

TRANSMISSION

Transfer Case (Inspection) - Sienna

TRANSFER SYSTEM

PRECAUTION

PRECAUTION

- Prior to starting any work, clean the transfer assembly to prevent sand or mud deposits from entering the assembly.
- When removing any light alloy components such as the transfer cover, do not pry on the component with a screwdriver or similar tool. Tap the component loose using a plastic hammer.
- Always organize removed parts in the order they were removed and protect them from dirt.
- Apply differential gear oil LT to each part after it is cleaned and completely dry prior to installation.
- Do not use alkaline chemicals to clean aluminum parts, rubber parts, or ring gear set bolts.
- Do not use any cleaning solutions (ex. Non-residue solvent) to clean rubber parts such as oil seals. Apply sufficient differential gear oil LT to any sliding or rotating parts.
- Do not hold any parts directly in a vise. Always use aluminum plates between the part and the vise.
- Replace any damaged or deformed snap rings.
- Do not allow scratches on the transfer case contact surfaces. Scratches may lead to oil leakage.
- Before applying sealant, completely remove any old sealant remaining on the components using a non-residue solvent.
- After sealing components, do not allow oil to contact the seal for at least 1 hour. Do not allow scratches on any oil seal or gasket contact surface. Scratches may lead to oil leakage.
- When press-fitting an oil seal, be careful not to damage the lip of the oil seal or the surrounding surfaces.
- When replacing a bearing, replace both outer and inner races as one set.
- When replacing a bearing, do not apply load to the contact surfaces of the rollers or race.
- When replacing a hypoid gear, replace the ring gear and pinion gear as a set.
- New bearings are coated with anti-rust oil. If using new bearings, do not wash it off.
- If any bolts have excessive rust or other damage to the threads or seating surface, replace them.

PROBLEM SYMPTOMS TABLE

PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

TRANSFER SYSTEM

Symptom	Suspected Area	See
Noise	Oil (level low)	Refer to <u>ON-VEHICLE INSPECTION</u>
	Oil (wrong)	Refer to <u>REPLACEMENT</u>
	Transfer (faulty)	Refer to <u>DISASSEMBLY</u>
Oil leakage	Oil (level too high)	Refer to <u>ON-VEHICLE INSPECTION</u>
	Gasket (damaged)	Refer to <u>DISASSEMBLY</u>
	Transfer case front oil seal LH (worn or damaged)	Refer to <u>REPLACEMENT</u>
	Transfer case front oil seal RH (worn or damaged)	Refer to <u>REPLACEMENT</u>
	Transfer case rear oil seal (worn or damaged)	Refer to <u>REPLACEMENT</u>

TRANSMISSION

Transfer Case (Preparation) - Sienna

MF1A TRANSFER / 4WD / AWD

SST

SST

	09223-00010	Cover & Seal Replacer	
	09308-00010	Oil Seal Puller	
	09325-20010	Transmission Oil Plug	
	09326-20011	Output Shaft Bearing Lock Nut Wrench	
	09504-22011	Differential Side Bearing Replacer	
	09506-30012	Differential Drive Pinion Rear Bearing Cone Replacer	
	09556-16030	Differential Drive Pinion Holding Tool 28	
	09608-10010	Steering Knuckle Oil Seal Replacer	
	09612-10093	Steering Gear Housing Overhaul Tool Set	
	(09612-10061)	Steering Pinion Bearing Replacer	
	09726-40010	Lower Control Shaft Bearing Replacer	
	09930-00010	Drive Shaft Nut Chisel	
	09950-00020	Bearing Remover	
	09950-40011	Puller B Set	
	(09951-04010)	Hanger 150	
	(09952-04010)	Slide Arm	
	(09953-04020)	Center Bolt 150	
	(09954-04010)	Arm 25	
	(09955-04061)	Claw No. 6	
	(09957-04010)	Attachment	
	(09958-04011)	Holder	
	09950-60010	Replacer Set	
	(09951-00350)	Replacer 35	
	(09951-00400)	Replacer 40	
	(09951-00420)	Replacer 42	
	(09951-00440)	Replacer 44	

	(09951-00580)	Replacer 58	
	(09951-00610)	Replacer 61	
	(09951-00620)	Replacer 62	
	(09951-00650)	Replacer 65	
	(09952-06010)	Adapter	
	09950-60020	Replacer Set No. 2	
	(09951-00680)	Replacer 68	
	(09951-00810)	Replacer 81	
	09950-70010	Handle Set	
	(09951-07150)	Handle 150	
	(09951-07200)	Handle 200	

RECOMMENDED TOOLS

RECOMMENDED TOOLS

	09051-1C110	Plastic Hammer	
	09051-1C300	Chisel	
	09072-1C200	Vernier Calipers 150mm	

EQUIPMENT

EQUIPMENT

Torque wrench	
Dial gauge	
Magnetic base	
V-block	

LUBRICANT

LUBRICANT

-	Oil Type	Oil Capacity (Reference)
Transfer oil	Toyota Genuine Differential gear oil LT 75W-85 GL-5 or equivalent	0.8 liters (0.8 US qts, 0.7 Imp. qts)

SSM

SSM

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent	
Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent	

TRANSMISSION

Transfer Case (Service Information) - Sienna

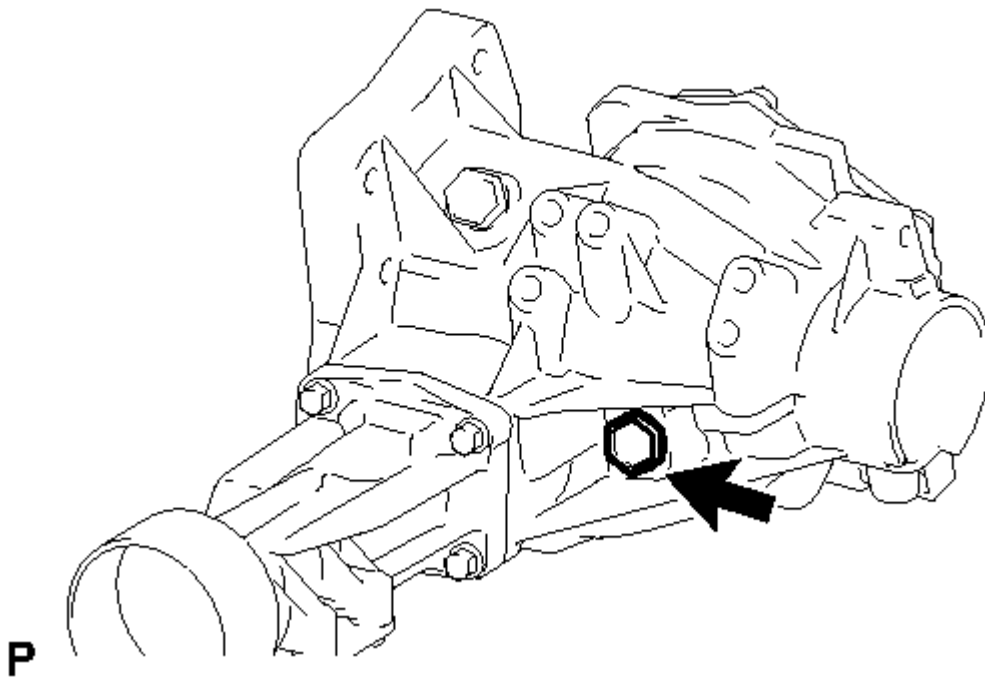
TRANSFER OIL

ON-VEHICLE INSPECTION

ON-VEHICLE INSPECTION

1. INSPECT TRANSFER OIL

- a. Stop the vehicle in a level place.
- b. Remove the No. 1 transfer case plug and gasket.



P

Fig. 1: Identifying No. 1 Transfer Case Plug Location

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

- c. Check that the oil surface is within 5 mm (0.196 in.) of the bottom of the No. 1 transfer case plug opening.

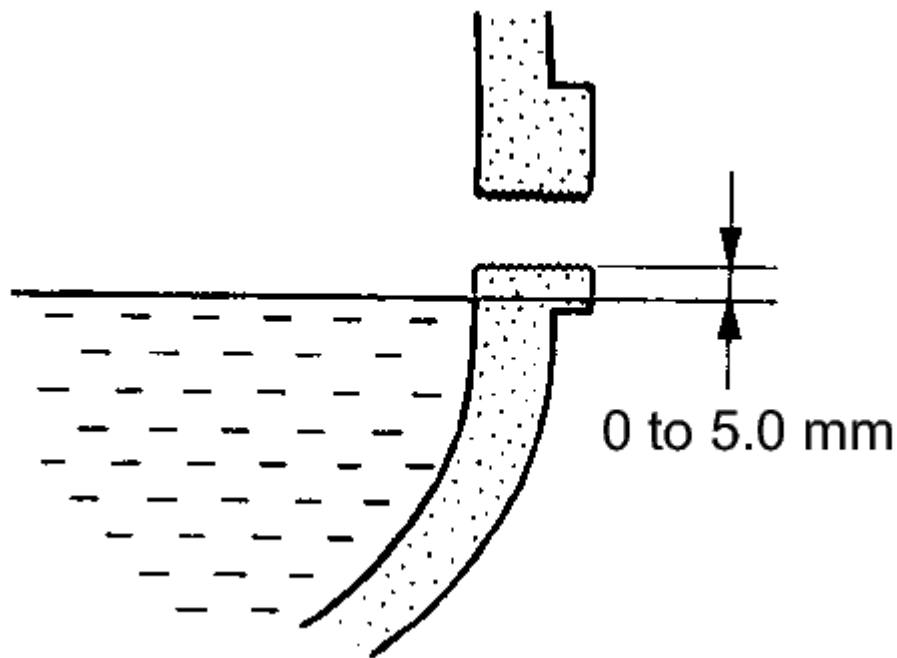


Fig. 2: Identifying Transfer Oil Surface Level
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE:

- An excessively large or small amount of oil may cause damage.
- After adding oil, drive the vehicle and recheck the oil level.

- d. Check for oil leak if the oil level is low.
- e. Install a new gasket onto the No. 1 transfer case plug and then tighten the plug.

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

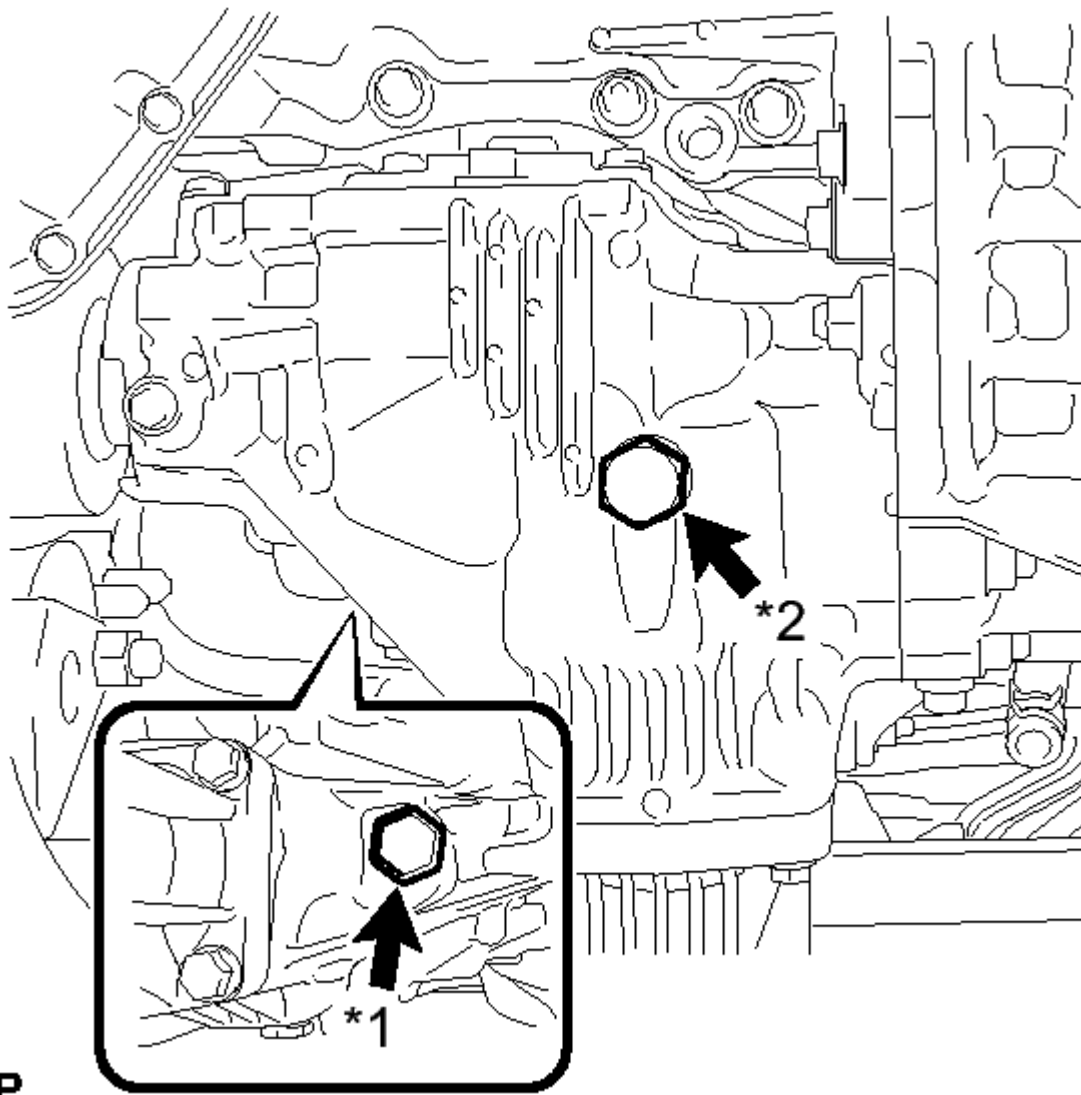
2. INSPECT FOR OIL LEAK

REPLACEMENT

REPLACEMENT

1. DRAIN TRANSFER OIL

- a. Stop the vehicle in a level place.



P

Fig. 3: Identifying No. 1 Transfer Case Plug & Drain Plug
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the No. 1 transfer case plug and gasket.

TEXT IN ILLUSTRATION

*1	No. 1 Transfer Case Plug
*2	Transfer Drain Plug

- c. Remove the transfer drain plug and gasket, and then drain the transfer oil.
- d. Install a new gasket and the transfer drain plug.

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

2. ADD TRANSFER OIL

- a. Add transfer oil surface is within 5 mm (0.196 in.) of the bottom of the No. 1 transfer case plug opening.

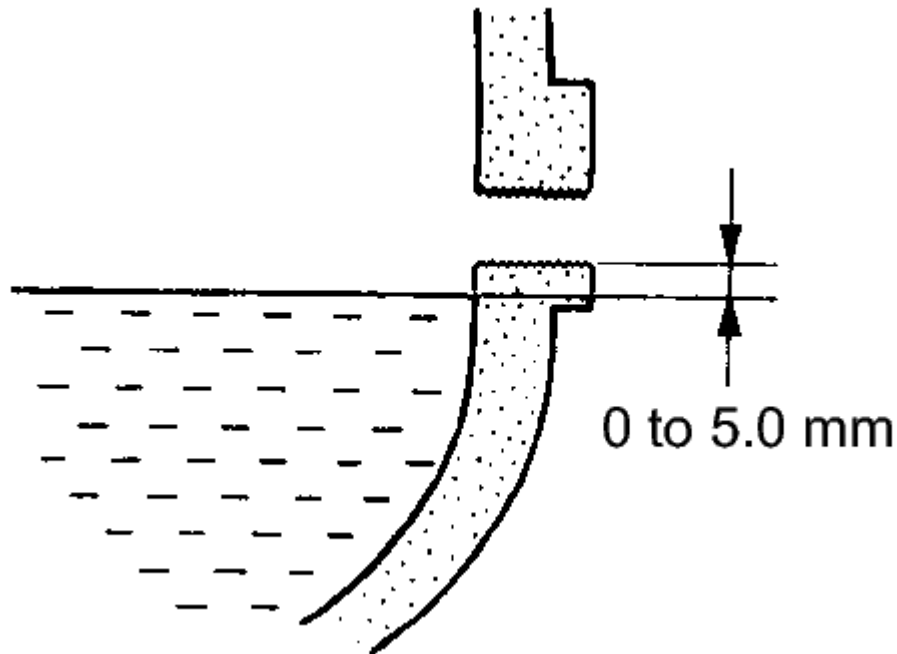


Fig. 4: Identifying Transfer Oil Surface Level
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Oil Type	Oil Capacity (Reference)
Toyota Genuine Differential gear oil LT 75W-85 GL-5 or equivalent	0.8 liters (0.8 US qts, 0.7 Imp. qts)

- b. Install a new gasket and the No. 1 transfer case plug.

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

3. DRIVE TEST

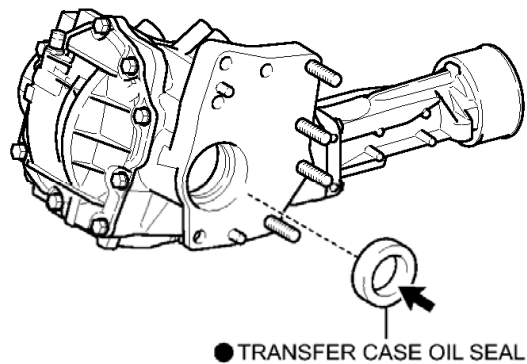
4. INSPECT TRANSFER OIL See step 1

5. INSPECT FOR OIL LEAK

TRANSFER CASE FRONT OIL SEAL (FOR LH SIDE)

COMPONENTS

ILLUSTRATION



● Non-reusable part

← MP grease

Fig. 5: Transfer Case Front Oil Seal Replacement Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REPLACEMENT

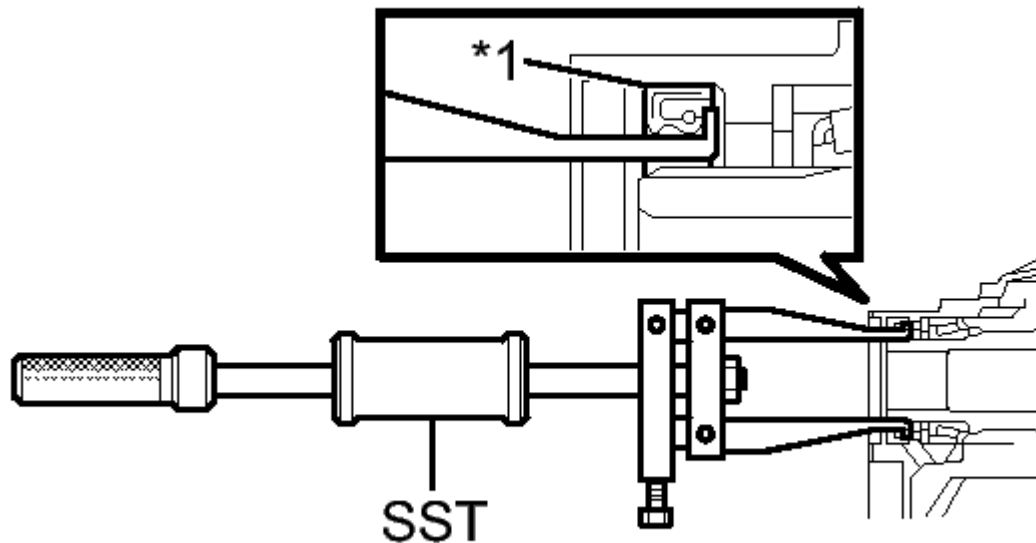
REPLACEMENT

1. REMOVE TRANSFER ASSEMBLY

Refer to **REMOVAL**.

2. REMOVE TRANSFER CASE OIL SEAL

- Using SST, remove the transfer case oil seal from the transfer case.



C

Fig. 6: Identifying Transfer Case Oil Seal & SST
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

	Transfer
*1	Case
	Oil Seal

- SST: 09308-00010

NOTE: **Do not damage the oil seal contact surface on the case.**

3. INSTALL TRANSFER CASE OIL SEAL

- Apply a small amount of MP grease to the lip of a new transfer case oil seal.

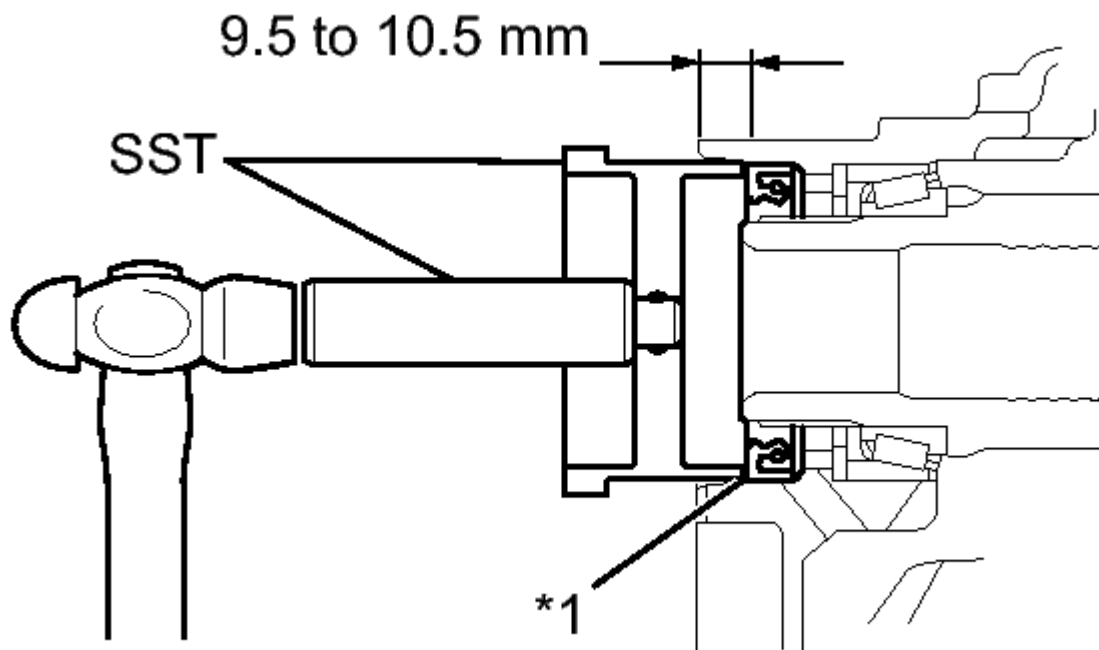


Fig. 7: Identifying Transfer Case Oil Seal, SST & Hammer
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using SST and a hammer, drive in the oil seal into the transfer case until it reaches the position as shown in the illustration.

TEXT IN ILLUSTRATION

*1	Transfer Case Oil Seal
----	------------------------------

- SST: 09608-10010
- SST: 09950-70010
09951-07150

Drive in depth

9.5 to 10.5 mm (0.375 to 0.413 in.)

NOTE: Do not tilt the oil seal during installation.

4. INSTALL TRANSFER ASSEMBLY

Refer to INSTALLATION

TRANSFER CASE FRONT OIL SEAL (FOR RH SIDE)

COMPONENTS

ILLUSTRATION



● Non-reusable part

← MP Grease

Fig. 8: Transfer Case Front Oil Seal Replacement Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REPLACEMENT

REPLACEMENT

1. REMOVE FRONT DRIVE SHAFT ASSEMBLY RH

Refer to **REMOVAL, DRIVE SHAFT**

2. REMOVE TRANSFER CASE RH OIL SEAL

- Using SST, remove the transfer case RH oil seal from the transfer case.

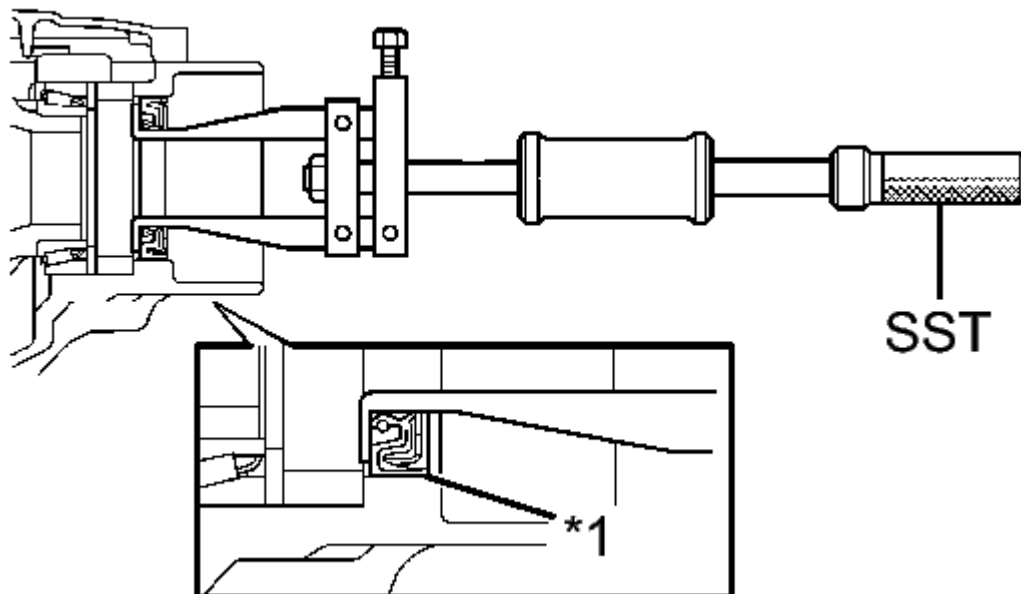


Fig. 9: Identifying Transfer Case RH Oil Seal & SST At Transfer Case
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Transfer Case RH Oil Seal
----	------------------------------------

- SST: 09308-00010

NOTE: Do not damage the oil seal contact surface on the case.

3. INSTALL TRANSFER CASE RH OIL SEAL

- Apply a small amount of MP grease to the lip of a new transfer case RH oil seal.

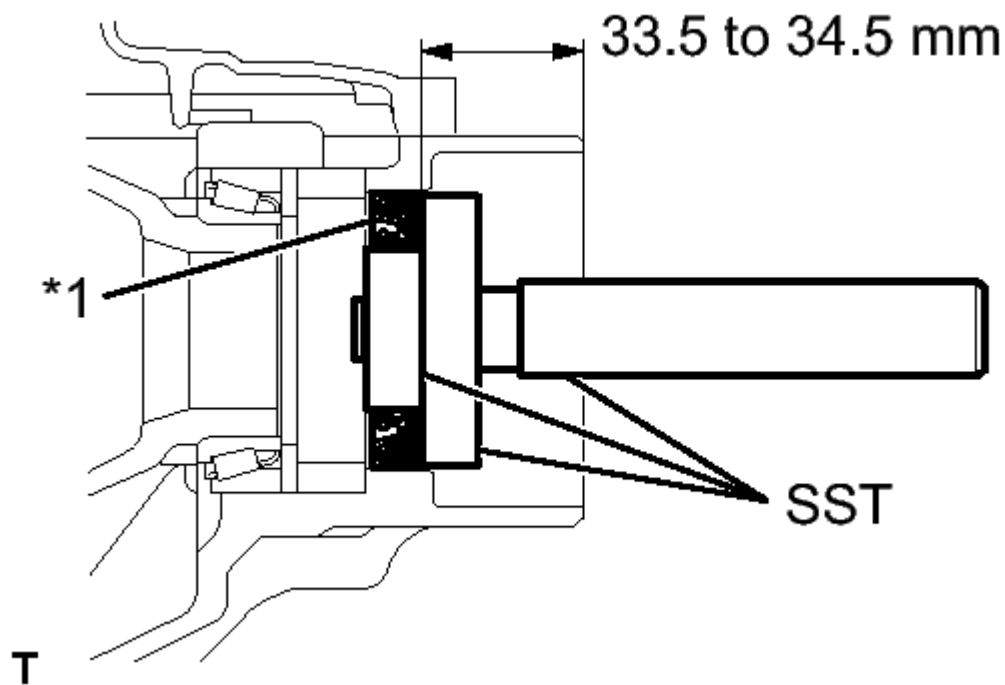


Fig. 10: Identifying Transfer Case RH Oil Seal & SST
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using SST and a hammer, drive in the oil seal into the transfer case until it reaches the position as shown in the illustration.

TEXT IN ILLUSTRATION

*1	Transfer Case RH Oil Seal
----	------------------------------------

- **SST: 09950-60010**
 09951-00350
 09951-00580
 09952-06010
- **SST: 09950-70010**
 09951-07150

Drive in depth

33.5 to 34.5 mm (1.32 to 1.35 in.)

NOTE: **Do not tilt the oil seal during installation.**

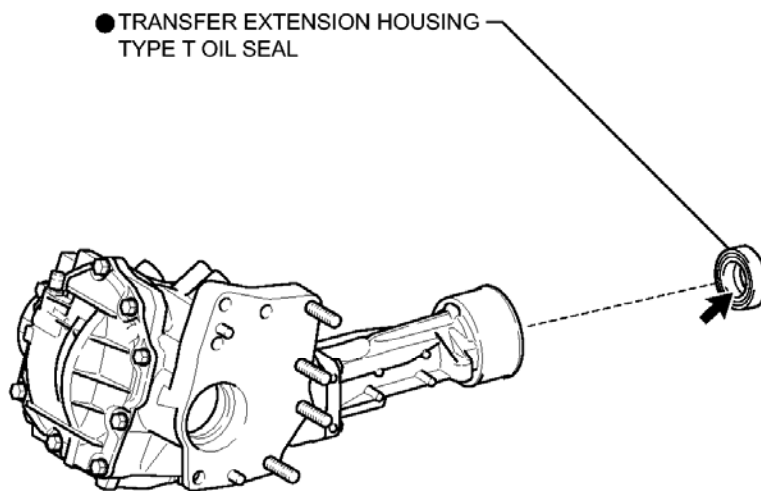
4. INSTALL FRONT DRIVE SHAFT ASSEMBLY RH

Refer to REMOVAL, DRIVE SHAFT

TRANSFER CASE REAR OIL SEAL

COMPONENTS

ILLUSTRATION



● Non-reusable part

← MP Grease

Fig. 11: Identifying Transfer Case Rear Oil Seal Replacement Components
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REPLACEMENT

REPLACEMENT

1. REMOVE PROPELLER SHAFT ASSEMBLY

Refer to REMOVAL, PROPELLER SHAFT

2. REMOVE TRANSFER EXTENSION HOUSING TYPE T OIL SEAL

- a. Using SST, remove the transfer extension housing type T oil seal from the transfer extension housing sub-assembly.

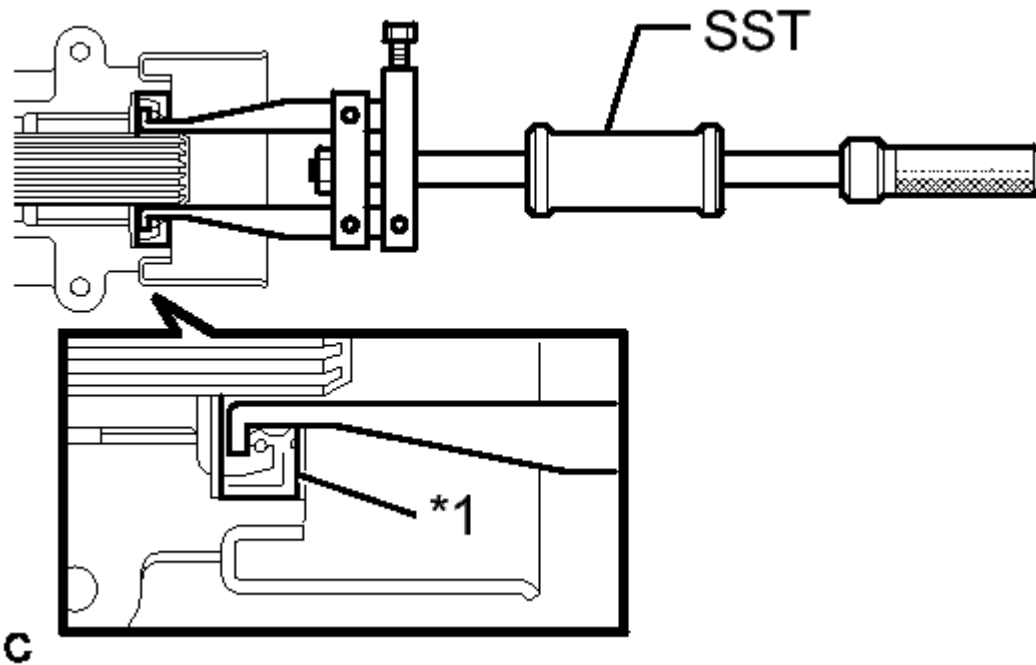


Fig. 12: Identifying Transfer Extension Housing Type T Oil Seal & SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

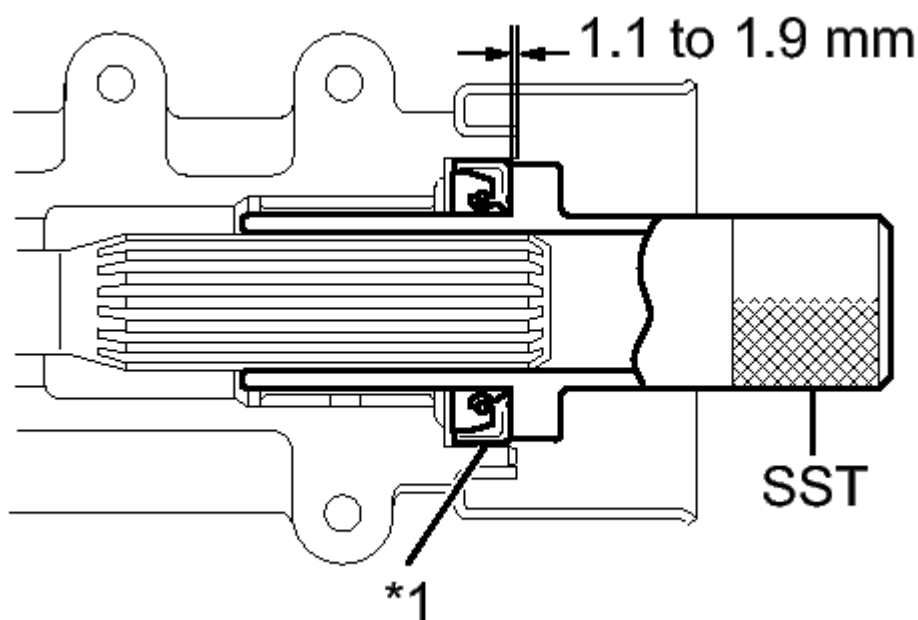
	Transfer Extension
*1	Housing Type T Oil Seal

- SST: 09308-00010

NOTE: Do not damage the oil seal contact surface on the extension housing.

3. INSTALL TRANSFER EXTENSION HOUSING TYPE T OIL SEAL

- a. Apply a small amount of MP grease to the lip of a new transfer extension housing type T oil seal.



C

Fig. 13: Identifying Transfer Extension Housing Type T Oil Seal Position & SST
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Transfer Extension Housing Type T Oil Seal
----	--

- b. Using SST and a hammer, drive in the oil seal into the transfer extension housing sub-assembly until it reaches the position as shown in the illustration.

- **SST: 09325-20010**

Drive in depth

1.1 to 1.9 mm (0.0434 to 0.0748 in.)

NOTE: Do not tilt the oil seal during installation.

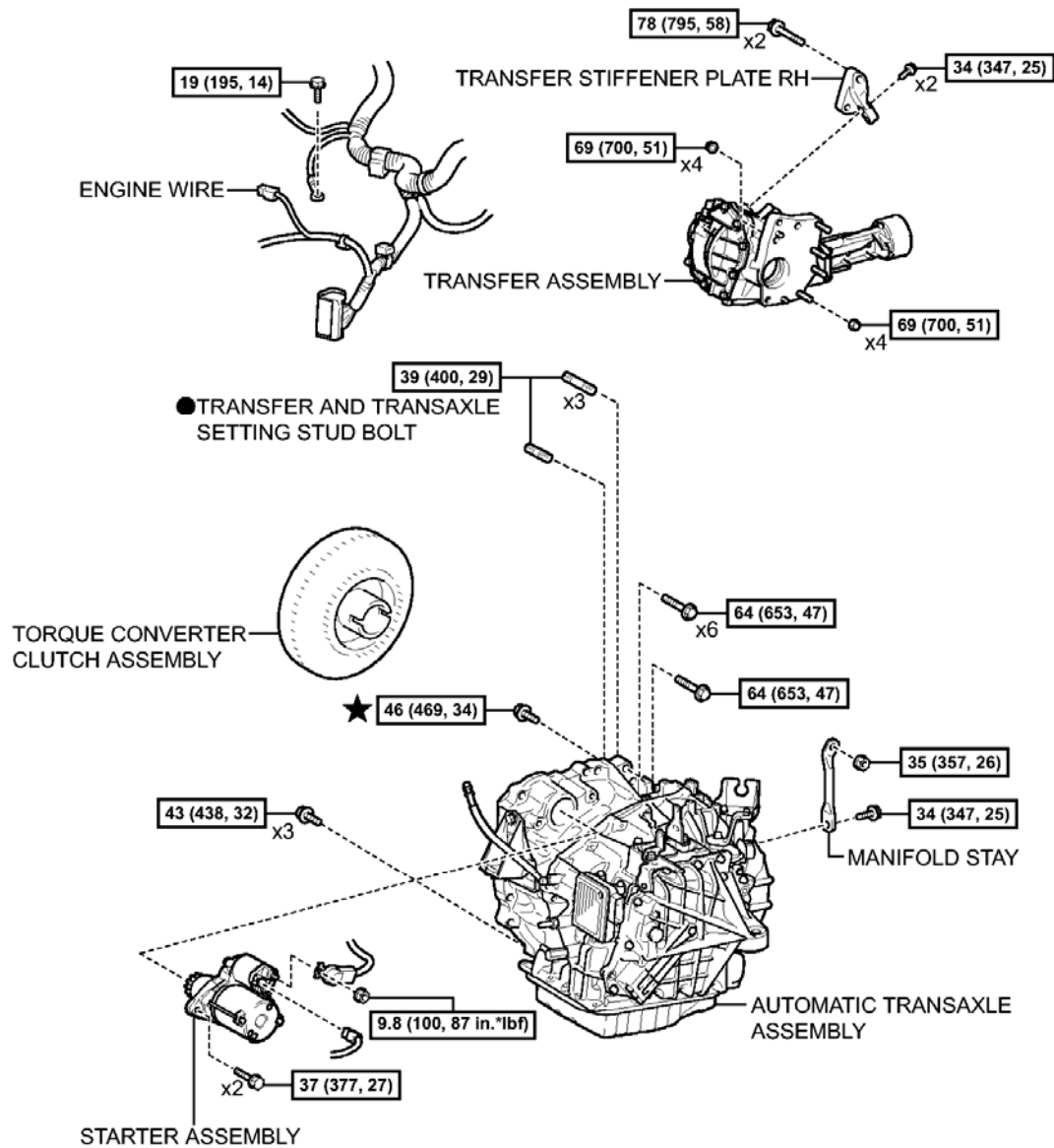
4. INSTALL PROPELLER SHAFT ASSEMBLY

Refer to **INSTALLATION, PROPELLER SHAFT**

TRANSFER ASSEMBLY

COMPONENTS

ILLUSTRATION



N*m (kgf*cm, ft.*lbf): Specified torque

★ Precoated part ● Non-reusable part

Fig. 14: Transfer Assembly Replacement Components With Torque Specifications (1 Of 3)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ILLUSTRATION

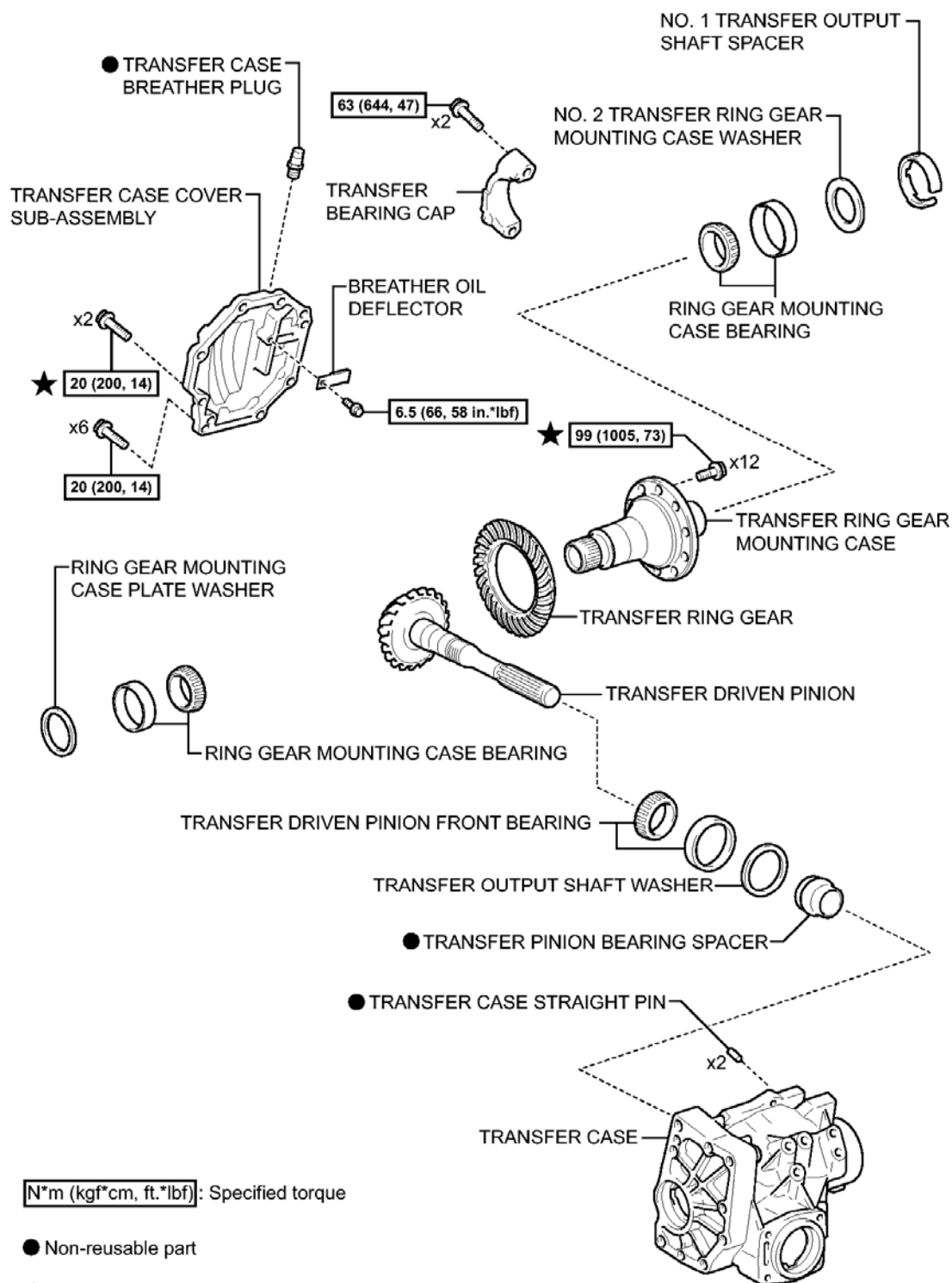
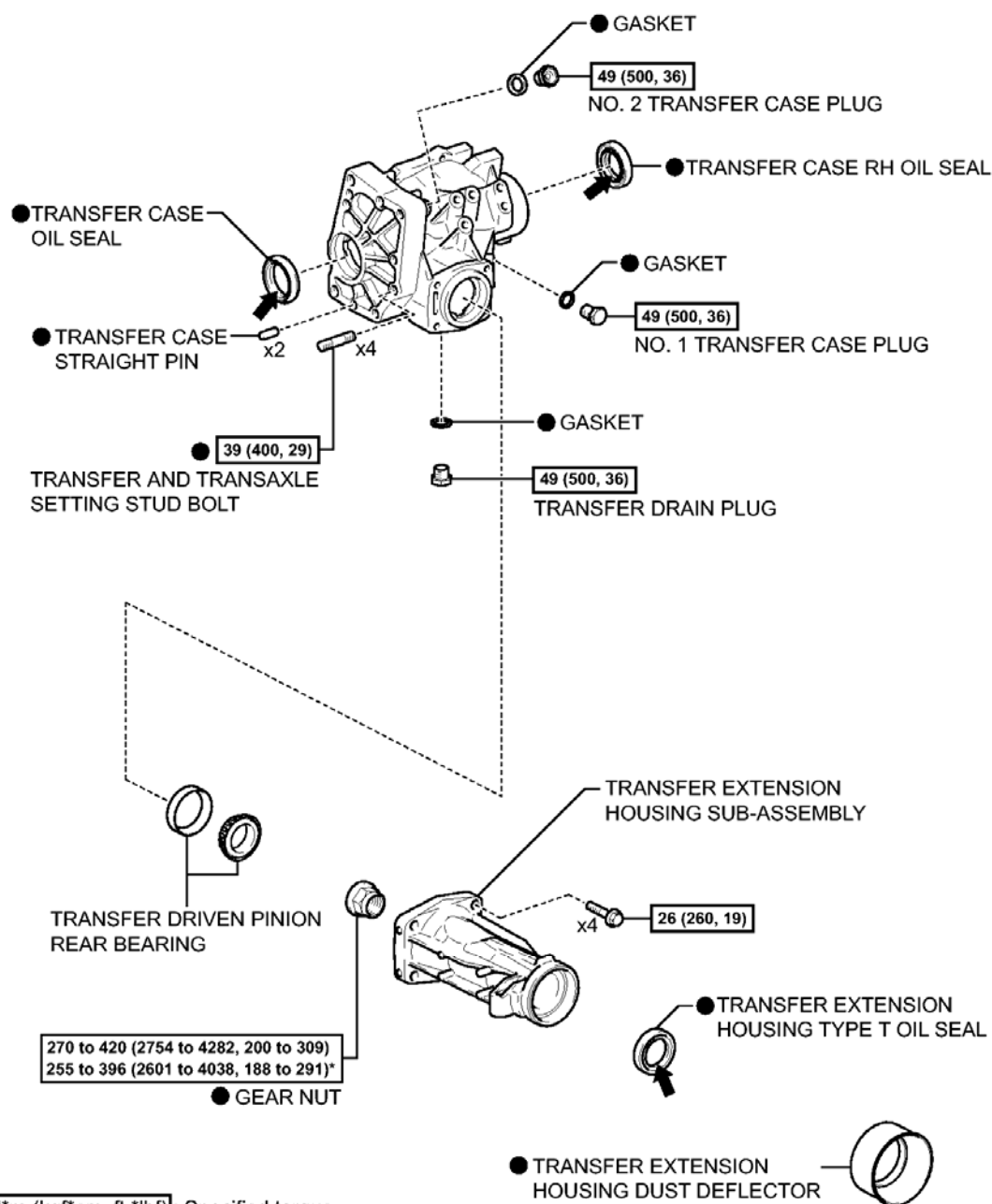


Fig. 15: Transfer Assembly Replacement Components With Torque Specifications (2 Of 3)
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

ILLUSTRATION



[N*m (kgf*cm, ft.*lbf)]: Specified torque

* For use with SST

● Non-reusable part

➡ MP grease

★ Precoated part

Fig. 16: Transfer Assembly Replacement Components With Torque Specifications (3 Of 3)
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

REMOVAL

1. REMOVE ENGINE ASSEMBLY WITH TRANSAXLE

Refer to REMOVAL, ENGINE 2GR-FE

2. **REMOVE STARTER ASSEMBLY** . Refer to REMOVAL - Step 5
3. **REMOVE MANIFOLD STAY** . Refer to REMOVAL - Step 10
4. **DISCONNECT BREATHER PLUG HOSE** . Refer to REMOVAL - Step 4
5. **DISCONNECT ENGINE WIRE** . Refer to REMOVAL - Step 5
6. **REMOVE TRANSFER STIFFENER PLATE RH**
 - a. Remove the 4 bolts and transfer stiffener plate RH.

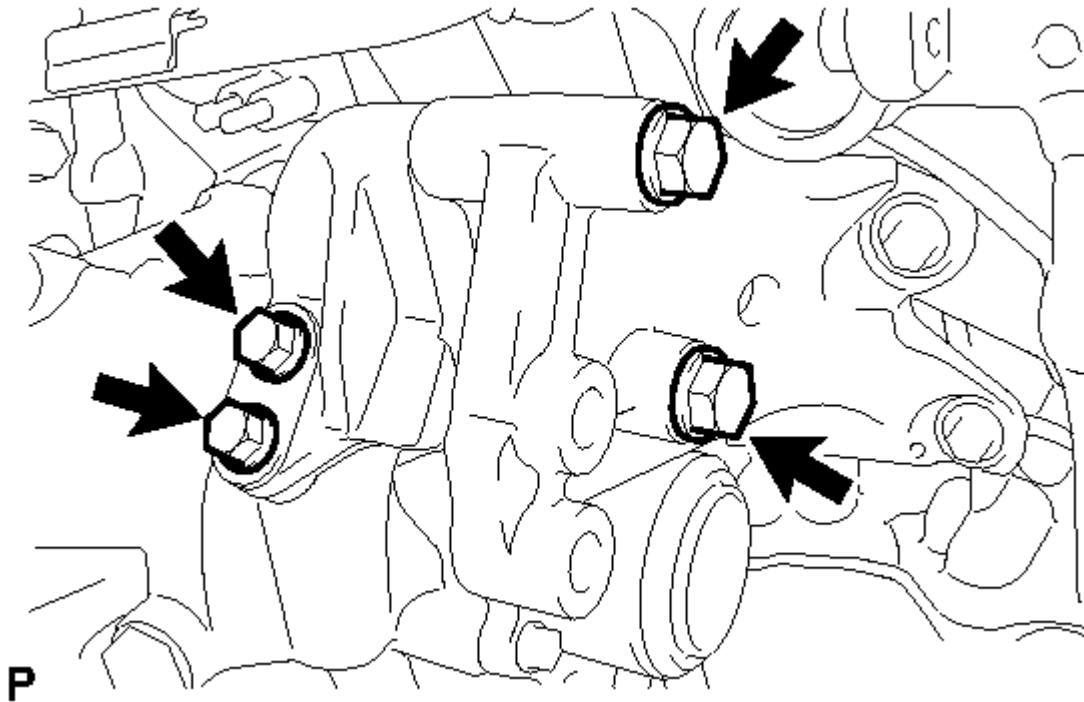


Fig. 17: Identifying Bolts And Transfer Stiffener Plate RH Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

7. **REMOVE AUTOMATIC TRANSAXLE ASSEMBLY** . Refer to REMOVAL - Step 7
8. **REMOVE TORQUE CONVERTER CLUTCH ASSEMBLY** . Refer to REMOVAL - Step 8
9. **REMOVE TRANSFER ASSEMBLY**
 - a. Remove the 8 nuts.

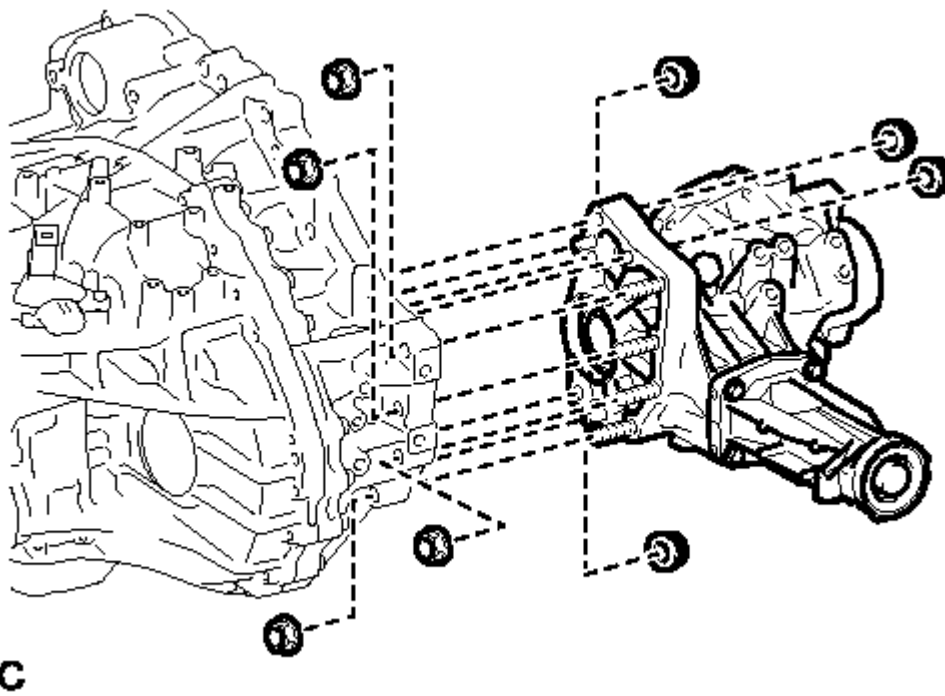


Fig. 18: Identifying Transfer Assembly & Fasteners
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a plastic hammer, remove the transfer from the automatic transaxle.

NOTE:

- Remove the transfer from the automatic transaxle without tilting it.
- During removal, do not hold the transfer by the oil seals on either side of the assembly.

- c. Remove the 4 transfer and transaxle setting stud bolts.

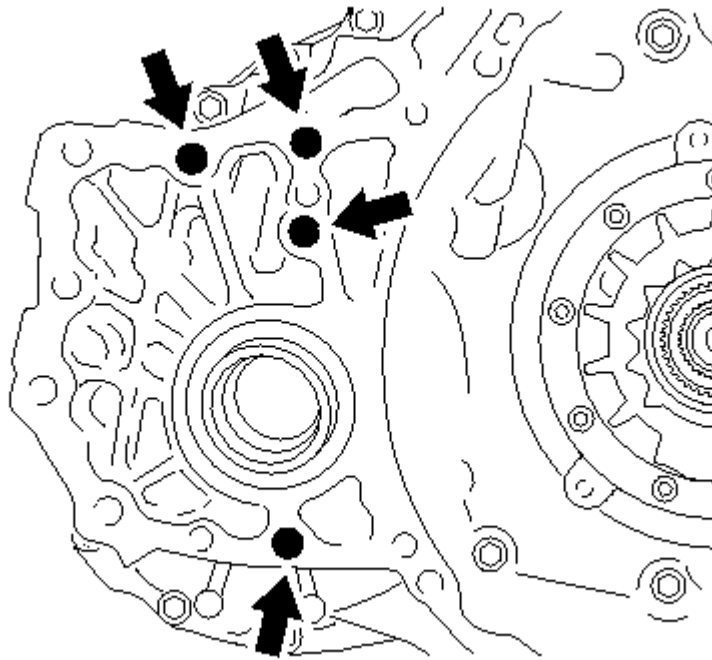
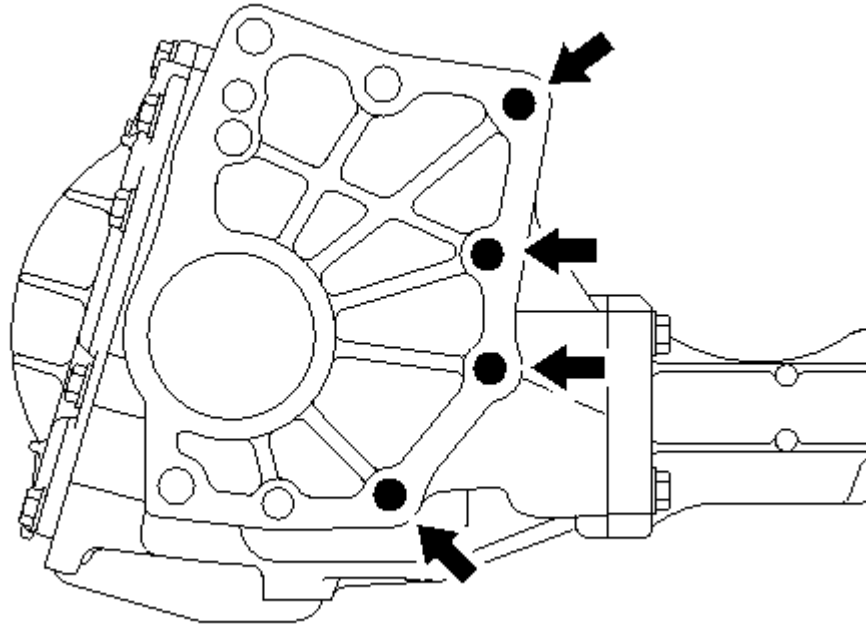


Fig. 19: Identifying Transfer & Transaxle Setting Stud Bolts Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

DISASSEMBLY

DISASSEMBLY

- 1. REMOVE TRANSFER AND TRANSAXLE SETTING STUD BOLT**
 - a. Remove the 4 transfer and transaxle setting stud bolts.

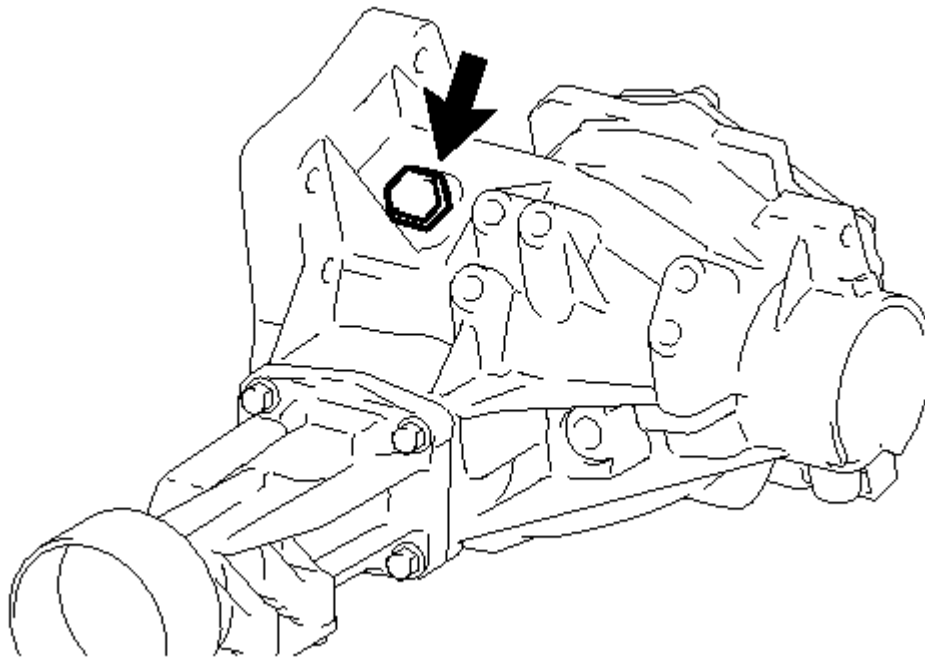


C

Fig. 20: Identifying Transfer And Transaxle Setting Stud Bolts Location
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

2. REMOVE NO. 2 TRANSFER CASE PLUG

- a. Remove the No. 2 transfer case plug.



P

Fig. 21: Identifying No. 2 Transfer Case Plug Location

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

- b. Remove the gasket from the No. 2 transfer case plug.

3. REMOVE NO. 1 TRANSFER CASE PLUG

- a. Remove the No. 1 transfer case plug.

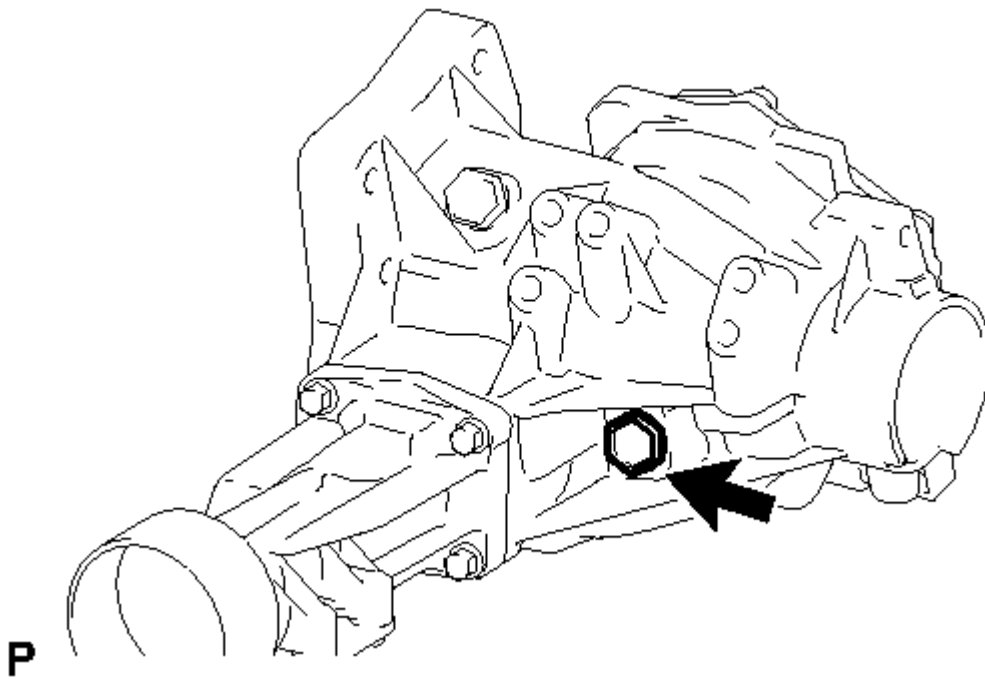


Fig. 22: Identifying No. 1 Transfer Case Plug Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the gasket from the No. 1 transfer case plug.

4. REMOVE TRANSFER DRAIN PLUG

- a. Remove the transfer drain plug.

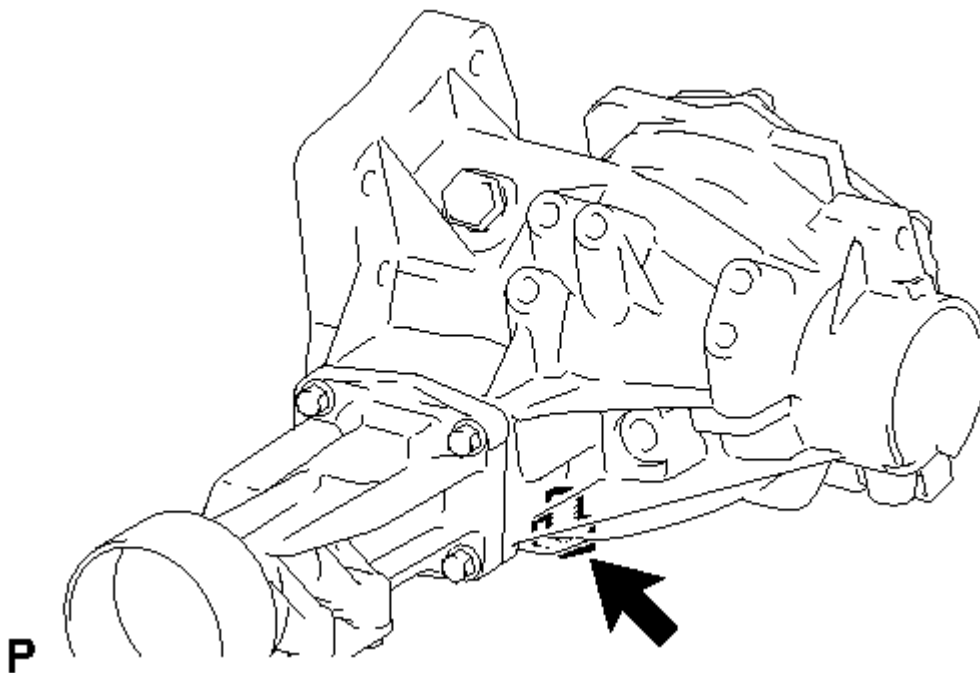
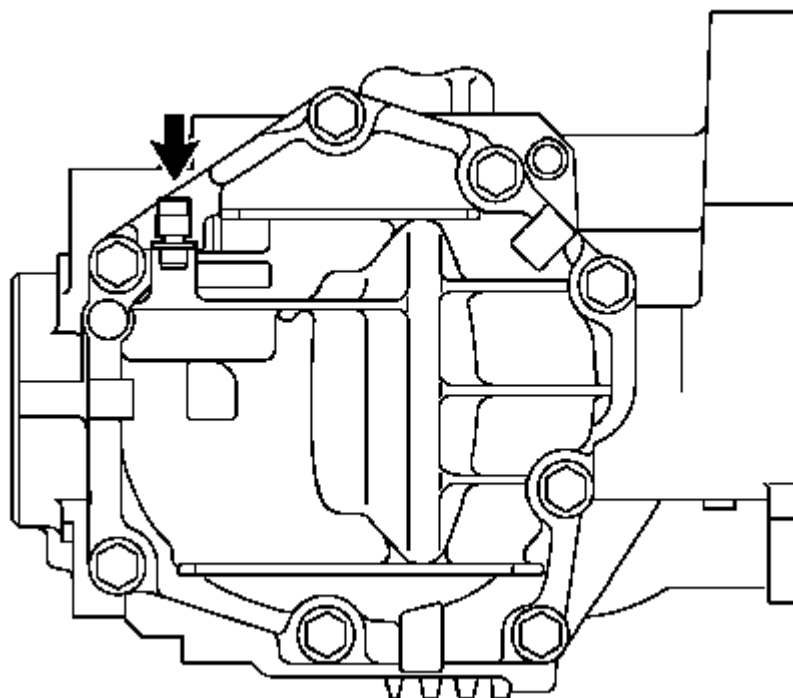


Fig. 23: Identifying Transfer Drain Plug Location
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the gasket from the transfer drain plug.

5. REMOVE TRANSFER CASE BREATHER PLUG

- a. Using a hammer and chisel, slightly raise the transfer case breather plug.



C94714

Fig. 24: Identifying Transfer Case Breather Plug Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a screwdriver, remove the transfer case breather plug.
6. **REMOVE TRANSFER CASE COVER SUB-ASSEMBLY**
- a. Remove the 8 bolts.

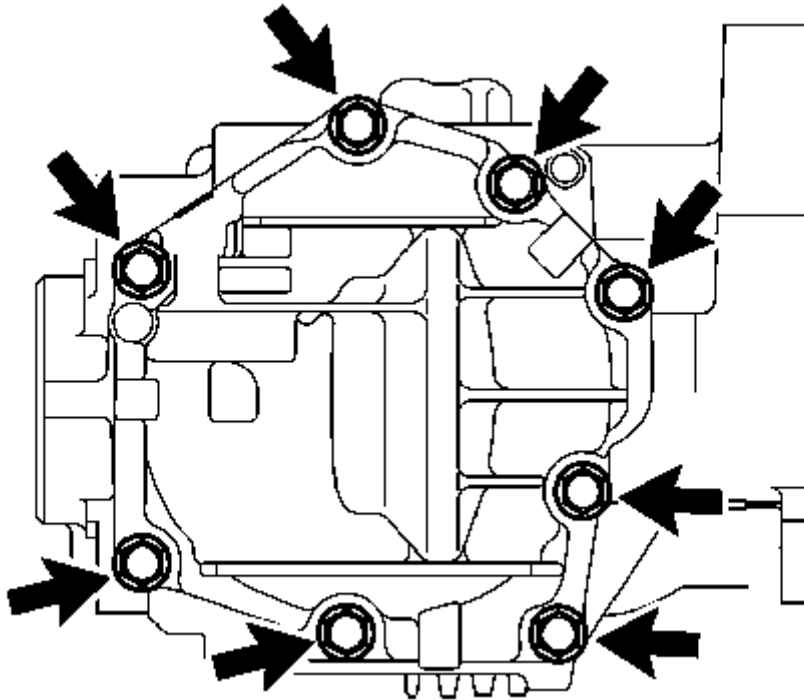
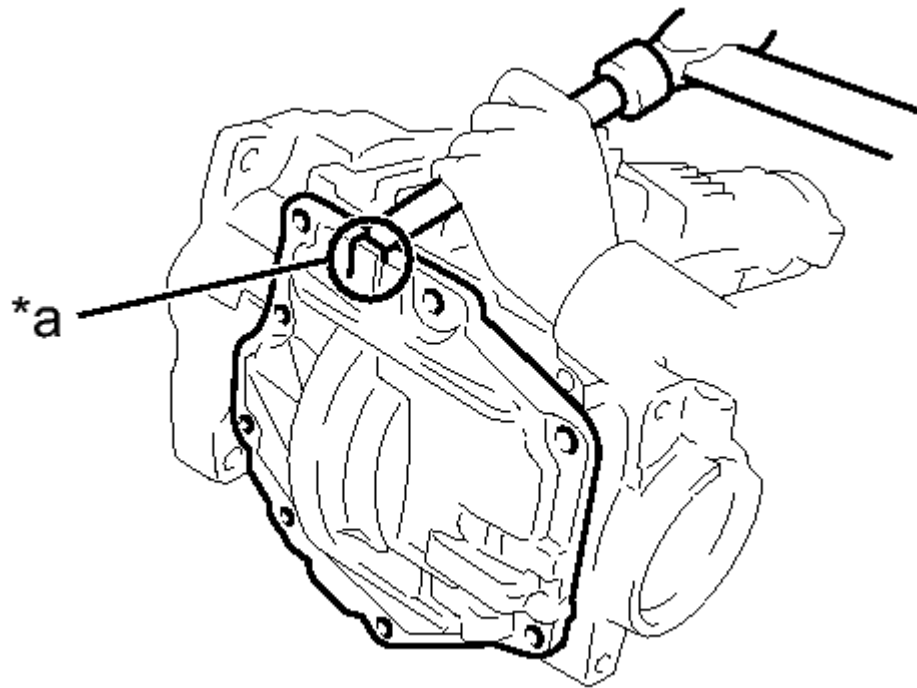


Fig. 25: Identifying Transfer Case Cover Sub-Assembly Fasteners
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a brass bar and a hammer, remove the transfer case cover.



C

Fig. 26: Removing Transfer Case Cover Using Brass Bar & Hammer
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

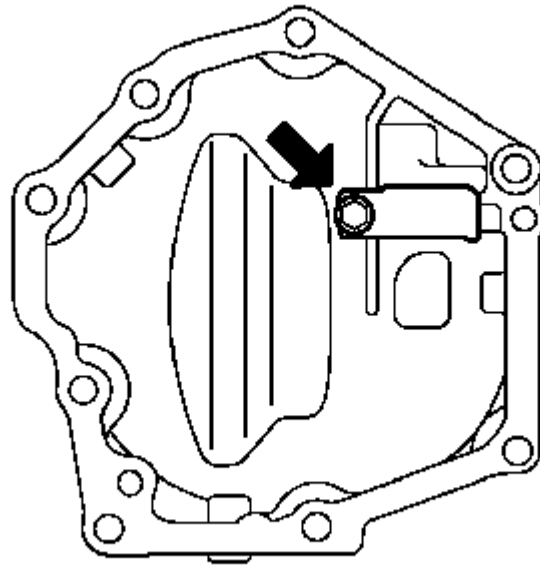
TEXT IN ILLUSTRATION

*a	Rib
	Protruding

NOTE: Place the brass bar on the rib protruding from the case.

7. REMOVE BREATHER OIL DEFLECTOR

- a. Remove the bolt and breather oil deflector.



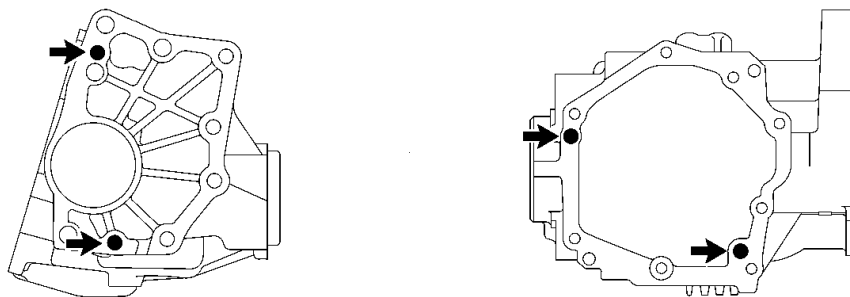
T

C66129

Fig. 27: Identifying Breather Oil Deflector Bolt Location
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

8. REMOVE TRANSFER CASE STRAIGHT PIN

- a. Remove the 4 transfer case straight pins.



C89863

Fig. 28: Identifying Transfer Case Straight Pins Location
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

9. SECURE TRANSFER ASSEMBLY

- a. Attach the transfer onto the overhaul attachment.

10. REMOVE TRANSFER EXTENSION HOUSING DUST DEFLECTOR

- a. Using a plastic hammer, remove the transfer extension housing dust deflector.

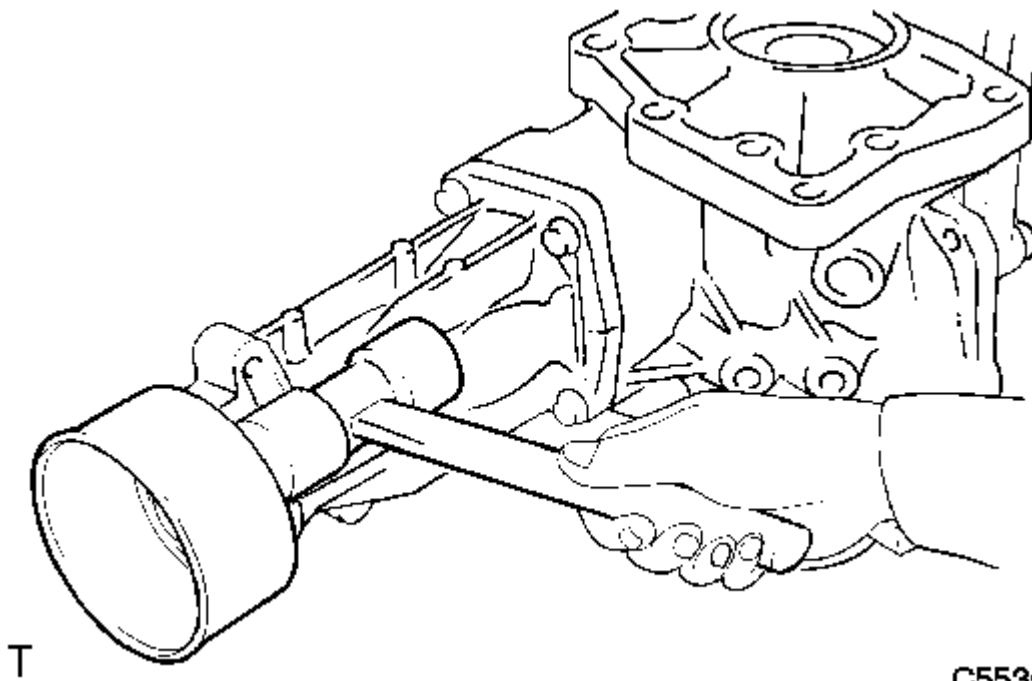


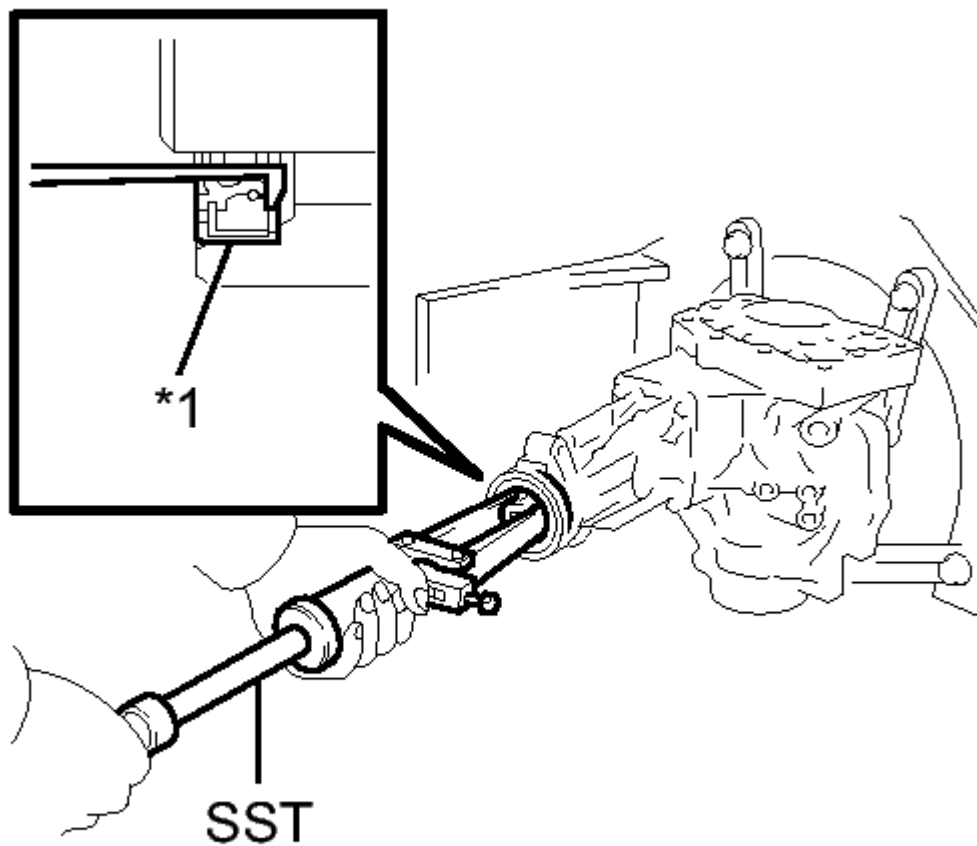
Fig. 29: Removing Transfer Extension Housing Dust Deflector
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

Perform this step only when replacing the transfer extension housing dust deflector or transfer extension housing.

11. REMOVE TRANSFER EXTENSION HOUSING TYPE T OIL SEAL

- a. Using SST, remove the transfer extension housing type T oil seal from the transfer extension housing.



C

Fig. 30: Removing Transfer Extension Housing Type T Oil Seal At Transfer Extension Housing Using SST

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

TEXT IN ILLUSTRATION

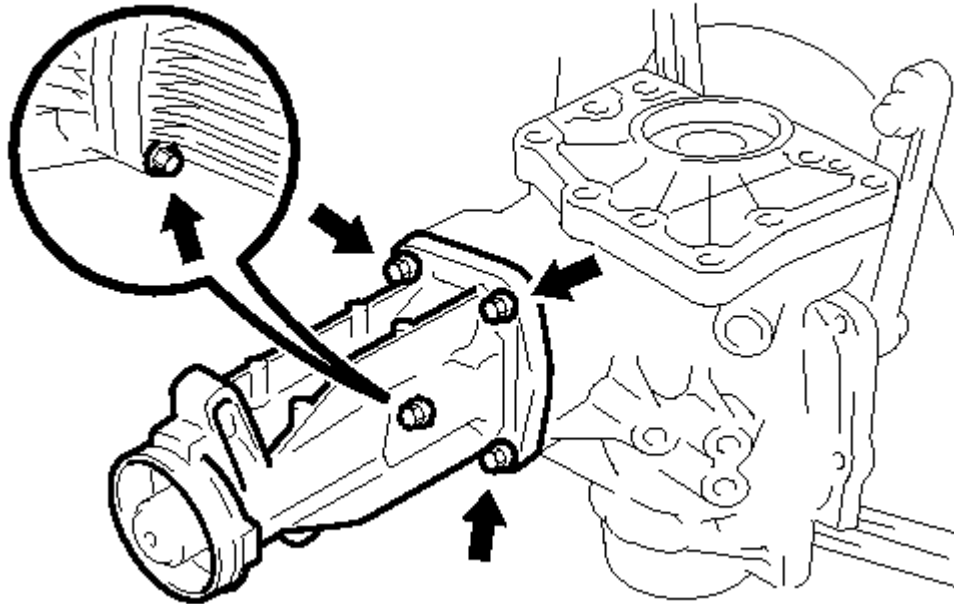
	Transfer Extension *1 Housing Type T Oil Seal
--	---

- SST: 09308-00010

NOTE: Do not damage the oil seal contact surface on the extension housing.

12. REMOVE TRANSFER EXTENSION HOUSING SUB-ASSEMBLY

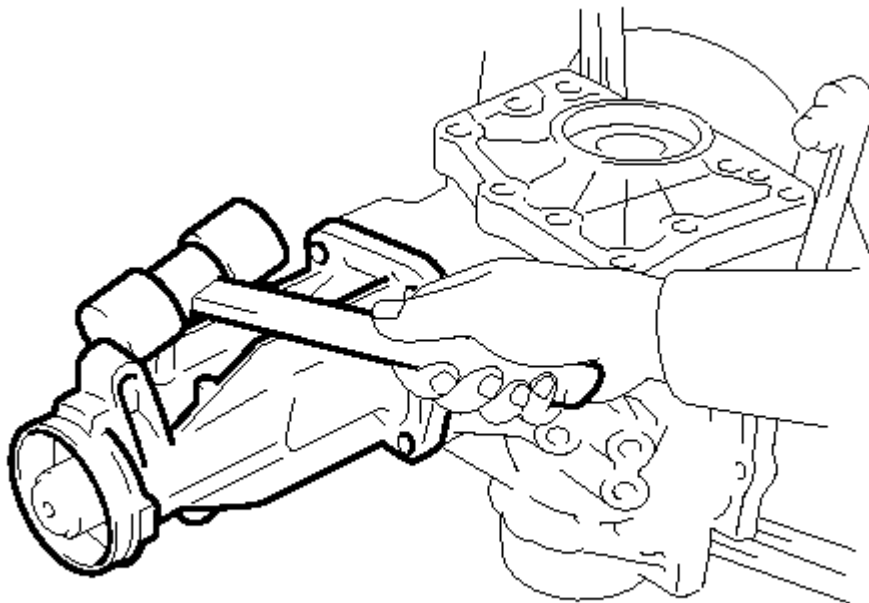
- a. Remove the 4 bolts.



C

Fig. 31: Identifying Transfer Extension Housing Bolts
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a plastic hammer, remove the transfer extension housing.

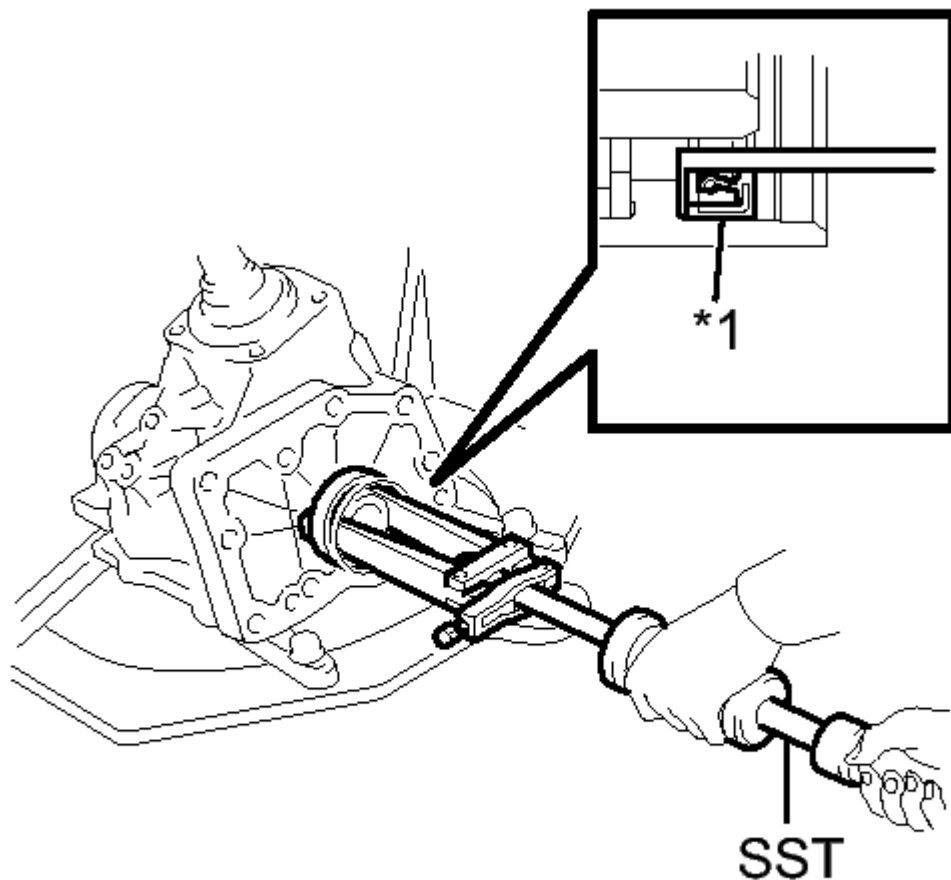


C

Fig. 32: Removing Transfer Extension Housing Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

13. REMOVE TRANSFER CASE OIL SEAL

- a. Using SST, remove the transfer case oil seal from the transfer case.



C

Fig. 33: Removing Transfer Case Oil Seal At Transfer Case Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

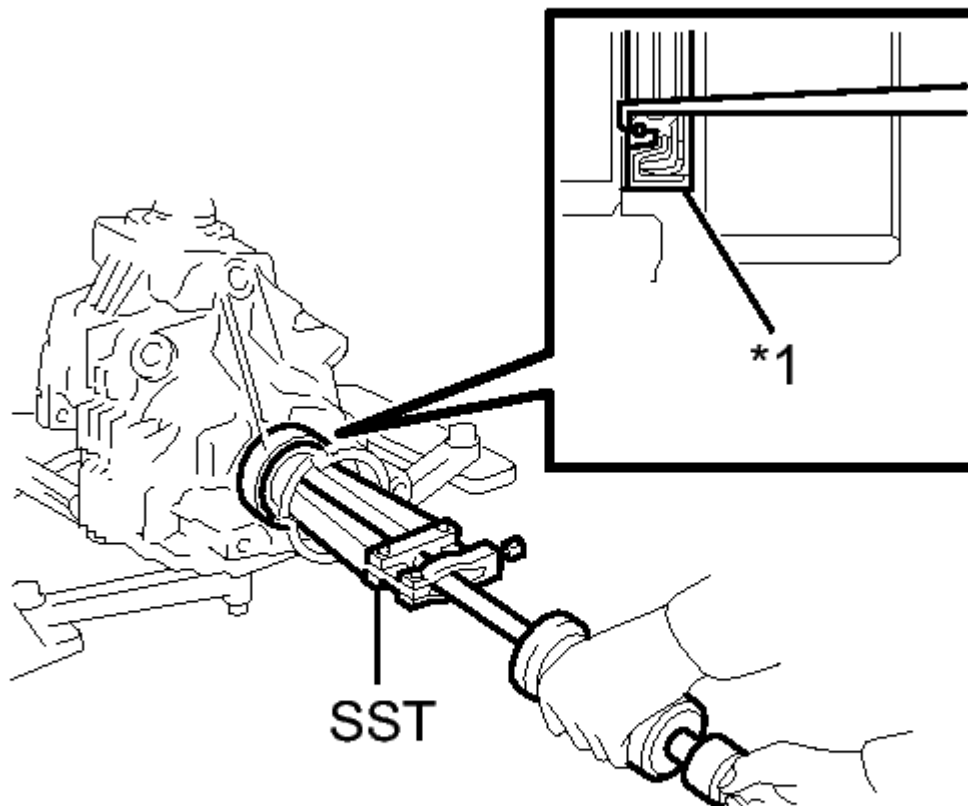
*1	Transfer Case Oil Seal
----	------------------------------

- SST: 09308-00010

NOTE: Do not damage the oil seal contact surface on the case.

14. REMOVE TRANSFER CASE RH OIL SEAL

- a. Using SST, remove the transfer case RH oil seal from the transfer case.



C

Fig. 34: Removing Transfer Case RH Oil Seal At Transfer Case Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

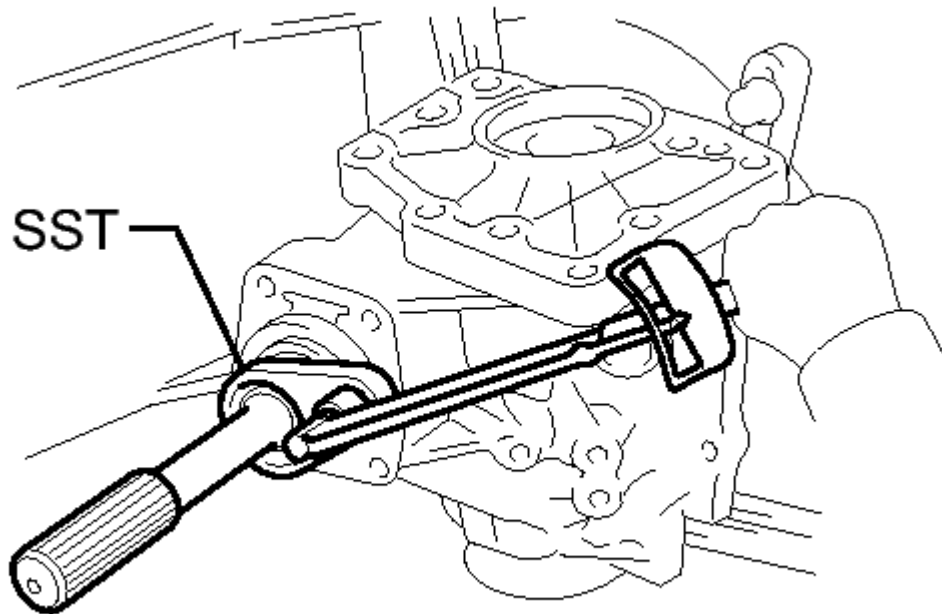
*1	Transfer Case RH Oil Seal
----	------------------------------------

- SST: 09308-00010

NOTE: Do not damage the oil seal contact surface on the case.

15. INSPECT PRELOAD

- a. Using SST and a torque wrench, measure the preload of the backlash between the transfer driven pinion and transfer ring gear.



C

Fig. 35: Measuring Total Preload

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

- SST: 09326-20011

Preload (at Starting)

Item	Preload
with SST	0.3 to 0.6 N*m (3 to 6 kgf*cm, 3 to 5 in.*lbf)
without SST	0.4 to 0.9 N*m (4 to 9 kgf*cm,

	3 to 8 in.*lbf)
--	--------------------

HINT:

- The "with SST" torque value is effective when using SST with a fulcrum length of 50 mm (1.97 in.).
 - The "with SST" torque value is effective when using a torque wrench with a fulcrum length of 130 mm (5.12 in.). Refer to **PRECAUTION** .
 - The "with SST" torque value is effective when SST is parallel to the torque wrench.
- b. Using SST and a torque wrench, measure the total preload.
- **SST: 09326-20011**

Preload (at Starting)

Item	Preload
with SST	0.25 to 0.38 N*m (2.6 to 3.8 kgf*cm, 2.3 to 3.3 in.*lbf) + driven pinion preload
without SST	0.4 to 0.5 N*m (4 to 5 kgf*cm, 3 to 4 in.*lbf) + driven pinion preload

HINT:

- The "with SST" torque value is effective when using SST with a fulcrum length of 50 mm (1.97 in.).
- The "with SST" torque value is effective when using a torque wrench with a fulcrum length

of 130 mm (5.12 in.). Refer to **PRECAUTION** .

- The "with SST" torque value is effective when SST is parallel to the torque wrench.
If necessary, disassemble and inspect the transfer assembly.

16. INSPECT RING GEAR BACKLASH

- a. Using a dial indicator, check the backlash of the transfer ring gear.

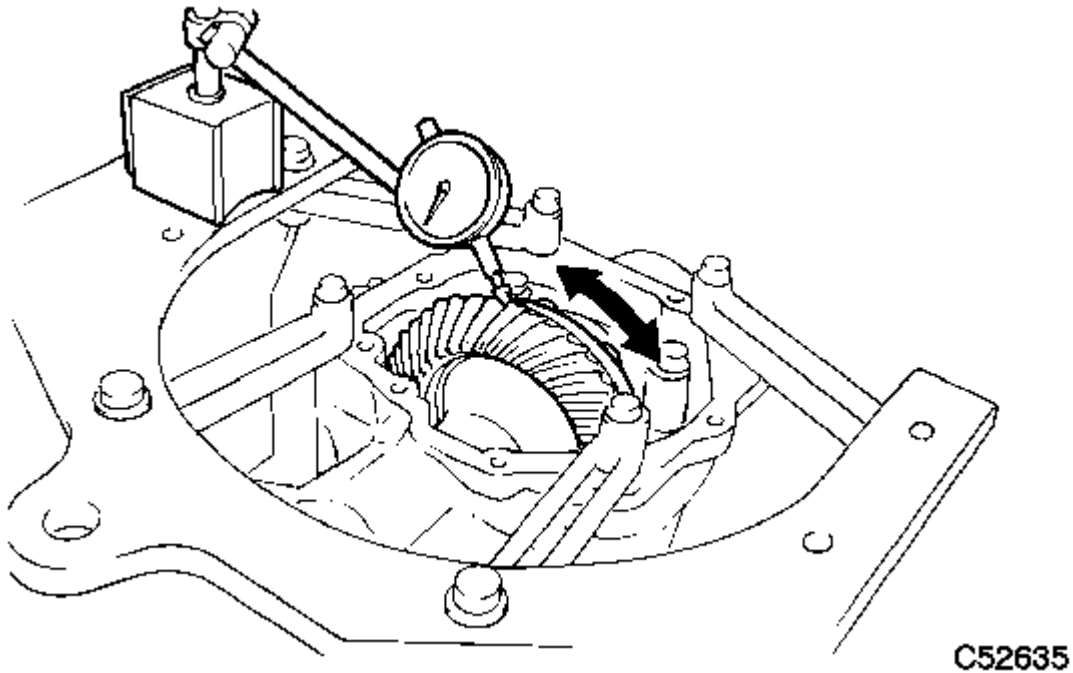


Fig. 36: Inspecting Ring Gear Backlash
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Backlash

0.14 to 0.25 mm (0.00552 to 0.00984 in.)

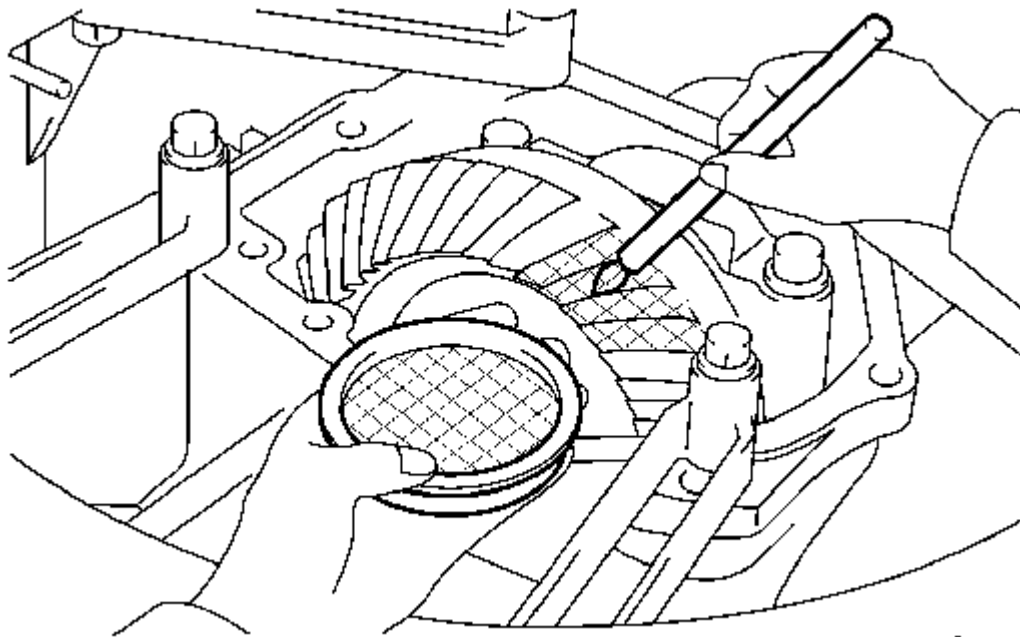
If the backlash is not within the specification, adjust the side bearing preload or repair as necessary.

HINT:

Check at least 3 positions on the circumference of the ring gear.

17. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVEN PINION

- a. Coat 3 or 4 teeth at 4 different positions on the ring gear with Prussian blue.



C52771

Fig. 37: Applying Prussian Blue To Ring Gear Teeth
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Rotate the ring gear 10 times more.
- c. Rotate the ring gear to inspect the tooth contact pattern.

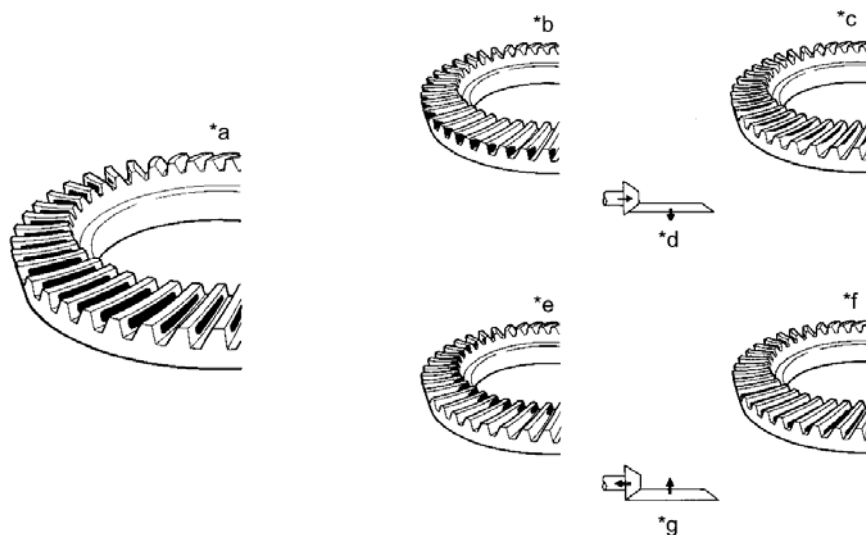


Fig. 38: Identifying Ring Gear Wear Pattern
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

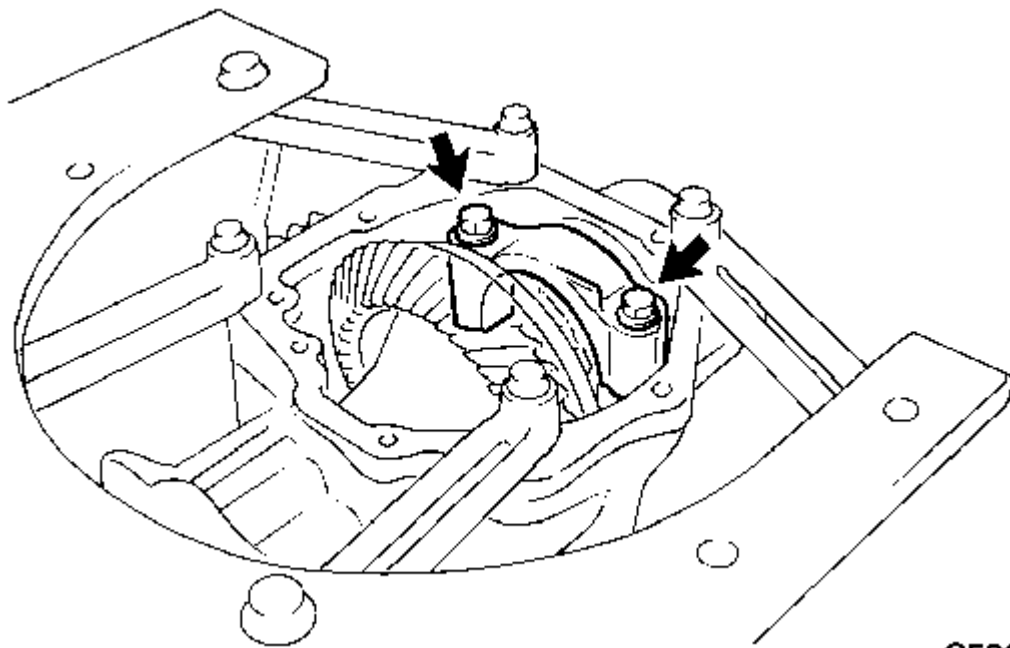
Proper	Heel
--------	------

*a	Contact	*b	Contact
*c	Face Contact	*d	Select a washer that will bring the driven pinion closer to the ring gear.
*e	Toe Contact	*f	Flank Contact
*g	Select a washer that will shift the driven pinion away from the ring gear.	-f -	

If the tooth contact pattern is not correct, select a new transfer output shaft washer that is thicker or thinner as necessary and recheck.

18. REMOVE TRANSFER BEARING CAP

- a. Remove the 2 bolts and transfer bearing cap.



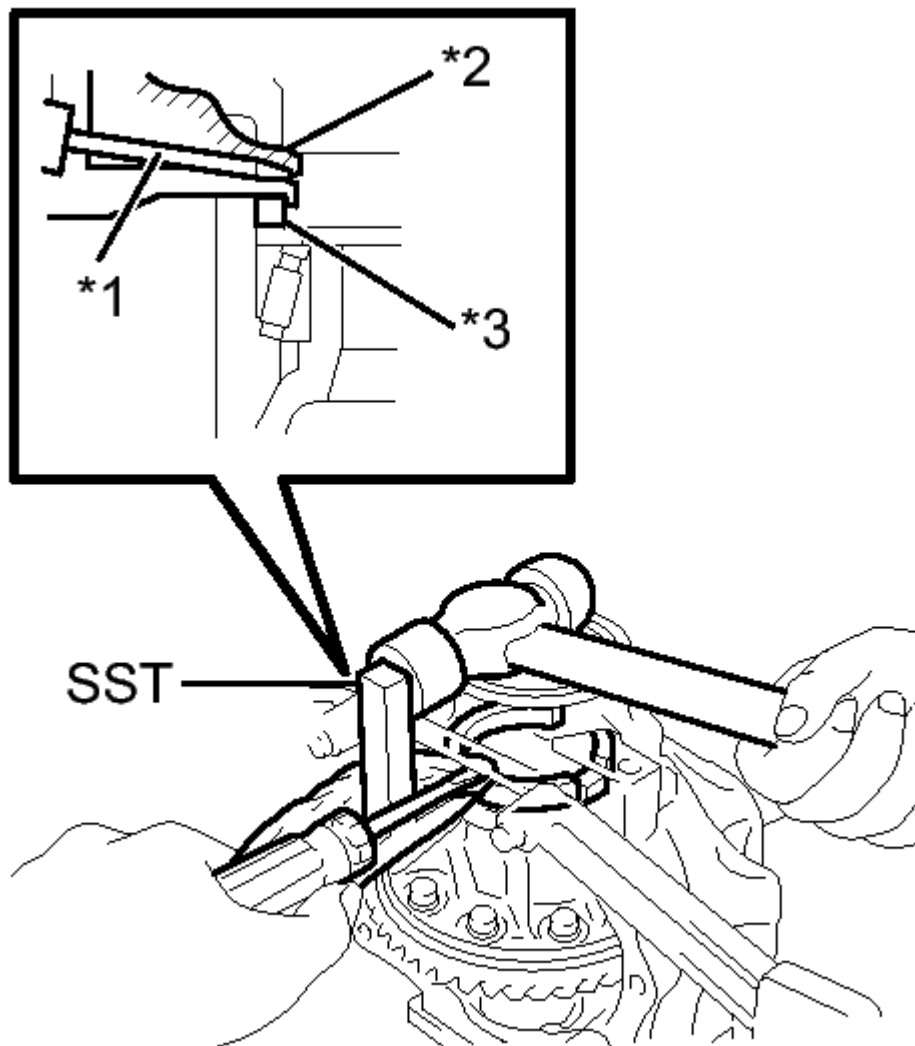
C52638

Fig. 39: Locating Bearing Cap Bolts

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

19. REMOVE NO. 1 TRANSFER OUTPUT SHAFT SPACER

- a. Using SST, a screwdriver and a hammer, remove the No. 1 transfer output shaft spacer.



C

Fig. 40: Removing No. 1 Transfer Output Shaft Spacer Using Screwdriver, Hammer & SST
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

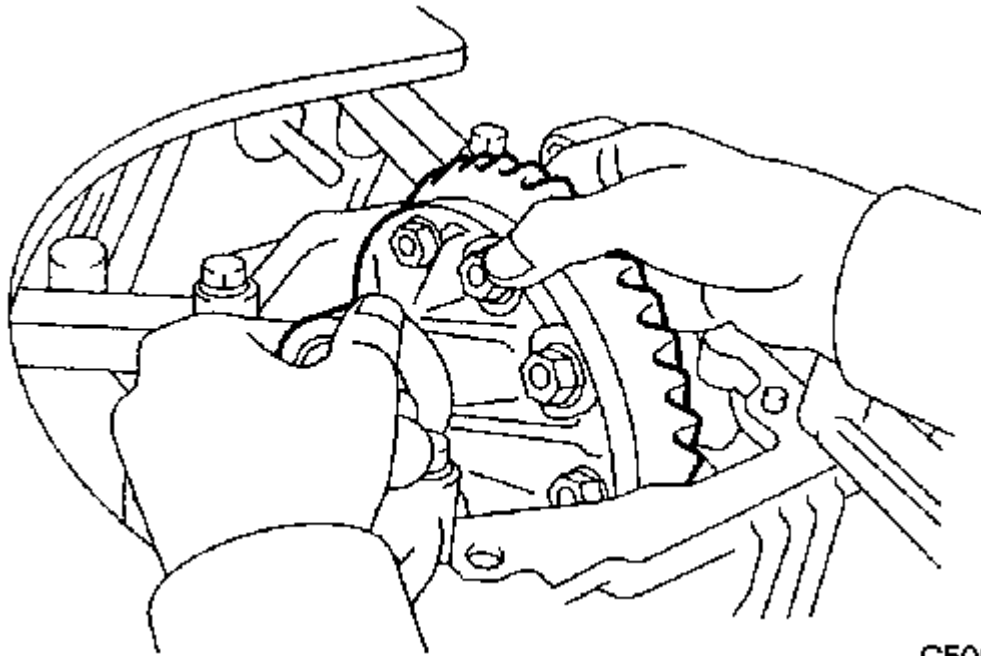
*1	Screwdriver
*2	Piece of Cloth
*3	Spacer

- SST: 09504-22011

NOTE: Do not damage the transfer case.

20. REMOVE NO. 2 TRANSFER RING GEAR MOUNTING CASE WASHER
21. REMOVE TRANSFER RING GEAR MOUNTING CASE

- a. Remove the transfer ring gear mounting case.



C50974

Fig. 41: Identifying Transfer Ring Gear Mounting Case
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

22. REMOVE TRANSFER DRIVEN PINION

- a. Using SST and a hammer, unstake the transfer gear nut.

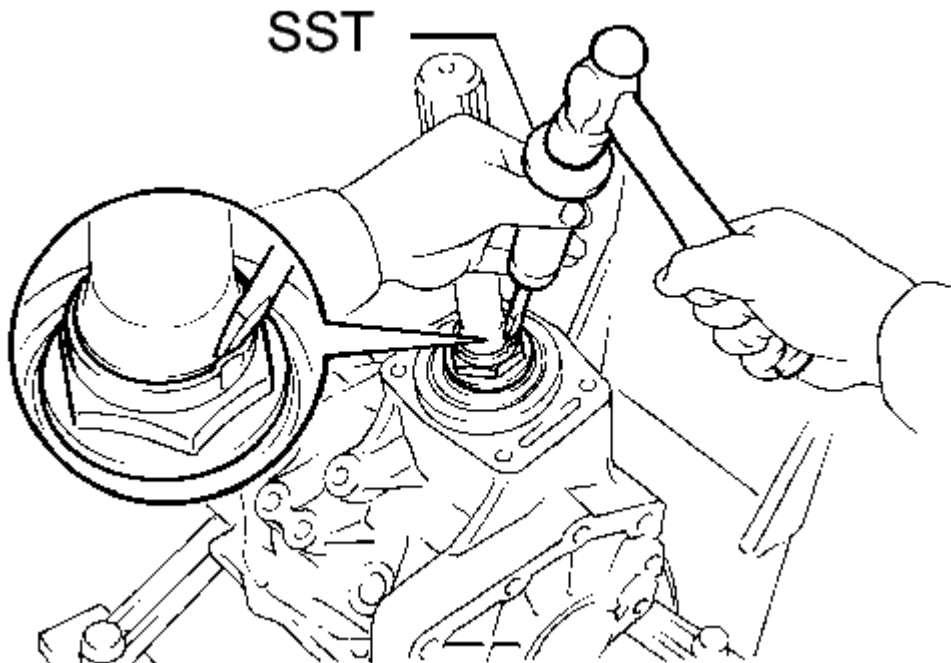


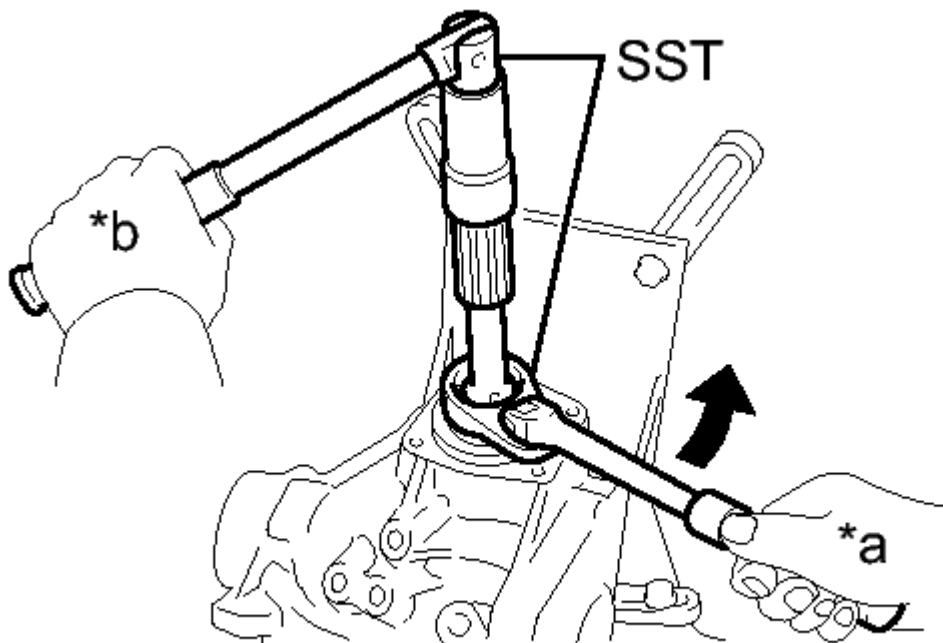
Fig. 42: Unstaking Gear Nut

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

- SST: 09930-00010

HINT:

- Use SST with the flat side facing outward.
 - Do not machine the tip of SST with a grinder, etc.
- b. Using SST, remove the transfer gear nut.



C

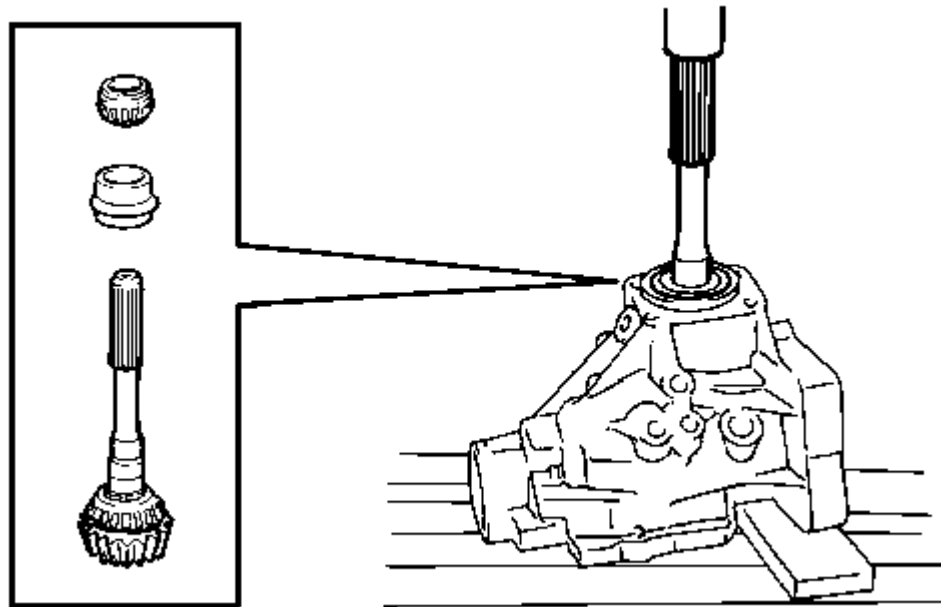
Fig. 43: Removing Transfer Gear Nut Using SST

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

TEXT IN ILLUSTRATION

*a	Turn
*b	Hold

- SST: 09326-20011
 - SST: 09556-16030
- c. Using a press, press out the transfer driven pinion, transfer driven pinion rear bearing (inner race) and transfer pinion bearing spacer.



C52642

Fig. 44: Pressing Out Driven Pinion, Transfer Driven Pinion Rear Bearing (Inner Race) And Transfer Pinion Bearing Spacer

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

NOTE:

- Place a piece of cloth under the transfer case to prevent the driven pinion from dropping out of the bearing.
- Use wooden blocks or similar objects under the case to keep it level.

23. REMOVE TRANSFER DRIVEN PINION FRONT BEARING

- a. Using SST and a press, press out the transfer driven pinion front bearing (inner race).

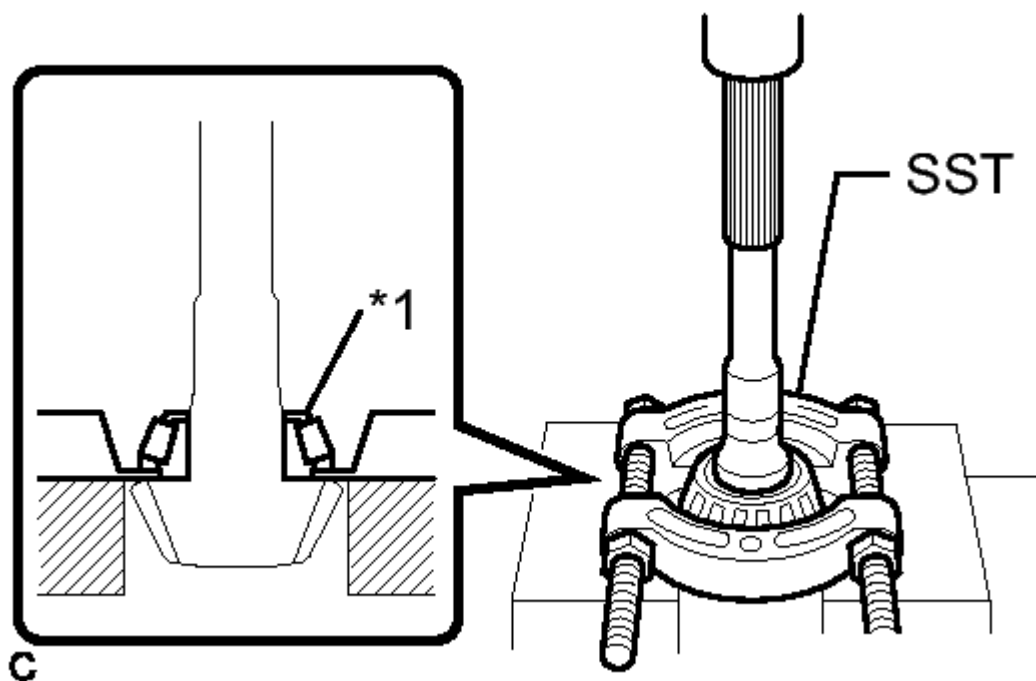


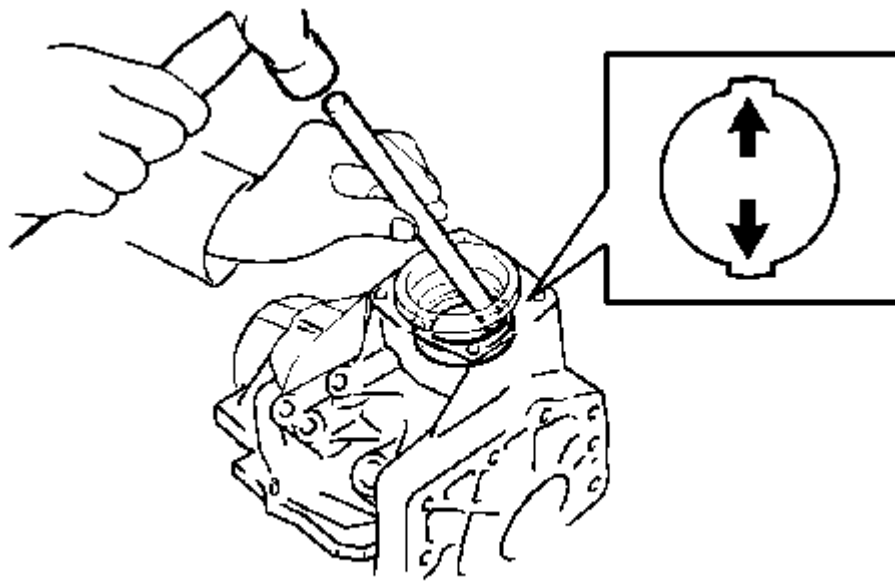
Fig. 45: Identifying Transfer Driver Pinion Front Bearing & SST
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

	Transfer Driven Pinion
*1	Front Bearing (Inner Race)

- SST: 09950-00020

- Using a brass bar and a hammer, tap the 2 positions shown in the illustration on the driven pinion front bearing (outer race) to remove it.

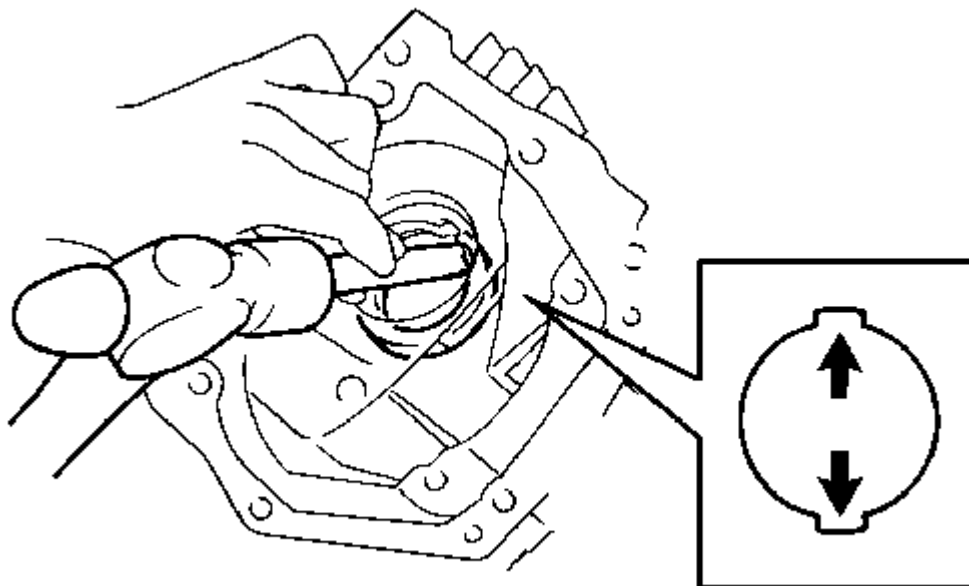


C52644

Fig. 46: Removing Driven Pinion Front Bearing
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

24. REMOVE TRANSFER DRIVEN PINION REAR BEARING

- a. Using a brass bar and a hammer, tap the 2 positions shown in the illustration on the transfer driven pinion rear bearing (outer race) to remove it.



C52645

Fig. 47: Removing Driven Pinion Rear Bearing (Outer Race)

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

25. **REMOVE TRANSFER OUTPUT SHAFT WASHER**

- a. Remove the transfer output shaft washer.

26. **REMOVE RING GEAR MOUNTING CASE BEARING**

- a. Remove the ring gear mounting case bearing (RH side).

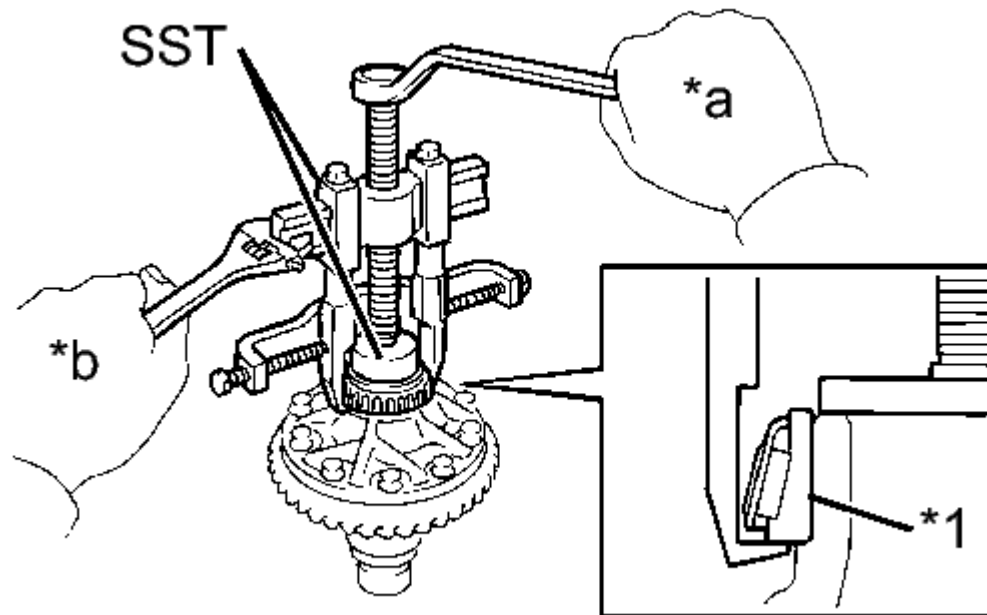


Fig. 48: Identifying Ring Gear Mounting Case Bearing And SST

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

1. Remove the ring gear mounting case bearing (outer race).
2. Using SST, remove the ring gear mounting case bearing (inner race).

TEXT IN ILLUSTRATION

	Ring Gear Mounting
*1	Case Bearing (Inner Race)
*a	Turn
*b	Hold

- SST: 09950-40011

09951-04010

09952-04010

09953-04020

09954-04010

09955-04061

09957-04010

09958-04011

- SST: 09950-60010

09951-00440

NOTE: Use SST (09953-04020) after applying grease to its threads and tip.

- b. Remove the ring gear mounting case bearing (LH side).

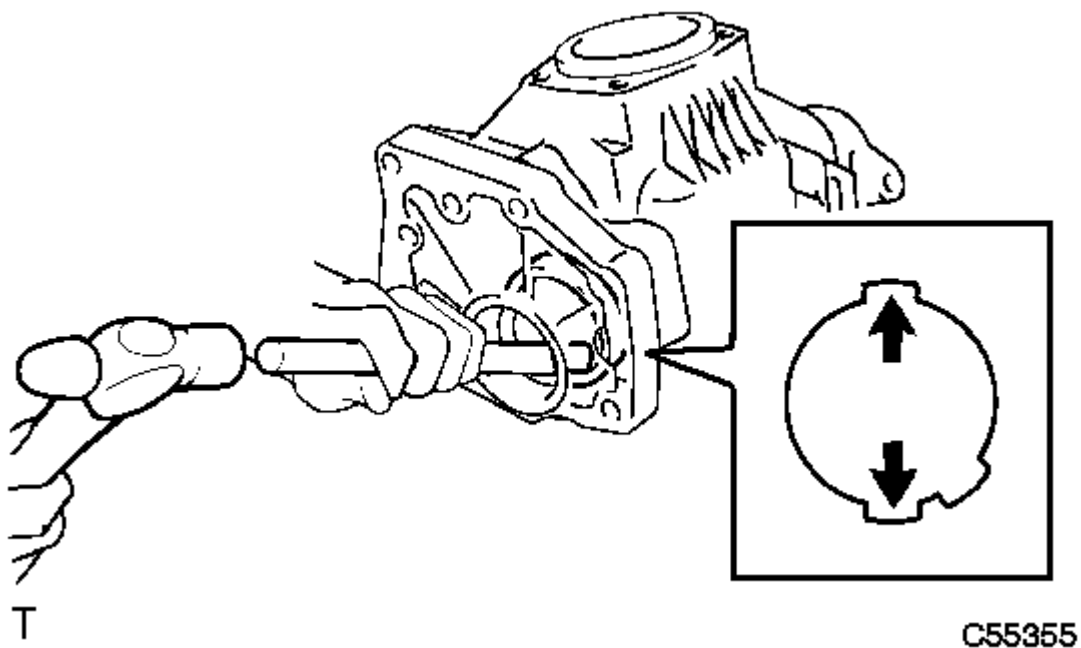


Fig. 49: Removing Ring Gear Mounting Case Bearing (Outer Race) LH
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

1. Using a brass bar and a hammer, tap the 2 positions shown in the illustration on the ring gear mounting case bearing (outer race) to remove it.
2. Remove the ring gear mounting case plate washer.
3. Using SST, remove the ring gear mounting case bearing (inner race).

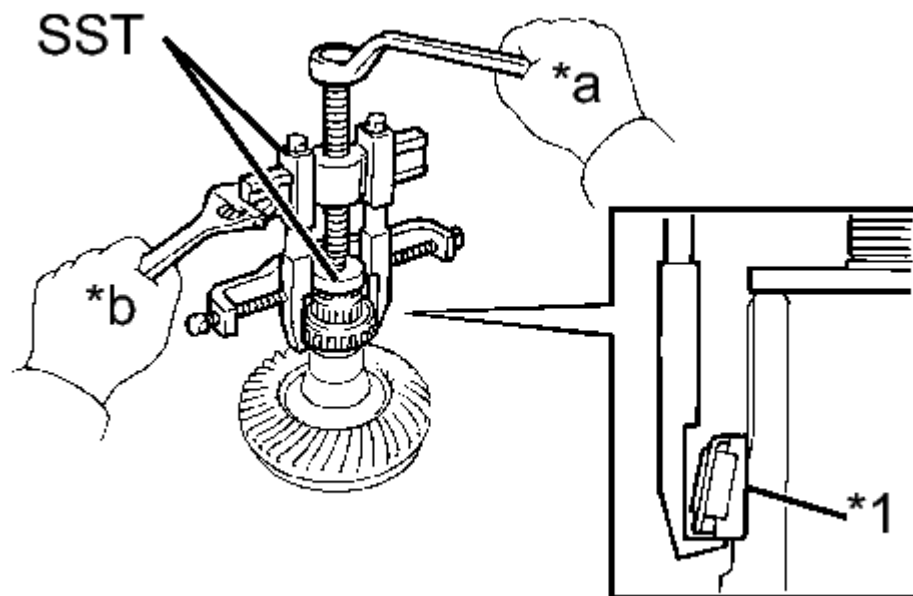


Fig. 50: Identifying Ring Gear Mounting Case Bearing (Inner Race), Transfer Ring Gear Mounting Case And SST

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

TEXT IN ILLUSTRATION

	Ring Gear Mounting
*1	Case Bearing (Inner Race)
*a	Turn
*b	Hold

• **SST: 09950-40011**

09951-04010

09952-04010

09953-04020

09954-04010

09955-04061

09957-04010

09958-04011

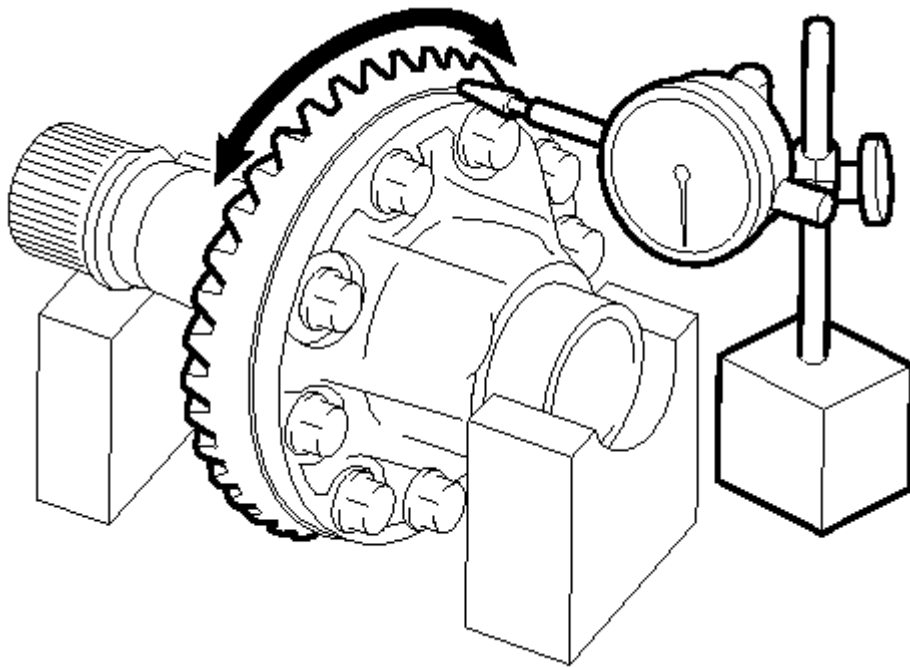
• **SST: 09950-60010**

09951-00400

NOTE: Use SST (09953-04020) after applying grease to its threads and tip.

27. INSPECT RING GEAR RUNOUT

- a. Place the transfer ring gear mounting case on the V-blocks.



C

Fig. 51: Checking Runout Of Ring Gear
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a dial indicator, check the runout of the ring gear.

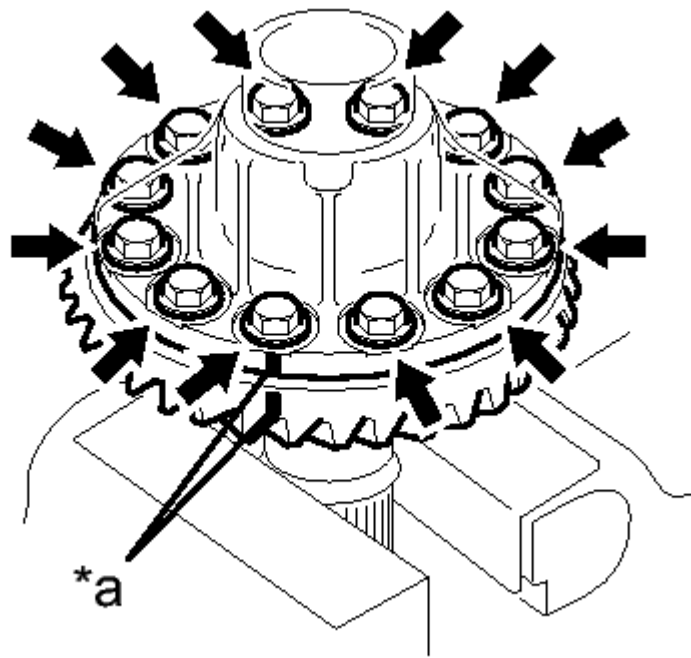
Maximum runout

0.06 mm (0.00236 in.)

If the runout is more than the maximum, replace the ring gear or transfer ring gear mounting case with a new one.

28. REMOVE TRANSFER RING GEAR

- a. Fix the transfer ring gear mounting case in a vise between aluminum plates.



C

Fig. 52: Identifying Transfer Ring Gear Fasteners & Matchmarks
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

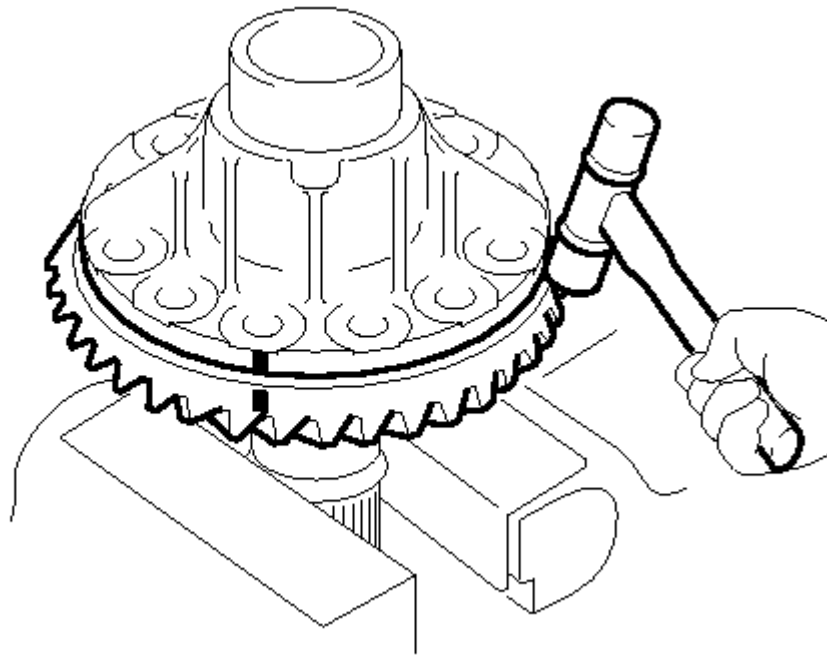
NOTE: **Do not overtighten the vise.**

- b. Put matchmarks on the transfer ring gear mounting case and transfer ring gear.

TEXT IN ILLUSTRATION

*a	Matchmark
----	-----------

- c. Remove the 12 bolts.
- d. Using a plastic hammer, tap on the transfer ring gear to separate it.



C

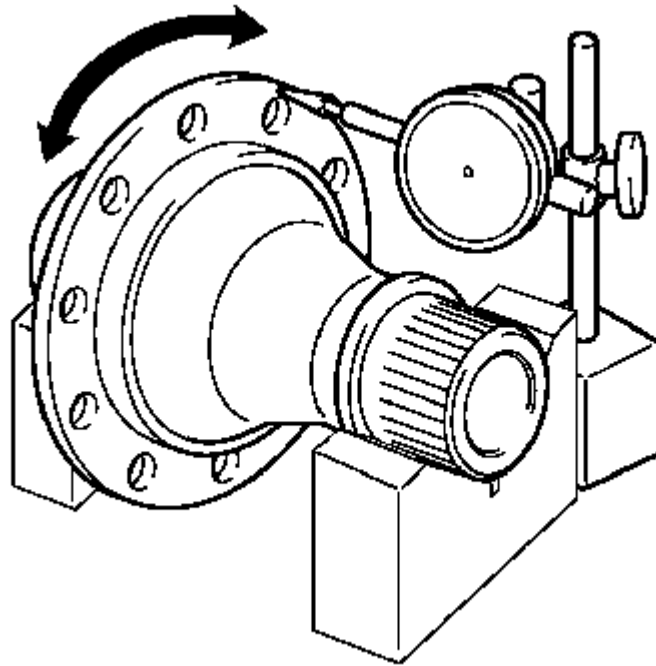
Fig. 53: Removing Transfer Ring Gear Using Plastic Hammer
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: **Do not damage the transfer ring gear teeth.**

INSPECTION

INSPECTION

- 1. INSPECT TRANSFER RING GEAR MOUNTING CASE RUNOUT**
 - a. Place the transfer ring gear mounting case on the V-blocks.



T

C66138

Fig. 54: Checking Runout Of Ring Gear Mounting Case
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Using a dial indicator, check the runout of the ring gear mounting case.

Maximum runout

0.04 mm (0.00157 in.)

If the runout is more than the maximum, replace the transfer ring gear mounting case with a new one.

REASSEMBLY

REASSEMBLY

1. INSTALL TRANSFER DRIVEN PINION REAR BEARING

- a. Using SST and a press, press the transfer driven pinion rear bearing (outer race).

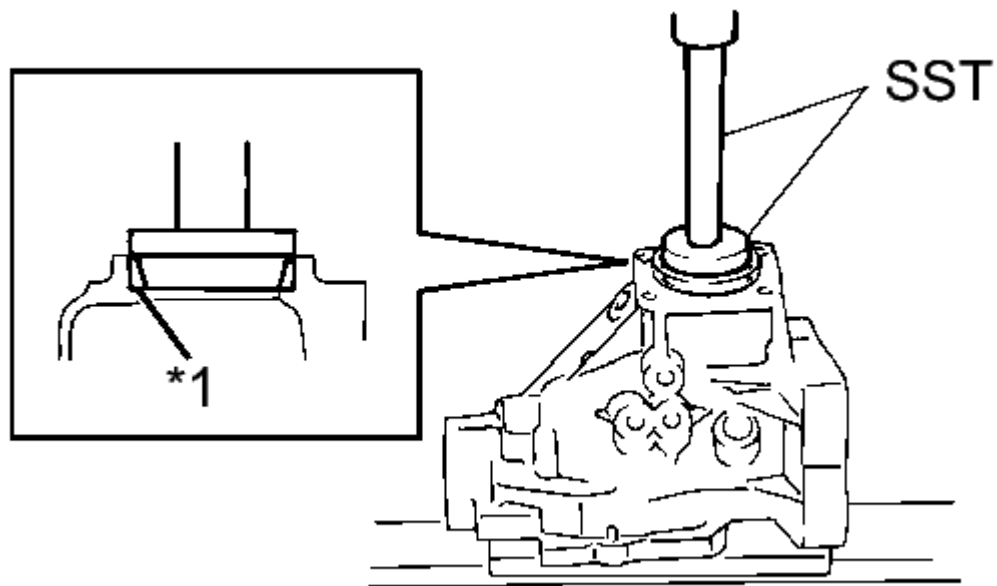


Fig. 55: Installing Transfer Driven Pinion Rear Bearing (Outer Race) Using SST
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

	Transfer
	Driven
	Pinion
*1	Rear
	Bearing
	(Outer
	Race)

- SST: 09950-60010
09951-00620
- SST: 09950-70010
09951-07150

NOTE: Keep the transfer case horizontal using wooden blocks, etc.

b. Apply gear oil to the driven pinion rear bearing (outer race).

2. INSTALL TRANSFER OUTPUT SHAFT WASHER

a. Install the transfer output shaft washer onto the transfer case.

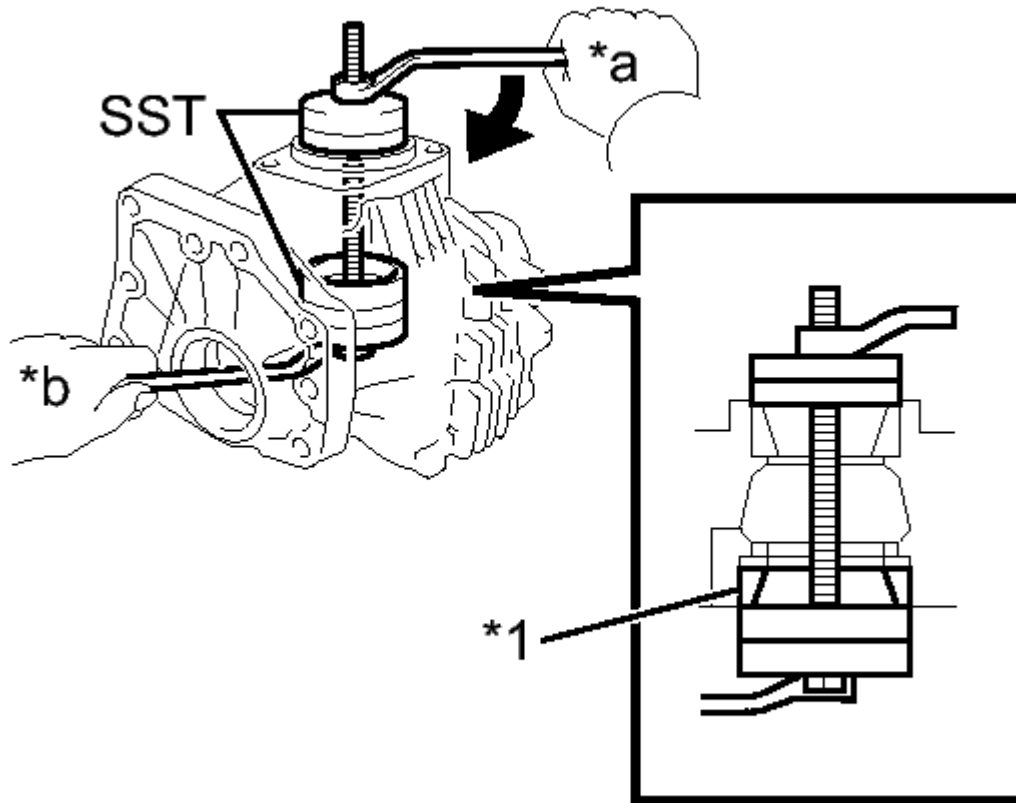
HINT:

Install the same washer as the one removed.

b. Apply gear oil to the transfer output shaft washer.

3. INSTALL TRANSFER DRIVEN PINION FRONT BEARING

a. Apply gear oil to the inner surface of the transfer case.



C

Fig. 56: Installing Transfer Driven Pinion Front Bearing & SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

b. Using SST, install the transfer driven pinion front bearing (outer race).

TEXT IN ILLUSTRATION

*1	Transfer Driven Pinion Front Bearing
----	--

	(Outer Race)
*a	Turn
*b	Hold

- **SST: 09950-60010**

09951-00610

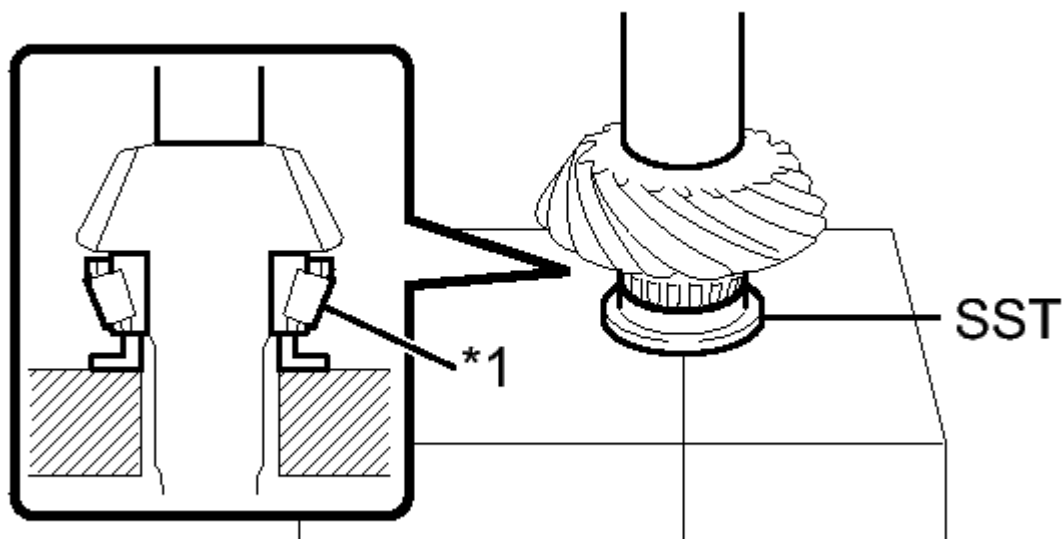
09951-00620

09951-00650

- **SST: 09950-60020**

09951-00680

- c. Using SST and a press, press the transfer driven pinion front bearing (inner race).



C

Fig. 57: Pressing Transfer Driven Pinion Front Bearing (Inner Race) Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

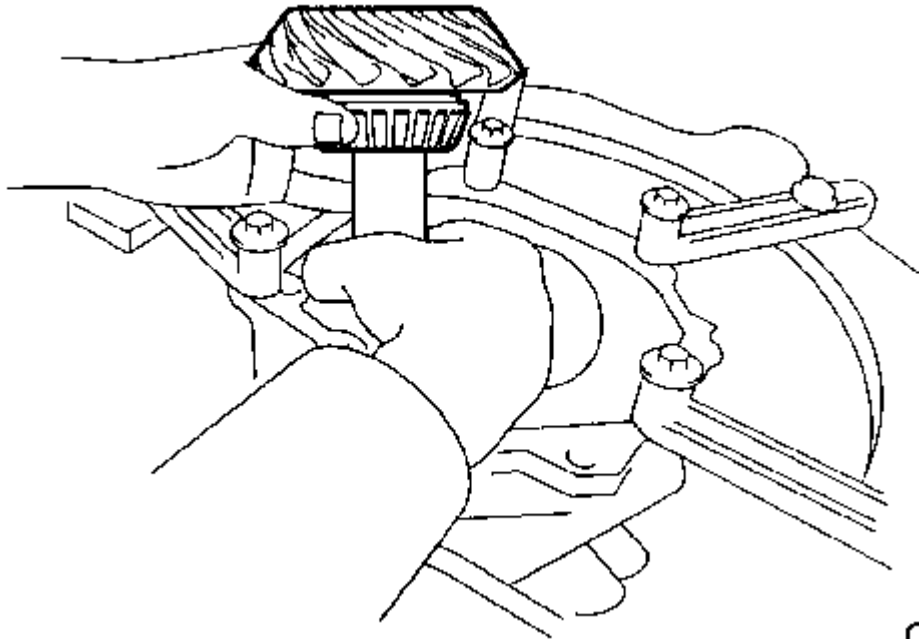
TEXT IN ILLUSTRATION

	Transfer Driven Pinion
*1	Front Bearing (Inner Race)

- SST: 09506-30012

4. INSTALL TRANSFER DRIVEN PINION

- Install the transfer driven pinion.

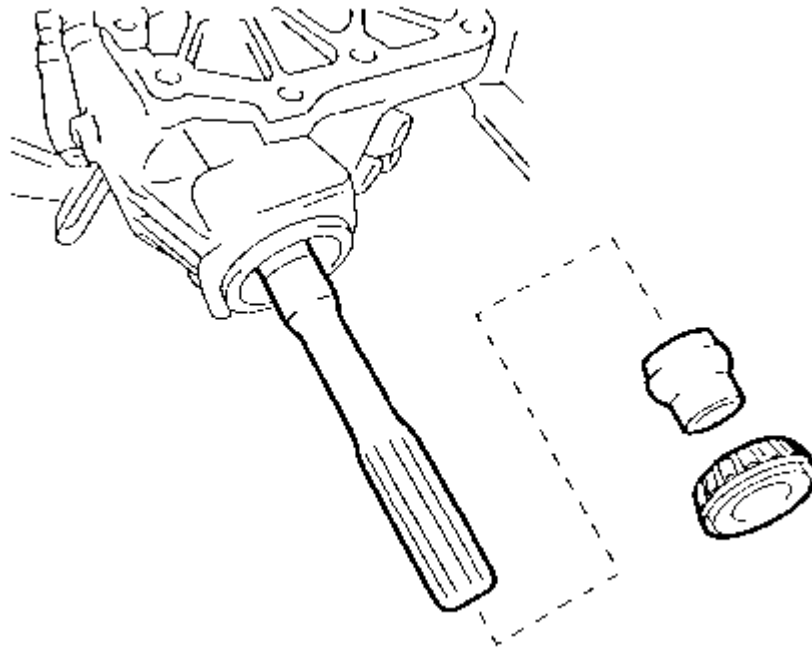


C50996

Fig. 58: Installing Driven Pinion

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

- Install a new transfer pinion bearing spacer and transfer driven pinion rear bearing (inner race).



C64852

Fig. 59: Identifying Transfer Pinion Bearing Spacer And Driven Pinion Rear Bearing (Inner Race)

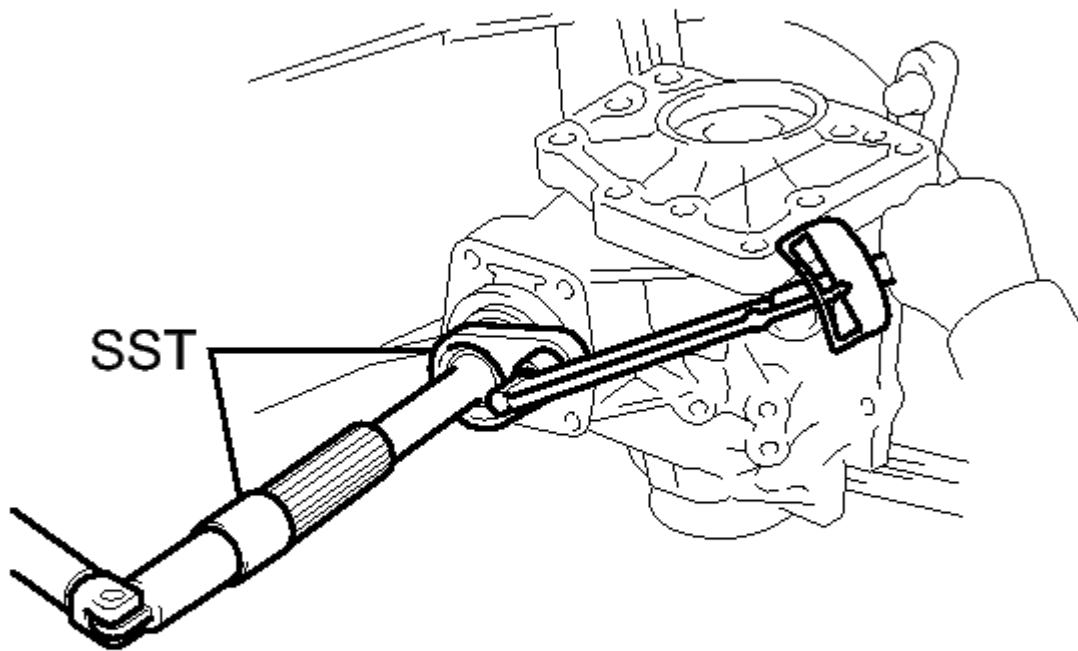
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

NOTE: Install the transfer pinion bearing spacer with the larger inner diameter facing forward as shown in the illustration.

- c. Install a new transfer gear nut.

5. **ADJUST DRIVEN PINION PRELOAD**

- a. Using SST and a torque wrench, secure the transfer driven pinion, and tighten the transfer gear nut 5° to 10°.



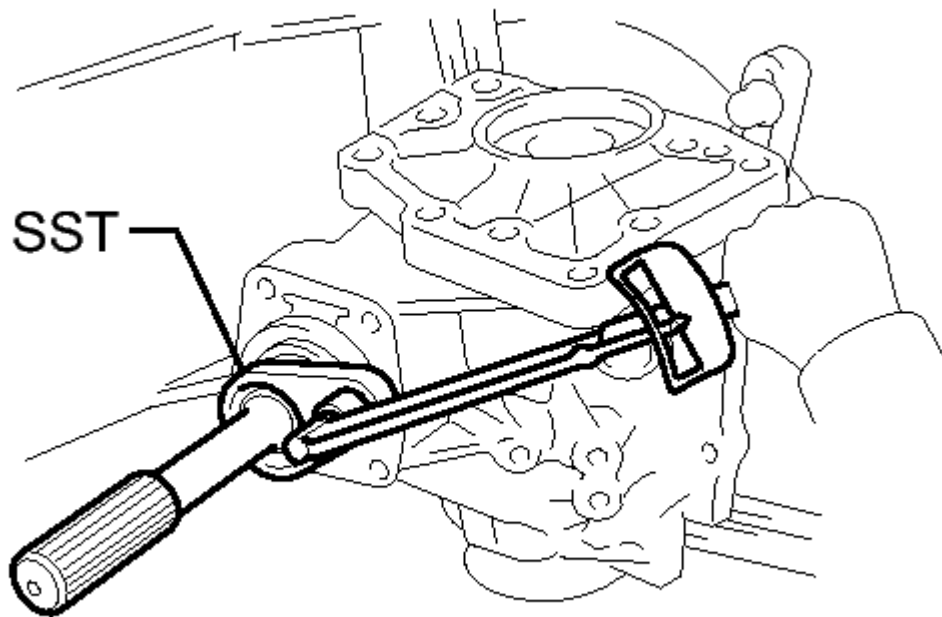
C

Fig. 60: Installing Gear Nut

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

- SST: 09326-20011
- SST: 09556-16030

b. Using SST and a torque wrench, measure the driven piston preload.



C

Fig. 61: Measuring Total Preload

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

- SST: 09326-20011

Driven Pinion Preload (at Starting)

Item	Preload
New bearing (with SST)	0.5 to 1.1 N*m (5 to 11 kgf*cm, 5 to 10 in.*lbf)
New bearing (without SST)	0.7 to 1.5 N*m (7 to 15 kgf*cm, 6 to 13 in.*lbf)
Reused bearing (with	0.3 to 0.6 N*m (3 to 6 kgf*cm,

SST)	3 to 6 in.*lbf)
Reused bearing (without SST)	0.4 to 0.9 N*m (4 to 9 kgf*cm, 4 to 8 in.*lbf)

without SST

Torque: 270 to 420 N*m (2754 to 4282 kgf*cm, 200 to 309 ft.*lbf)

with SST

Torque: 255 to 396 N*m (2601 to 4038 kgf*cm, 188 to 291 ft.*lbf)

NOTE:

- If the preload is more than the specification, replace the transfer pinion bearing spacer with a new one. Do not loosen the transfer gear nut to reduce the preload.
- If the preload is not sufficient, adjust the transfer driven pinion by tightening the lock nut 5° to 10° and measuring the preload until the preload is within the specification.
- Even if the tightening torque of the transfer gear nut exceeds the specified torque, if the preload is insufficient, loosen the transfer gear nut once and apply rust preventive oil or hypoid gear oil to the gear nut and to the screw or bearing surface of the transfer driven pinion. Then perform the procedure again. If the tightening torque is less than the specified torque, replace the transfer pinion bearing spacer with a new one and adjust it.

HINT:

- The "with SST" torque value is effective when using SST with a fulcrum length of 50 mm (1.97 in.).
- The "with SST" torque value is effective when using a torque wrench with a fulcrum length of 130 mm (5.12 in.). Refer to **PRECAUTION** .
- The "with SST" torque value is effective when SST is parallel to the torque wrench.

6. INSTALL TRANSFER RING GEAR

- a. Clean the contact surface of the transfer ring gear and transfer ring gear mounting case.

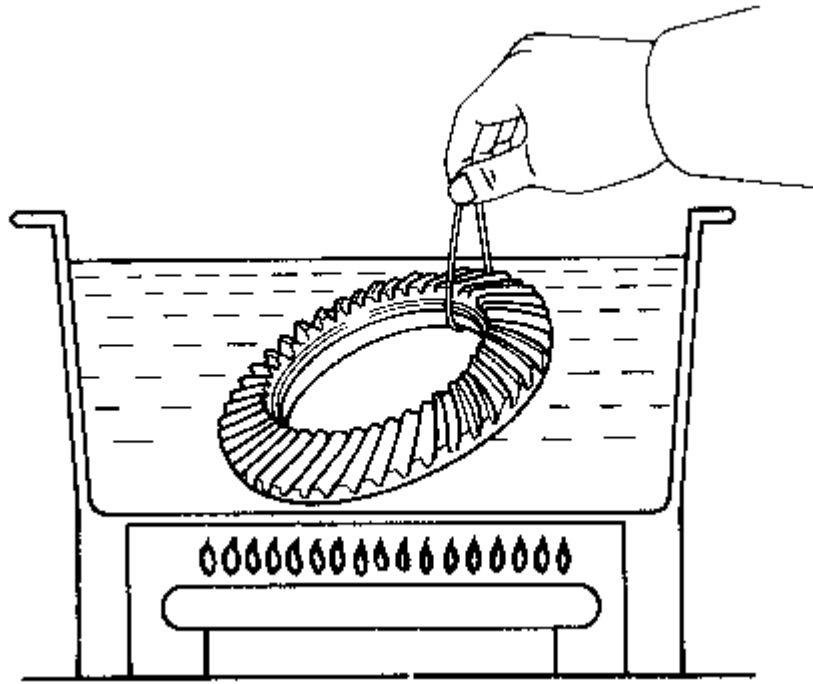
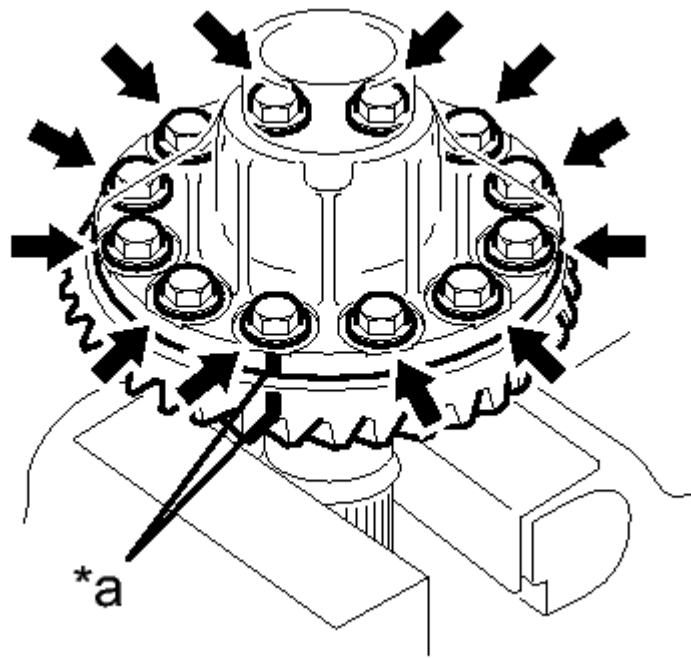


Fig. 62: Heating Transfer Ring Gear In Boiling Water
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Clean and degrease the 12 bolt holes of the transfer ring gear.
- c. Heat the transfer ring gear in boiling water.
- d. Carefully remove the transfer ring gear from the boiling water.

WARNING: Use thick gloves to protect hands as the ring gear is hot.

- e. After the moisture on the transfer ring gear has completely evaporated, quickly align the matchmarks, set the ring gear onto the transfer ring gear mounting case.



C

Fig. 63: Identifying Transfer Ring Gear Fasteners & Matchmarks
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*a Matchmark

- f. Clean and degrease the 12 bolts.
- g. Apply adhesive to 2 or 3 threads on the ends of the 12 bolts.

Adhesive

Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

- h. Install the 12 bolts.

Torque: 99 N*m (1005 kgf*cm, 73 ft.*lbf)

HINT:

- Tighten the bolts evenly in a diagonal pattern using several steps.
- Tighten the bolts after the transfer ring gear has cooled down sufficiently.

7. INSTALL RING GEAR MOUNTING CASE BEARING

- a. Install the ring gear mounting case bearing (RH side).
 1. Using SST and a press, press the ring gear mounting case bearing (inner race).

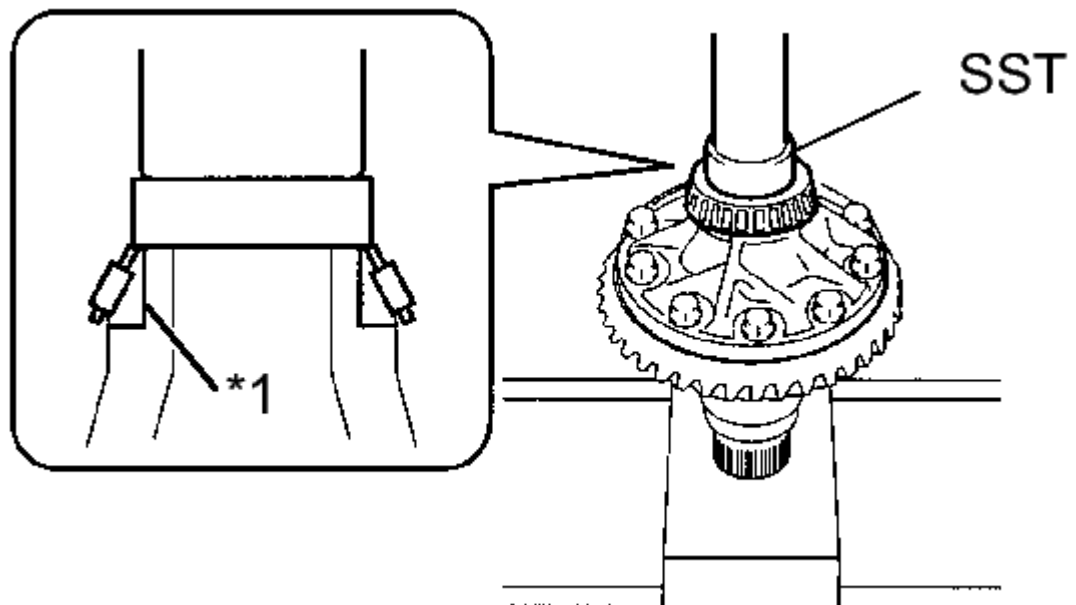


Fig. 64: Identifying Ring Gear Mounting Case Bearing (Inner Race) Using SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

	Ring Gear Mounting
*1	Case Bearing (Inner Race)

• **SST: 09950-60010**

09951-00420

2. Install the ring gear mounting case bearing (outer race).
 3. Apply gear oil to the ring gear mounting case bearing.
- b. Install the ring gear mounting case bearing (LH side).
1. Using SST and a press, press the ring gear mounting case bearing (inner race).

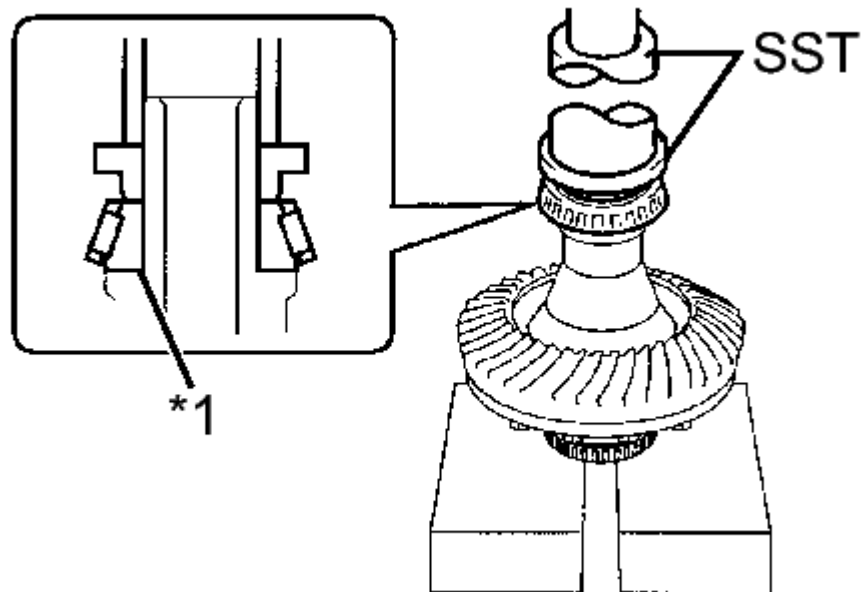


Fig. 65: Pressing Ring Gear Mounting Case Bearing (Inner Race) Using SST & Press
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Ring Gear Mounting Case Bearing (Inner Race)
----	--

- SST: 09223-00010
- SST: 09726-40010

2. Install the ring gear mounting case plate washer onto the transfer case.

HINT:

Use a new washer with the same thickness as the one removed when installing the bearing.

3. Using SST and a press, press the ring gear mounting case bearing (outer race).

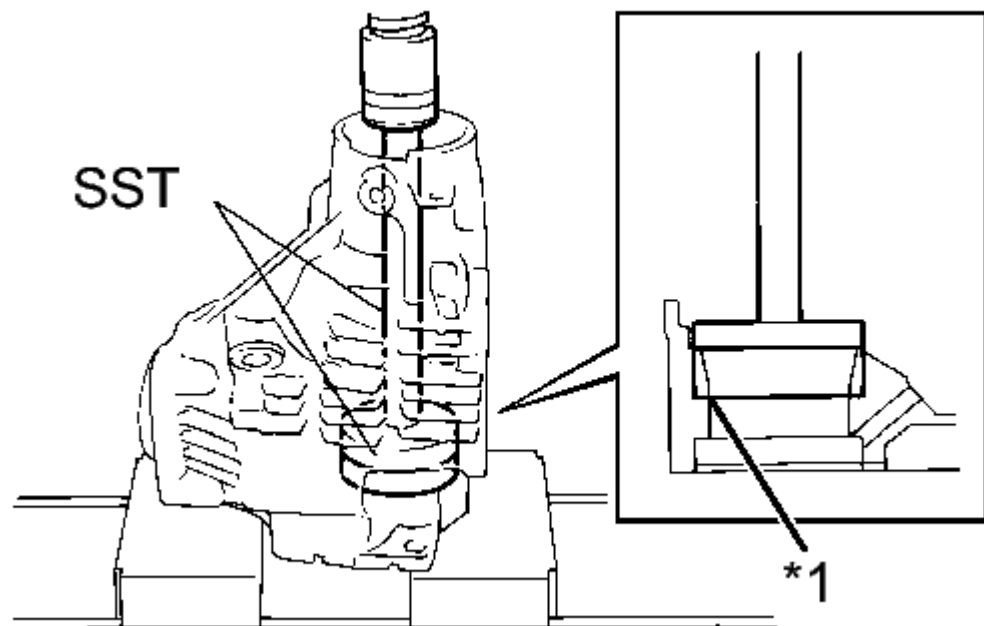


Fig. 66: Pressing Ring Gear Mounting Case Bearing (Outer Race) Using SST & Press
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

	Ring
	Gear
	Mounting
*1	Case
	Bearing
	(Outer
	Race)

- **SST: 09950-60010**

09951-00620

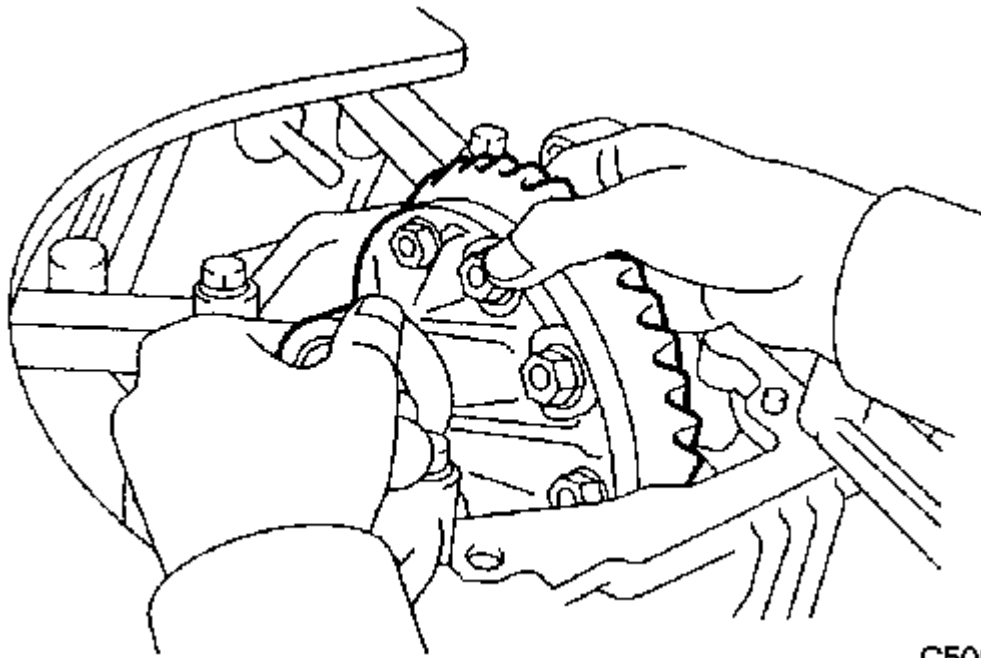
- **SST: 09950-70010**

09951-07200

4. Apply gear oil to the ring gear mounting case bearing.

8. INSTALL TRANSFER RING GEAR MOUNTING CASE

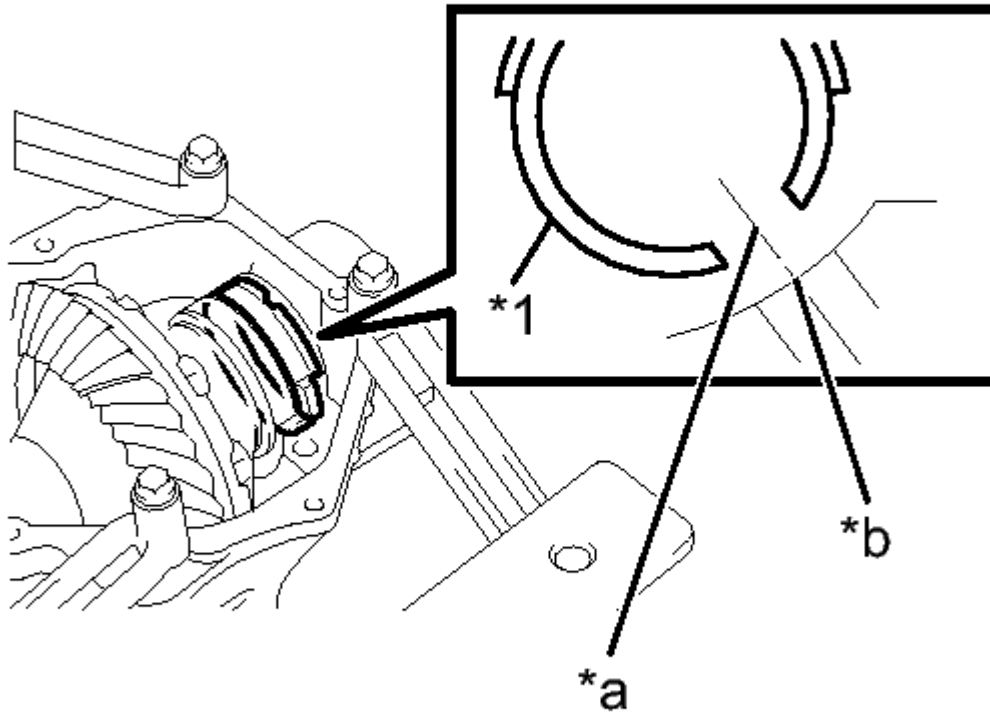
- a. Apply gear oil to the transfer ring gear mounting case.



C50974

Fig. 67: Identifying Transfer Ring Gear Mounting Case
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Install the transfer ring gear mounting case.
9. **INSTALL NO. 1 TRANSFER OUTPUT SHAFT SPACER**
- a. Align the cutout on the No. 1 transfer output shaft spacer with the transfer case hole to install it as shown in the illustration.



C

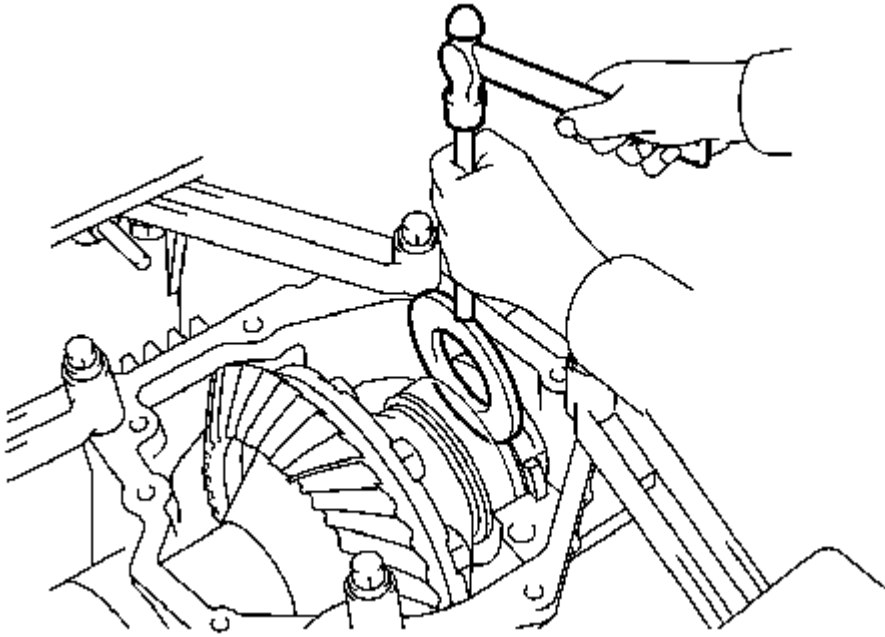
Fig. 68: Installing No. 1 Transfer Output Shaft Spacer
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	No. 1 Transfer Output Shaft Spacer
*a	Cutout
*b	Case Hole

10. INSTALL NO. 2 TRANSFER RING GEAR MOUNTING CASE WASHER

- a. Using a brass bar and a hammer, install the No. 2 transfer ring gear mounting case washer.



C52769

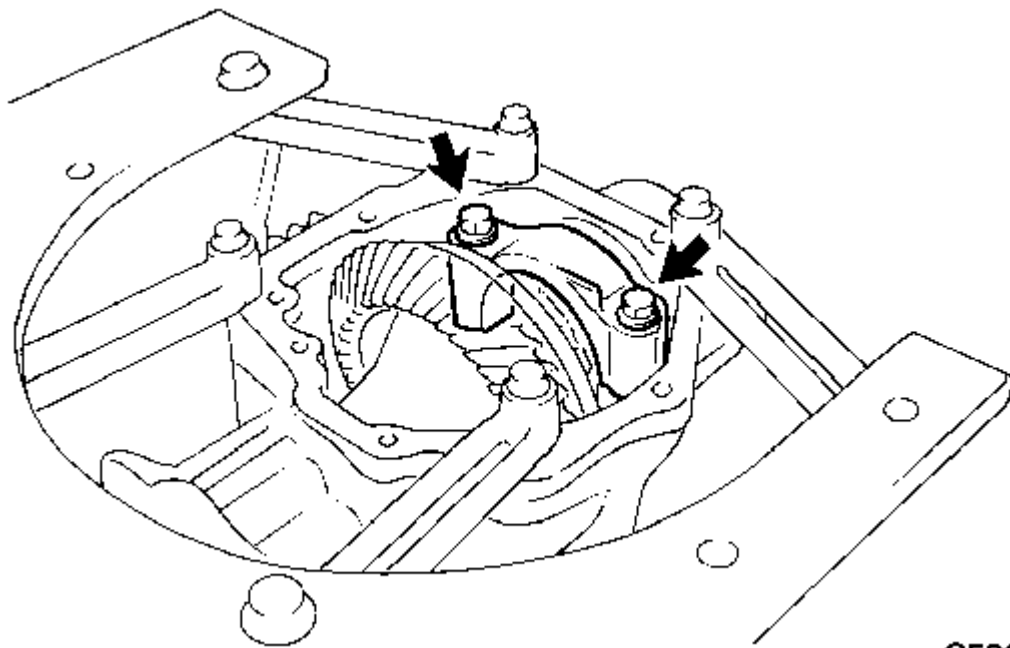
Fig. 69: Installing No. 2 Transfer Ring Gear Mounting Case Washer
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

Use the No. 2 washer with the same thickness as the one removed.

11. INSTALL TRANSFER BEARING CAP

- a. Install the transfer bearing cap with the 2 bolts.



C52638

Fig. 70: Locating Bearing Cap Bolts

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

Torque: 63 N*m (644 kgf*cm, 47 ft.*lbf)

12. INSPECT RING GEAR BACKLASH

- a. Set a dial indicator perpendicular to a transfer ring gear tooth tip. Secure the transfer driven pinion in place and move the transfer ring gear back and forth to measure the backlash.

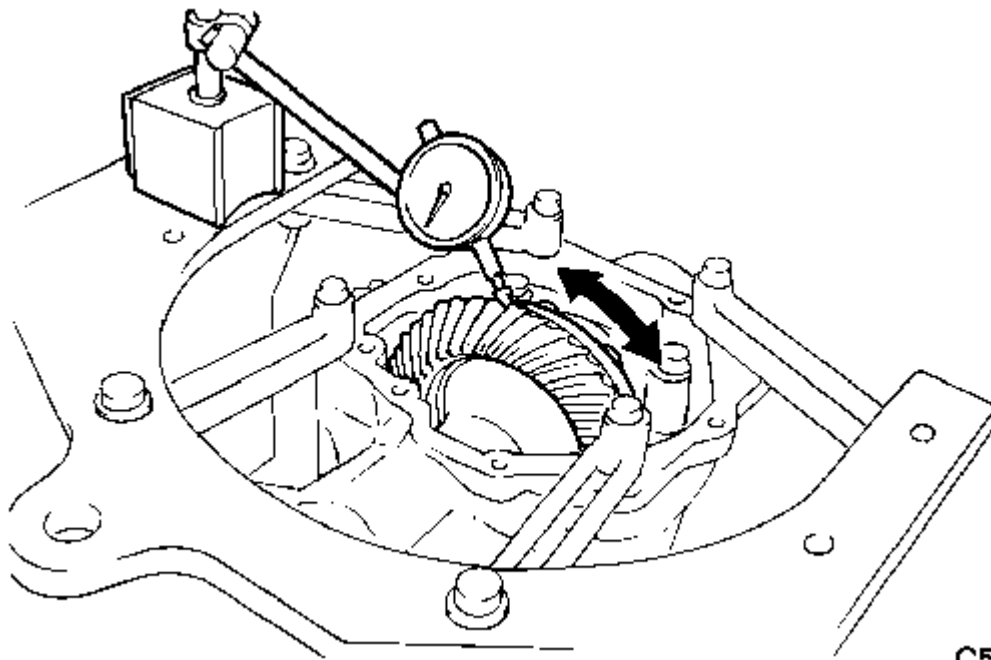


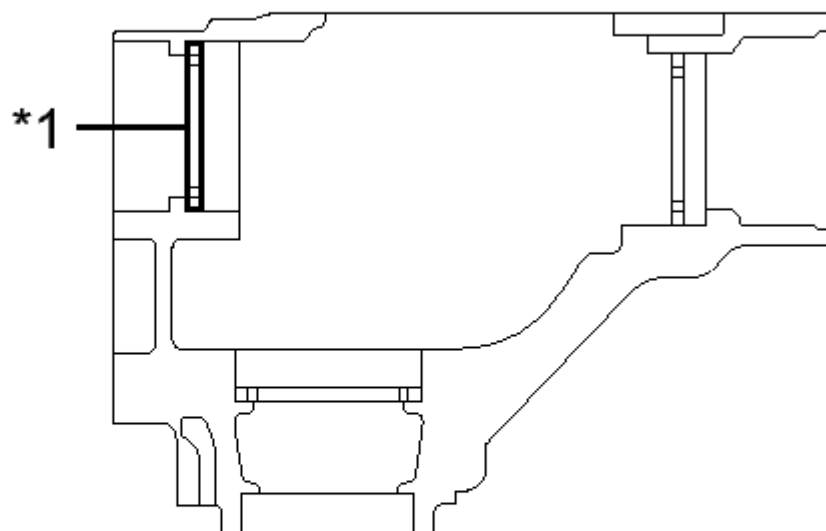
Fig. 71: Inspecting Ring Gear Backlash
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Backlash

0.14 to 0.25 mm (0.00552 to 0.00984 in.)

NOTE: Check at least 3 positions on the circumference of the transfer ring gear.

- b. If the backlash is outside the specified range, select a ring gear mounting case plate washer from the table below and install it to meet the specified range.



C

Fig. 72: Identifying Ring Gear Mounting Case Washer
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Ring Gear Mounting Case Plate Washer
----	---

WASHER THICKNESS

Part No.	Thickness mm (in.)	Mark
36265- 48J60	1.95 (0.0768)	5Q

36265-48J70	1.97 (0.0776)	5R
36265-48J80	1.99 (0.0783)	5S
36265-48J90	2.01 (0.0791)	5T
36265-48K00	2.03 (0.0799)	5U
36265-48K10	2.05 (0.0807)	5V
36265-48K20	2.07 (0.0815)	5W
36265-48K30	2.09 (0.0823)	5X
36265-48K40	2.11 (0.0831)	5Y
36265-48K50	2.13 (0.0839)	5Z
36265-48K60	2.15 (0.0846)	6F
36265-48K70	2.17 (0.0854)	6G
36265-48K80	2.19 (0.0862)	6H
36265-48K90	2.21 (0.0870)	6J
36265-48L00	2.23 (0.0878)	6K
36265-48L10	2.25 (0.0886)	6L
36265-48L20	2.27 (0.0894)	6M
36265-48L30	2.29 (0.0902)	6N
36265-48L40	2.31 (0.0909)	6P
36265-48L50	2.33 (0.0917)	6Q
36265-48L60	2.35 (0.0925)	6R
36265-48L70	2.37 (0.0933)	6S
36265-48L80	2.39 (0.0941)	6T

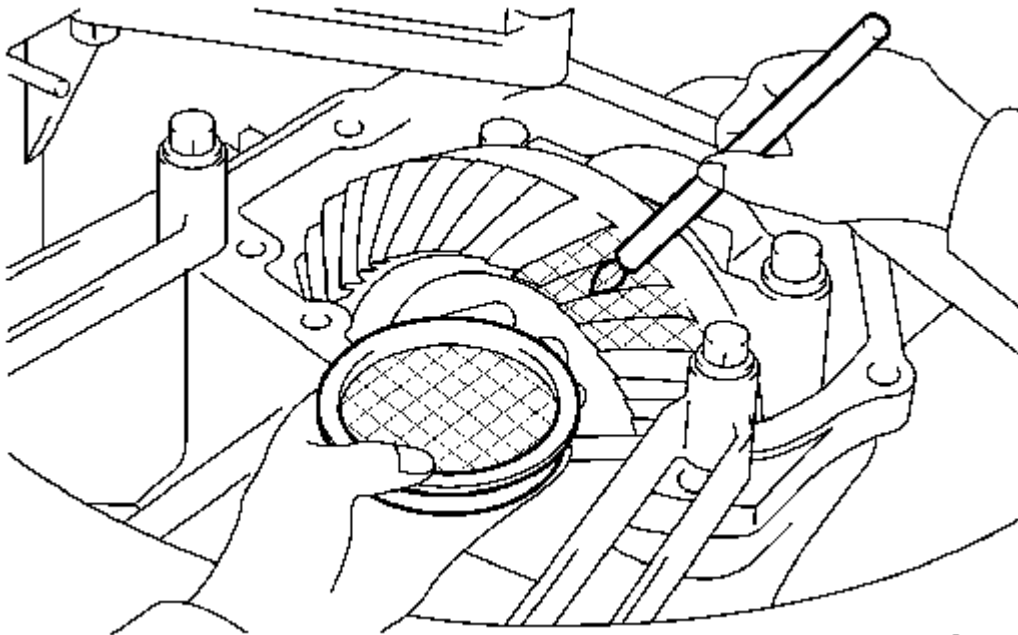
36265-48L90	2.41 (0.0949)	6U
36265-48M00	2.43 (0.0957)	6V
36265-48M10	2.45 (0.0965)	6W
36265-48M20	2.47 (0.0972)	6X
36265-48M30	2.49 (0.0980)	6Y
36265-48M40	2.51 (0.0988)	6Z
36265-48M50	2.53 (0.0996)	7F
36265-48M60	2.55 (0.100)	7G
36265-48M70	2.57 (0.10118)	7H
36265-48M80	2.59 (0.10197)	7J
36265-48M90	2.61 (0.10276)	7K
36265-48N00	2.63 (0.10354)	7L
36265-48N10	2.65 (0.10433)	7M
36265-48N20	2.67 (0.105)	7N
36265-48N30	2.69 (0.10591)	7P
36265-48N40	2.71 (0.106)	7Q
36265-48N50	2.73 (0.107)	7R
36265-48N60	2.75 (0.108)	7S
36265-48N70	2.77 (0.10905)	7T
36265-48N80	2.79 (0.10984)	7U
36265-48N90	2.81 (0.11063)	7V
36265-48P00	2.83 (0.11142)	7W

36265-48P10	2.85 (0.11220)	7X
36265-48P20	2.87 (0.11299)	7Y
36265-48P30	2.89 (0.11378)	7Z
36265-48P40	2.91 (0.11457)	8F
36265-48P50	2.93 (0.115)	8G
36265-48P60	2.95 (0.11614)	8H
36265-48P70	2.97 (0.11693)	8J
36265-48P80	2.99 (0.11771)	8K
36265-48P90	3.01 (0.11850)	8L
36265-48Q00	3.03 (0.11929)	8M
36265-48Q10	3.05 (0.12008)	8N
36265-48Q20	3.07 (0.12087)	8P
36265-48Q30	3.09 (0.12165)	8Q
36265-48Q40	3.11 (0.12244)	8R
36265-48Q50	3.13 (0.123)	8S
36265-48Q60	3.15 (0.12402)	8T
36265-48Q70	3.17 (0.12480)	8U
36265-48Q80	3.19 (0.12559)	8V
36265-48Q90	3.21 (0.12638)	8W
36265-48R00	3.23 (0.12717)	8X
36265-48R10	3.25 (0.12795)	8Y
36265-48R20	3.27 (0.12874)	8Z

36265-48R30	3.29 (0.12953)	9D
36265-48R40	3.31 (0.13031)	9E
36265-48R50	3.33 (0.131)	9F
36265-48R60	3.35 (0.132)	9G
36265-48R70	3.37 (0.133)	9H

13. INSPECT TOOTH CONTACT BETWEEN RING GEAR AND DRIVEN PINION

- a. Coat 3 or 4 teeth at 4 different positions on the ring gear with Prussian blue.



C52771

Fig. 73: Applying Prussian Blue To Ring Gear Teeth
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Rotate the ring gear 10 times or more.
- c. Rotate the ring gear to inspect the tooth contact pattern.

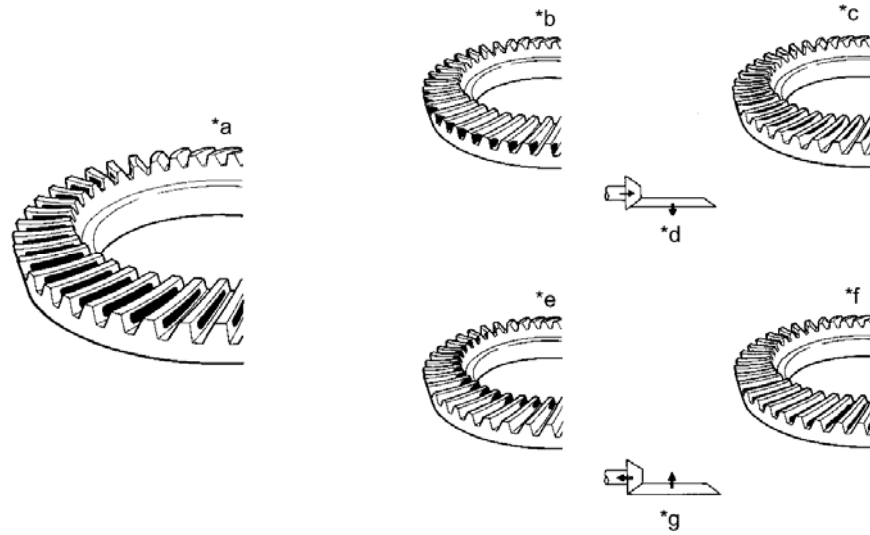


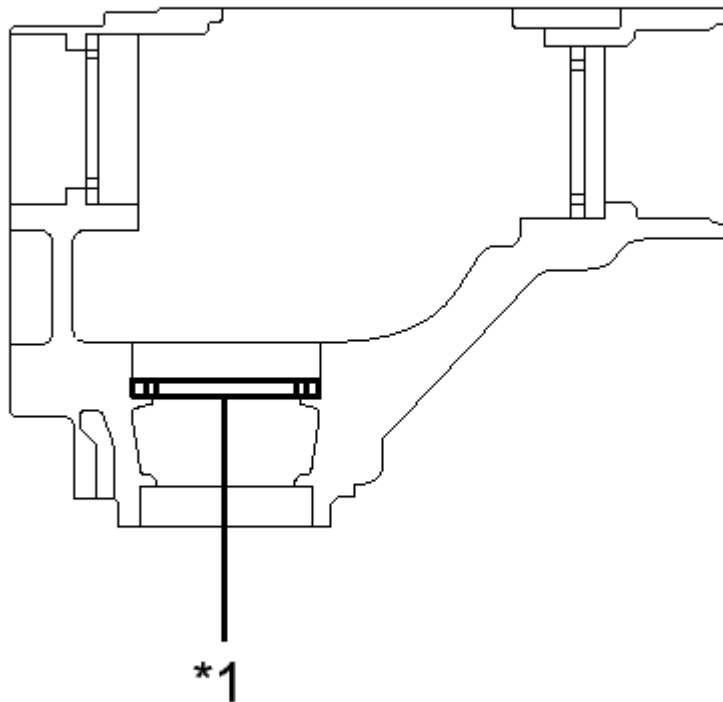
Fig. 74: Identifying Ring Gear Wear Pattern
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*a	Proper Contact	*b	Heel Contact
*c	Face Contact	*d	Select a washer that will bring the driven pinion closer to the ring gear.
*e	Toe Contact	*f	Flank Contact
*g	Select a washer that will shift the driven pinion	-	-

away from the ring gear.		
-----------------------------------	--	--

- d. If the tooth contact pattern is not correct, select a new transfer output shaft washer that is thicker or thinner as necessary and recheck.



C

Fig. 75: Identifying Transfer Output Shaft Washer
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Transfer Output Shaft Washer
----	---------------------------------------

NOTE: When the transfer output shaft washer thickness is changed, readjust the backlash. See step 16.

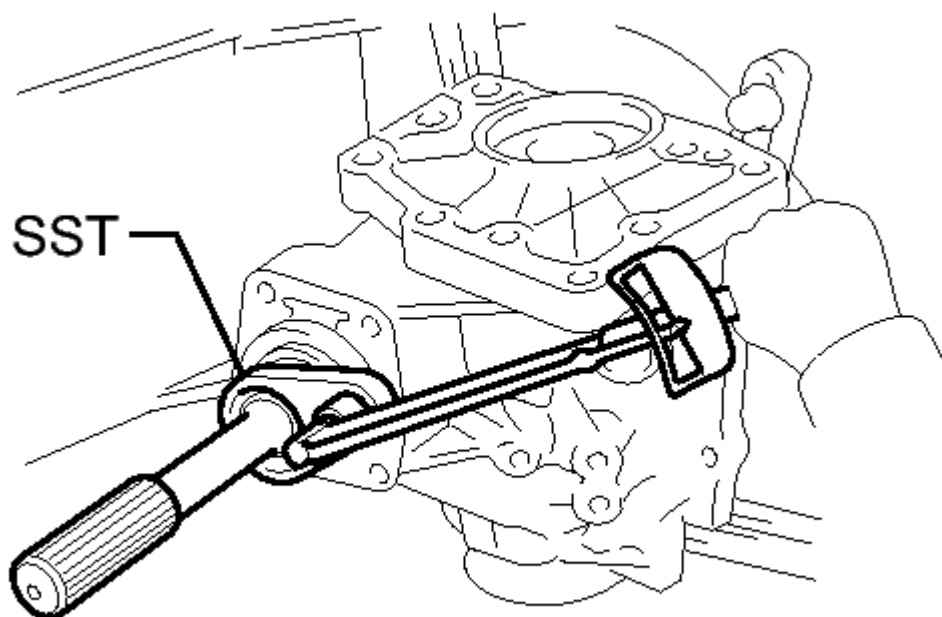
WASHER THICKNESS

Part No.	Thickness mm (in.)	Mark
36275-33010	2.00 (0.0787)	ZA
36275-33030	2.02 (0.0795)	ZB
36275-33050	2.04 (0.0803)	ZC
36275-33070	2.06 (0.0811)	ZD
36275-33090	2.08 (0.0819)	ZE
36275-33110	2.10 (0.0827)	AA
36275-33130	2.12 (0.0835)	AC
36275-33150	2.14 (0.0843)	BB
36275-33170	2.16 (0.0850)	CA
36275-33190	2.18 (0.0858)	CC
36275-33210	2.20 (0.0866)	DB
36275-33230	2.22 (0.0874)	EA
36275-33250	2.24 (0.0882)	EC
36275-33270	2.26 (0.0890)	FB
36275-33290	2.28 (0.0898)	GA
36275-33310	2.30 (0.0906)	GC
36275-33330	2.32 (0.0913)	HB
36275-33350	2.34 (0.0921)	JA
36275-33370	2.36 (0.0929)	JC

36275-33390	2.38 (0.0937)	KB
36275-33410	2.40 (0.0945)	LA
36275-33430	2.42 (0.0953)	LC
36275-33450	2.44 (0.0961)	MB
36275-48010	2.46 (0.0969)	NA
36275-48020	2.48 (0.0976)	NC
36275-48030	2.50 (0.0984)	PB
36275-48040	2.52 (0.0992)	QA
36275-48050	2.54 (0.100)	QC
36275-48060	2.56 (0.10079)	RA
36275-48070	2.58 (0.10157)	RB
36275-48080	2.60 (0.10236)	RC
36275-48090	2.62 (0.10315)	SA
36275-48100	2.64 (0.10394)	SB
36275-48110	2.66 (0.10472)	SC
36275-48120	2.68 (0.10551)	TA
36275-48130	2.70 (0.10630)	TB
36275-48140	2.72 (0.107)	TC

14. INSPECT AND ADJUST TOTAL PRELOAD

- a. Using SST and a torque wrench, measure the total preload.



C

Fig. 76: Measuring Total Preload

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

- SST: 09326-20011

Total Preload (at Starting)

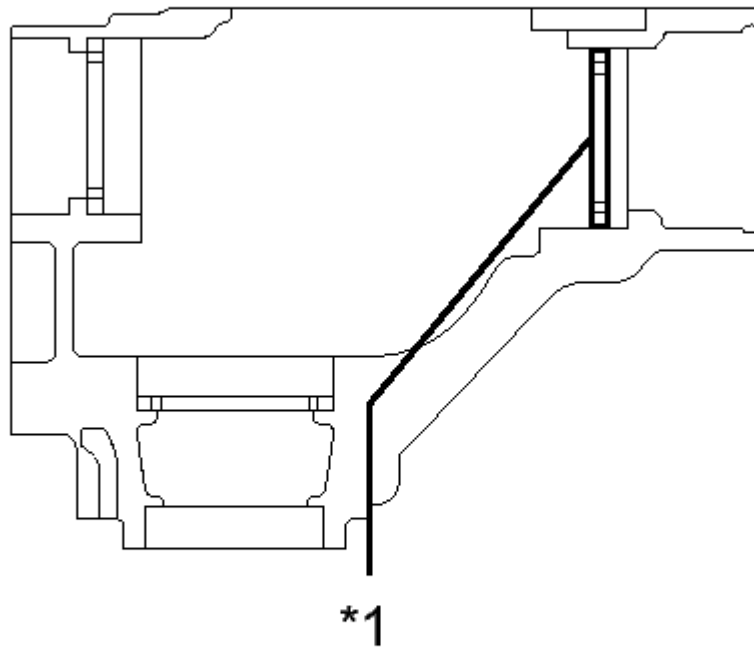
Item	Preload
New bearing (with SST)	0.4 to 0.5 N*m (4 to 5 kgf*cm, 3 to 4 in.*lbf) + Driven pinion preload
New bearing (without SST)	0.5 to 0.7 N*m (5 to 7 kgf*cm, 5 to 6 in.*lbf) +

	Driven pinion preload
Reused bearing (with SST)	0.25 to 0.38 N*m (2.6 to 3.8 kgf*cm, 2.3 to 3.3 in.*lbf) + Driven pinion preload
Reused bearing (without SST)	0.4 to 0.5 N*m (4 to 5 kgf*cm, 3 to 4 in.*lbf) + Driven pinion preload

HINT:

- Turn the transfer driven pinion counterclockwise and clockwise several times.
- The "with SST" torque value is effective when using SST with a fulcrum length of 50 mm (1.97 in.).
- The "with SST" torque value is effective when using a torque wrench with a fulcrum length of 130 mm (5.12 in.). Refer to **PRECAUTION** .
- The "with SST" torque value is effective when SST is parallel to the torque wrench.

If the preload is outside the specified range, replace the No. 2 transfer ring gear mounting case washer with one that is thicker or thinner as necessary and recheck.



C

Fig. 77: Identifying No. 2 Transfer Ring Gear Mounting Case Washer
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	No. 2
	Transfer
	Ring
	Gear
	Mounting
	Case
	Washer

WASHER THICKNESS

Part No.	Thickness mm (in.)	Mark
36266-	2.47	

48220	(0.0972)	G7
36266-48230	2.49 (0.0980)	G8
36266-48240	2.51 (0.0988)	G9
36266-48250	2.53 (0.0996)	H0
36266-48260	2.55 (0.100)	H1
36266-48270	2.57 (0.101)	H2
36266-48280	2.59 (0.102)	H3
36266-48290	2.61 (0.103)	H4
36266-48300	2.63 (0.104)	H5
36266-48310	2.65 (0.1043)	H6
36266-48320	2.67 (0.105)	H7
36266-48330	2.69 (0.106)	H8
36266-48340	2.71 (0.107)	H9
36266-48350	2.73 (0.1074)	J0
36266-48360	2.75 (0.108)	J1
36266-48370	2.77 (0.109)	J2
36266-48380	2.79 (0.110)	J3
36266-48390	2.81 (0.1106)	J4
36266-48400	2.83 (0.111)	J5
36266-48410	2.85 (0.112)	J6
36266-48420	2.87 (0.113)	J7
36266-48430	2.89 (0.114)	J8
36266-	2.91	J9

48440	(0.115)	
36266-48450	2.93 (0.1153)	K0
36266-48460	2.95 (0.116)	K1
36266-48470	2.97 (0.117)	K2
36266-48480	2.99 (0.118)	K3
36266-48490	3.01 (0.119)	K4
36266-48500	3.03 (0.1193)	K5
36266-48510	3.05 (0.120)	K6
36266-48520	3.07 (0.121)	K7
36266-48530	3.09 (0.122)	K8
36266-48540	3.11 (0.1224)	K9
36266-48550	3.13 (0.123)	L0
36266-48560	3.15 (0.124)	L1
36266-48570	3.17 (0.125)	L2
36266-48580	3.19 (0.126)	L3
36266-48590	3.21 (0.1264)	L4
36266-48600	3.23 (0.127)	L5
36266-48610	3.25 (0.128)	L6
36266-48620	3.27 (0.129)	L7
36266-48630	3.29 (0.130)	L8
36266-48640	3.31 (0.1303)	L9
36266-48650	3.33 (0.131)	M0
36266-	3.35	M1

48660	(0.132)	
36266-48670	3.37 (0.133)	M2
36266-48680	3.39 (0.1335)	M3
36266-48690	3.41 (0.134)	M4
36266-48700	3.43 (0.135)	M5
36266-48710	3.45 (0.136)	M6
36266-48720	3.47 (0.1366)	M7
36266-48730	3.49 (0.137)	M8
36266-48740	3.51 (0.138)	M9
36266-48750	3.53 (0.139)	N0
36266-48760	3.55 (0.140)	N1
36266-48770	3.57 (0.141)	N2
36266-48780	3.59 (0.1413)	N3
36266-48790	3.61 (0.142)	N4
36266-48800	3.63 (0.143)	N5
36266-48810	3.65 (0.144)	N6
36266-48820	3.67 (0.1444)	N7
36266-48830	3.69 (0.145)	N8
36266-48840	3.71 (0.146)	N9
36266-48850	3.73 (0.147)	P0
36266-48860	3.75 (0.148)	P1
36266-48870	3.77 (0.1484)	P2
36266-	3.79	P3

48880	(0.149)	
36266-48890	3.81 (0.150)	P4
36266-48A00	3.83 (0.151)	P5
36266-48A10	3.85 (0.152)	P6
36266-48A20	3.87 (0.1523)	P7
36266-48A30	3.89 (0.153)	P8
36266-48A40	3.91 (0.154)	P9
36266-48A50	3.93 (0.155)	Q0
36266-48A60	3.95 (0.156)	Q1
36266-48A70	3.97 (0.1563)	Q2
36266-48A80	3.99 (0.157)	Q3
36266-48A90	4.01 (0.158)	Q4
36266-48B00	4.03 (0.159)	Q5
36266-48B10	4.05 (0.160)	Q6
36266-48B20	4.07 (0.1602)	Q7
36266-48B30	4.09 (0.161)	Q8
36266-48B40	4.11 (0.162)	Q9
36266-48B50	4.13 (0.163)	R0
36266-48B60	4.15 (0.1634)	R1
36266-48B70	4.17 (0.164)	R2
36266-48B80	4.19 (0.165)	R3
36266-48B90	4.21 (0.166)	R4
36266-	4.23	R5

48C00	(0.167)	
36266-48C10	4.25 (0.1673)	R6
36266-48C20	4.27 (0.168)	R7
36266-48C30	4.29 (0.169)	R8
36266-48C40	4.31 (0.170)	R9
36266-48C50	4.33 (0.1705)	S0
36266-48C60	4.35 (0.171)	S1
36266-48C70	4.37 (0.172)	S2
36266-48C80	4.39 (0.173)	S3
36266-48C90	4.14 (0.174)	S4
36266-48D00	4.43 (0.1744)	S5
36266-48D10	4.45 (0.175)	S6

- b. Using a chisel and a hammer, stake the transfer gear nut.

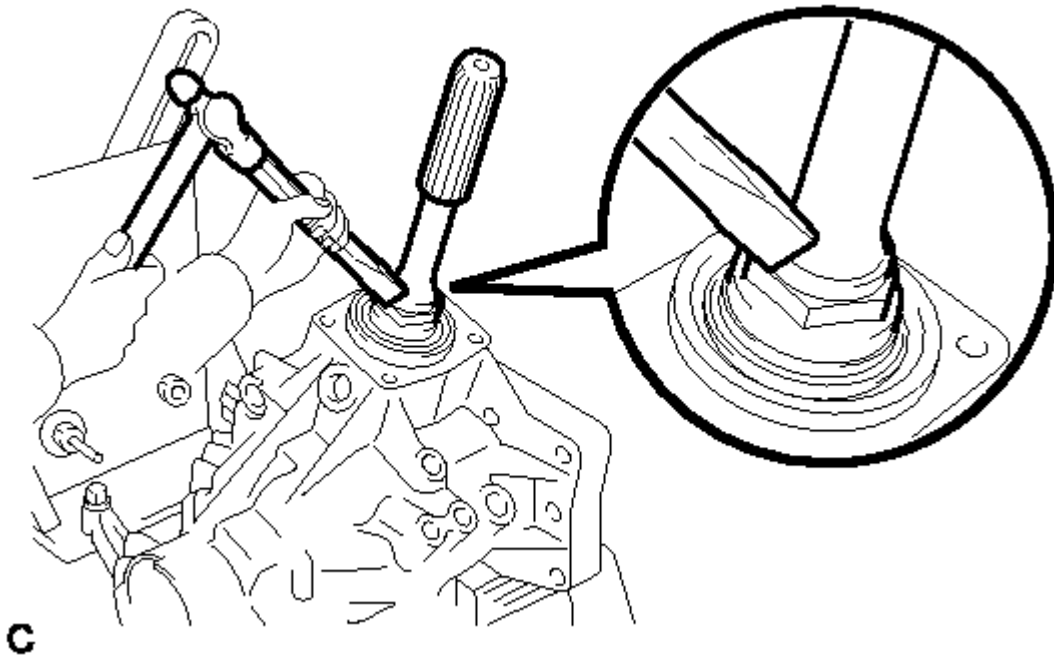


Fig. 78: Staking Gear Nut

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

15. INSTALL TRANSFER CASE RH OIL SEAL

- a. Apply a small amount of MP grease to the lip of a new transfer case RH oil seal.

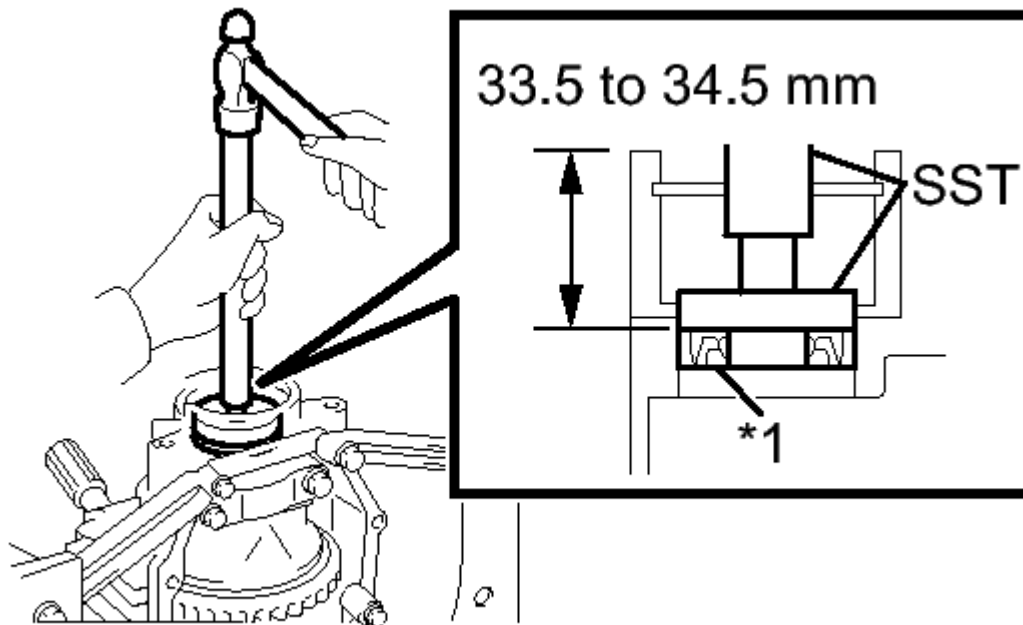


Fig. 79: Installing Transfer Case RH Oil Seal Using SST & Hammer

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

- b. Using SST and a hammer, drive in the oil seal into the transfer case until it reaches the position as shown in the illustration.

TEXT IN ILLUSTRATION

*1	Transfer Case RH Oil Seal
----	------------------------------------

- **SST: 09950-60010**
09951-00350
09951-00580
09952-06010
- **SST: 09950-70010**
09951-07150

Drive in depth

33.5 to 34.5 mm (1.32 to 1.35 in.)

NOTE: Make sure that the oil seal is not tilted.

16. INSTALL TRANSFER CASE OIL SEAL

- Apply a small amount of MP grease to the lip of a new transfer case oil seal.
- Using SST and a hammer, drive in the oil seal into the transfer case until it reaches the position as shown in the illustration.

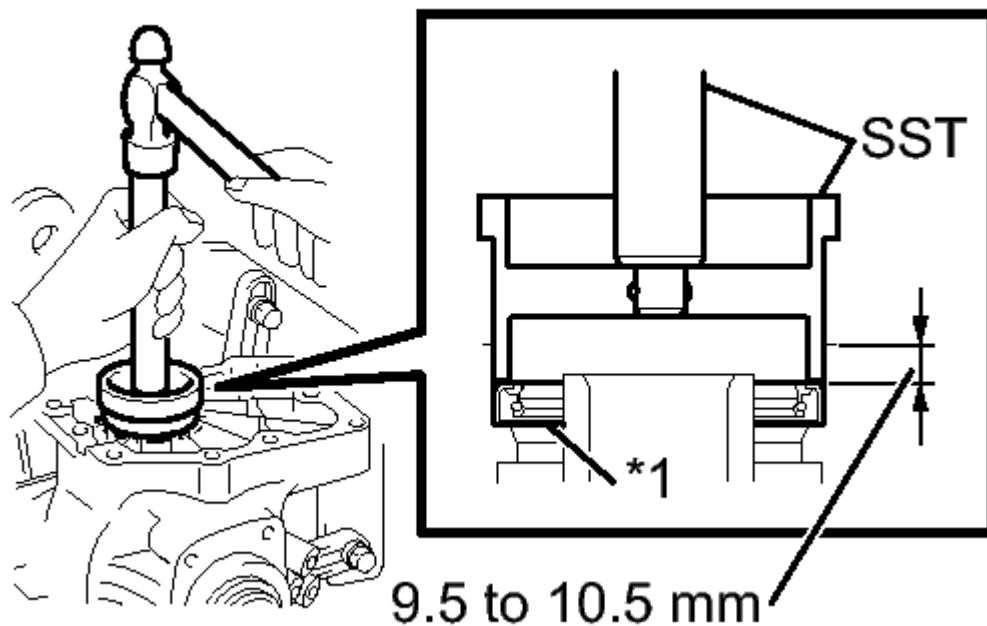


Fig. 80: Installing Transfer Case Oil Seal Using SST & Hammer
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

	Transfer
*1	Case
	Oil Seal

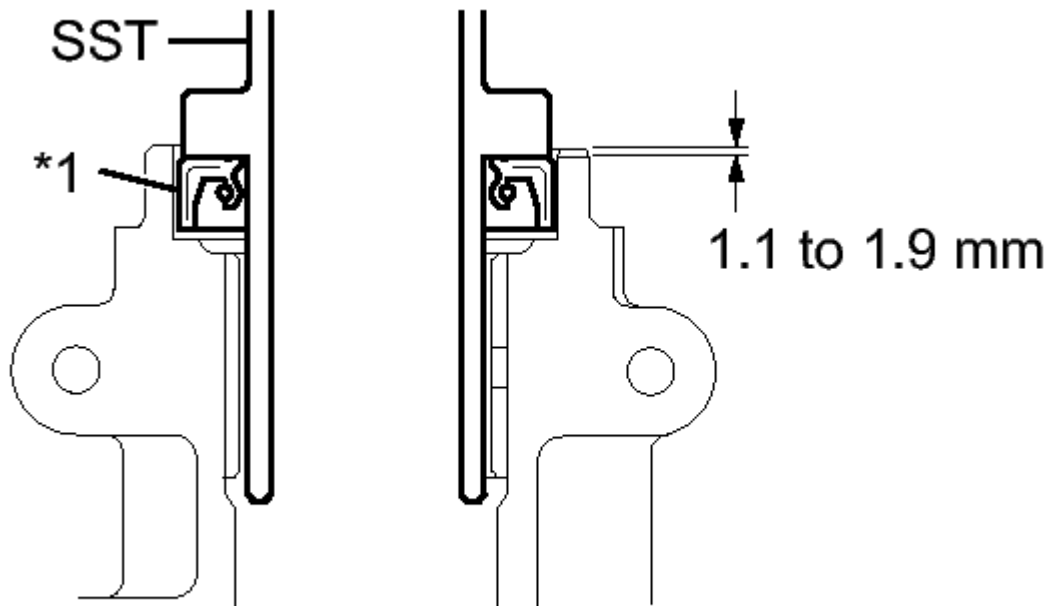
- SST: 09608-10010
- SST: 09950-70010
09951-07150

Drive in depth

9.5 to 10.5 mm (0.375 to 0.413 in.)

17. INSTALL TRANSFER EXTENSION HOUSING TYPE T OIL SEAL

- a. Apply a small amount of MP grease to the lip of a new transfer extension housing type T oil seal.
- b. Using SST and a hammer, drive in the oil seal into the transfer extension housing until it reaches the position as shown in the illustration.



C

Fig. 81: Identifying Transfer Extension Housing Type T Oil Seal & SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Transfer
	Extension
	Housing
	Type T Oil Seal

- SST: 09325-20010

Drive in depth

1.1 to 1.9 mm (0.0434 to 0.0748 in.)

18. INSTALL TRANSFER EXTENSION HOUSING DUST DEFLECTOR

- a. Using SST and a press, press in a new transfer extension housing dust deflector until it contacts the installation surface as shown in the illustration.

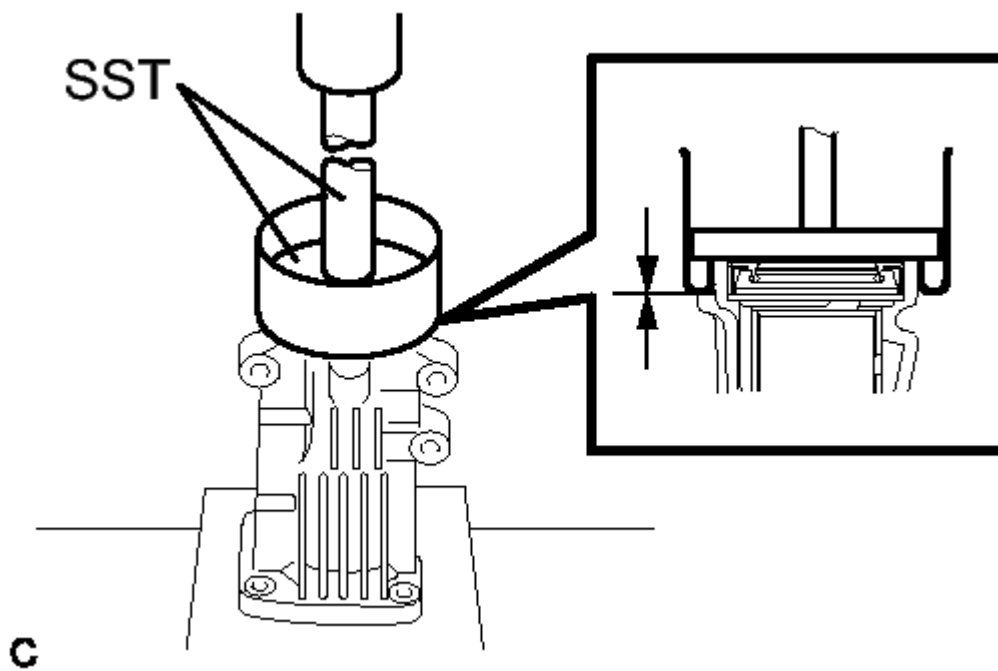
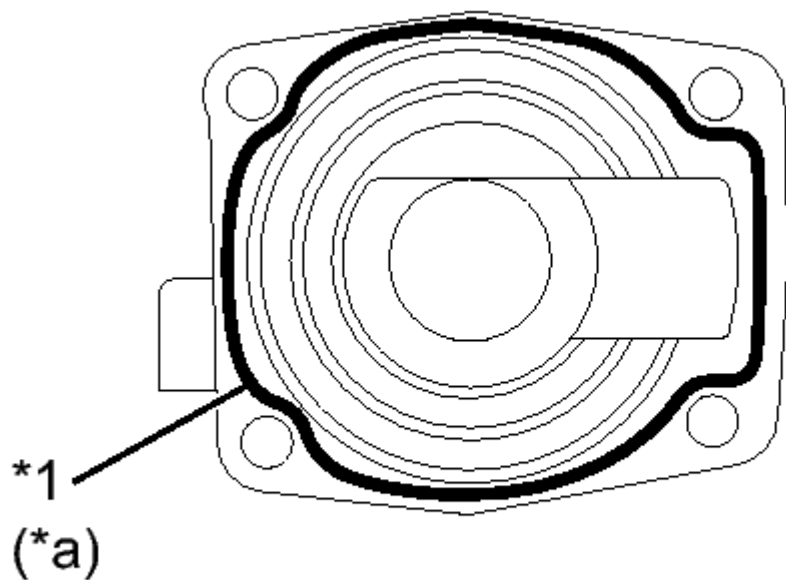


Fig. 82: Identifying Transfer Extension Housing Dust Deflector & SST
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- SST: 09950-60020
09951-00810
- SST: 09950-70010
09951-07150

19. INSTALL TRANSFER EXTENSION HOUSING SUB-ASSEMBLY

- a. Remove any FIPG material and be careful not to drop oil on the contact surfaces of the transfer extension housing and the transfer case.



C

Fig. 83: Identifying Transfer Extension Housing Seal
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Degrease the surfaces with a non-residue solvent.
- c. Apply FIPG to the transfer extension housing.

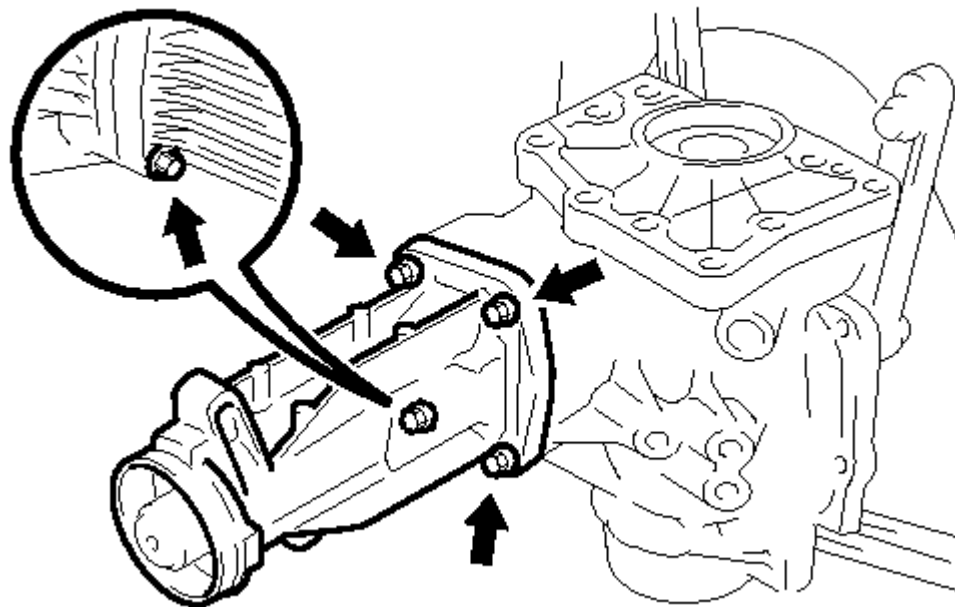
TEXT IN ILLUSTRATION

*1	FIPG
*a	Seal Width 1.2 mm (0.0472 in.)

FIPG

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent

- d. Install the transfer extension housing with the 4 bolts onto the transfer case.



C

Fig. 84: Identifying Transfer Extension Housing Bolts
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Torque: 26 N*m (260 kgf*cm, 19 ft.*lbf)

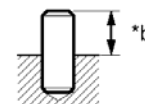
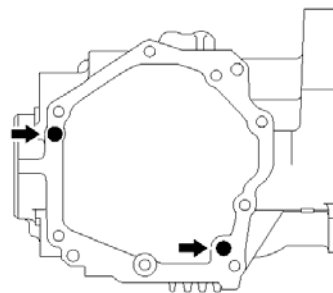
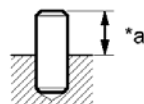
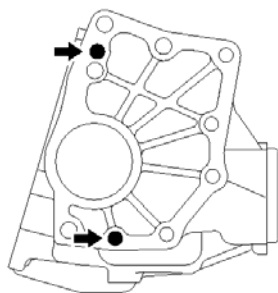
NOTE: Assemble the transfer extension housing within 10 minutes after the FIPG application.

20. SEPARATE TRANSFER ASSEMBLY

- a. Remove the transfer assembly from the overhaul attachment.

21. INSTALL TRANSFER CASE STRAIGHT PIN

- a. Using a plastic hammer, drive in the 4 new transfer case straight pins into the transfer case positions shown in the illustration.



c

Fig. 85: Identifying Transfer Case Straight Pins
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*a	10.8 to 11.8 mm (0.425 to 0.465 in.)	*b	5.7 to 6.7 mm (0.224 to 0.264 in.)
----	---	----	--

22. INSTALL TRANSFER CASE BREATHER PLUG

- a. Using SST and a hammer, tap in a new transfer case breather plug.

- **SST: 09612-10093**
 09612-10061

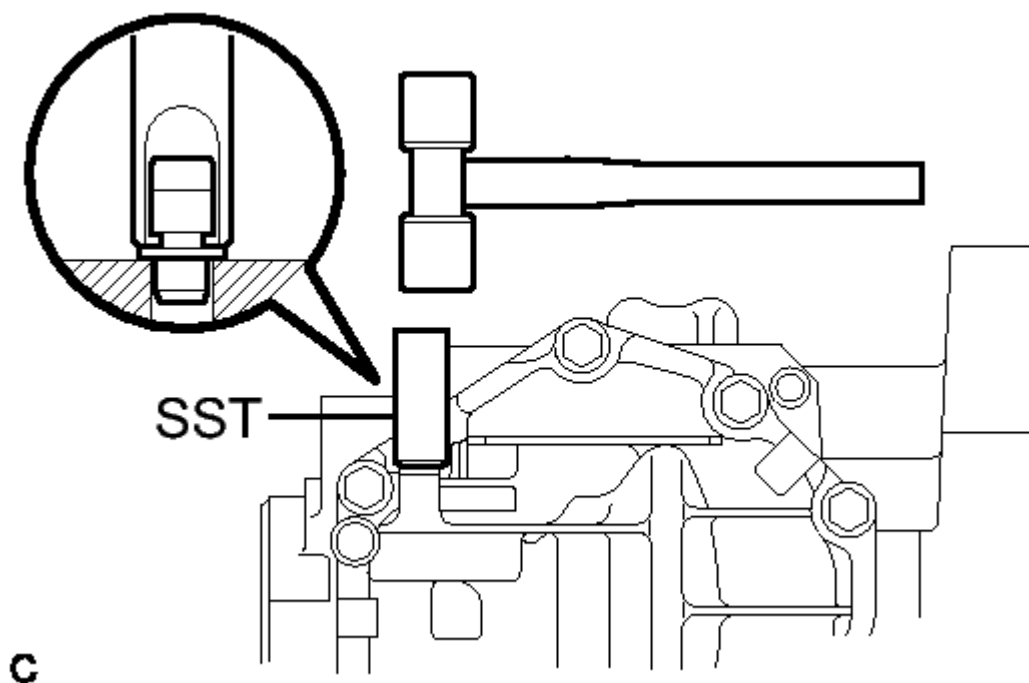
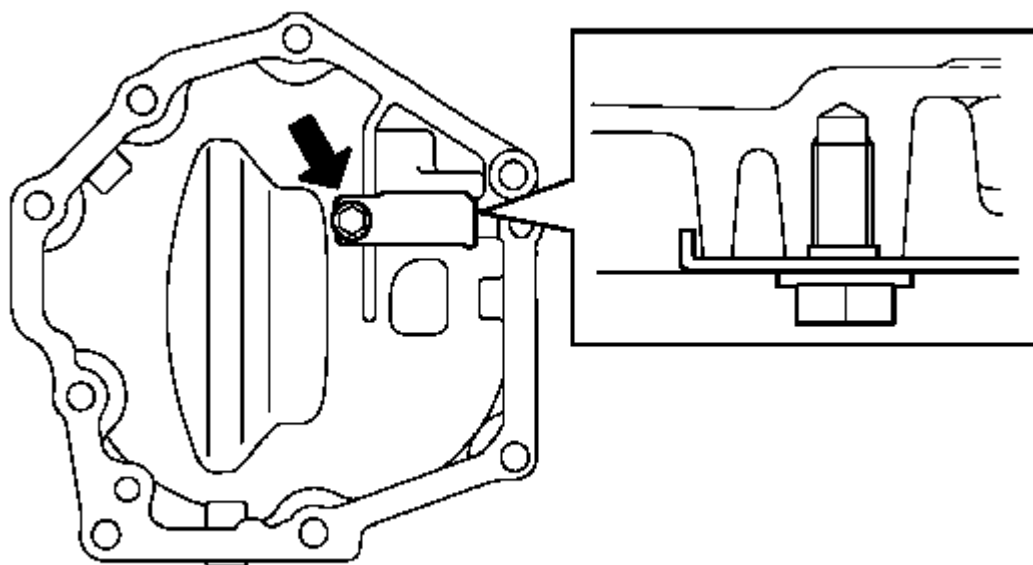


Fig. 86: Tapping In Breather Plug
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

23. INSTALL BREATHER OIL DEFLECTOR

- a. Install the breather oil deflector with the bolt.



T

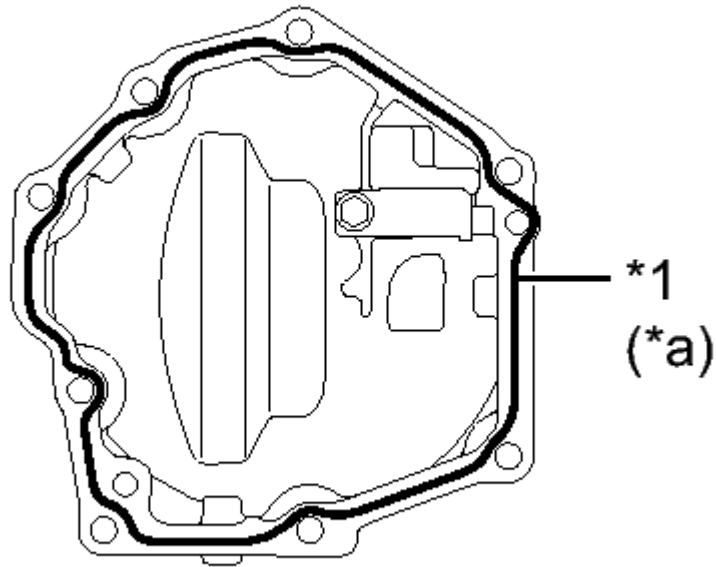
C66130

Fig. 87: Identifying Breather Oil Deflector And Bolt
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Torque: 6.5 N*m (66 kgf*cm, 58 in.*lbf)

24. INSTALL TRANSFER CASE COVER SUB-ASSEMBLY

- a. Remove any FIPG material and be careful not to drop oil on the contact surfaces of the transfer case cover and the transfer case.



T

Fig. 88: Identifying Transfer Case Cover Sub-Assembly
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Degrease the surfaces with a non-residue solvent.
- c. Apply FIPG to the transfer case cover.

TEXT IN ILLUSTRATION

*1	FIPG
*a	Seal Width 1.2 mm (0.0472 in.)

FIPG

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent

- d. Clean and degrease the 2 bolts (A) and the installation hole in the transfer case.

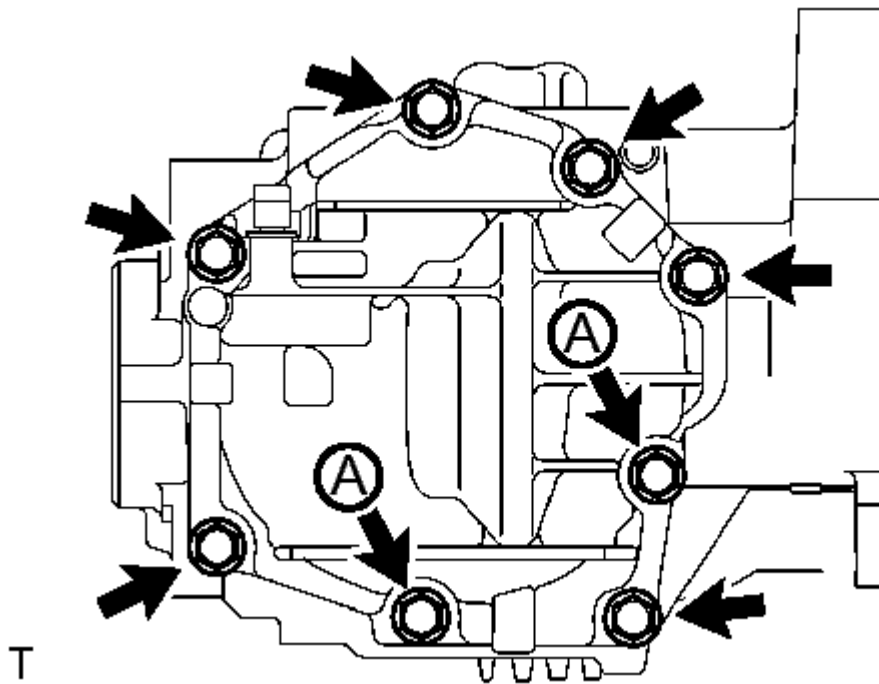


Fig. 89: Identifying Transfer Case Cover & Fasteners
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- e. Apply adhesive to 2 or 3 threads on the ends of the bolt (A).

Adhesive

Toyota Genuine Adhesive 1324, Three Bond 1324 or equivalent

- f. Install the transfer case cover with the 8 bolts.

Torque: 20 N*m (200 kgf*cm, 14 ft.*lbf)

NOTE:

- Wait for at least 1 hour after installing the transfer case cover before adding transfer oil.
- Assemble the transfer case cover within 10 minutes after the FIPG application.

25. INSTALL TRANSFER DRAIN PLUG

- a. Install a new gasket and the transfer drain plug.

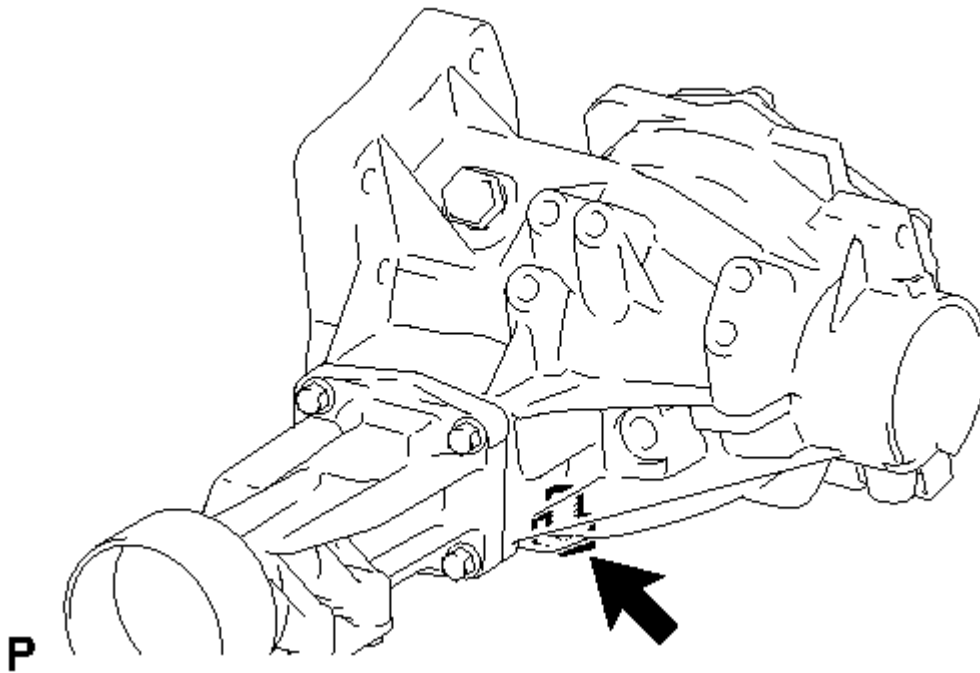


Fig. 90: Identifying Transfer Drain Plug Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

26. INSTALL NO. 1 TRANSFER CASE PLUG

- a. Install a new gasket and the No. 1 transfer case plug.

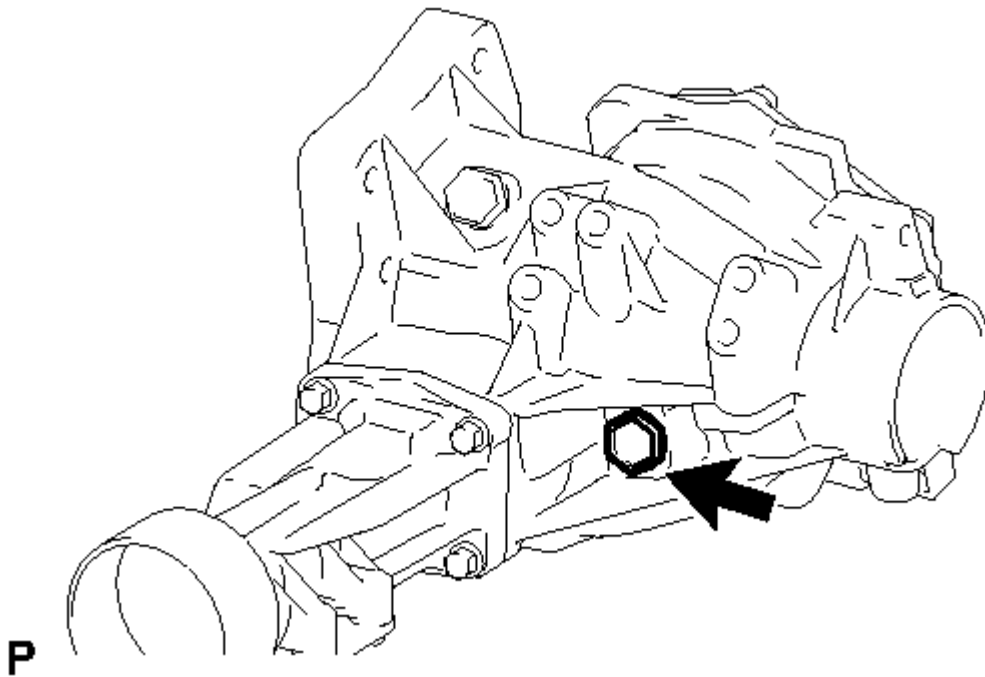


Fig. 91: Identifying No. 1 Transfer Case Plug Location
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

27. INSTALL NO. 2 TRANSFER CASE PLUG

- a. Install a new gasket and the No. 2 transfer case plug.

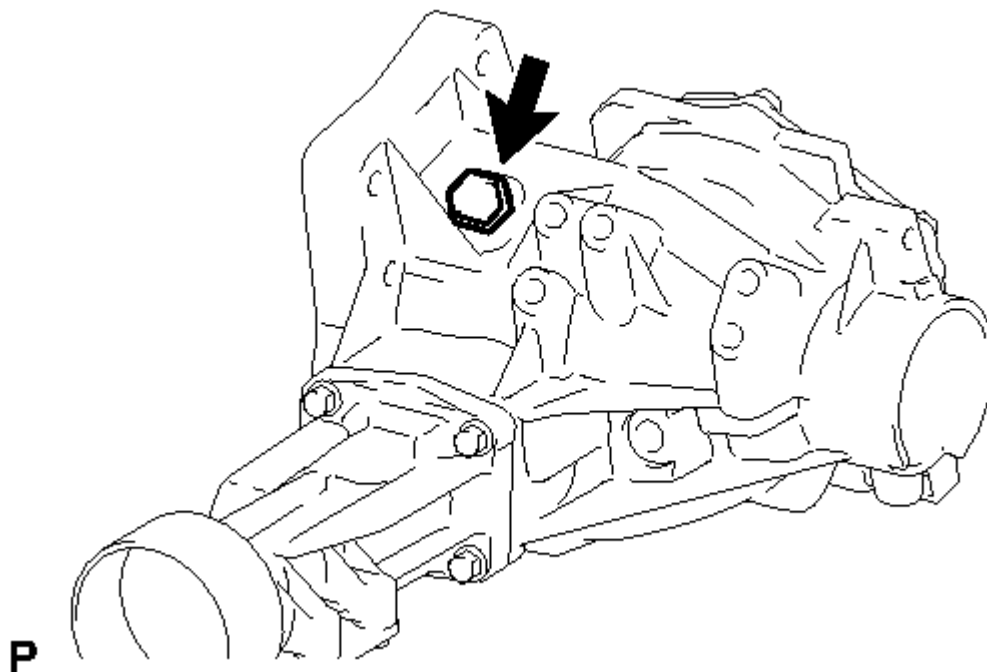


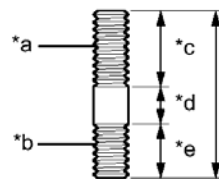
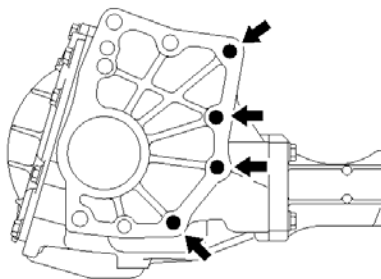
Fig. 92: Identifying No. 2 Transfer Case Plug Location
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

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

28. INSTALL TRANSFER AND TRANSAXLE SETTING STUD BOLT

- Install the 4 new transfer and transaxle setting stud bolts onto the transfer case positions shown in the illustration.

Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)



c

Fig. 93: Identifying Transfer & Transaxle Setting Stud Bolt
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*a	Transaxle Side	*b	Transfer Side
*c	30 mm (1.1811 in.)	*d	12 mm (0.4724 in.)
*e	22 mm (0.8661 in.)	-	-

INSTALLATION

INSTALLATION

1. INSTALL TRANSFER ASSEMBLY

- Install the 4 new transfer and transaxle setting stud bolts onto the automatic transaxle positions shown in the illustration.

Torque: 39 N*m (400 kgf*cm, 29 ft.*lbf)

NOTE: Install the sealed side of the stud bolt onto the automatic transaxle.

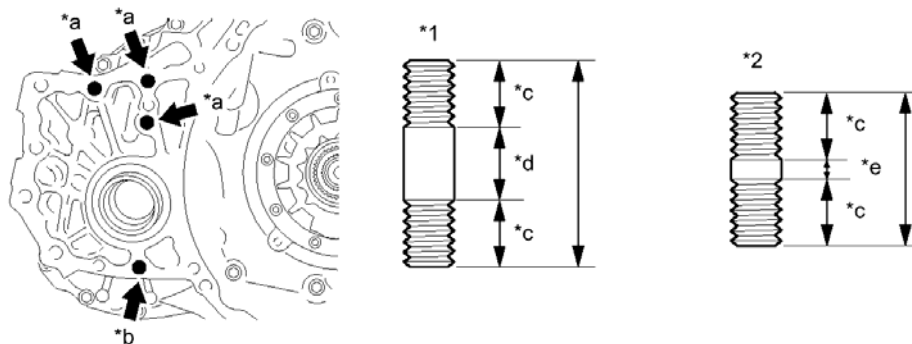


Fig. 94: Identifying Transfer & Transaxle Setting Stud Bolts At Automatic Transaxle
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

TEXT IN ILLUSTRATION

*1	Stud Bolt A	*2	Stud Bolt B
*a	Stud Bolt A Position	*b	Stud Bolt B Position
*c	22 mm (0.866 in.)	*d	25 mm (0.984 in.)

	5 mm		
*e	(0.197 in.)	-	-

- b. Install the transfer onto the automatic transaxle with the 8 nuts.

Torque: 69 N*m (700 kgf*cm, 51 ft.*lbf)

NOTE:

- Install the transfer to the automatic transaxle horizontally.
- Do not touch the transfer oil seals during installation.

2. **INSTALL TORQUE CONVERTER CLUTCH ASSEMBLY** . Refer to INSTALLATION - Step 10
3. **INSTALL AUTOMATIC TRANSAXLE ASSEMBLY** . Refer to INSTALLATION - Step 11
4. **INSTALL TRANSFER STIFFENER PLATE RH**
 - a. Install the transfer stiffener plate RH with the 4 bolts.

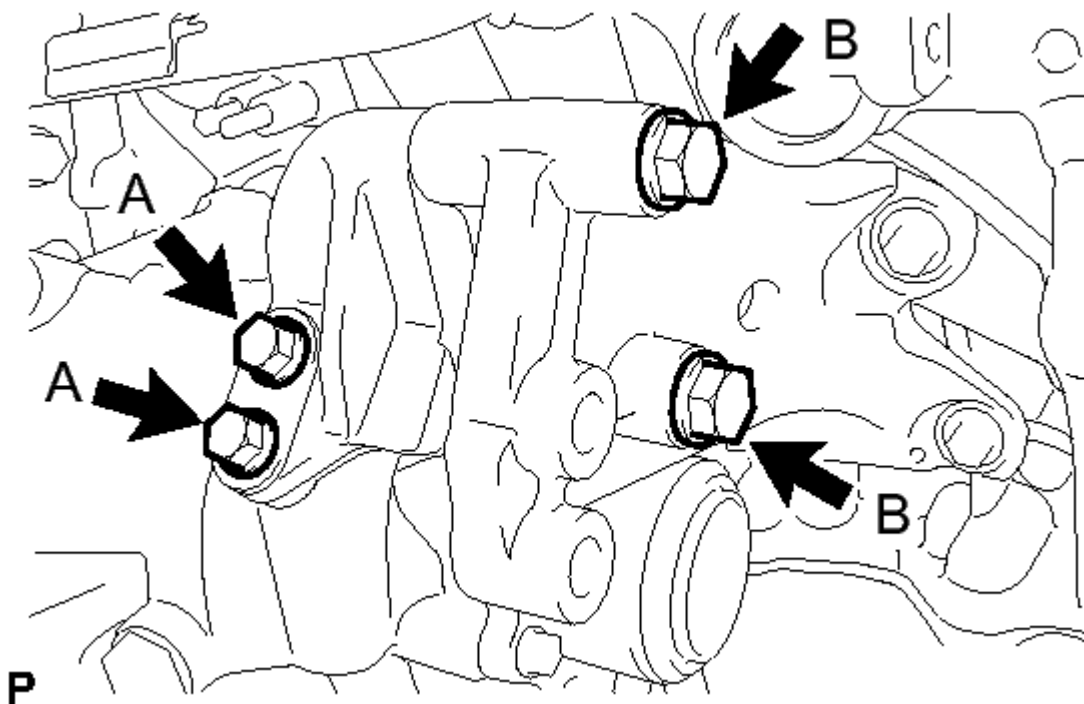


Fig. 95: Identifying Bolts And Transfer Stiffener Plate RH
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Bolt A

Torque: 34 N*m (347 kgf*cm, 25 ft.*lbf)

Bolt B

Torque: 78 N*m (795 kgf*cm, 58 ft.*lbf)

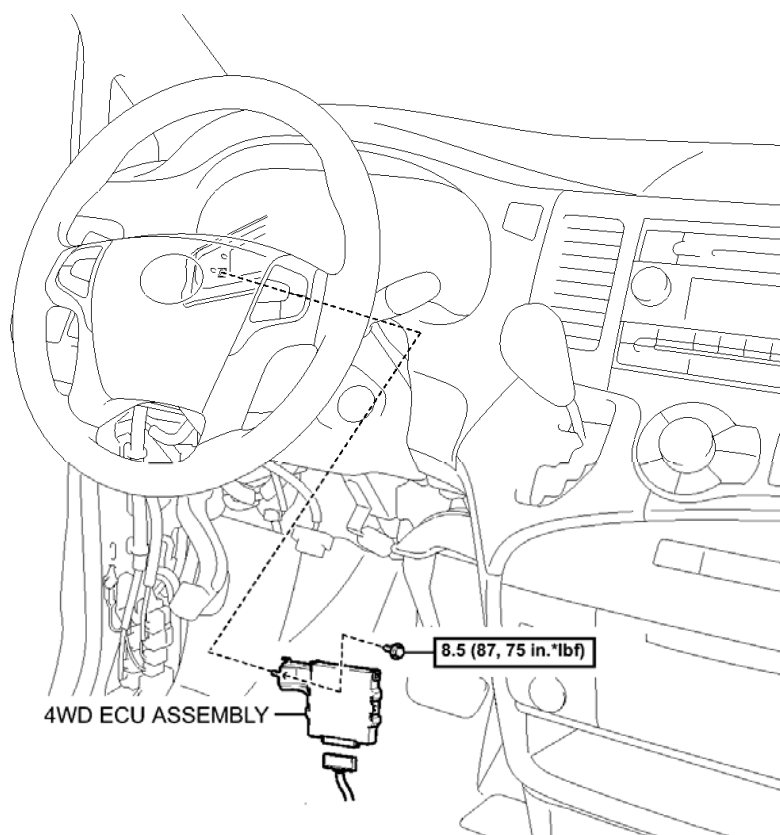
5. **CONNECT ENGINE WIRE** . Refer to **INSTALLATION - Step 13**
6. **CONNECT BREATHER PLUG HOSE** . Refer to **INSTALLATION - Step 14**
7. **INSTALL MANIFOLD STAY** . Refer to **INSTALLATION - Step 10**
8. **INSTALL STARTER ASSEMBLY** . Refer to **INSTALLATION - Step 1**
9. **INSTALL ENGINE ASSEMBLY WITH TRANSAXLE**

Refer to **INSTALLATION, ENGINE 2GR-FE**

4WD CONTROL ECU

COMPONENTS

ILLUSTRATION



N*m (kgf*cm, ft.*lbf): Specified torque

Fig. 96: 4WD Control ECU Replacement Components With Torque Specifications
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

REMOVAL

REMOVAL

1. REMOVE MAIN BODY ECU

Refer to **REMOVAL**

2. REMOVE 4WD ECU ASSEMBLY

- a. Disconnect the 4WD ECU connector.

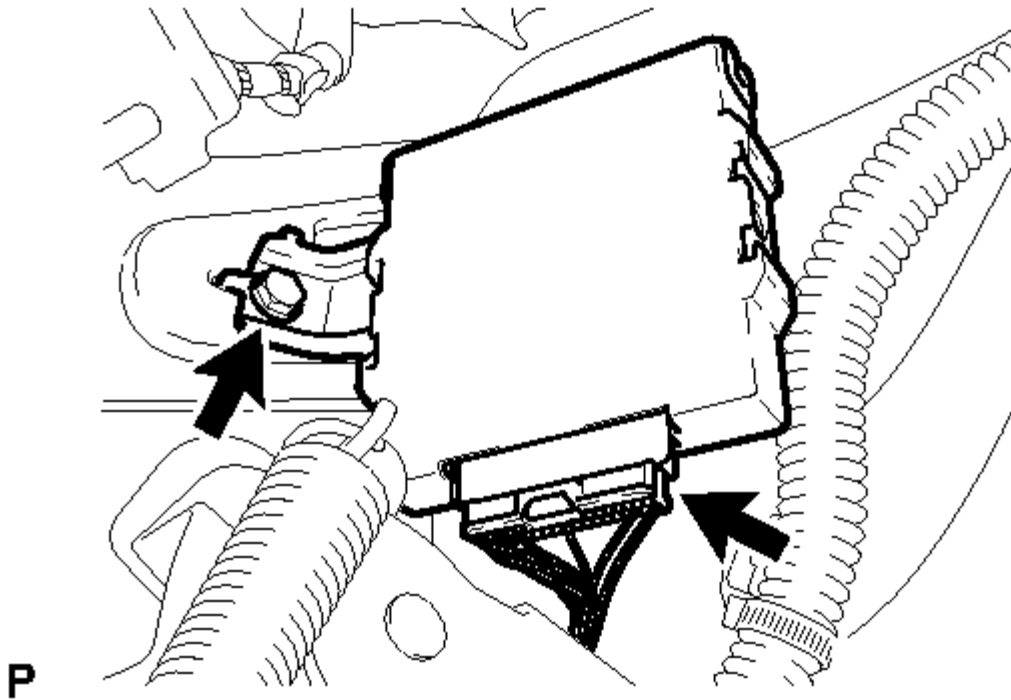


Fig. 97: Identifying 4WD ECU Assembly, Connector & Fastener
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- b. Remove the bolt and 4WD ECU.

INSTALLATION

INSTALLATION

1. INSTALL 4WD ECU ASSEMBLY

- a. Install the 4WD ECU with the bolt.

Torque: 8.5 N*m (87 kgf*cm, 75 in.*lbf)

b. Connect the 4WD ECU connector.

2. **INSTALL MAIN BODY ECU**

Refer to **INSTALLATION**

TRANSMISSION

Transfer Case (Service Specifications) - Sienna

MF1A TRANSFER / 4WD / AWD

SERVICE DATA

SERVICE DATA

Transfer case oil seal drive in depth		Standard	9.5 to 10.5 mm (0.375 to 0.413 in.)
Transfer case RH oil seal drive in depth		Standard	33.5 to 34.5 mm (1.32 to 1.35 in.)
Transfer extension housing type T oil seal drive in depth		Standard	1.1 to 1.9 mm (0.0434 to 0.0748 in.)
Drive pinion preload (at starting)	New bearing	with SST	0.5 to 1.1 N*m (5 to 11 kgf*cm, 5 to 10 in.*lbf)
		without SST	0.7 to 1.5 N*m (7 to 15 kgf*cm, 6 to 13 in.*lbf)
	Reused bearing	with SST	0.3 to 0.6 N*m (3 to 6 kgf*cm, 3 to 6 in.*lbf)
		without SST	0.4 to 0.9 N*m (4 to 9 kgf*cm, 4 to 8 in.*lbf)
Total Preload (at starting)	New bearing	with SST	0.4 to 0.5 N*m (4 to 5 kgf*cm, 3 to 4 in.*lbf) + Driven pinion preload
		without SST	0.5 to 0.7 N*m (5 to 7 kgf*cm, 5 to 6 in.*lbf) + Driven pinion preload
	Reused bearing	with SST	0.25 to 0.38 N*m (2.6 to 3.8 kgf*cm, 2.3 to 3.3 in.*lbf) + Driven pinion preload
		without SST	0.4 to 0.5 N*m (4 to 5 kgf*cm, 3 to 4 in.*lbf) + Driven pinion preload
Ring gear runout		Maximum	0.06 mm (0.00236 in.)
Transfer ring gear mounting case runout		Maximum	0.04 mm (0.00157 in.)
Ring gear backlash		Standard	0.14 to 0.25 mm (0.00552 to 0.00984 in.)
Ring gear mounting case plate washer			
Part No.	Thickness		Mark
36265-48J60	1.95 mm (0.0768 in.)		5Q
36265-48J70	1.97 mm (0.0776 in.)		5R

36265-48J80	1.99 mm (0.0783 in.)	5S
36265-48J90	2.01 mm (0.0791 in.)	5T
36265-48K00	2.03 mm (0.0799 in.)	5U
36265-48K10	2.05 mm (0.0807 in.)	5V
36265-48K20	2.07 mm (0.0815 in.)	5W
36265-48K30	2.09 mm (0.0823 in.)	5X
36265-48K40	2.11 mm (0.0831 in.)	5Y
36265-48K50	2.13 mm (0.0839 in.)	5Z
36265-48K60	2.15 mm (0.0846 in.)	6F
36265-48K70	2.17 mm (0.0854 in.)	6G
36265-48K80	2.19 mm (0.0862 in.)	6H
36265-48K90	2.21 mm (0.0870 in.)	6J
36265-48L00	2.23 mm (0.0878 in.)	6K
36265-48L10	2.25 mm (0.0886 in.)	6L
36265-48L20	2.27 mm (0.0894 in.)	6M
36265-48L30	2.29 mm (0.0902 in.)	6N
36265-48L40	2.31 mm (0.0909 in.)	6P
36265-48L50	2.33 mm (0.0917 in.)	6Q
36265-48L60	2.35 mm (0.0925 in.)	6R
36265-48L70	2.37 mm (0.0933 in.)	6S
36265-48L80	2.39 mm (0.0941 in.)	6T
36265-48L90	2.41 mm (0.0949 in.)	6U
36265-48M00	2.43 mm (0.0957 in.)	6V
36265-48M10	2.45 mm (0.0965 in.)	6W
36265-48M20	2.47 mm (0.0972 in.)	6X
36265-48M30	2.49 mm (0.0980 in.)	6Y
36265-48M40	2.51 mm (0.0988 in.)	6Z
36265-48M50	2.53 mm (0.0996 in.)	7F
36265-48M60	2.55 mm (0.1004 in.)	7G
36265-48M70	2.57 mm (0.1012 in.)	7H
36265-48M80	2.59 mm (0.1020 in.)	7J
36265-48M90	2.61 mm (0.1028 in.)	7K
36265-48N00	2.63 mm (0.1035 in.)	7L
36265-48N10	2.65 mm (0.1043 in.)	7M
36265-48N20	2.67 mm (0.1051 in.)	7N
36265-48N30	2.69 mm (0.1059 in.)	7P
36265-48N40	2.71 mm (0.1067 in.)	7Q
36265-48N50	2.73 mm (0.1075 in.)	7R
36265-48N60	2.75 mm (0.1083 in.)	7S
36265-48N70	2.77 mm (0.1091 in.)	7T
36265-48N80	2.79 mm (0.1098 in.)	7U

	2.81 mm (0.1106in.)	7V
36265-48P00	2.83 mm (0.1114 in.)	7W
36265-48P10	2.85 mm (0.1122 in.)	7X
36265-48P20	2.87 mm (0.1130 in.)	7Y
36265-48P30	2.89 mm (0.1138 in.)	7Z
36265-48P40	2.91 mm (0.1146 in.)	8F
36265-48P50	2.93 mm (0.1154 in.)	8G
36265-48P60	2.95 mm (0.1161 in.)	8H
36265-48P70	2.97 mm (0.1169 in.)	8J
36265-48P80	2.99 mm (0.1177 in.)	8K
36265-48P90	3.01 mm (0.1185 in.)	8L
36265-48Q00	3.03 mm (0.1193 in.)	8M
36265-48Q10	3.05 mm (0.1201 in.)	8N
36265-48Q20	3.07 mm (0.1209 in.)	8P
36265-48Q30	3.09 mm (0.1217 in.)	8Q
36265-48Q40	3.11 mm (0.1224 in.)	8R
36265-48Q50	3.13 mm (0.1232 in.)	8S
36265-48Q60	3.15 mm (0.1240 in.)	8T
36265-48Q70	3.17 mm (0.1248 in.)	8U
36265-48Q80	3.19 mm (0.1256 in.)	8V
36265-48Q90	3.21 mm (0.1264 in.)	8W
36265-48R00	3.23 mm (0.1272 in.)	8X
36265-48R10	3.25 mm (0.1280 in.)	8Y
36265-48R20	3.27 mm (0.1287 in.)	8Z
36265-48R30	3.29 mm (0.1295 in.)	9D
36265-48R40	3.31 mm (0.1303 in.)	9E
36265-48R50	3.33 mm (0.1311 in.)	9F
36265-48R60	3.35 mm (0.1319 in.)	9G
36265-48R70	3.37 mm (0.1327 in.)	9H

Transfer output shaft washer

Part No.	Thickness	Mark
36275-33010	2.00 mm (0.0787 in.)	ZA
36275-33030	2.02 mm (0.0795 in.)	ZB
36275-33050	2.04 mm (0.0803 in.)	ZC
36275-33070	2.06 mm (0.0811 in.)	ZD
36275-33090	2.08 mm (0.0819 in.)	ZE
36275-33110	2.10 mm (0.0827 in.)	AA
36275-33130	2.12 mm (0.0835 in.)	AC
36275-33150	2.14 mm (0.0843 in.)	BB
36275-33170	2.16 mm (0.0850 in.)	CA
36275-33190	2.18 mm (0.0858 in.)	CC

	2.20 mm (0.0866 in.)	DB
36275-33230	2.22 mm (0.0874 in.)	EA
36275-33250	2.24 mm (0.0882 in.)	EC
36275-33270	2.26 mm (0.0890 in.)	FB
36275-33290	2.28 mm (0.0898 in.)	GA
36275-33310	2.30 mm (0.0906 in.)	GC
36275-33330	2.32 mm (0.0913 in.)	HB
36275-33350	2.34 mm (0.0921 in.)	JA
36275-33370	2.36 mm (0.0929 in.)	JC
36275-33390	2.38 mm (0.0937 in.)	KB
36275-33410	2.40 mm (0.0945 in.)	LA
36275-33430	2.42 mm (0.0953 in.)	LC
36275-33450	2.44 mm (0.0961 in.)	MB
36275-48010	2.46 mm (0.0969 in.)	NA
36275-48020	2.48 mm (0.0976 in.)	NC
36275-48030	2.50 mm (0.0984 in.)	PB
36275-48040	2.52 mm (0.0992 in.)	QA
36275-48050	2.54 mm (0.1000 in.)	QC
36275-48060	2.56 mm (0.1008 in.)	RA
36275-48070	2.58 mm (0.1016 in.)	RB
36275-48080	2.60 mm (0.1024 in.)	RC
36275-48090	2.62 mm (0.1031 in.)	SA
36275-48100	2.64 mm (0.1039 in.)	SB
36275-48110	2.66 mm (0.1047 in.)	SC
36275-48120	2.68 mm (0.1055 in.)	TA
36275-48130	2.70 mm (0.1063 in.)	TB
36275-48140	2.72 mm (0.1071 in.)	TC

No. 2 transfer ring gear mounting case washer

Part No.	Thickness	Mark
36266-48220	2.47 mm (0.0972 in.)	G7
36266-48230	2.49 mm (0.0980 in.)	G8
36266-48240	2.51 mm (0.0988 in.)	G9
36266-48250	2.53 mm (0.0996 in.)	H0
36266-48260	2.55 mm (0.1004 in.)	H1
36266-48270	2.57 mm (0.1012 in.)	H2
36266-48280	2.59 mm (0.1020 in.)	H3
36266-48290	2.61 mm (0.1028 in.)	H4
36266-48300	2.63 mm (0.1035 in.)	H5
36266-48310	2.65 mm (0.1043 in.)	H6
36266-48320	2.67 mm (0.1051 in.)	H7
36266-48330	2.69 mm (0.1059 in.)	H8

	2.71 mm (0.1067 in.)	H9
36266-48350	2.73 mm (0.1075 in.)	J0
36266-48360	2.75 mm (0.1083 in.)	J1
36266-48370	2.77 mm (0.1091 in.)	J2
36266-48380	2.79 mm (0.1098 in.)	J3
36266-48390	2.81 mm (0.1106 in.)	J4
36266-48400	2.83 mm (0.1114 in.)	J5
36266-48410	2.85 mm (0.1122 in.)	J6
36266-48420	2.87 mm (0.1130 in.)	J7
36266-48430	2.89 mm (0.1138 in.)	J8
36266-48440	2.91 mm (0.1146 in.)	J9
36266-48450	2.93 mm (0.1154 in.)	K0
36266-48460	2.95 mm (0.1161 in.)	K1
36266-48470	2.97 mm (0.1169 in.)	K2
36266-48480	2.99 mm (0.1177 in.)	K3
36266-48490	3.01 mm (0.1185 in.)	K4
36266-48500	3.03 mm (0.1193 in.)	K5
36266-48510	3.05 mm (0.1201 in.)	K6
36266-48520	3.07 mm (0.1209 in.)	K7
36266-48530	3.09 mm (0.1217 in.)	K8
36266-48540	3.11 mm (0.1224 in.)	K9
36266-48550	3.13 mm (0.1232 in.)	L0
36266-48560	3.15 mm (0.1240 in.)	L1
36266-48570	3.17 mm (0.1248 in.)	L2
36266-48580	3.19 mm (0.1256 in.)	L3
36266-48590	3.21 mm (0.1264 in.)	L4
36266-48600	3.23 mm (0.1272 in.)	L5
36266-48610	3.25 mm (0.1280 in.)	L6
36266-48620	3.27 mm (0.1287 in.)	L7
36266-48630	3.29 mm (0.1295 in.)	L8
36266-48640	3.31 mm (0.1303 in.)	L9
36266-48650	3.33 mm (0.1311 in.)	M0
36266-48660	3.35 mm (0.1319 in.)	M1
36266-48670	3.37 mm (0.1327 in.)	M2
36266-48680	3.39 mm (0.1335 in.)	M3
36266-48690	3.41 mm (0.1343 in.)	M4
36266-48700	3.43 mm (0.1350 in.)	M5
36266-48710	3.45 mm (0.1358 in.)	M6
36266-48720	3.47 mm (0.1366 in.)	M7
36266-48730	3.49 mm (0.1374 in.)	M8
36266-48740	3.51 mm (0.1382 in.)	M9

	3.53 mm (0.1390 in.)	N0
36266-48760	3.55 mm (0.1398 in.)	N1
36266-48770	3.57 mm (0.1406 in.)	N2
36266-48780	3.59 mm (0.1413 in.)	N3
36266-48790	3.61 mm (0.1421 in.)	N4
36266-48800	3.63 mm (0.1429 in.)	N5
36266-48810	3.65 mm (0.1437 in.)	N6
36266-48820	3.67 mm (0.1445 in.)	N7
36266-48830	3.69 mm (0.1453 in.)	N8
36266-48840	3.71 mm (0.1461 in.)	N9
36266-48850	3.73 mm (0.1469 in.)	P0
36266-48860	3.75 mm (0.1476 in.)	P1
36266-48870	3.77 mm (0.1484 in.)	P2
36266-48880	3.79 mm (0.1492 in.)	P3
36266-48890	3.81 mm (0.1500 in.)	P4
36266-48A00	3.83 mm (0.1508 in.)	P5
36266-48A10	3.85 mm (0.1516 in.)	P6
36266-48A20	3.87 mm (0.1524 in.)	P7
36266-48A30	3.89 mm (0.1531 in.)	P8
36266-48A40	3.91 mm (0.1539 in.)	P9
36266-48A50	3.93 mm (0.1547 in.)	Q0
36266-48A60	3.95 mm (0.1555 in.)	Q1
36266-48A70	3.97 mm (0.1563 in.)	Q2
36266-48A80	3.99 mm (0.1571 in.)	Q3
36266-48A90	4.01 mm (0.1579 in.)	Q4
36266-48B00	4.03 mm (0.1587 in.)	Q5
36266-48B10	4.05 mm (0.1594 in.)	Q6
36266-48B20	4.07 mm (0.1602 in.)	Q7
36266-48B30	4.09 mm (0.1610 in.)	Q8
36266-48B40	4.11 mm (0.1618 in.)	Q9
36266-48B50	4.13 mm (0.1626 in.)	R0
36266-48B60	4.15 mm (0.1634 in.)	R1
36266-48B70	4.17 mm (0.1642 in.)	R2
36266-48B80	4.19 mm (0.1650 in.)	R3
36266-48B90	4.21 mm (0.1657 in.)	R4
36266-48C00	4.23 mm (0.1665 in.)	R5
36266-48C10	4.25 mm (0.1673 in.)	R6
36266-48C20	4.27 mm (0.1681 in.)	R7
36266-48C30	4.29 mm (0.1689 in.)	R8
36266-48C40	4.31 mm (0.1697 in.)	R9
36266-48C50	4.33 mm (0.1705 in.)	S0

	4.35 mm (0.1713 in.)	S1
36266-48C70	4.37 mm (0.1720 in.)	S2
36266-48C80	4.39 mm (0.1728 in.)	S3
36266-48C90	4.41 mm (0.1736 in.)	S4
36266-48D00	4.43 mm (0.1744 in.)	S5
36266-48D10	4.45 mm (0.1752 in.)	S6
Transfer case straight pin		
Drive in depth	*a	10.8 to 11.8 mm (0.425 to 0.465 in.)
	*b	5.7 to 6.7 mm (0.224 to 0.264 in.)

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Part Tightened	N*m	kgf*cm	ft*lbf
Driven pinion gear nut (Reference with SST)	255 to 396	2601 to 4038	188 to 291
Driven pinion gear nut (Reference without SST)	270 to 420	2754 to 4282	199 to 308
Ring gear x Transfer ring gear mounting case	99	1005	73
Bearing cap x Transfer case	63	644	47
Transfer extension housing x Transfer case	26	260	19
Breather oil deflector x Transfer case cover	6.5	66	58 in.*lbf
Transfer case cover x Transfer case	20	200	14
Transfer drain plug	49	500	36
No. 1 transfer case plug	49	500	36
No. 2 transfer case plug	49	500	36
Transfer and transaxle setting stud bolt x Transfer	39	400	29
Transfer and transaxle setting stud bolt x Automatic transaxle	39	400	29
Transfer x Automatic transaxle	69	700	51
Transfer x transfer stiffener plate RH (Bolt A)	34	347	25
Transfer x transfer stiffener plate RH (Bolt B)	78	795	58
4WD control ECU x Body	8.5	87	75 in.*lbf