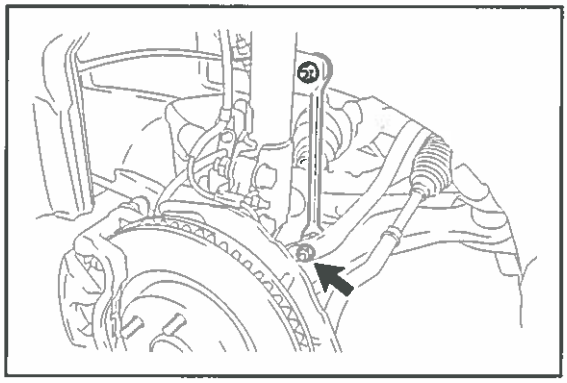
> **NOTICE**
> **Do NOT damage the boot or oil seal.**

Figure 38.



26. Separate the front stabilizer link assembly by removing the nut.

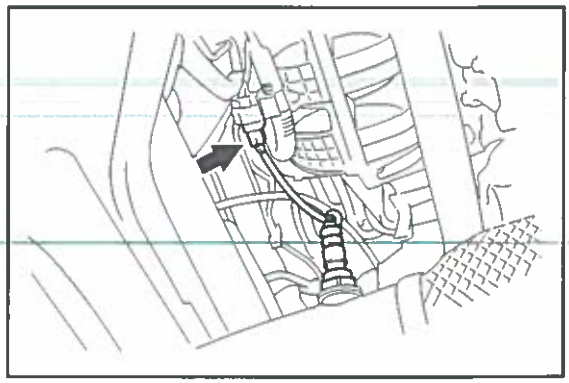
Figure 39.



27. Remove the front exhaust pipe assembly.

    A. Disconnect the connector.

Figure 40.

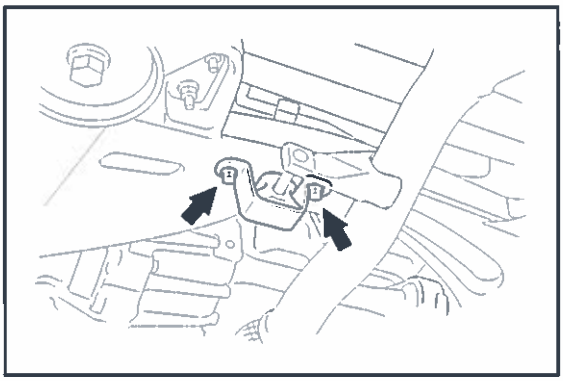


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

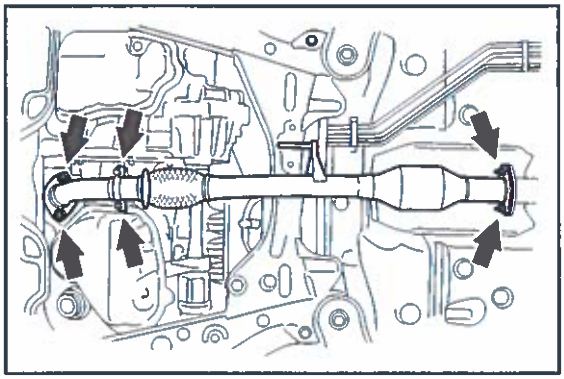
B. Remove the 2 bolts and support bracket.

Figure 41.



C. Remove the 2 nuts and bracket.

Figure 42.



D. Remove the 4 nuts, 2 bolts and front exhaust pipe assembly.

E. Remove the 2 gaskets from the front exhaust pipe assembly and center exhaust pipe assembly.

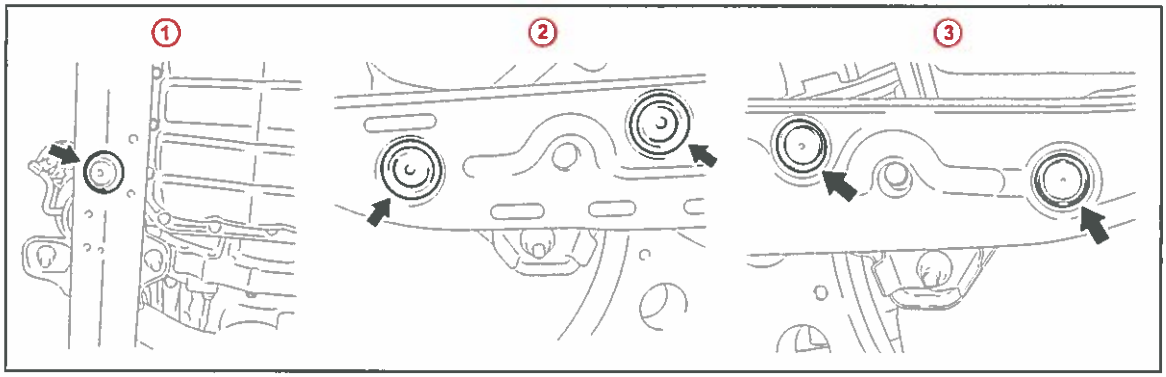
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

28. Remove the engine mounting insulator bolts and nuts from the sub-frame assembly.

A. Remove the 5 hole plugs.

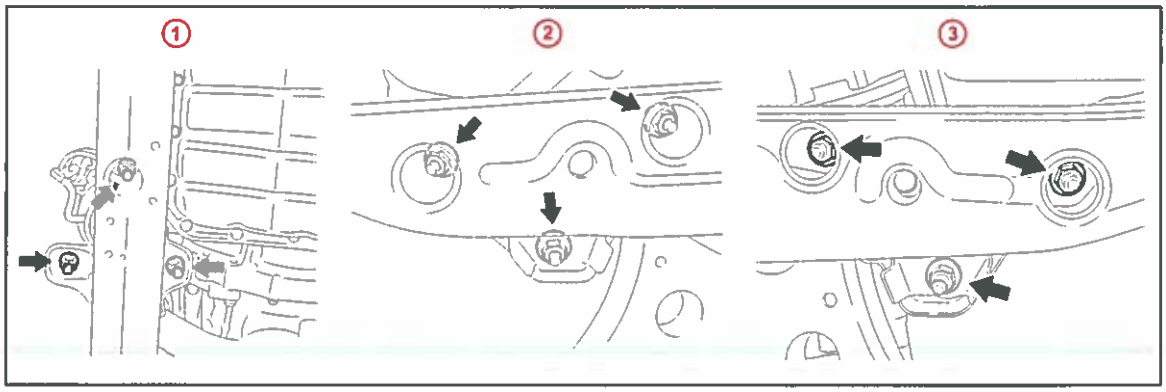
Figure 43.



1	Front Side
2	RH Side
3	LH Side

B. Remove the 9 nuts, and separate the front frame assembly.

Figure 44.



1	Front Side
2	RH Side
3	LH Side

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

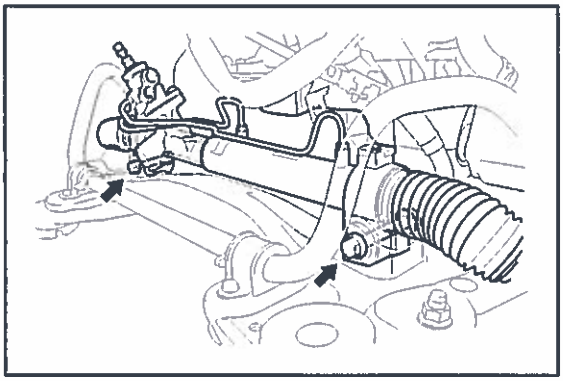
29. Remove the bolts that hold down the power steering line to the sub frame.

30. Remove the bolts that hold the power steering link assembly to the sub frame.

    Remove the 2 bolts, 2 nuts, and the power steering link assembly.

> **NOTICE**
>
> **Because the nut has its own stopper, do NOT turn the nut. Loosen the bolt with the nut fixed.**

Figure 45.



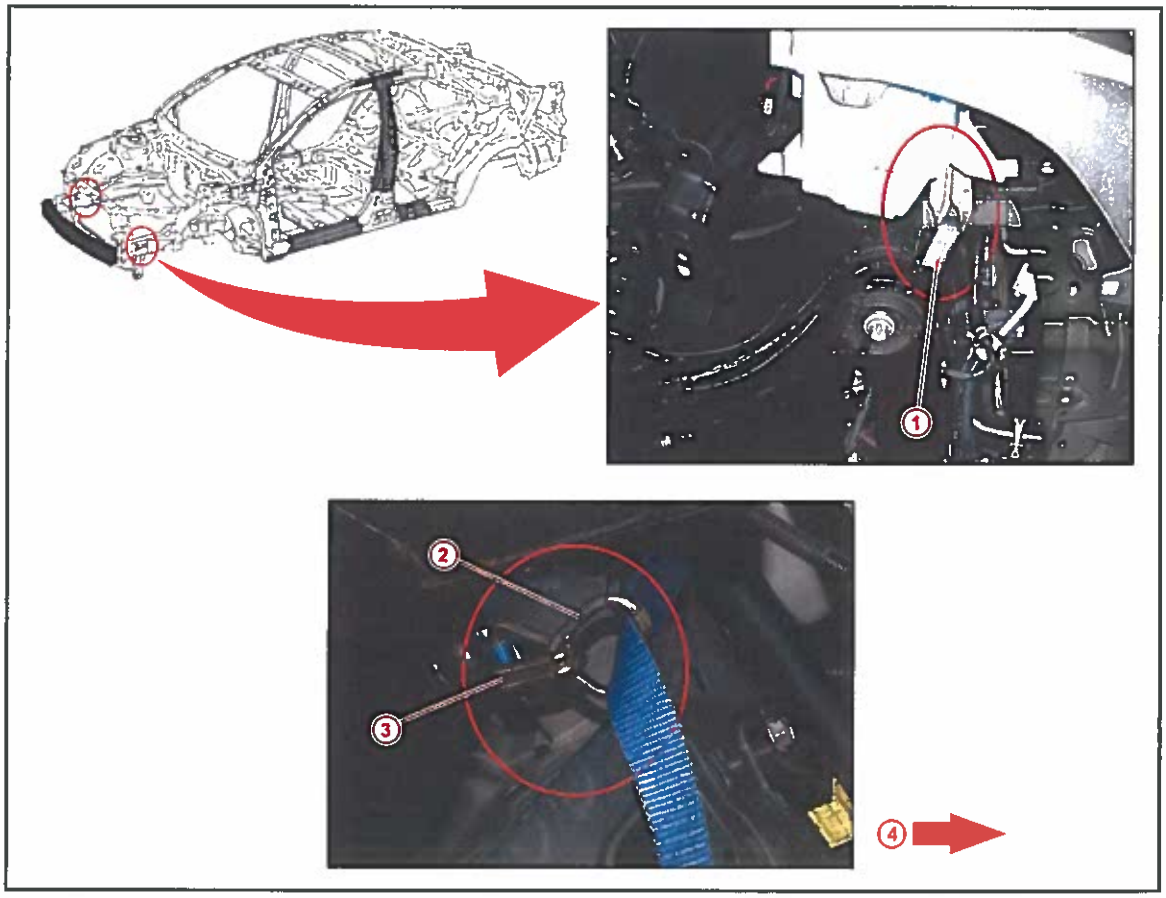
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

31. Install the Safety Support Strap, secondary safety support straps.
    Safety Support Strap SST: 00002-2SUPP

    A. Loop the strap over the frame rail rearward of the radiator support and secure the hook to the strap's floating D-ring.

    Figure 46.



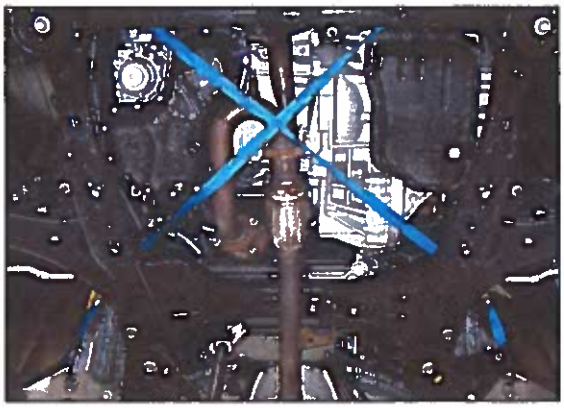
1	Strap	3	Hook
2	D-Ring	4	Front of Vehicle

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

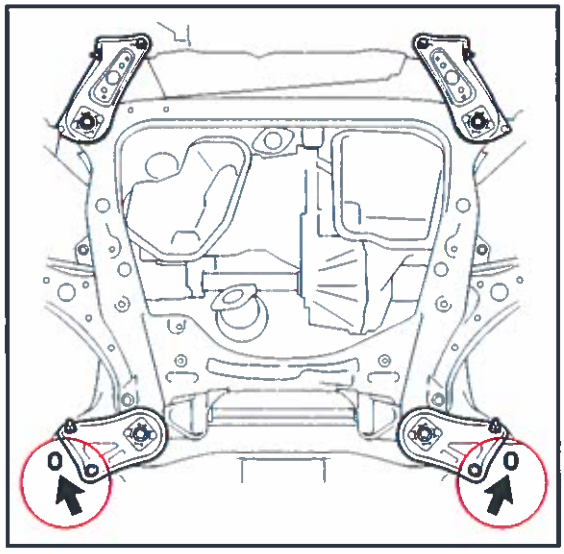
B. Feed the strap over the sub-frame and under the engine in an "X" pattern.

Figure 47.



C. Connect the strap's hook into the torque box tie-down holes. This allows the sub frame to be removed without the need to remove the support strap.

Figure 48.



D. Ratchet the support strap until it is snugly seated on the engine and transaxle assembly.

> **NOTE**
>
> **Make sure that the engine moving control rod is NOT disconnected because the rod is also used as additional safety support.**

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

32. Place a lift under the sub frame.
33. Remove the sub frame.

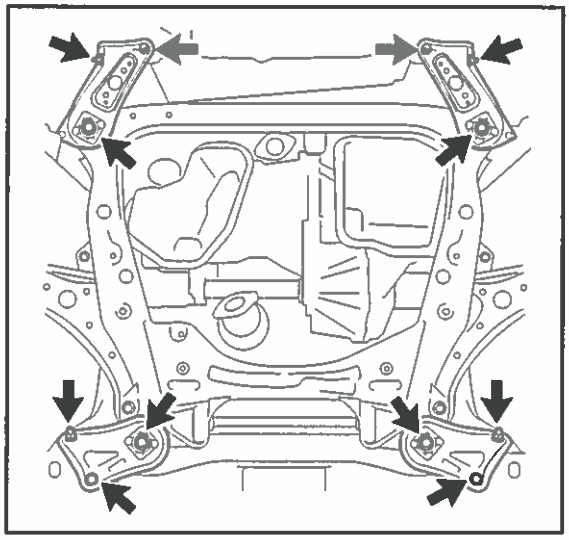
CAUTION

Before removing the bolts ensure the Engine Support Bar is secure and is supporting the engine weight to ensure no damage to vehicle or technician.

A. Remove the 4 bolts, 2 nuts, and frame side rail plate RH and LH.

B. Remove the 4 bolts, 2 nuts, and front suspension member brace rear RH and LH.

Figure 49.



34. Slowly lower the sub frame.

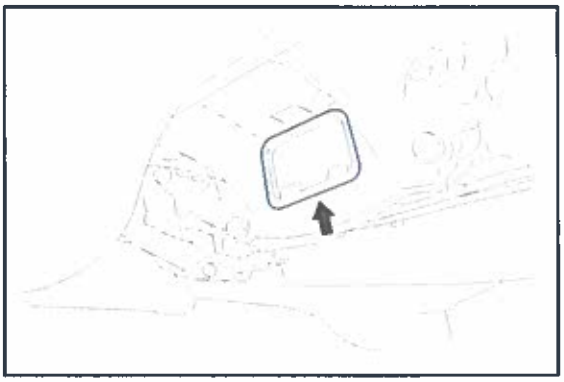
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

35. Remove the flywheel housing under cover.

A. Remove the flywheel housing under cover.

Figure 50.



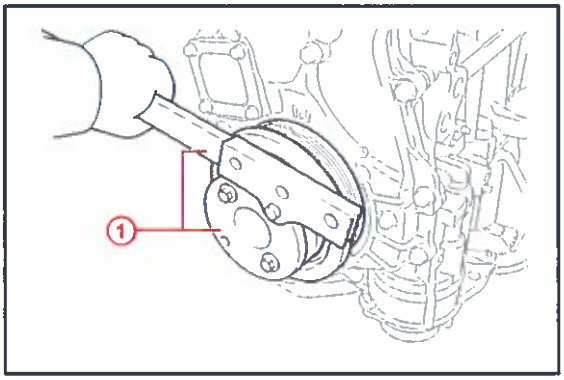
B. Using the SSTs, hold the crankshaft pulley while removing the flex plate bolts. SST can also be used to rotate engine to access the next bolt to remove.

Crankshaft Pulley Holding Tool SST: 09213-54015

Companion Flange holding Tool SST: 09330-00021

Bolts-2 SST: 91551-80650

Figure 51.



1	SSTs (Crankshaft Pulley Holding Tool, Companion Flange holding Tool, and Bolts-2)

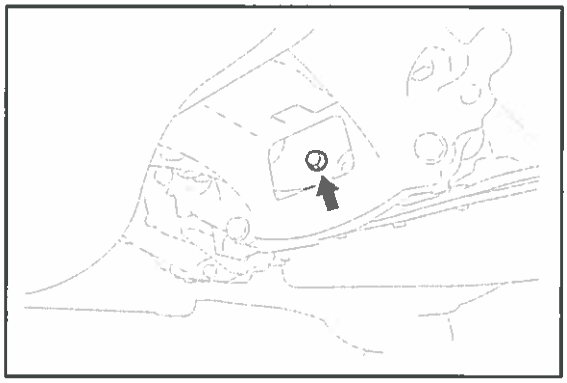
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Removal (Continued)

C. Remove the 6 drive plate and torque converter clutch setting bolts.

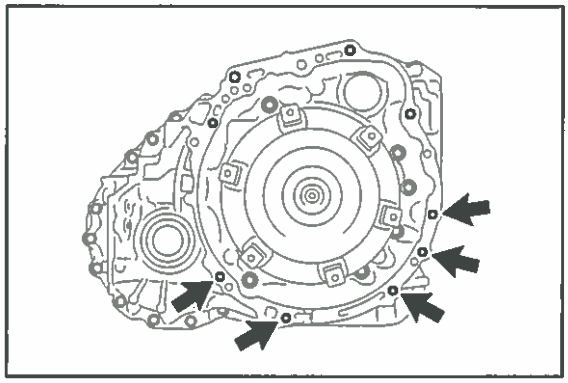
> **HINT**
> **There will be one black colored bolt.**

Figure 52.



36. Place a transmission jack under the transmission.
37. Remove the lower (5) bell housing bolts.

Figure 53.



38. Lower the transmission away from the vehicle.

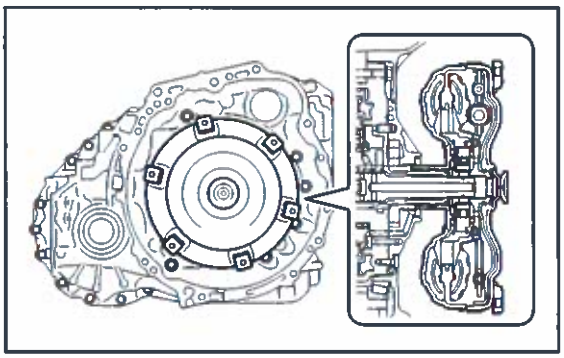
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation

1. Install the torque converter clutch assembly.

A. Engage the splines of the input shaft and turbine runner.

Figure 54.

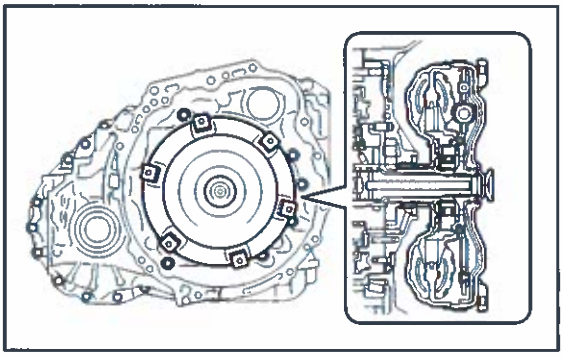


B. Engage the splines of the stator shaft and the stator while turning the torque converter clutch assembly.

HINT

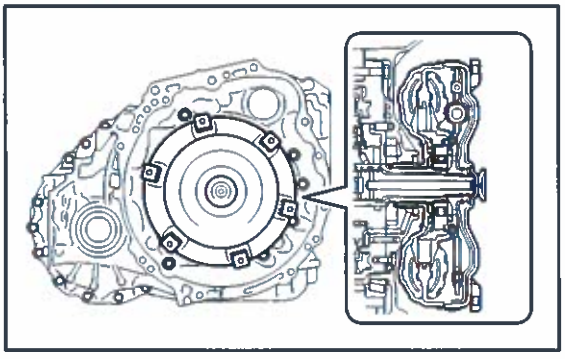
If the stator shaft splines are difficult to engage with the stator splines, move the torque converter back approximately 10 mm and engage the splines while rotating the torque converter.

Figure 55.



C. Turn the torque converter clutch assembly to engage the key of the oil pump drive gear into the slot on the torque converter clutch assembly.

Figure 56.



Repair Manual Supplement: Transaxle Replacement

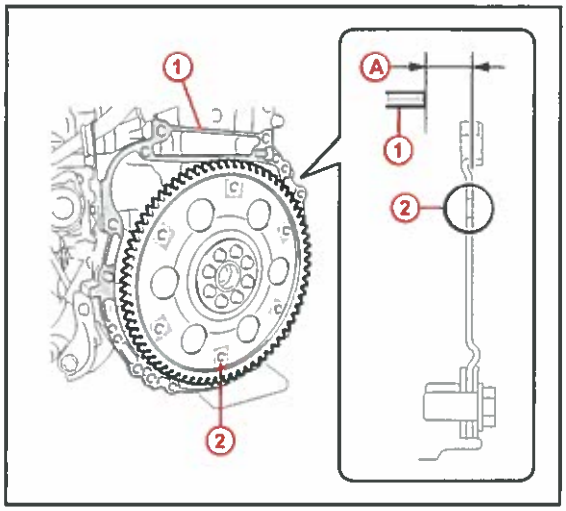
Repair Procedure: Installation (Continued)

D. Using a vernier caliper and a straightedge, measure dimension "A" between the transaxle contact surfaces of the engine and the converter contact surfaces of the drive plate.

NOTICE

Make sure to deduct the thickness of the straightedge.

Figure 57.



1	Transaxle Contact Surface of Engine
2	Converter Contact Surface of Drive Plate
A	Measure Distance between Contact Surfaces

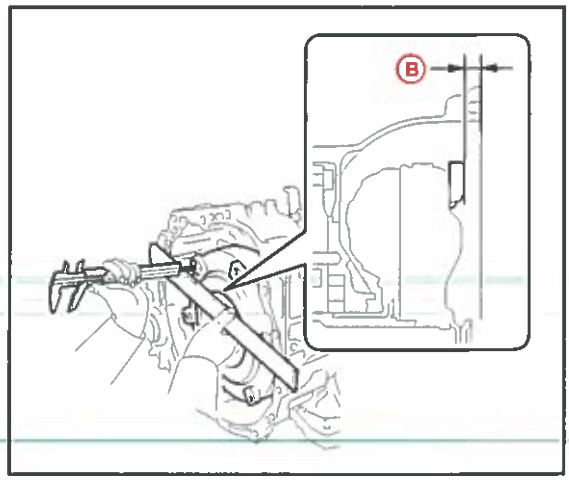
E. Using a vernier caliper and a straightedge, measure dimension "B" shown in the illustration and check that "B" is greater than "A" which was measured in the previous step.

Standard: A + 1 mm (0.0394 in.) or more

NOTICE

- **Make sure to deduct the thickness of the straightedge.**
- **If the transaxle is installed to the engine with the torque converter not sufficiently inserted, the torque converter may be damaged.**

Figure 58.



B	Measure Distance

Repair Manual Supplement: Transaxle Replacement

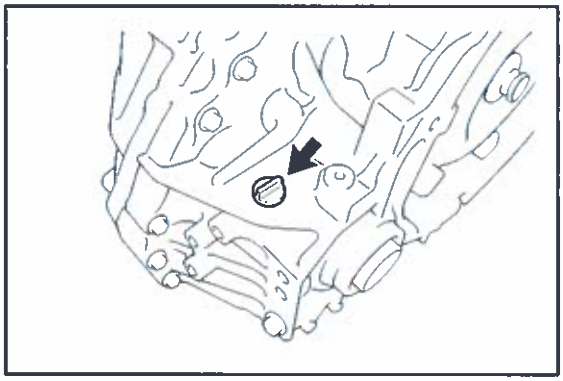
Repair Procedure: Installation (Continued)

2. Install the transmission case plug assembly.

   A. Apply ATF to a new O-ring and install it to the transmission case plug assembly.

   B. Install the transmission case plug assembly to the automatic transaxle assembly.

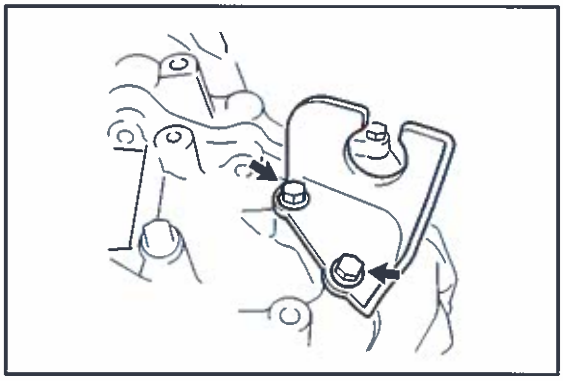
Figure 59.



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

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

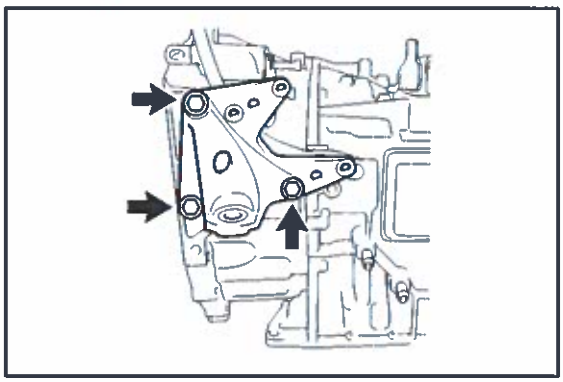
Figure 60.



4. Install the front engine mounting bracket to the automatic transaxle with the 3 bolts.

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

Figure 61.

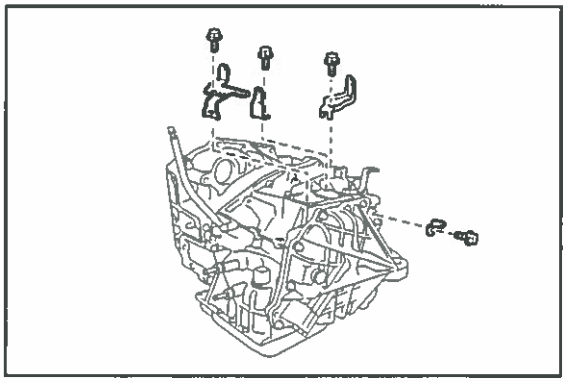


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

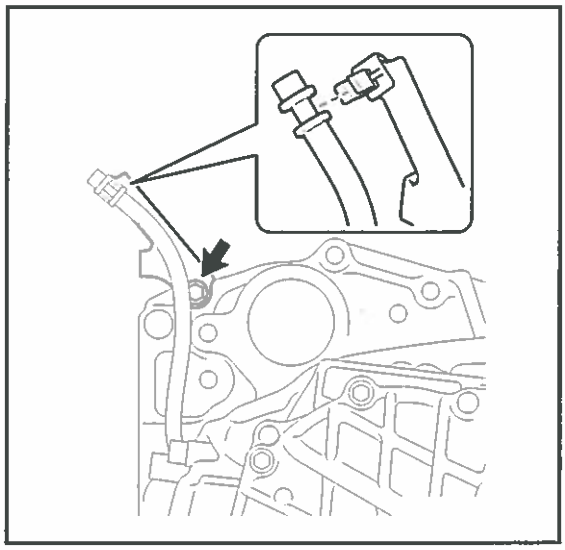
5. Install the 4 wire harness clamp brackets to the automatic transaxle with the 4 bolts.
   Torque: 8.4 N*m (86 kgf*cm, 74 in*lbf)

Figure 62.



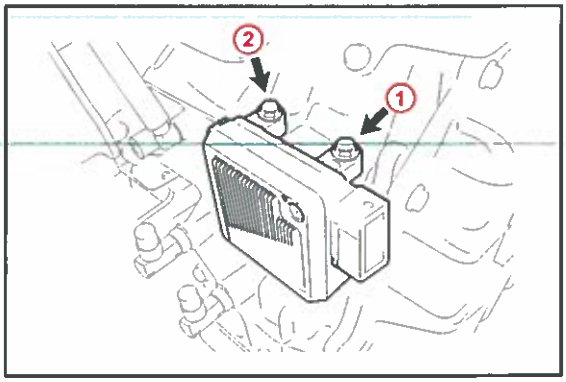
6. Install the flexible hose bracket sub-assembly.
   A. Install the flexible hose bracket sub-assembly to the transaxle with the bolt.
      Torque: 20 N*m (204 kgf*cm, 15 ft*lbf)
   B. Install the breather plug hose to the flexible hose bracket sub-assembly with the clip.

Figure 63.



7. Install the Transmission Control Module (TCM) to the transaxle and tighten the 2 bolts in the order shown in the illustration.
   Torque: 11 N*m (112 kgf*cm, 8 ft*lbf)

Figure 64.



Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

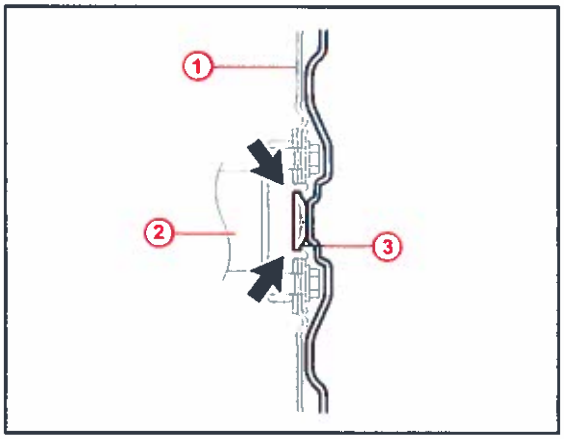
8. Install the automatic transaxle assembly.

A. Apply clutch spline grease to the contact surface between the crankshaft and torque converter centerpiece.

Clutch spline grease:
Toyota Genuine Clutch Spline Grease, or equivalent

Maximum Amount:
1 g (0.0353 oz.)

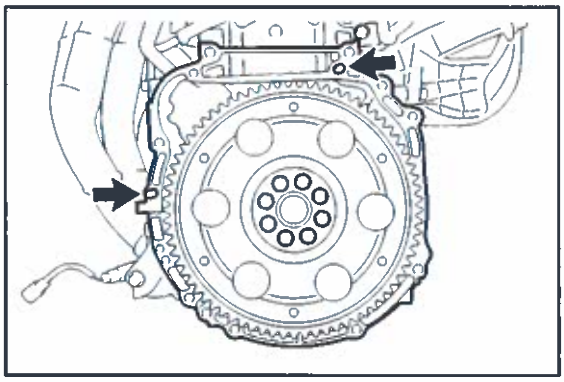
Figure 65.



1	Drive Plate
2	Crankshaft
3	Torque Converter Centerpiece

B. Confirm that the 2 knock pins are on the transaxle contact surface of the engine block before transaxle installation.

Figure 66.



Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

9. Install the lower (5) transaxle bolts.

   Keeping the engine and automatic transaxle assembly in a horizontal position, align the knock pins with each hole on the automatic transaxle assembly and tighten the 5 bolts shown in the illustration.

   Bolt A:

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

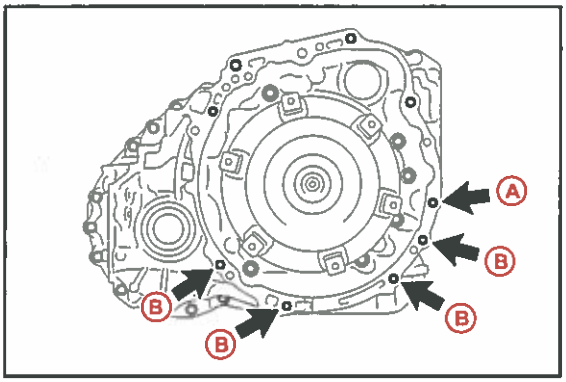
   Bolt B:

   Torque: 44 N*m (449 kgf*cm, 32 ft*lbf)

   NOTICE

   - **Do NOT forcibly pry on the automatic transaxle assembly.**
   - **Check that the torque converter rotates.**
   - **Confirm that the 2 knock pins are on the transaxle contact surface of the engine block before transaxle installation.**

Figure 67.



10. Lower the transmission jack away from the engine and transmission.

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

11. Install the 6 drive plate and torque converter clutch setting bolts.

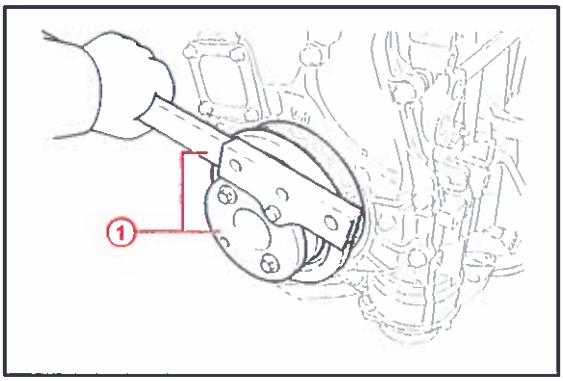
A. Using the SSTs, hold the crankshaft pulley.

Crankshaft Pulley Holding Tool SST: 09213-54015

Companion Flange holding Tool SST: 09330-00021

Bolts-2 SST: 91551-80650

Figure 68.

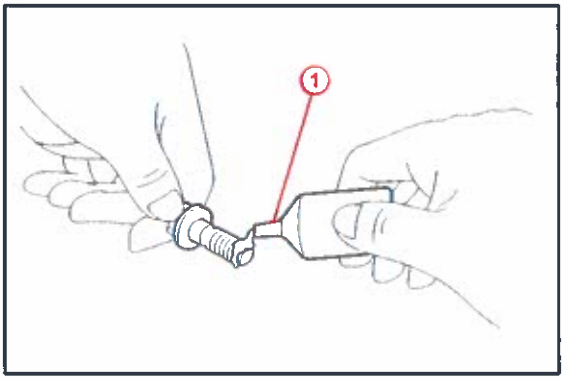


1	SSTs (Crankshaft Pulley Holding Tool, Companion Flange holding Tool, and Bolts-2)

B. Apply a few drops of adhesive to the first 2 or 3 threads of the 6 drive plate and torque converter clutch setting bolts.

Adhesive: Toyota Genuine Adhesive 1324, Three Bond 1324, or equivalent

Figure 69.



1	Adhesive

Repair Manual Supplement: Transaxle Replacement

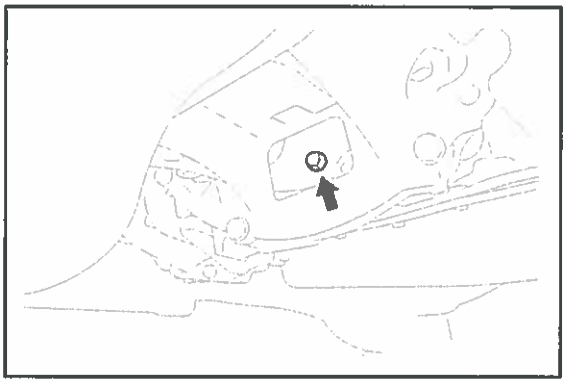
Repair Procedure: Installation (Continued)

C. Install the 6 drive plate and torque converter clutch setting bolts.

Torque: 41 N*m (418 kgf*cm, 30 ft*lbf)

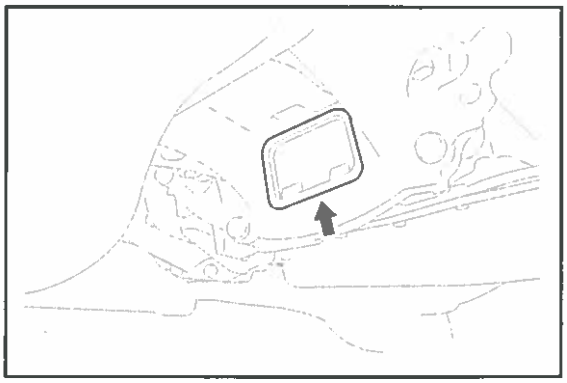
> NOTICE
> **First install the black colored bolt, and then the remaining 5 bolts.**

Figure 70.



12. Install the flywheel housing under cover.

Figure 71.

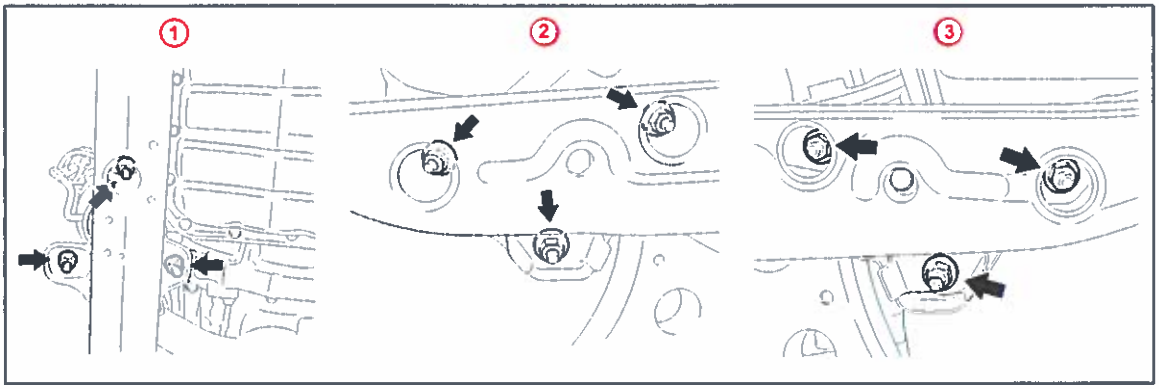


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

13. Install the subframe using the Subframe Alignment Pins.
    Subframe Alignment Pins SST: 00002-90080

    A. Install the front frame assembly with the 9 nuts.
    Front Side:
    Torque: 52 N*m (531 kgf*cm, 38 ft*lbf)
    RH & LH Sides:
    Torque: 87 N*m (887 kgf*cm, 64 ft*lbf)
    Figure 72.



1	Front Side
2	RH Side

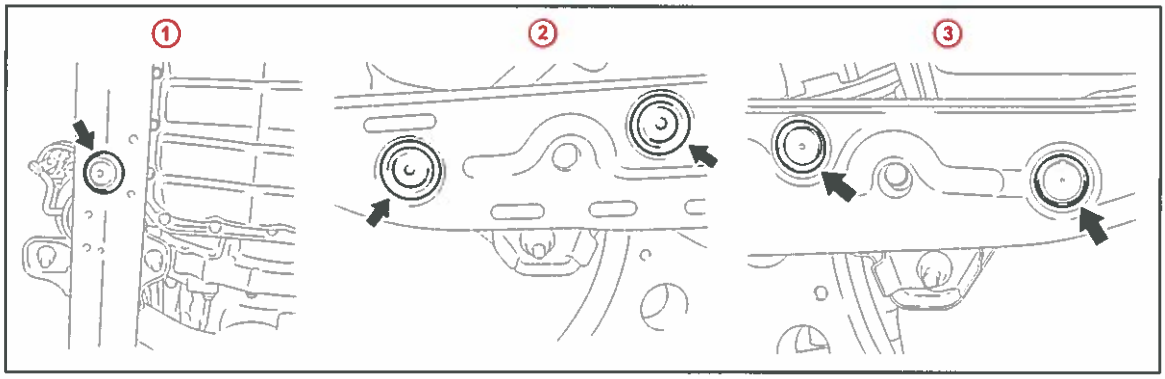
3	LH Side

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

B. Install the 5 hole plugs.

Figure 73.

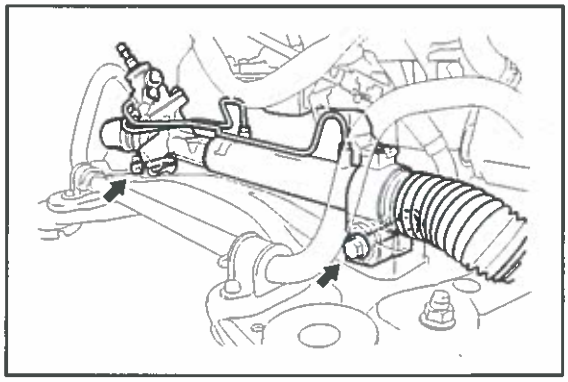


1	Front Side
2	RH Side
3	LH Side

C. Install the power steering link assembly with the 2 bolts and 2 nuts.

Torque: 70 N*m (714 kgf*cm, 52 ft*lbf)

Figure 74.



Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

D. Install the frame side rail plates RH and LH with the 4 bolts and 2 nuts.

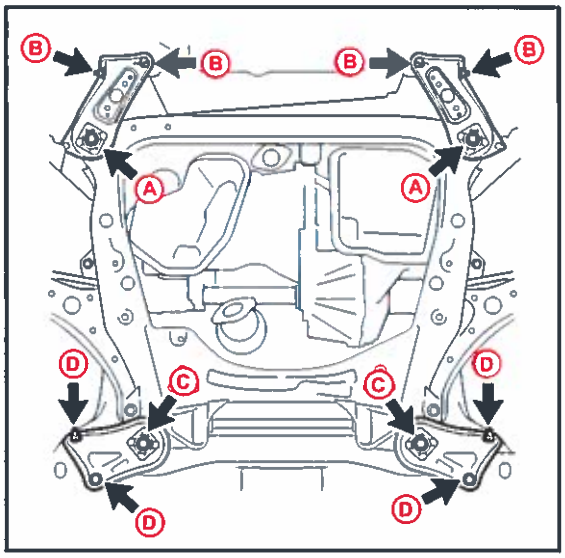
Nut A:

Torque: 85 N*m (867 kgf*cm, 63 ft*lbf)

Bolt B:

Torque: 32 N*m (329 kgf*cm, 24 ft*lbf)

Figure 75.



A	Nut A
B	Bolt B
C	Nut C
D	Bolt D

E. Install the front suspension member brace rear RH and LH with the 4 bolts and 2 nuts.

Nut C:

Torque: 85 N*m (867 kgf*cm, 63 ft*lbf)

Bolt D:

Torque: 32 N*m (329 kgf*cm, 24 ft*lbf)

HINT

The Subframe Alignment Pins (SST: 00002-90080) will ensure all engine and transmission mount studs have lined up with their corresponding holes.

14. Remove the secondary safety support straps.

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

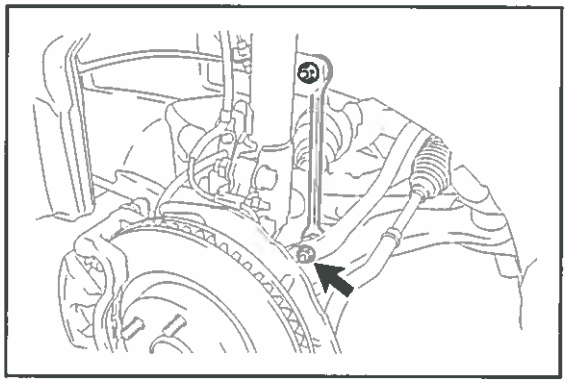
15. Install the front stabilizer link assembly with the nut.

    Torque: 74 N*m (755 kgf*cm, 55 ft*lbf)

    HINT

    If the ball joint turns together with the nut, use a hexagon (6 mm) wrench to hold the stud.

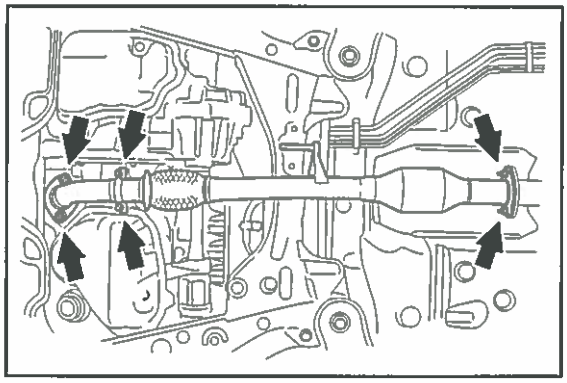
Figure 76.



16. Install the front exhaust pipe assembly back onto the vehicle.

    A. Install 2 new gaskets to the front exhaust pipe assembly and center exhaust pipe assembly.

Figure 77.



Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

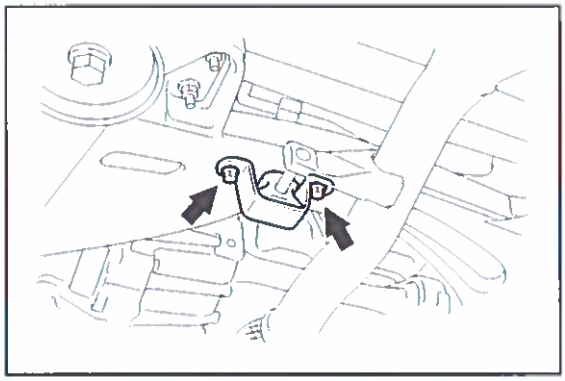
B. Install the front exhaust pipe with the 2 nuts to the exhaust manifold converter sub-assembly.
Torque: 55 N*m (561 kgf*cm, 40 ft*lbf)

C. Install the front exhaust pipe with the 2 nuts and 2 bolts to the center exhaust pipe assembly.
Torque: 49 N*m (500 kgf*cm, 36 ft*lbf)

D. Install the bracket with the 2 nuts.
Torque: 33 N*m (337 kgf*cm, 24 ft*lbf)

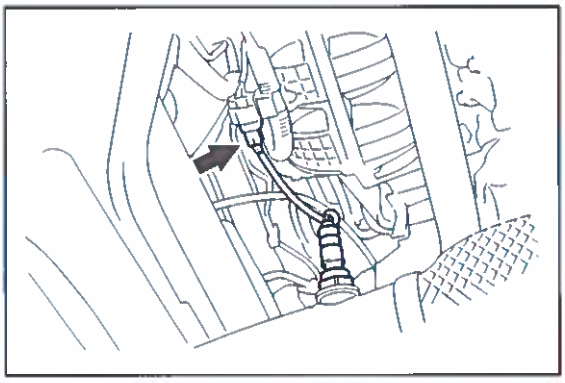
E. Install the support bracket with the 2 bolts.
Torque: 33 N*m (337 kgf*cm, 24 ft*lbf)

Figure 78.



F. Connect the connector.

Figure 79.



Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

17. Install the front drive shaft assembly LH.

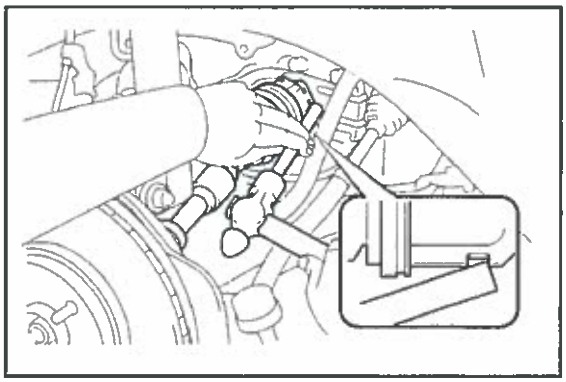
    A. Coat the spline of the inboard joint shaft assembly with ATF.

    B. Align the shaft splines and install the drive shaft assembly LH with a brass bar and hammer.

NOTICE

- **Set the shaft snap ring with the opening side facing down.**
- **Be careful NOT to damage the drive shaft dust cover, boot, or oil seal.**
- **Move the drive shaft assembly while keeping it level.**

Figure 80.



18. Install the front drive shaft assembly RH.

    A. Coat the spline of the inboard joint shaft assembly with ATF.

    B. Install the front drive shaft assembly RH.

    C. Using a screwdriver, install a new bearing bracket hole snap ring.

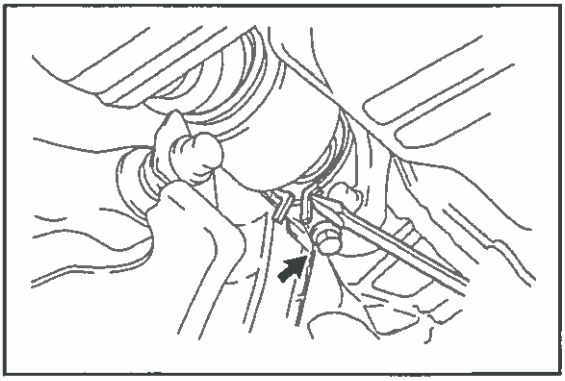
    D. Install a new bolt.

    Torque: 32 N*m (330 kgf*cm, 24 ft*lbf)

NOTICE

- **Do NOT damage the boot and oil seal.**
- **Move the drive shaft assembly while keeping it level.**

Figure 81.



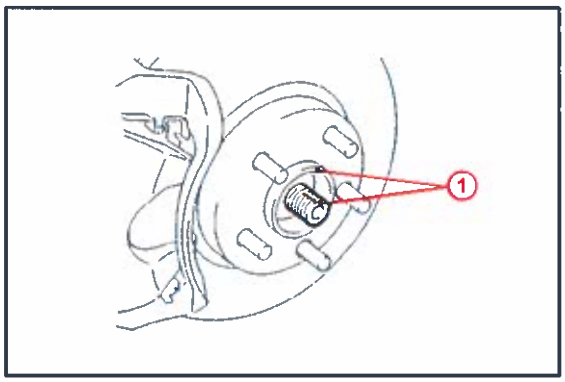
Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

19. Install the front axle assembly.

    Align the matchmarks and install the front drive shaft assembly to the front axle hub sub-assembly.

Figure 82.



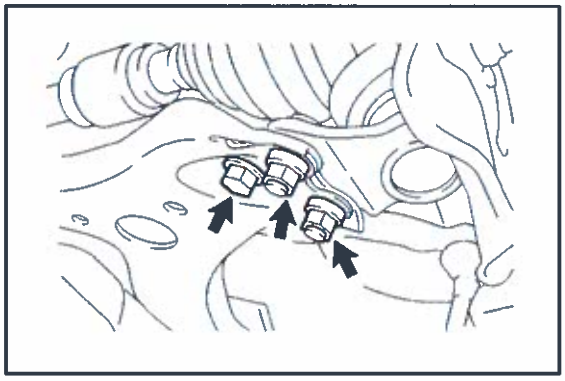
1	Matchmarks

20. Install the front suspension lower No. 1 arm.

    Install the lower ball joint to the front suspension lower No. 1 arm with the bolt and 2 nuts.

    Torque: 75 N*m (765 kgf*cm, 55 ft*lbf)

Figure 83.



21. Install the front axle hub nut.

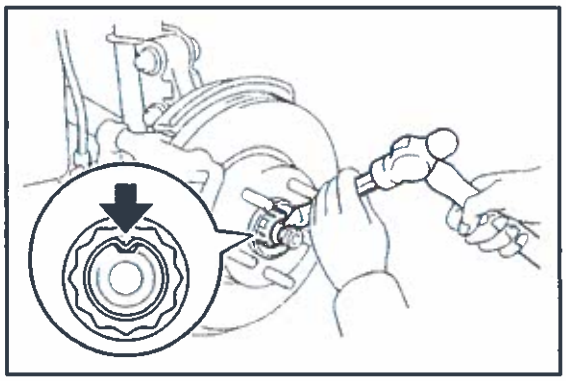
    A. Clean the threaded parts on the drive shaft and axle hub nut using a non-residue solvent.

    B. Using a socket wrench (30 mm) and applying the brakes, install a new front axle hub nut.

    Torque: 294 N*m (3,000 kgf*cm, 217 ft*lbf)

    C. Using a chisel and hammer, stake the front axle hub nut.

Figure 84.



22. Install the front wheels.

23. Install the front wheel opening extension pad LH.

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

24. Install the engine under cover LH.
25. Install the front wheel opening extension pad RH.
26. Install the front fender apron seal LH.
27. Install the front fender apron seal RH.
28. Remove the Engine Support Bar.
29. Install the upper (4) transaxle bolts

    Bolt A:

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

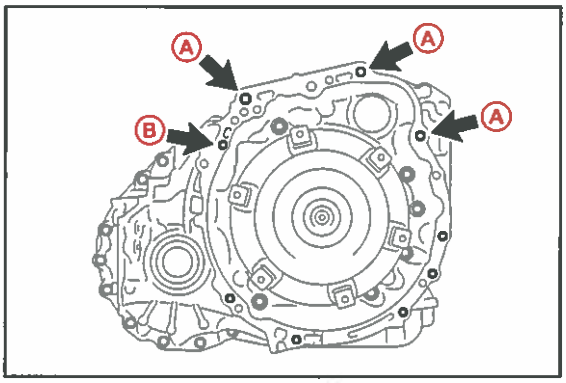
    Bolt B:

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

    NOTICE

    - **Do NOT forcibly pry on the automatic transaxle assembly.**
    - **Check that the torque converter rotates.**

Figure 85.

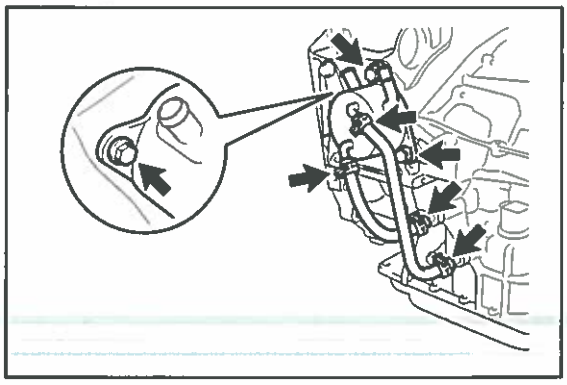


30. Install the transmission oil cooler.
    A. Install the transmission oil cooler to the front engine mounting bracket with the 3 bolts.

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

    B. Connect the No. 1 oil cooler outlet hose and No. 1 oil cooler inlet hose.

Figure 86.



Repair Manual Supplement: Transaxle Replacement

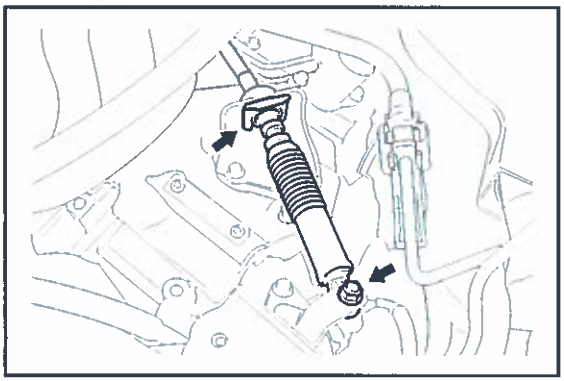
Repair Procedure: Installation (Continued)

31. Connect the transmission control cable assembly.

    Install a new clip and nut, and connect the cable to the transaxle.

    Torque: 13 N*m (130 kgf*cm, 9 ft*lbf)

Figure 87.

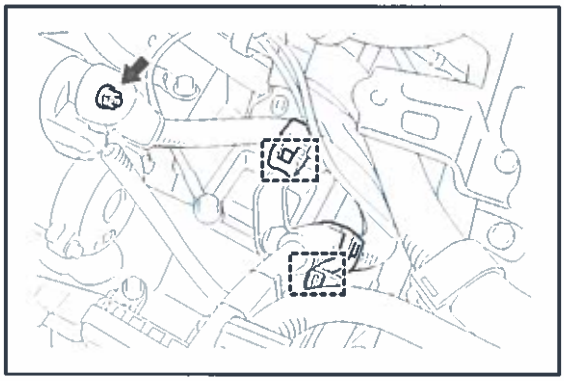


32. Connect the engine wire.

    A. Install the positive (+) cable with the nut and 2 clamps.

    Torque: 9.8 N*m (100 kgf*cm, 87 in*lbf)

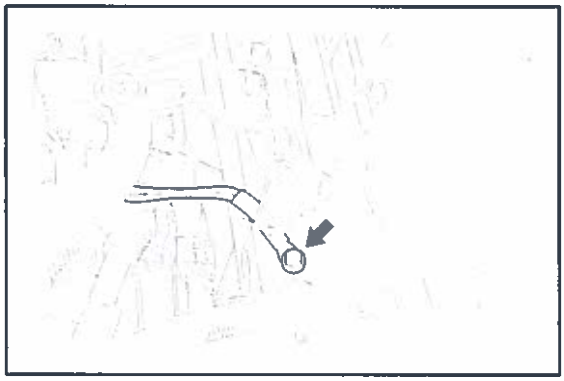
Figure 88.



    B. Install the air cleaner bracket with the 2 bolts.

    Torque: 7.8 N*m (80 kgf*cm, 69 in*lbf)

Figure 89.

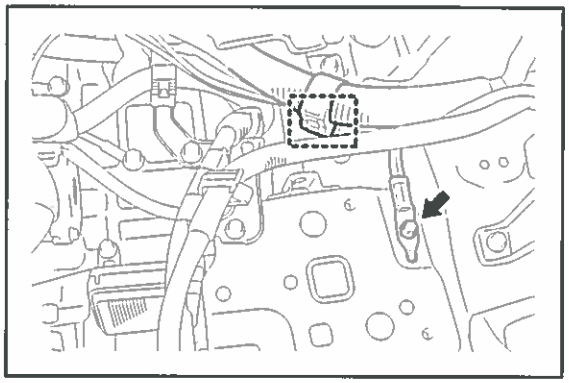


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

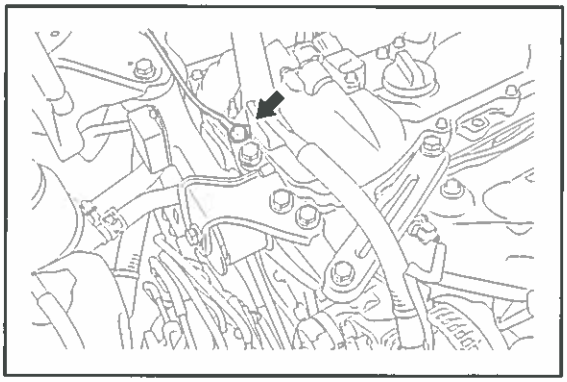
C. Connect the ground cable with the bolt.
Torque: 8.4 N*m (86 kgf*cm, 74 in*lbf)

Figure 90.



D. Connect the ground cable with the bolt.
Torque: 8.4 N*m (86 kgf*cm, 74 in*lbf)

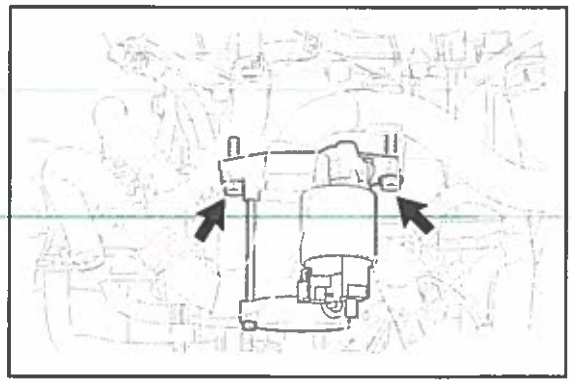
Figure 91.



33. Install the starter assembly.

A. Install the starter assembly with the 2 bolts.
Torque: 37 N*m (377 kgf*cm, 27 ft*lbf)

Figure 92.

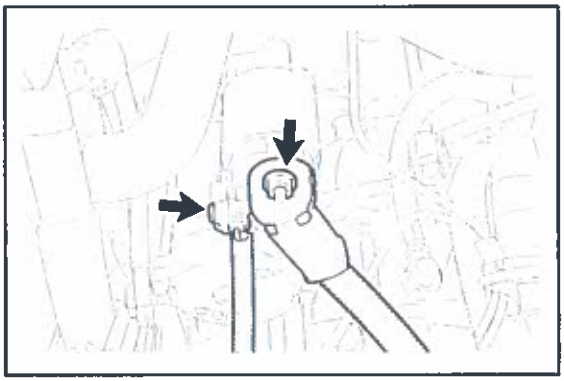


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

B. Connect the wire harness to terminal 30 and install the nut. Then attach the terminal cap.
Torque: 9.8 N*m (100 kgf*cm, 87 in*lbf)

Figure 93.



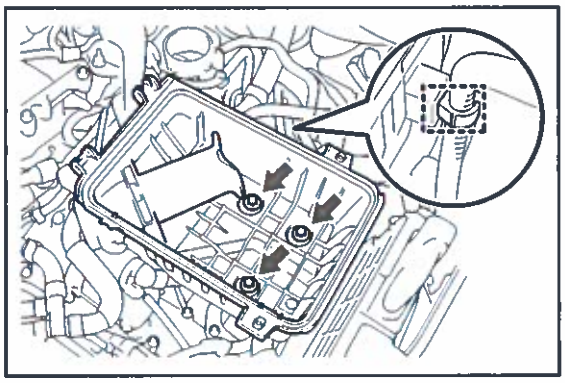
C. Connect the terminal 50 connector to the starter assembly.

34. Install the air cleaner case sub-assembly.

A. Install the air cleaner case with the 3 bolts.
Torque: 5.0 N*m (51 kgf*cm, 44 in*lbf)

B. Connect the wire harness clamp.

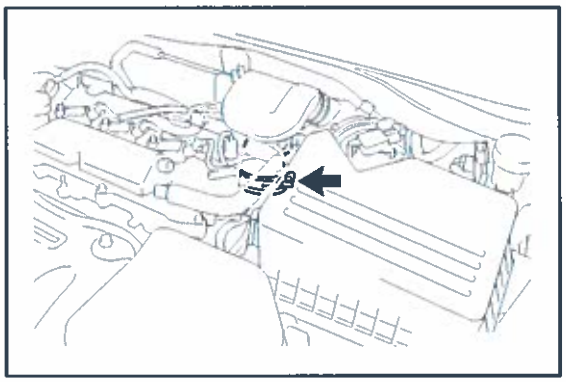
Figure 94.



35. Install the air cleaner cap sub-assembly.

A. Connect the air cleaner cap sub-assembly with the hose clamp.

Figure 95.

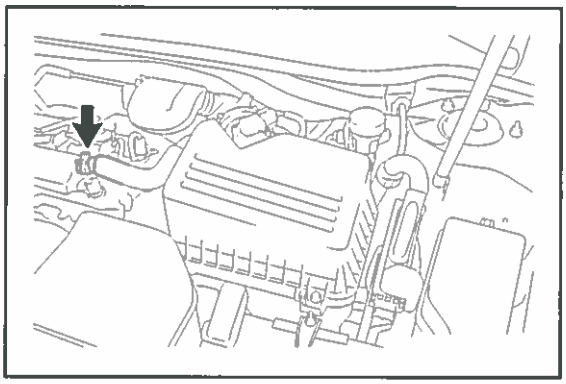


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

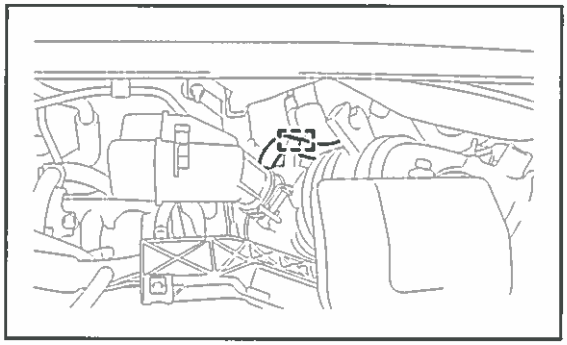
B. Connect the hose with the hose clamp.

Figure 96.



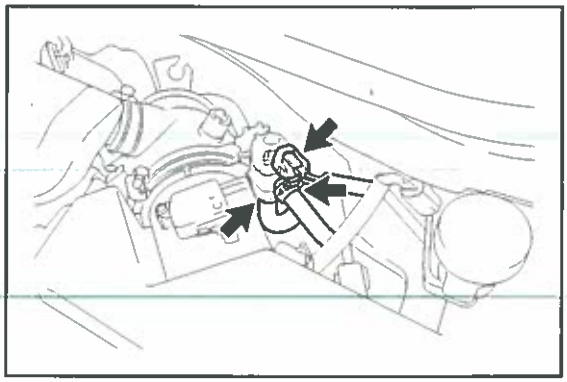
C. Engage the hose with the hose clamp.

Figure 97.



D. Connect the vacuum switching valve connector and 2 hoses.

Figure 98.

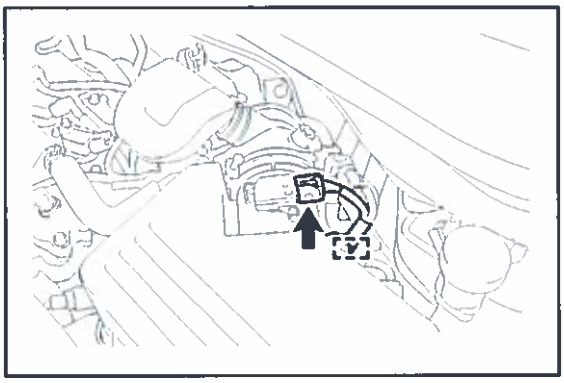


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

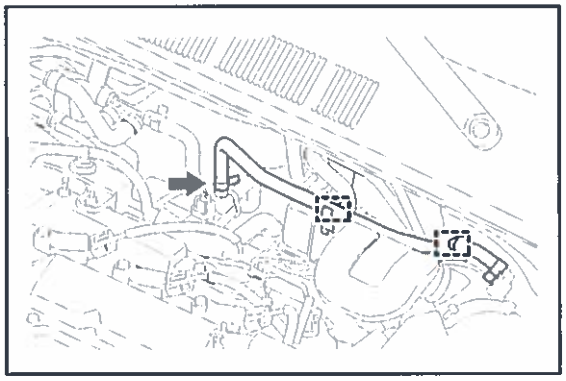
E. Connect the mass air flow meter connector and wire harness clamp to the air cleaner cap sub-assembly.

Figure 99.



F. **For PZEV vehicles:** Connect the hose and engage the hose to the clips on the air cleaner hose.

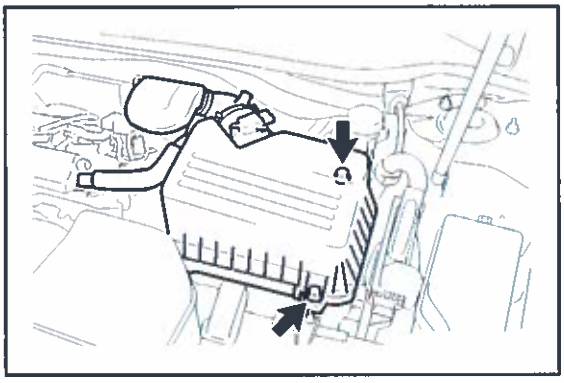
Figure 100.



G. Install the air cleaner cap sub-assembly with the 2 bolts.

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

Figure 101.

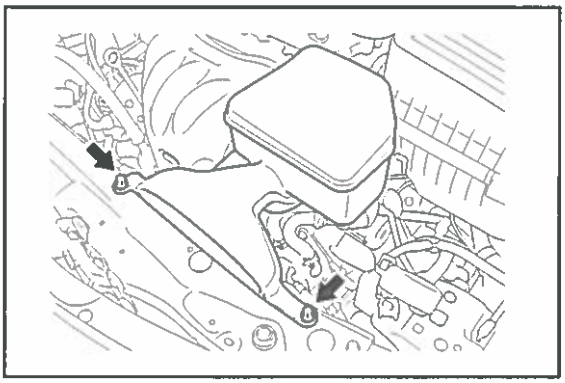


Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

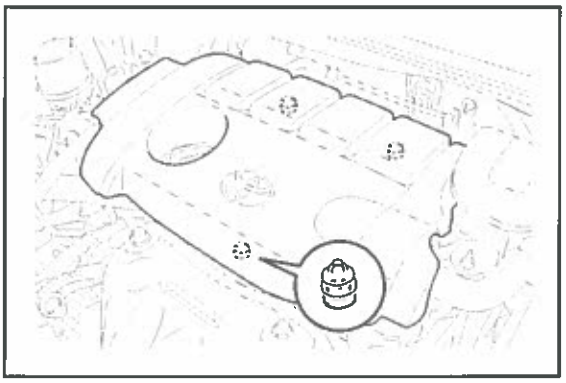
36. Install the inlet air cleaner assembly with the 2 bolts.
    Torque: 5.0 N*m (51 kgf*cm, 44 in*lbf)

Figure 102.



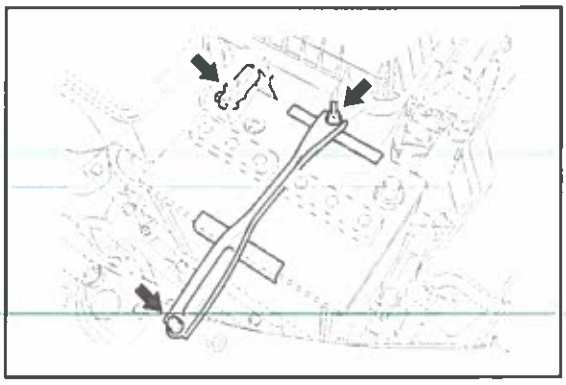
37. Fit the 3 retainers and install the No. 1 engine cover sub-assembly.

Figure 103.



38. Install the battery.
    A. Install the battery and battery tray.
    B. Install the battery clamp with the bolt and nut.
       Bolt:
       Torque: 9.0 N*m (92 kgf*cm, 80 in*lbf)
       Nut:
       Torque: 3.5 N*m (36 kgf*cm, 31 in*lbf)
    C. Connect the battery terminals.
       Torque: 6.9 N*m (70 kgf*cm, 61 in*lbf)

Figure 104.



39. Fill transmission to correct level with transaxle fluid using the Transmission Fill System.
    Transmission Fill System SST: 00002-11100-02
40. Check for exhaust leaks.

Repair Manual Supplement: Transaxle Replacement

Repair Procedure: Installation (Continued)

41. Check for fluid leaks.
42. Check shift lever position.
43. Install the engine under covers.
44. Re-initialize auto-power windows and moon roof (if equipped).
45. Test drive vehicle, insuring proper operation.
46. Adjust wheel alignment as needed.