

Last Modified: 12-21-2017	6.8:8.0.48	Doc ID: RM100000000T30W
Model Year Start: 2016	Model: LX570	Prod Date Range: [09/2015 -]
Title: JF2A TRANSFER / 4WD / AWD: TRANSFER ASSEMBLY: REASSEMBLY; 2016 - 2018 MY LX570 [09/2015 -]		

REASSEMBLY

CAUTION / NOTICE / HINT

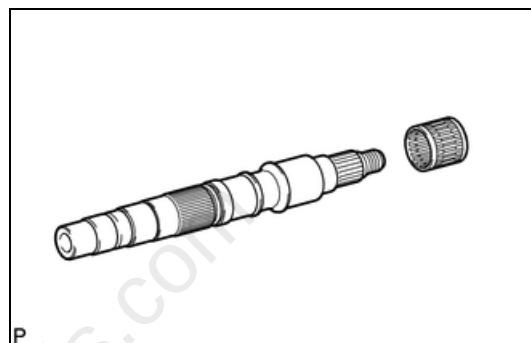
HINT:

Coat all of the sliding and rotating surfaces with gear oil before reassembly.

PROCEDURE

1. INSTALL REAR TRANSFER OUTPUT SHAFT

- (a) Install a new needle roller bearing.

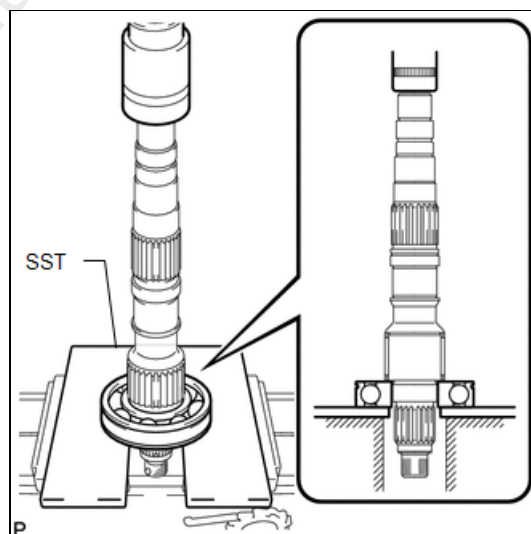


- (b) Using SST and a press, press in a new bearing.

SST: 09527-10011

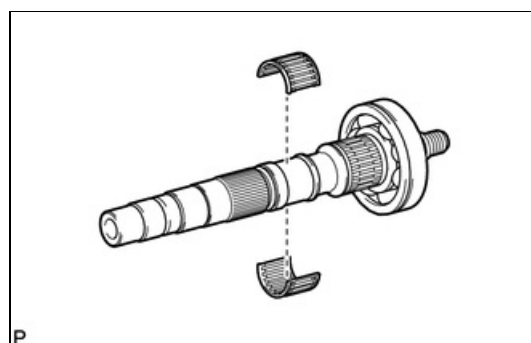
NOTICE:

Set the snap ring groove of the bearing to the front side.



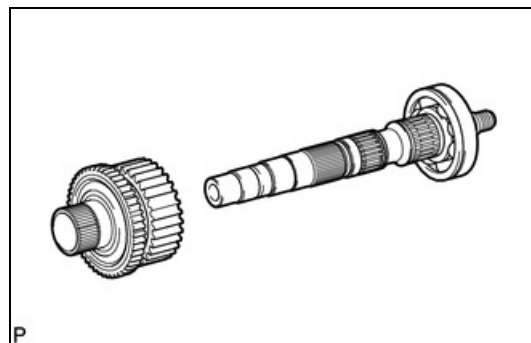
2. INSTALL TRANSFER DRIVE SPROCKET BEARING

- (a) Install the bearing to the output shaft.



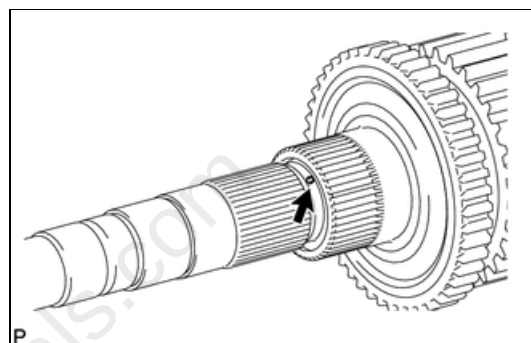
3. INSTALL TRANSFER DRIVE SPROCKET SUB-ASSEMBLY

- (a) Install the drive sprocket to the output shaft.

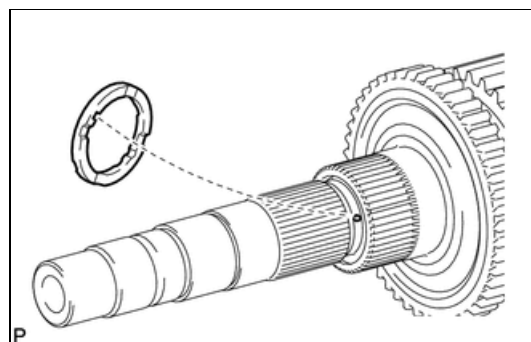


4. INSTALL TRANSFER OUTPUT SHAFT SPACER

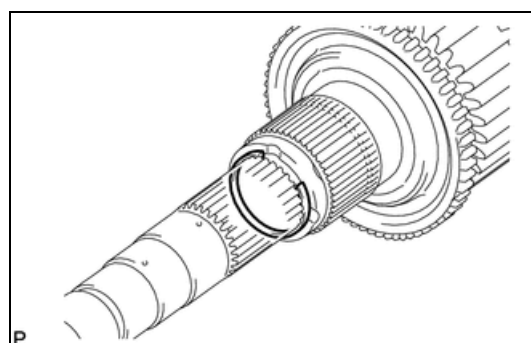
- (a) Install the straight pin to the output shaft.



- (b) Align the straight pin with the straight pin groove of the output shaft spacer, and slide on the output shaft spacer.



- (c) Using a screwdriver and hammer, tap on the snap ring.



5. INSPECT TRANSFER DRIVE SPROCKET SUB-ASSEMBLY

(a) Using a feeler gauge, measure the drive sprocket thrust clearance.

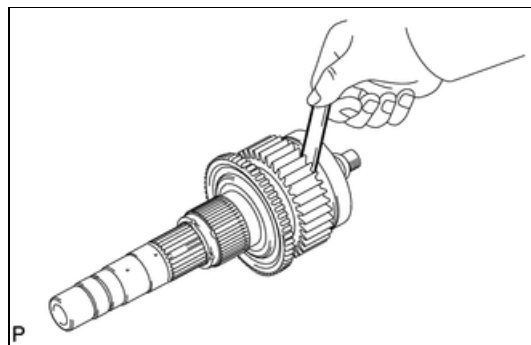
Standard Clearance:

0.10 to 0.47 mm (0.00394 to 0.0185 in.)

Maximum Clearance:

0.47 mm (0.0185 in.)

If the clearance is more than the maximum, replace the drive sprocket sub-assembly.



6. INSTALL CENTER DIFFERENTIAL CASE

(a) Using SST and a hammer, tap in a new needle roller bearing until its surface is 0 to 0.5 mm (0 to 0.0197 in.) from the center differential case upper surface.

SST: 09950-60020

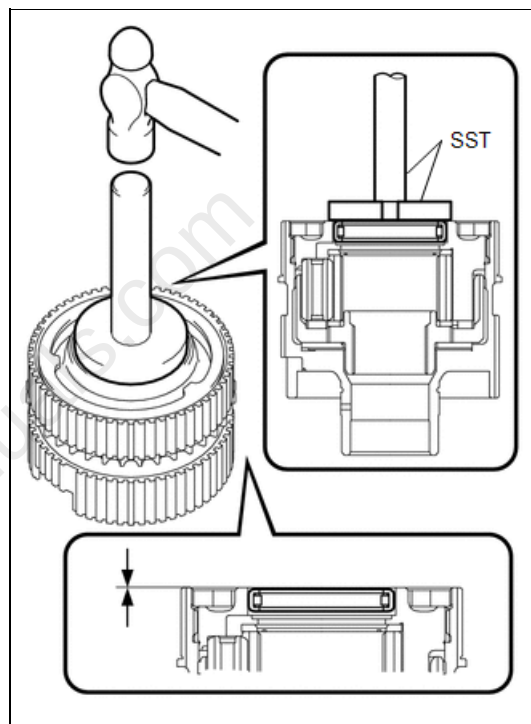
09951-00710

SST: 09950-70010

09951-07100

NOTICE:

- Be careful not to damage the center differential case.
- Install the bearing so that the mark is on the outside.



(b) Using SST and a hammer, tap in a new needle roller bearing until its surface is 1.5 to 2.0 mm (0.0591 to 0.0787 in.) from the center differential case upper surface.

SST: 09950-60010

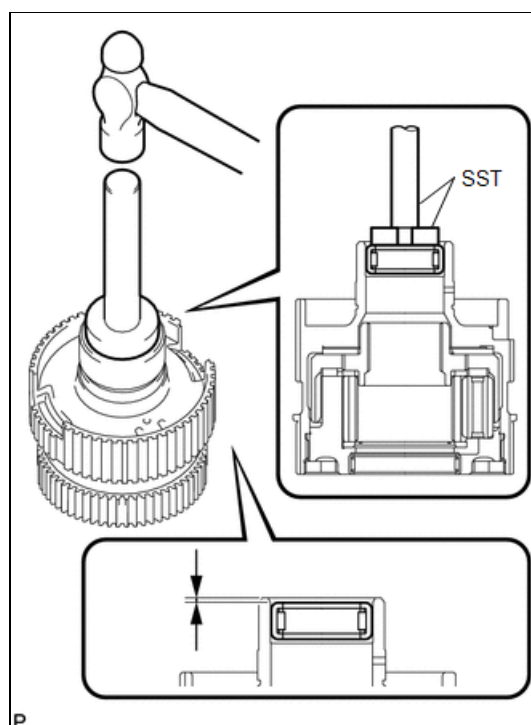
09951-00460

SST: 09950-70010

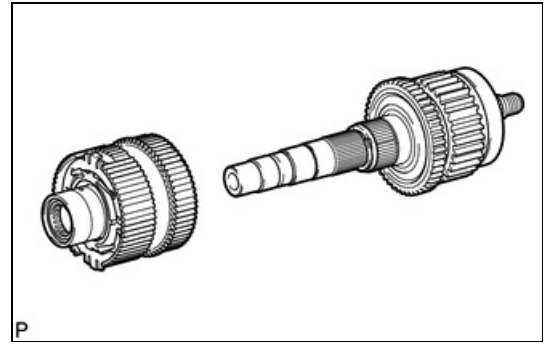
09951-07100

NOTICE:

- Be careful not to damage the center differential case.
- Install the bearing so that the mark is on the outside.

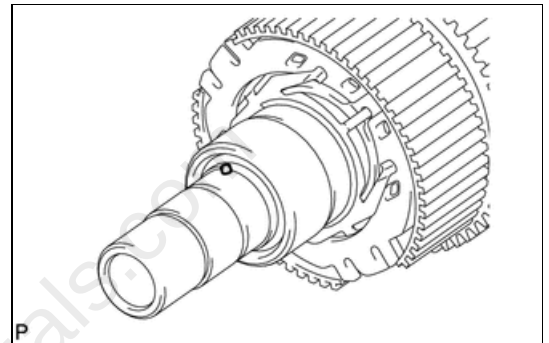


(c) Install the center differential case to the output shaft.

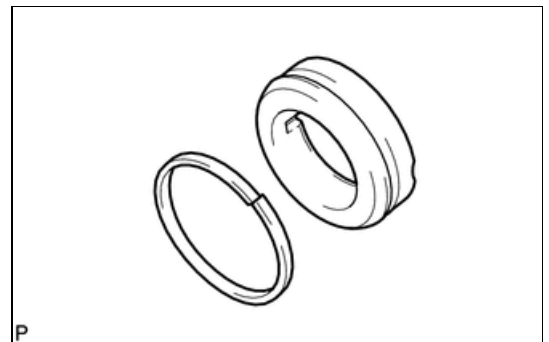


7. INSTALL NO. 1 TRANSFER OUTPUT SHAFT SPACER

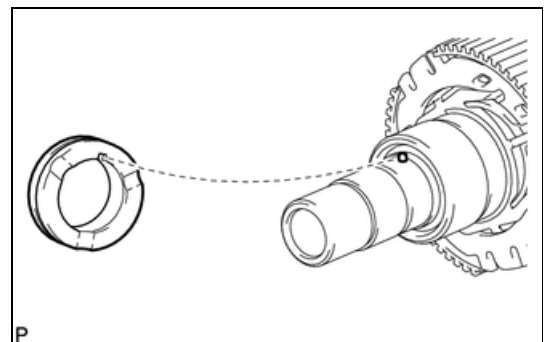
(a) Install the straight pin to the output shaft.



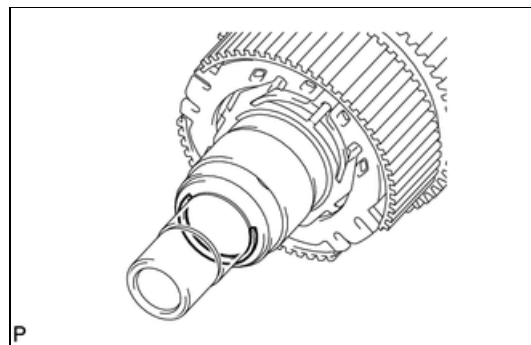
(b) Install a new seal ring to the output shaft spacer.



(c) Align the pin with the straight pin groove of the output shaft spacer, and slide on the output shaft spacer.

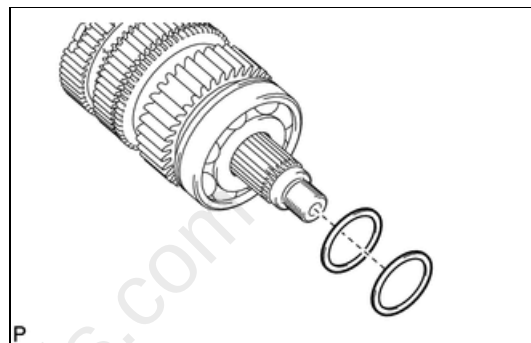


(d) Using a screwdriver and hammer, tap on the snap ring.



8. INSTALL TRANSFER OUTPUT SHAFT WASHER

(a) Install the 2 output shaft washers to the output shaft.



9. INSTALL TRANSFER INPUT SHAFT PLUG

(a) Using SST and a hammer, tap in a new input shaft plug until its surface is 1.0 to 1.8 mm (0.0394 to 0.0709 in.) from the input shaft upper surface.

SST: 09950-60010

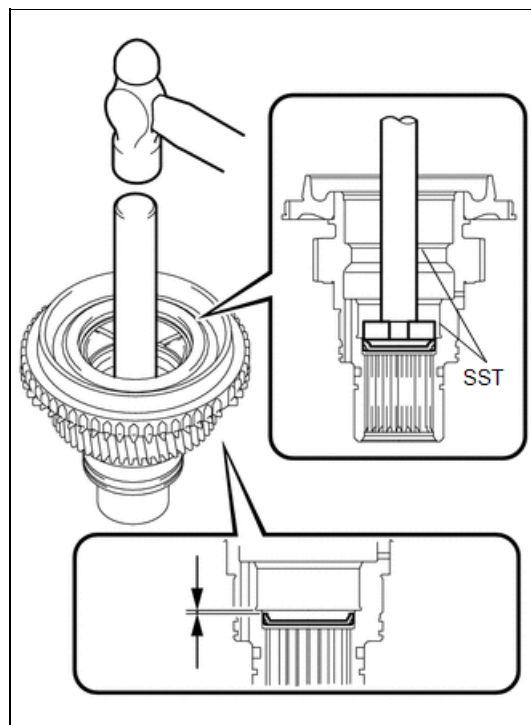
09951-00410

SST: 09950-70010

09951-07150

NOTICE:

Be careful not to damage or deform the input shaft plug when tapping it.



10. INSTALL TRANSFER INPUT SHAFT BIMETAL FORMED BUSH

(a) Using SST and a hammer, tap in a new bush until its surface is 5.5 to 5.9 mm (0.217 to 0.232 in.) from the input shaft upper surface.

SST: 09950-70010

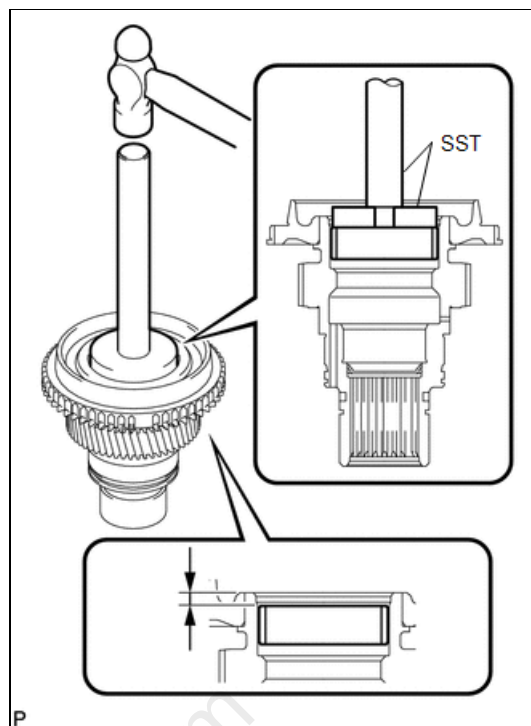
09951-07150

SST: 09950-60010

09951-00610

NOTICE:

Be careful not to damage the input shaft.



11. INSTALL TRANSFER INPUT SHAFT BEARING

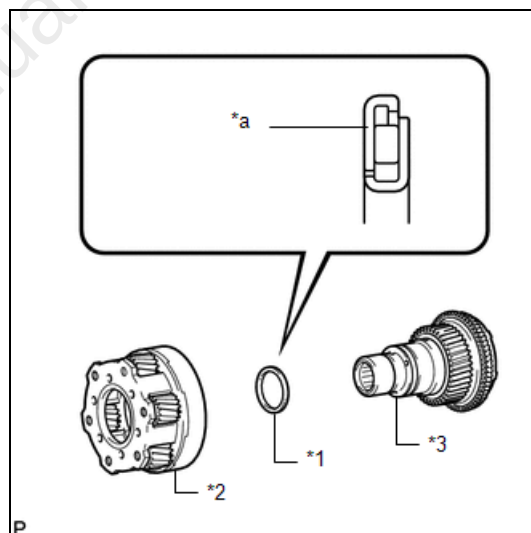
(a) Install the low planetary gear bearing and transfer low planetary gear assembly to the input shaft.

Text in Illustration

*1	Low Planetary Gear Bearing
*2	Transfer Low Planetary Gear Assembly
*3	Input Shaft
*a	Temper Color Side

NOTICE:

- Make sure the low planetary gear bearing is installed in the correct direction.
- Install the low planetary gear bearing so that its temper color side faces the transfer low planetary gear assembly.



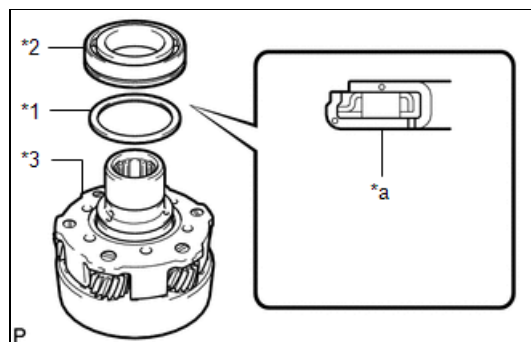
(b) Install the low planetary gear bearing and a new transfer input shaft bearing to the input shaft.

Text in Illustration

*1	Low Planetary Gear Bearing
*2	Transfer Input Shaft Bearing
*3	Input Shaft
*a	Temper Color Side

NOTICE:

- Make sure the transfer input shaft bearing is installed in the correct direction.
- Make sure the low planetary gear bearing is installed in the correct direction.
- Install the low planetary gear bearing so that its temper color side faces the transfer low planetary gear assembly.



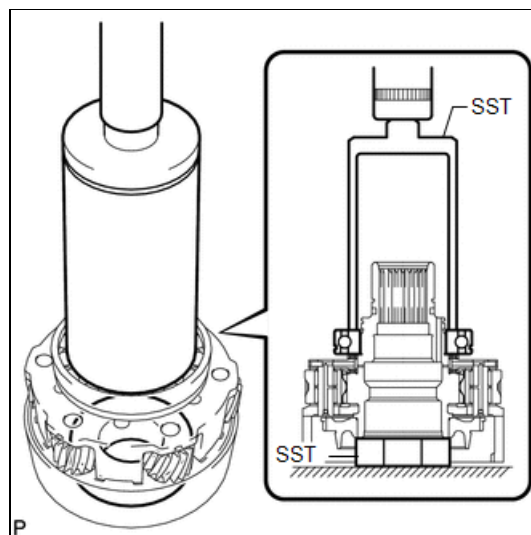
(c) Using SST and a press, press in the bearing.

SST: 09513-36040

SST: 09515-21010

NOTICE:

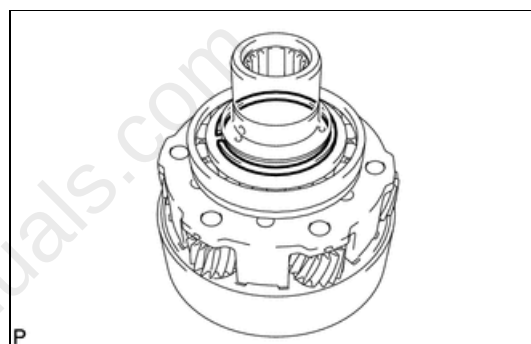
After press-fitting the bearing to the input shaft, check that the bearing moves smoothly.



(d) Select a snap ring that allows for minimum axial play and install it to the shaft.

Standard Snap Ring Thickness:

MARK	SPECIFIED CONDITION
C	2.13 to 2.18 mm (0.0839 to 0.0858 in.)
D	2.18 to 2.23 mm (0.0858 to 0.0878 in.)
E	2.23 to 2.28 mm (0.0878 to 0.0898 in.)
F	2.28 to 2.33 mm (0.0898 to 0.0917 in.)
G	2.33 to 2.38 mm (0.0917 to 0.0937 in.)
H	2.38 to 2.43 mm (0.0937 to 0.0957 in.)
J	2.43 to 2.48 mm (0.0957 to 0.0976 in.)

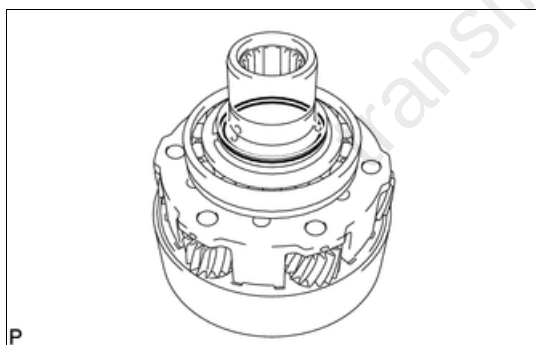


(e) Using a snap ring expander, install the snap ring.

NOTICE:

Make sure that the snap ring is firmly installed to the groove.

12. INSTALL NO. 1 TRANSFER INPUT SHAFT SEAL RING



(a) Apply transfer oil to a new seal ring.

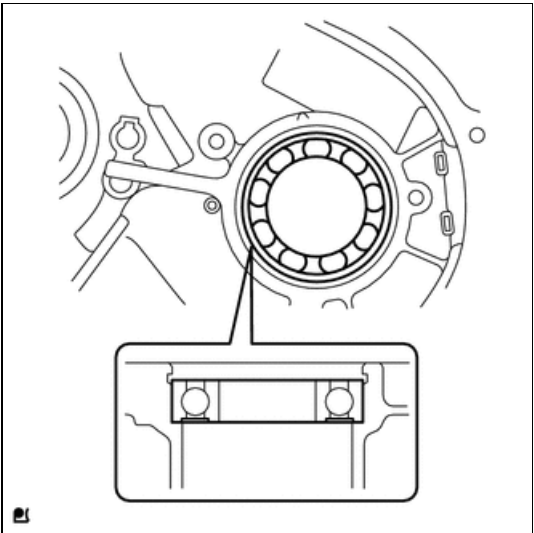
(b) Install the seal ring to the input shaft.

13. INSTALL TRANSFER DRIVEN SPROCKET BEARING

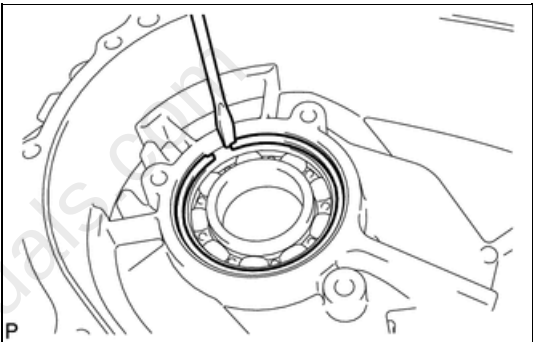
(a) Install a new bearing to the front transfer case in the direction shown in the illustration.

NOTICE:

Make sure the bearing is installed in the correct direction.

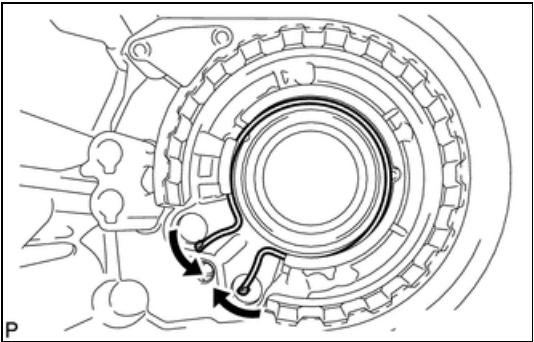


(b) Using a screwdriver, install the snap ring.



14. INSTALL TRANSFER LOW PLANETARY RING GEAR

(a) Using a snap ring expander, install the snap ring to the front transfer case.



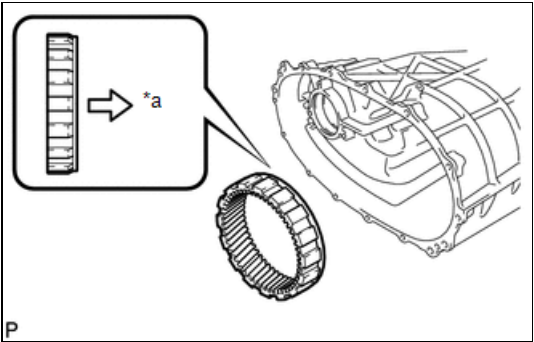
(b) Install the low planetary ring gear to the front transfer case.

Text in Illustration

*a	Front Side
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NOTICE:

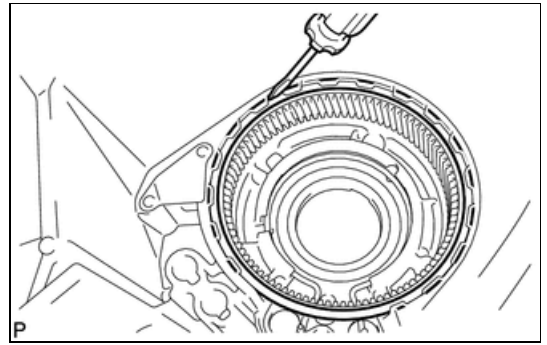
Make sure to install the low planetary ring gear in the correct direction.



(c) Using a screwdriver, install the snap ring.

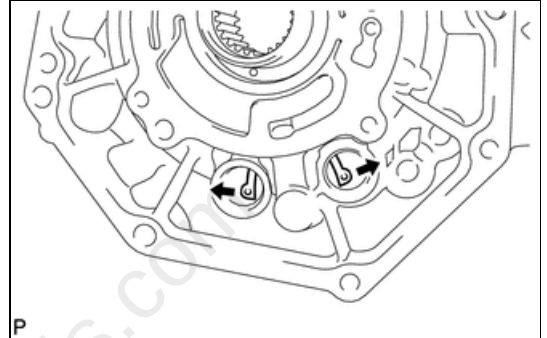
NOTICE:

Make sure that the snap ring is firmly installed to the groove.



15. INSTALL INPUT SHAFT ASSEMBLY

(a) While expanding the snap ring, install the input shaft to the front transfer case.



(b) Apply adhesive to the threads of the 2 case plugs.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

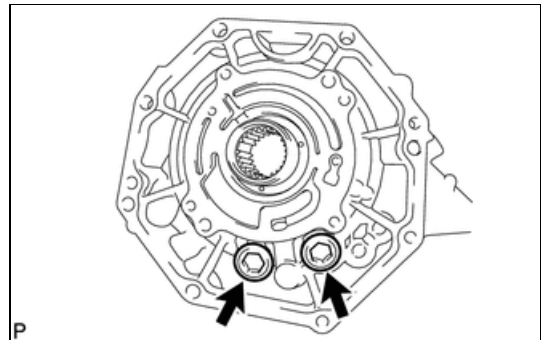
NOTICE:

Install the plugs within 3 minutes of application.

(c) Using a 14 mm hexagon wrench, install the 2 case plugs.

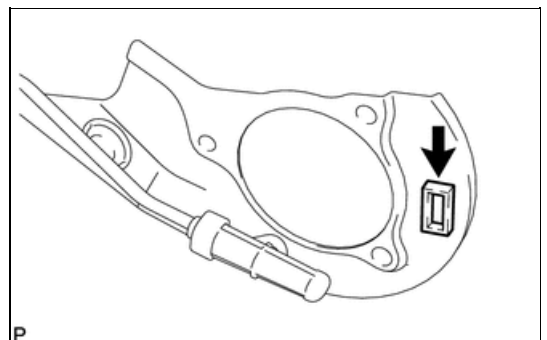
Torque:

37 N·m {377 kgf·cm, 27 ft·lbf}



16. INSTALL TRANSFER CASE MAGNET

(a) Install the magnet to the oil separator.



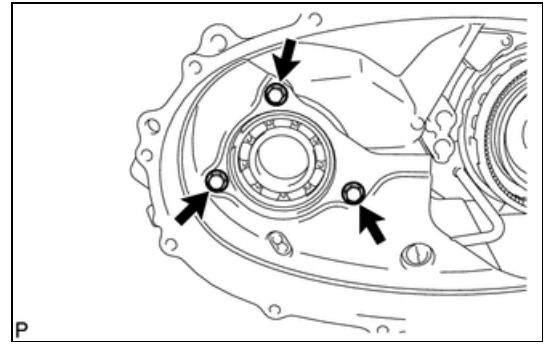
17. INSTALL TRANSFER OIL SEPARATOR SUB-ASSEMBLY

(a) Install a new O-ring to the oil separator.

(b) Install the oil separator with the 3 bolts.

Torque:

18 N·m {178 kgf·cm, 13 ft·lbf}



18. INSTALL SIDE GEAR SHAFT HOLDER BEARING

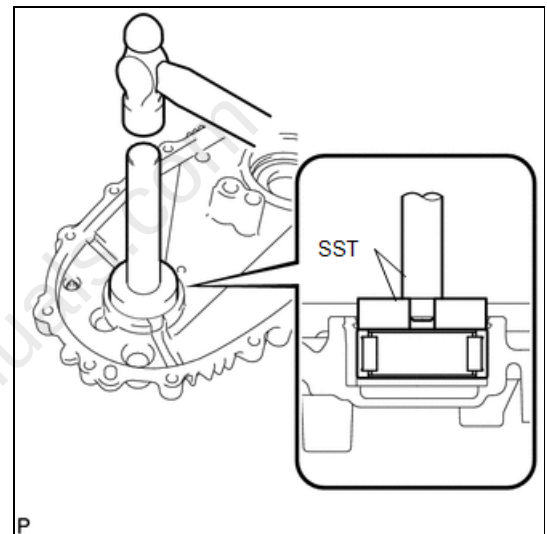
(a) Using SST and a hammer, tap in a new bearing to the rear transfer case.

SST: 09950-60010

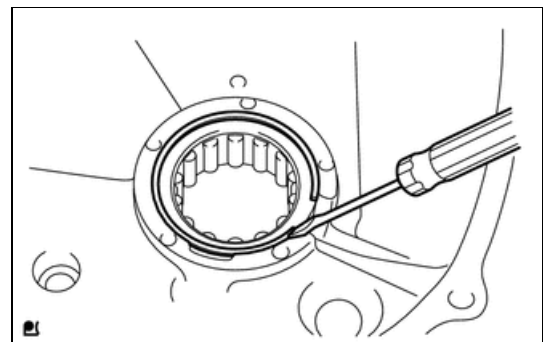
09951-00590

SST: 09950-70010

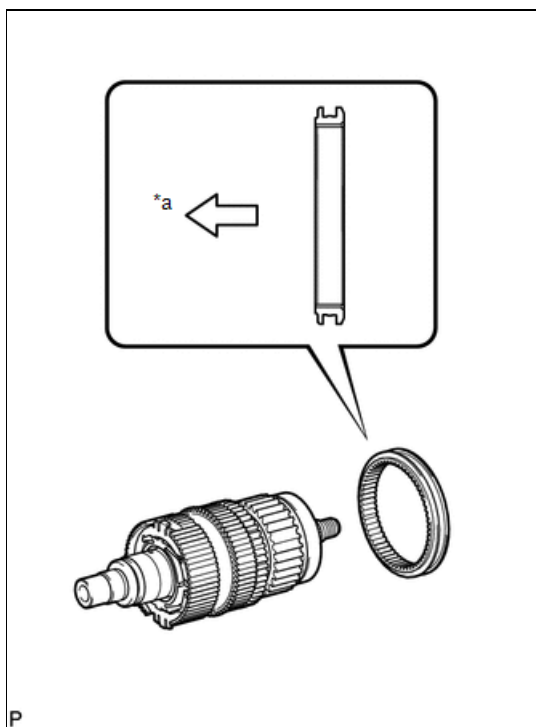
09951-07100



(b) Using a screwdriver, install the snap ring.



19. INSTALL FRONT DRIVE CLUTCH SLEEVE



P

Text in Illustration

*a	Front Side
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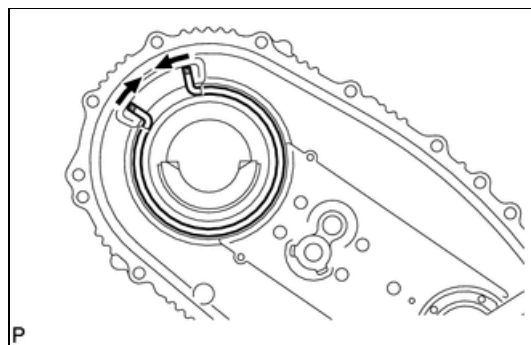
- (a) Apply gear oil to the connecting areas of the clutch sleeve and center differential case.
- (b) Install the clutch sleeve onto the output shaft.

NOTICE:

Make sure that the clutch sleeve is installed facing the correct direction.

20. INSTALL REAR TRANSFER OUTPUT SHAFT ASSEMBLY

- (a) Install the snap ring to the rear transfer case.



P

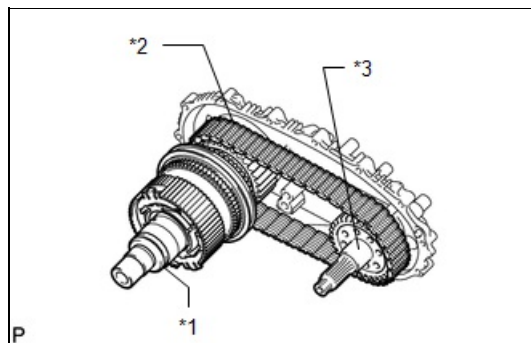
- (b) Install the rear transfer output shaft assembly, drive chain and driven sprocket.

Text in Illustration

*1	Rear Transfer Output Shaft Assembly
*2	Drive Chain
*3	Driven Sprocket

NOTICE:

Do not drop the output shaft washers.

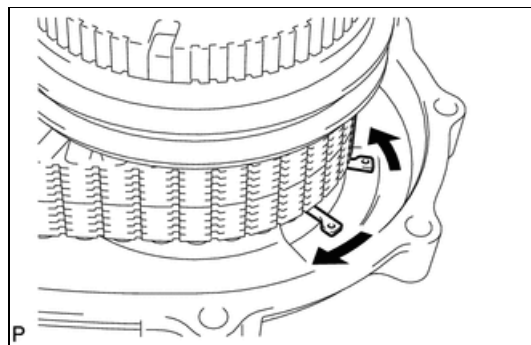


P

(c) Using a snap ring expander, install the snap ring to the output shaft.

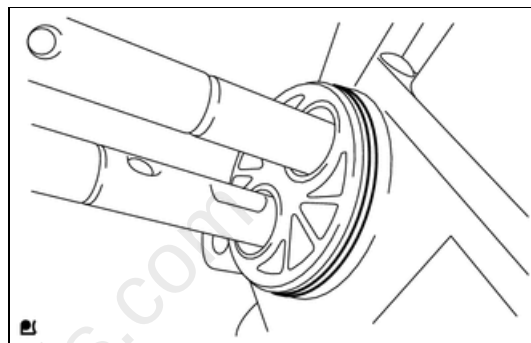
NOTICE:

Make sure that the snap ring is firmly installed to the groove.



21. INSTALL TRANSFER SHIFT ACTUATOR ASSEMBLY

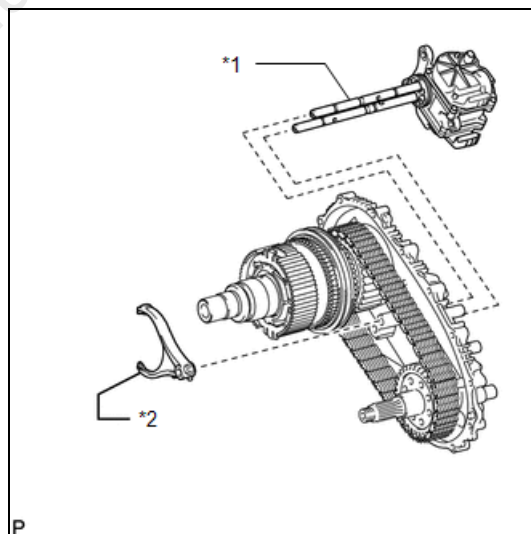
(a) Install a new O-ring to the shift actuator.



(b) Set the No. 1 transfer gear shift fork to the front drive clutch sleeve.

Text in Illustration

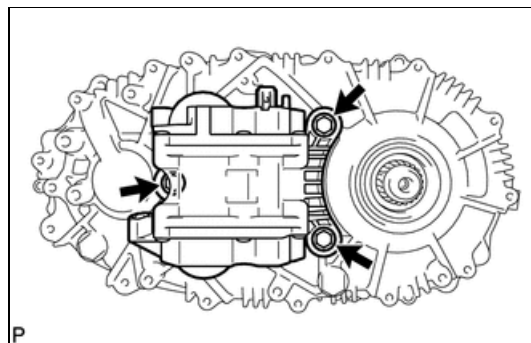
*1	Transfer Shift Actuator Assembly
*2	No. 1 Transfer Gear Shift Fork



(c) Install the transfer shift actuator assembly to the rear transfer case with the 3 bolts.

Torque:

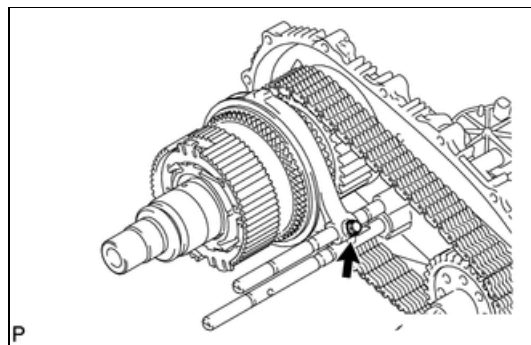
20 N·m {204 kgf·cm, 15 ft·lbf}



(d) Install the No. 1 transfer gear shift fork to the transfer shift actuator assembly with the bolt.

Torque:

24 N·m {245 kgf·cm, 18 ft·lbf}

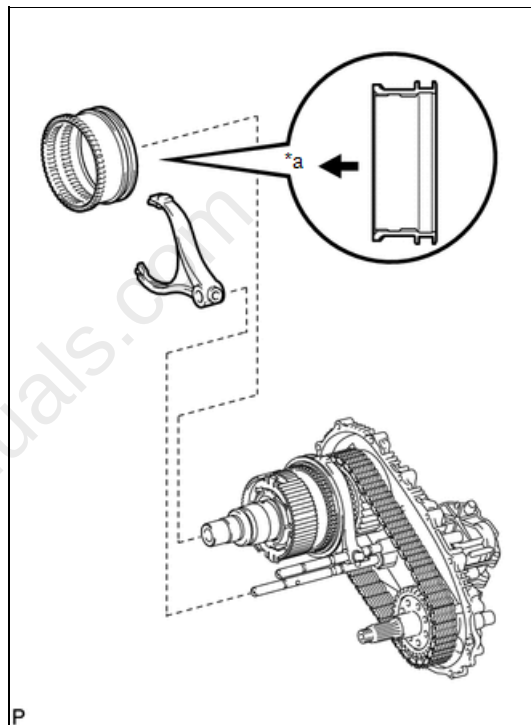


22. INSTALL NO. 2 TRANSFER GEAR SHIFT FORK

(a) Set the No. 2 gear shift fork together with the high and low clutch sleeve to the shift actuator.

Text in Illustration

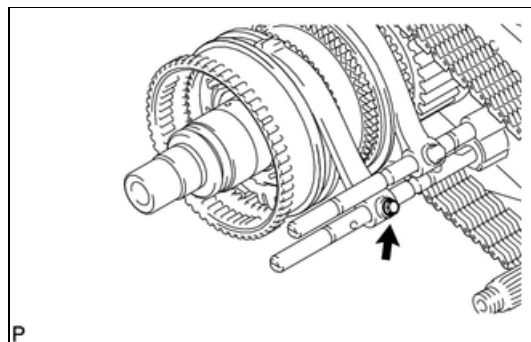
*a	Front Side
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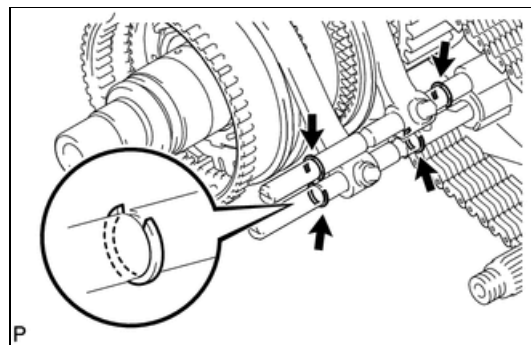
(b) Install the No. 2 gear shift fork to the shift actuator with the bolt.

Torque:

24 N·m {245 kgf·cm, 18 ft·lbf}



(c) Using a screwdriver and hammer, tap the 4 shift fork shaft snap rings to the shift fork shaft.

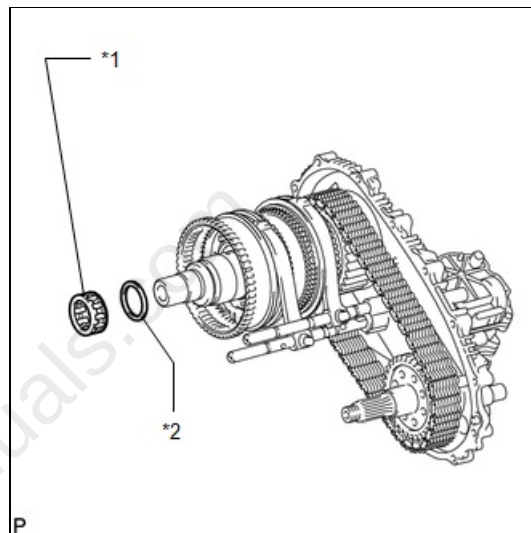


23. INSTALL FRONT TRANSFER OUTPUT SHAFT NEEDLE ROLLER BEARING

(a) Install the front transfer output shaft needle roller bearing and spacer to the output shaft.

Text in Illustration

*1	Front Transfer Output Shaft Needle Roller Bearing
*2	Spacer



24. INSTALL REAR TRANSFER CASE ASSEMBLY

(a) Apply seal packing to the rear transfer case as shown in the illustration.

Text in Illustration

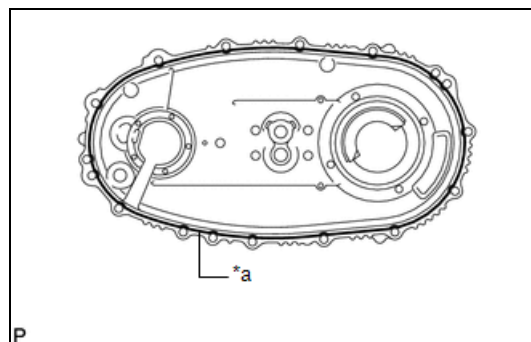
*a	Seal Packing
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Seal Packing:

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent

NOTICE:

If the removed rear transfer case will be reused: After removing the rear transfer case, be sure to perform the following before reinstalling it: 1) using a knife, cut off any old FIPG material on the rear transfer case contact surface, 2) clean off any remaining old FIPG material from the rear transfer case contact surface, and 3) reapply seal packing to the rear transfer case.



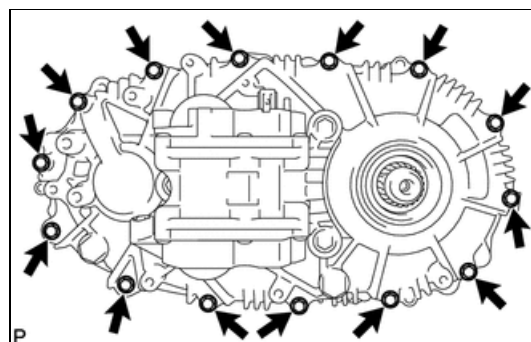
(b) Install the rear transfer case with the 14 bolts.

Torque:

28 N·m {286 kgf·cm, 21 ft·lbf}

NOTICE:

Tighten the bolts within 10 minutes of applying the seal packing. The seal packing will dry very quickly.



25. INSTALL TRANSFER CASE PLUG

(a) Apply adhesive to the threads of the plug.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

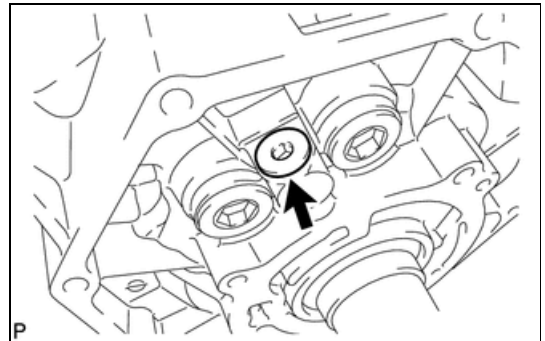
NOTICE:

Install the plug within 3 minutes of application.

(b) Using a 6 mm hexagon wrench, install the plug.

Torque:

39 N·m {400 kgf·cm, 29 ft·lbf}

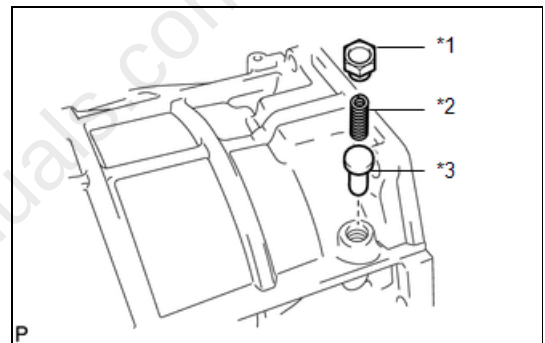


26. INSTALL NO. 1 TRANSFER CASE PLUG

(a) Install the pin and compression spring to the front transfer case.

Text in Illustration

*1	No. 1 Transfer Case Plug
*2	Compression Spring
*3	Pin



(b) Apply adhesive to the threads of the No. 1 transfer case plug.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

NOTICE:

Install the No. 1 transfer case plug within 3 minutes of application.

(c) Install the No. 1 transfer case plug.

Torque:

19 N·m {190 kgf·cm, 14 ft·lbf}

27. INSTALL TRANSFER CASE REAR OIL SEAL

INFO

28. INSTALL REAR OUTPUT SHAFT COMPANION FLANGE SUB-ASSEMBLY

(a) Install the companion flange onto the output shaft.

(b) Using SST to hold the companion flange, install a new O-ring and companion flange lock nut.

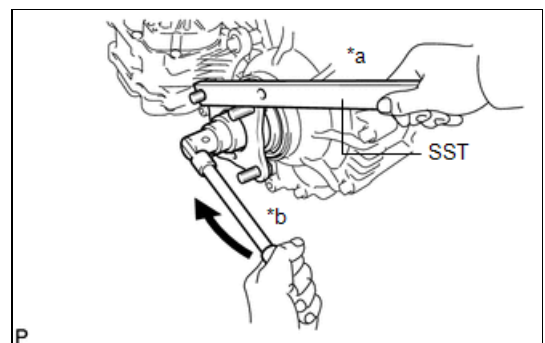
SST: 09330-00021

Text in Illustration

*a	Hold
*b	Turn

Torque:

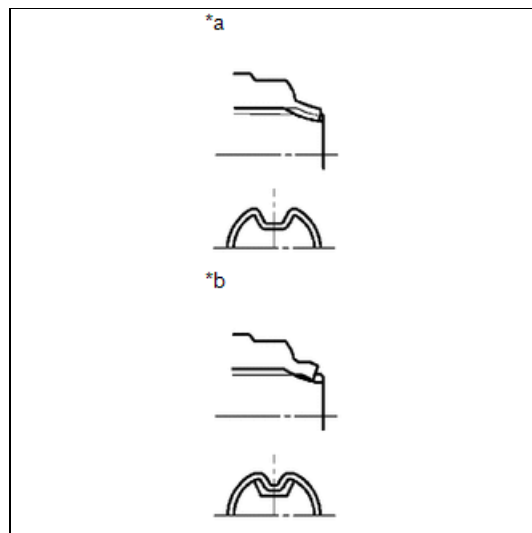
112 N·m {1137 kgf·cm, 82 ft·lbf}



(c) Using a chisel and hammer, stake the companion flange lock nut.

Text in Illustration

*a	Correct
*b	Incorrect



29. INSTALL TRANSFER CASE FRONT OIL SEAL

INFO

30. INSTALL TRANSFER OUTPUT SHAFT DUST DEFLECTOR

(a) Using SST and a press, install a new transfer output shaft dust deflector.

SST: 09523-36010

SST: 09950-60010

09951-00460

09951-00560

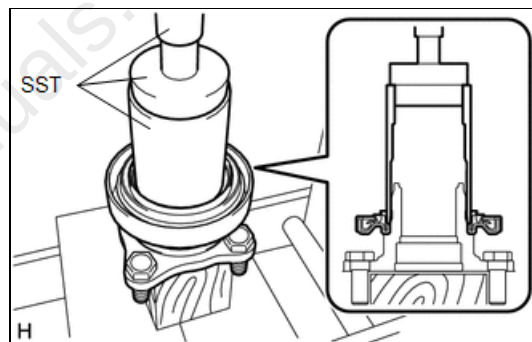
09952-06010

SST: 09950-70010

09951-07100

NOTICE:

- Be careful not to damage the transfer output shaft dust deflector and front output shaft companion flange sub-assembly.
- The transfer output shaft dust deflector should be installed completely.



(b) Apply MP grease to the transfer output shaft dust deflector lip.

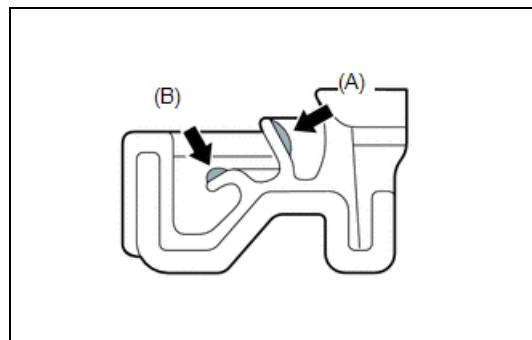
Standard Grease Capacity:

Location A

0.4 to 0.6 g (0.015 to 0.021 oz.)

Location B

0.1 g (0.0004 oz.)



31. INSTALL FRONT OUTPUT SHAFT COMPANION FLANGE SUB-ASSEMBLY

(a) Install the front output shaft companion flange sub-assembly onto the drive sprocket.

(b) Using SST to hold the front output shaft companion flange sub-assembly, install a new O-ring and companion flange lock nut.

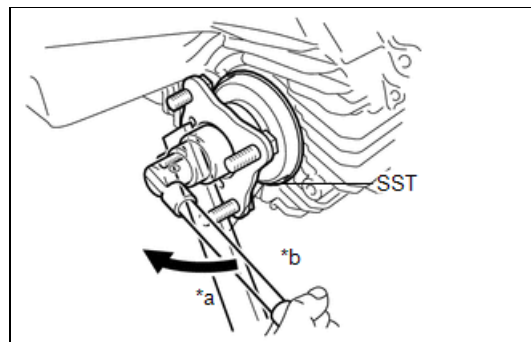
SST: 09330-00021

Torque:

112 N·m {1137 kgf·cm, 82 ft·lbf}

Text in Illustration

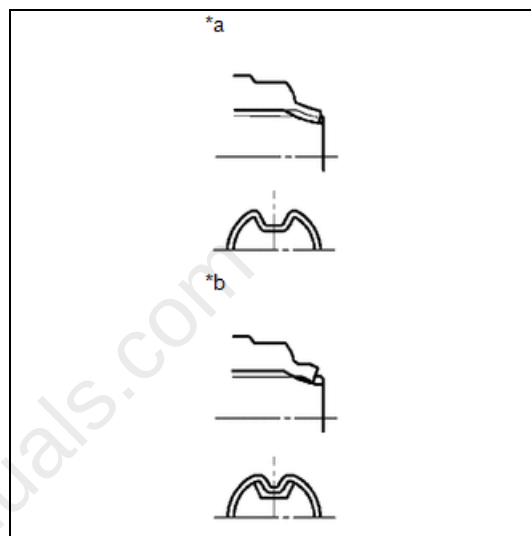
*a	Hold
*b	Turn



(c) Using a chisel and hammer, stake the companion flange lock nut.

Text in Illustration

*a	Correct
*b	Incorrect



32. INSTALL TRANSFER OIL PUMP PLATE OIL SEAL

(a) Using SST and a hammer, tap in a new oil seal until its surface is flush with the oil pump plate upper surface.

SST: 09950-60020

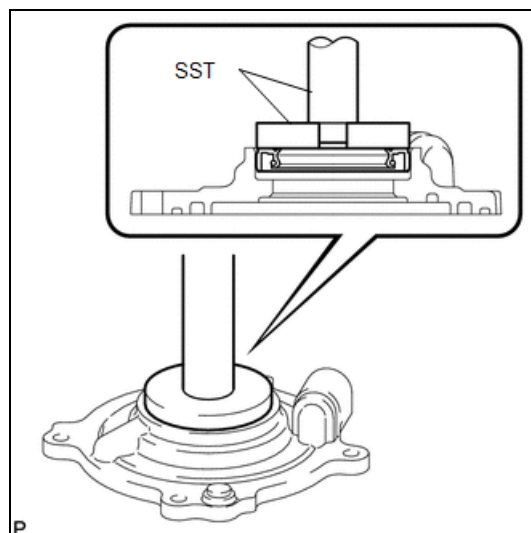
09951-00680

SST: 09950-70010

09951-07100

NOTICE:

Be careful not to damage the oil pump plate.

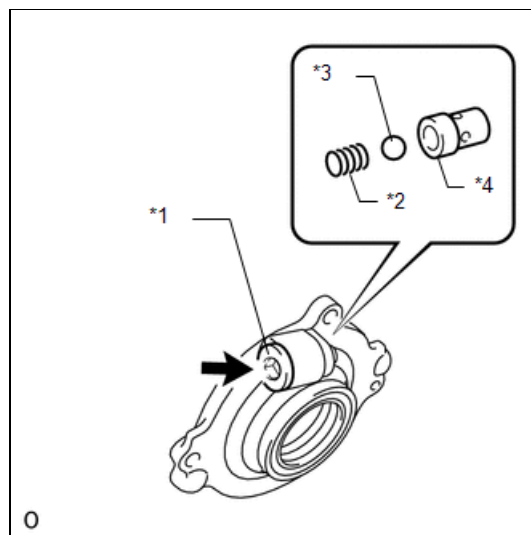


33. INSTALL TRANSFER CASE PLUG

(a) Install the relief valve seat, ball and compression spring to the oil pump plate.

Text in Illustration

*1	Transfer Case Plug
*2	Compression Spring
*3	Ball
*4	Relief Valve Seat



(b) Apply adhesive to the threads of the transfer case plug.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

NOTICE:

Install the transfer case plug within 3 minutes of application.

(c) Using a 10 mm hexagon wrench, install the transfer case plug.

Torque:

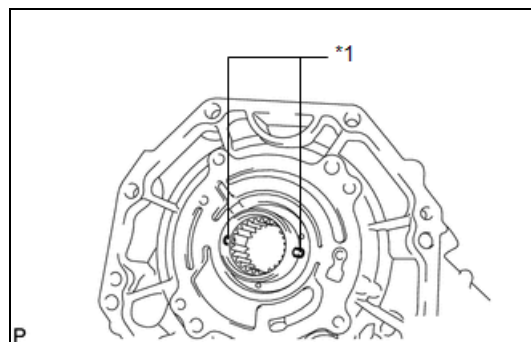
29 N·m {300 kgf·cm, 22 ft·lbf}

34. INSTALL TRANSFER CASE STRAIGHT PIN

(a) Install the 2 transfer case straight pins to the input shaft.

Text in Illustration

*1	Transfer Case Straight Pin
----	----------------------------



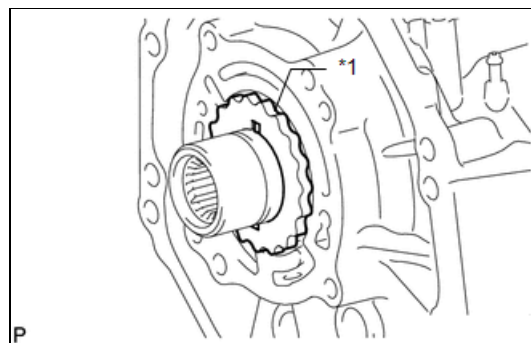
35. INSTALL TRANSFER OIL PUMP PLATE

(a) Apply transfer oil to a new O-ring, the drive rotor, driven rotor and a new transfer oil seal ring.

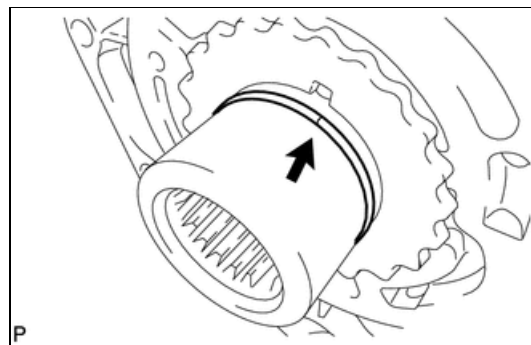
(b) Install the drive rotor to the input shaft.

Text in Illustration

*1	Oil Pump Drive Rotor
----	----------------------



(c) Install the transfer oil seal ring to the input shaft.

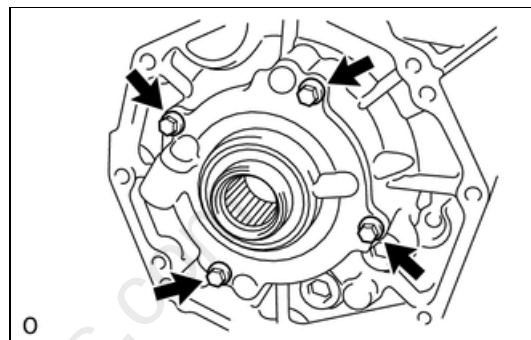


(d) Install the O-ring to the oil pump plate.

(e) Install the oil pump plate and driven rotor to the front transfer case with the 4 bolts.

Torque:

12 N·m {117 kgf·cm, 9 ft·lbf}



36. INSTALL PROPELLER SHAFT HEAT INSULATOR BRACKET SUB-ASSEMBLY

(a) Install the bracket to the rear transfer case with the bolt.

Torque:

20 N·m {204 kgf·cm, 15 ft·lbf}

