HF1A TRANSFER / 4WD / AWD TRANSFER ASSEMBLY REASSEMBLY

PROCEDURE

I.INSTALL REAR TRANSFER EXTENSION HOUSING OIL SEAL

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE REAR OIL SEAL>REPLACEMENT

2.INSTALL FRONT TRANSFER OUTPUT SHAFT RADIAL BALL BEARING

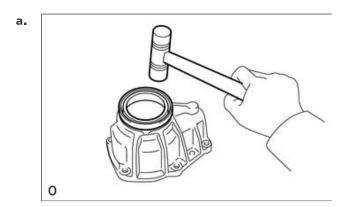
Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE FRONT OIL SEAL>REPLACEMENT

3.INSTALL FRONT TRANSFER EXTENSION HOUSING OIL SEAL

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE FRONT OIL SEAL>REPLACEMENT

4.INSTALL FRONT TRANSFER EXTENSION HOUSING DUST DEFLECTOR

333325B

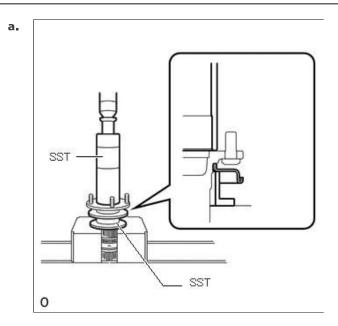


Using a plastic-faced hammer, install the front transfer extension housing dust deflector.

■ 5.INSTALL TRANSFER OUTPUT SHAFT DUST DEFLECTOR

36104B

Exit



Using SST and a press, install the transfer output shaft dust deflector. SST 09316-20011 (09316-00011) Press in the rear transfer output shaft dust deflector until it fits to the edge.

■ 6.INSTALL TRANSFER DRIVE CLUTCH HUB

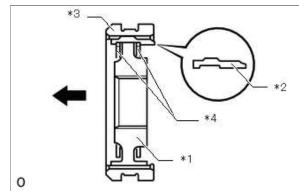
36239

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE FRONT OIL SEAL>REPLACEMENT

7.INSTALL TRANSFER HIGH AND LOW CLUTCH SLEEVE

36235





*1	*1 Transfer Clutch Hub	
*2 No. 2 Synchromesh Shifting Key		
*3 Transfer High and Low Clutch Sleeve		
*4 Transfer Synchromesh Shifting Key Spring		
→	Front of Vehicle	

Insert the transfer clutch hub and 3 No. 2 synchromesh shifting keys into the transfer high and low clutch sleeve.

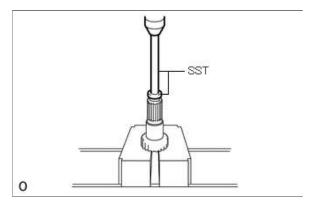
b. Install the 2 transfer synchromesh shifting key springs under the 3 No. 2 synchromesh shifting keys.
NOTICE:

Install the 2 transfer synchromesh shifting key springs positioned so that their end gaps are not in line.

8.INSTALL FRONT TRANSFER OUTPUT SHAFT NEEDLE ROLLER BEARING

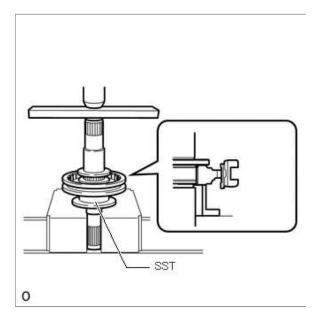
36231E





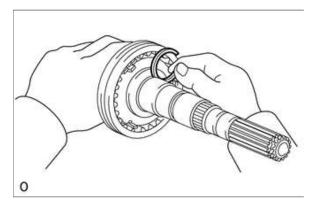
Using SST and a press, press in a new front transfer output shaft needle roller bearing. ${\it SST}$

09950-60010 (09951-00250) 09950-70010 (09951-07200) a.



Using SST and a press, install the transfer clutch hub. SST 09316-20011

b.



Select a snap ring that will allow minimum axial play and install it on the shaft.

Standard Thickness:

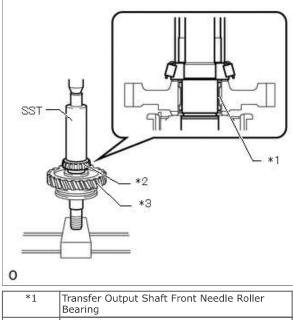
Mark	Thickness	
A	2.60 mm (0.1024 in.)	
B 2.65 mm (0.1043 in		
С	2.70 mm (0.1063 in.)	
D	2.75 mm (0.1083 in.)	
E	2.80 mm (0.1102 in.)	
F	2.85 mm (0.1122 in.)	
G	2.90 mm (0.1142 in.)	

■ 10.INSTALL TRANSFER LOW GEAR

36242

a. Apply transfer oil to the transfer output shaft front needle roller bearing.





	Transfer Output Shaft Front Needle Roller Bearing
*2 Transfer Output Shaft Taper Roller Bearing (Inner Race)	
*3 Transfer Low Gear	

Using SST and a press, install the transfer low gear and a new transfer output shaft taper roller bearing (inner race) to the output shaft assembly.

SST

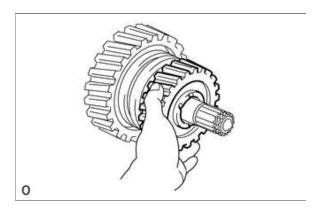
09316-60011 (09316-00011)

■ 11.INSTALL TRANSFER HIGH SPEED OUTPUT GEAR SUB-ASSEMBLY

36203

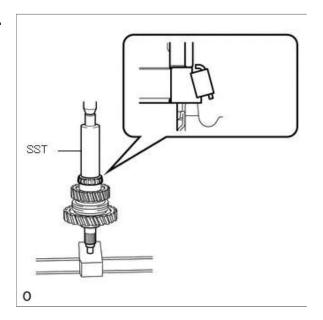
a. Apply transfer oil to the front transfer output shaft needle roller bearing.





Install the 2 pieces of the front transfer output shaft needle roller bearing and No. 1 transfer output shaft spacer to the transfer high speed output gear sub-assembly.

C.



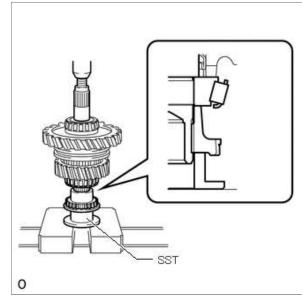
Using SST and a press, install the transfer high speed output gear sub-assembly and a new transfer output shaft taper roller bearing (inner race) to the output shaft assembly.

09316-60011 (09316-00011)

■ 12.INSTALL TRANSFER FRONT DRIVE GEAR PIECE

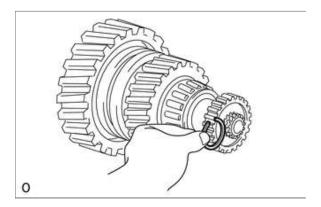
36245

a.



Using SST and a press, install the transfer front drive gear piece. **SST**

09316-60011 (09316-00031)



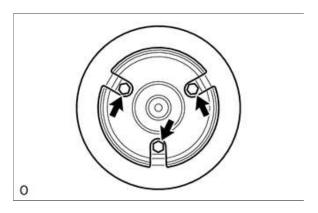
Select a new snap ring that will allow minimum axial play and install it on the shaft.

Chan	المستحالة	This lates a sec.	
Stan	aara	Thickness:	

Moule	Thiskness	
Mark	Thickness	
А	2.0 mm (0.0787 in.)	
В	2.1 mm (0.0827 in.)	
С	2.2 mm (0.0866 in.)	
D	2.3 mm (0.0906 in.)	
E	2.4 mm (0.0945 in.)	

	13.INSPECT TRANSFER HIGH SPEED OUTPUT GEAR THRUST CLEARANCE	36203			
Click he	Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER ASSEMBLY>INSPECTION				
	14.INSPECT TRANSFER LOW GEAR THRUST CLEARANCE	36242			
Click he	ereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER ASSEMBLY>INSPECTION				
	15.INSPECT TRANSFER HIGH SPEED OUTPUT GEAR RADIAL CLEARANCE	36203			
Click he	Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER ASSEMBLY>INSPECTION				
	16.INSPECT TRANSFER LOW GEAR RADIAL CLEARANCE	36242			
Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER ASSEMBLY>INSPECTION					
	17.INSTALL TRANSFER ILDER GEAR BEARING (for Front Side)	36221G			

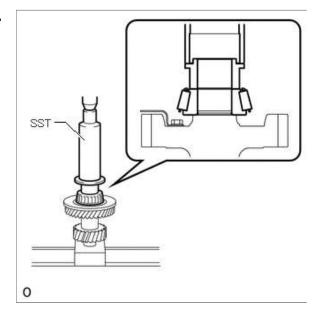




Install the transfer idler gear transfer oil receiver with the 3 bolts.

Torque: 7.84 N*m (80 kgf*cm, 69 in.*lbf)

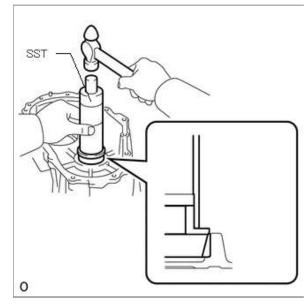




Using SST and a press, install a new transfer idler gear bearing (inner race) to the transfer idler gear. ${\it SST}$

09316-60011 (09316-00011, 09316-00071)

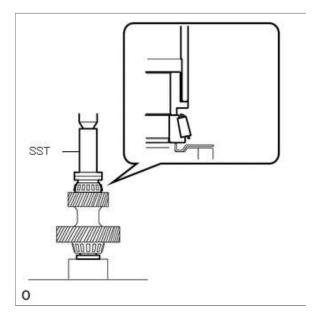




Using SST and a hammer, install a new transfer idler gear bearing (outer race) to the front transfer case.

09316-60011 (09316-00011, 09316-00041)

a.



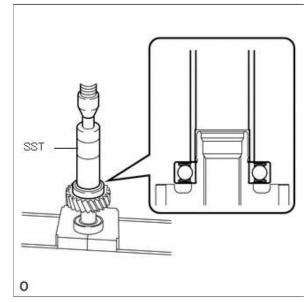
Using SST and a press, install a new transfer idler gear bearing (inner race) to the transfer idler gear. **SST**

09316-60011 (09316-00011, 09316-00051)

- **b.** Install a new transfer idler gear bearing (outer race) to the rear transfer case.
- 19.INSTALL FRONT TRANSFER INPUT SHAFT RADIAL BALL BEARING

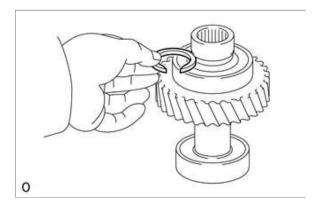
36212F

a.



Using SST and a press, install a new front transfer input shaft radial ball bearing. \mathbf{SST}

09316-60011 (09316-00011)



Select a new snap ring that will allow minimum axial play and install it on the shaft.

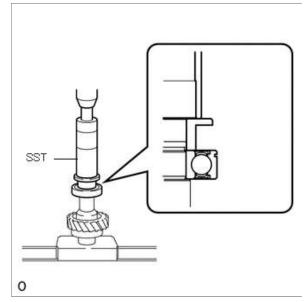
Standard Thickness:

Mark	Thickness		
А	2.90 mm (0.1142 in.)		
В	2.95 mm (0.1161 in.)		
С	3.00 mm (0.1181 in.)		
D	3.05 mm (0.1201 in.)		
E	3.10 mm (0.1220 in.)		
F	3.15 mm (0.1240 in.)		

20.INSTALL TRANSFER INPUT GEAR RADIAL BALL BEARING

36212A

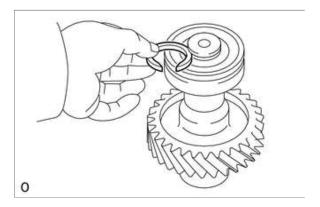




Using SST and a press, install a new transfer input gear radial ball bearing. \pmb{SST}

09316-60011 (09316-00011, 09316-00031)





Select a new snap ring that will allow minimum axial play and install it on the shaft.

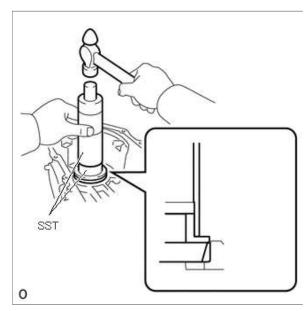
Standard Thickness:

turiaura rimentinessi			
Mark	Thickness		
А	2.0 mm (0.0787 in.)		
В	2.1 mm (0.0827 in.)		
С	2.2 mm (0.0866 in.)		
D	2.3 mm (0.0906 in.)		
E	2.4 mm (0.0945 in.)		

21.INSTALL TRANSFER OUTPUT SHAFT TAPER ROLLER BEARING



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for Front Transfer Case Side:

Using SST and a hammer, install a new transfer output shaft taper roller bearing (outer race) to the front transfer case.

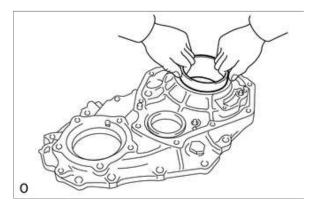
SST

09316-20011

09316-60011 (09316-00011, 09316-00031)

36231C





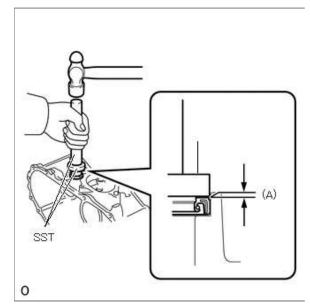
for Rear Transfer Case Side: Install a new transfer output shaft taper roller bearing (outer race) to the rear transfer case.

22.INSTALL TRANSFER CASE OIL SEAL

36111B

a. Apply MP grease to the lip of 2 new transfer case oil seals.

b.



for Transfer Shift Inner Lever Shaft Side: Using SST and a hammer, install the transfer case oil seal. SST

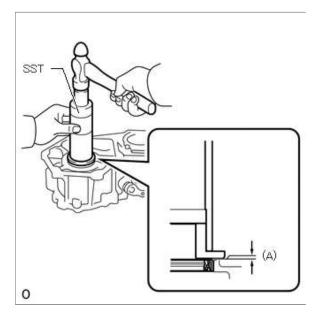
09950-60010 (09951-00250) 09950-70010 (09951-07100)

Drive in depth (A): 0 to 0.5 mm (0 to 0.0196 in.)

NOTICE:

- \cdot $\;$ Tap the transfer case oil seal uniformly so that the transfer case oil seal is straight.
- · Make sure the outside edge of the seal is positioned past the chamfered part.

C.



for Input Shaft Side:

Using SST and a hammer, install the transfer case oil seal.

SS1

09316-60011 (09316-00011, 09316-00031)

Drive in depth (A): 0 to 0.5 mm (0 to 0.0196 in.)

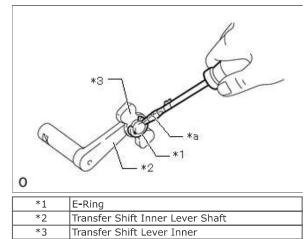
NOTICE:

- · Tap the transfer case oil seal uniformly so that the transfer case oil seal is straight.
- · Make sure the outside edge of the seal is positioned past the chamfered part.

■ 23.INSTALL TRANSFER SHIFT OUTER LEVER

36362A

a.



Install the transfer shift lever inner to the transfer shift inner lever shaft.

b. Using a screwdriver, install the E-ring to the transfer shift inner lever shaft.

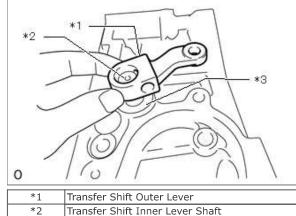
HINT:

*а

Tape the screwdriver tip before use.

Protective Tape

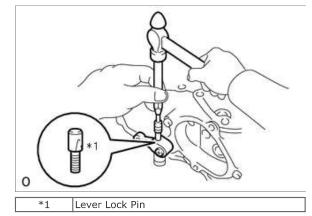




*3 Washer

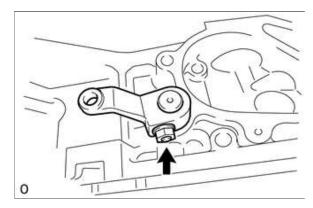
Install the transfer shift inner lever shaft, washer and transfer shift outer lever to the front transfer case.





Using a pin punch and hammer, tap in the lever lock pin.

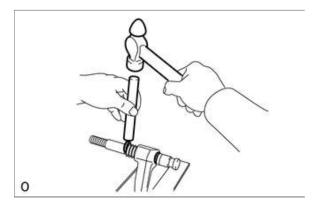
e.



Install the washer and nut.

Torque:

11.76 N*m (120 kgf*cm, 9 ft.*lbf)



Install the No. 2 transfer gear shift fork and shift detent ball compression spring to the transfer front drive shift fork shaft.

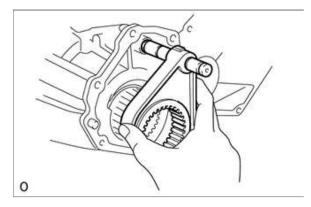
b. Using a brass bar and hammer, tap in the 2 transfer gear shift fork shaft snap rings.

25.INSTALL FRONT DRIVE CLUTCH SLEEVE

36236

a.

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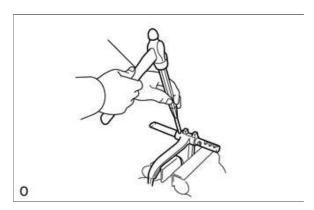
Install the front drive clutch sleeve with the No. 2 transfer gear shift fork and transfer front drive shift fork shaft.

26.INSTALL NO. 1 TRANSFER GEAR SHIFT FORK

36311F

a. Install the No. 1 transfer gear shift fork to the transfer high and low shift fork shaft.

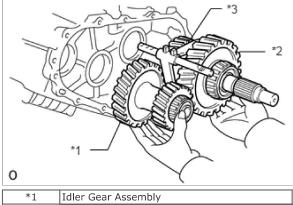




Using a pin punch and hammer, tap in the transfer shift fork slotted spring pin.

27.INSTALL OUTPUT SHAFT ASSEMBLY





	*1	Idler Gear Assembly
	*2	Output Shaft Assembly
Γ	*3	No. 1 Transfer Gear Shift Fork and Transfer
l		High and Low Shift Fork Shaft

Install the idler gear assembly and output shaft assembly together with the No. 1 transfer gear shift fork and transfer high and low shift fork shaft.

■ 28.INSTALL INPUT SHAFT ASSEMBLY

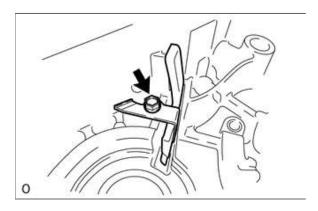
a. Using a plastic-faced hammer, tap in the input shaft assembly.

■ 29.INSTALL TRANSFER OIL RECEIVER PIPE

33124E

a. for Front Transfer Extension Housing Side: Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE FRONT OIL SEAL>REPLACEMENT





for Front Transfer Case Side:

- i. Clean and degrease the bolt and the installation hole.
- ii. Apply adhesive to 2 or 3 threads on the ends of the bolt.

Adhesive:

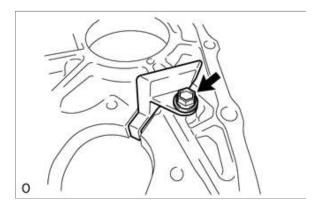
Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

iii. Install the transfer oil receiver pipe with the bolt.

Torque:

11.76 N*m (120 kgf*cm, 9 ft.*lbf)

C.



for Rear Transfer Case Side:

- i. Clean and degrease the bolt and the installation hole.
- ii. Apply adhesive to 2 or 3 threads on the ends of the bolt.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

iii. Install the transfer oil receiver pipe with the bolt.

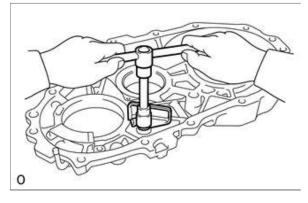
Torque:

18.13 N*m (185 kgf*cm, 13 ft.*lbf)

■ 30.INSTALL REAR TRANSFER CASE OIL RECEIVER PIPE

33124B

a.



Install the rear transfer case oil receiver pipe with the bolt.

Toraue:

11.76 N*m (120 kgf*cm, 9 ft.*lbf)

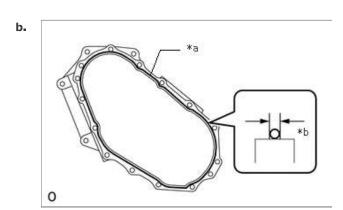
■ 31.INSTALL REAR TRANSFER CASE

36112

a. Using a scraper, clean the seal packing from the rear transfer case and front transfer case and remove any oil using a cleaning solvent.

NOTICE:

Do not scratch the installation area.



Seal Width 1.2 mm (0.0472 in.)

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

Seal packing:

*a

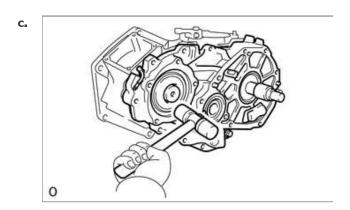
*b

Seal Packing

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent

NOTICE:

Install the rear transfer case to the case within 10 minutes of application.

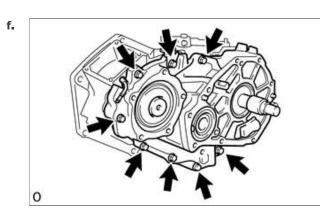


Using a plastic-faced hammer, tap the rear transfer case to install it.

- $\textbf{d}_{\:\raisebox{1pt}{\text{\circle*{1.5}}}}$ Clean and degrease the bolt and the installation hole.
- **e.** Apply adhesive to 2 or 3 threads on the ends of the bolt.

Adhesive:

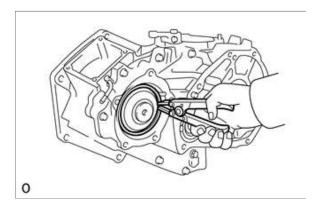
Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent



Install the 8 bolts with the bracket.

Torque:

37.24 N*m (380 kgf*cm, 27 ft.*lbf)



Using snap ring pliers, install the transfer input gear shaft snap ring.

■ 32.INSTALL NO. 2 TRANSFER CASE COVER

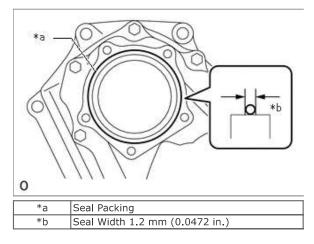
36122

a. Using a scraper, clean the seal packing from the No. 2 transfer case cover and rear transfer case and remove any oil using a cleaning solvent.

NOTICE:

Do not scratch the installation area.





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

Seal packing:

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent

NOTICE:

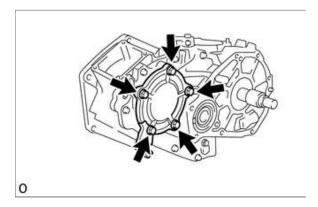
Install the No. 2 transfer case cover to the case within 10 minutes of application.

- c. Clean and degrease the bolt and the installation hole.
- **d.** Apply adhesive to 2 or 3 threads on the ends of the bolt.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

e.



Install the No. 2 transfer case cover with the 5 bolts and bracket.

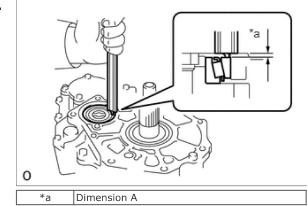
Torque:

37.24 N*m (380 kgf*cm, 27 ft.*lbf)

■ 33.INSTALL TRANSFER IDLER GEAR PLATE WASHER

36221D

a.

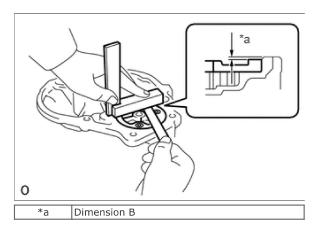


Using a vernier caliper with depth gauge, measure dimension A.

HINT:

Lightly hold down the bearing outer race in the thrust direction to eliminate any looseness before making the measurement.

b.



Using a feeler gauge and precision straightedge, measure the clearance of dimension B.

c. Calculate the required thickness of the plate washer.

Thickness:

Dimension A + Dimension B + Dimension C

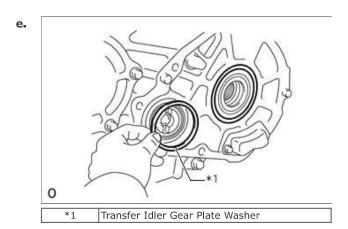
Dimension C:

0.02 to 0.07 mm (0.00079 to 0.00276 in.)

 \mathbf{d}_{\bullet} From the following table, select a plate washer with a thickness fitting within the range of the calculation in (c).

		ess:

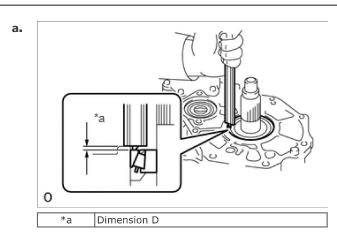
Mark	Thickness	Mark	Thickness
2 0.3 mm (0.0118 in.)		7	3.0 mm (0.118 in.)
3	0.45 mm (0.0177 in.)	8	3.2 mm (0.1260 in.)
13 0.55 mm (0.0217 in.)		9	3.4 mm (0.1339 in.)
4 2.4 mm (0.0945 in.)		10	3.6 mm (0.1417 in.)
5	2.6 mm (0.1024 in.)	11	3.8 mm (0.1496 in.)
6	2.8 mm (0.1102 in.)	12	4.0 mm (0.1575 in.)



Install the transfer idler gear plate washer.

■ 34.INSTALL TRANSFER OUTPUT REAR CASE PLATE WASHER

36231K



Using a vernier caliper with depth gauge, measure dimension D.

HINT:

Lightly hold down the bearing outer race in the thrust direction to eliminate any looseness before making the measurement.

b. Calculate the required thickness of the plate washer.

Thickness:

Dimension D + Dimension E

Dimension E:

0.04 to 0.09 mm (0.00157 to 0.00354 in.)

c. From the following table, select a plate washer with a thickness fitting within the range of the calculation in (a).

Standard Thickness:

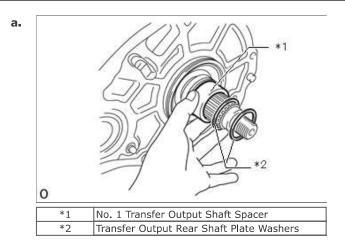
_	Standard Tilleknessi					
	Mark	Thickness	Mark	Thickness		

Mark	Thickness	Mark	Thickness
2	0.3 mm (0.0118 in.)	7	1.6 mm (0.0630 in.)
3	0.45 mm (0.0177 in.)	8	1.8 mm (0.0709 in.)
13	0.55 mm (0.0217 in.)	9	2.0 mm (0.0787 in.)
4	1.0 mm (0.0394 in.)	10	2.2 mm (0.0866 in.)
5	1.2 mm (0.0472 in.)	11	2.4 mm (0.0945 in.)
6	1.4 mm (0.0551 in.)	12	2.6 mm (0.1024 in.)

d. Install the transfer output rear case plate washer.

35.INSTALL NO. 1 TRANSFER OUTPUT SHAFT SPACER

36255



Install the No. 1 transfer output shaft spacer and 2 transfer output rear shaft plate washers.

36.INSTALL REAR TRANSFER EXTENSION HOUSING SUB-ASSEMBLY

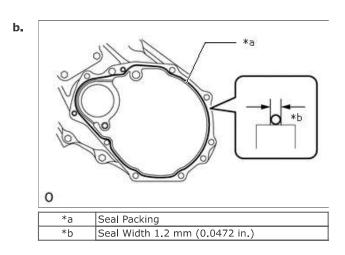
36109B

 Using a scraper, clean the seal packing from the rear transfer extension housing sub-assembly and rear transfer case and remove any oil using a cleaning solvent.

NOTICE:

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Do not scratch the installation area.



Apply seal packing to the rear transfer extension housing sub-assembly as shown in the illustration. **Seal packing:**

Toyota Genuine Seal Packing 1281, Three Bond 1281 or equivalent

NOTICE:

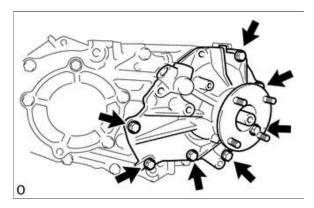
Install the rear transfer extension housing sub-assembly to the case within 10 minutes of application.

- c. Clean and degrease the bolt and the installation hole.
- **d.** Apply adhesive to 2 or 3 threads on the ends of the bolt.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

e.



w/ ABS:

i. Install the rear transfer extension housing sub-assembly with the 7 bolts.

Torque

37.24 N*m (380 kgf*cm, 27 ft.*lbf)

- f. w/o ABS:
 - i. Install the rear transfer extension housing sub-assembly with the 9 bolts.

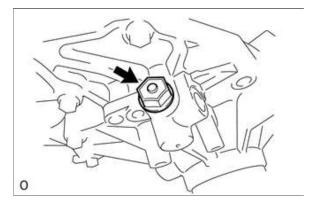
Torque

37.24 N*m (380 kgf*cm, 27 ft.*lbf)

■ 37.INSTALL TRANSFER CASE PLUG

36111C

a.



Install the transfer case plug and a new gasket to the rear transfer extension housing sub-assembly.

Torque:

37.24 N*m (380 kgf*cm, 27 ft.*lbf)

■ 38.INSTALL FRONT TRANSFER EXTENSION HOUSING SUB-ASSEMBLY

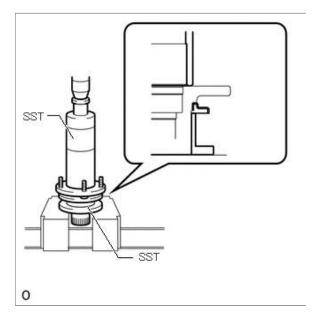
36105

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE FRONT OIL SEAL>REPLACEMENT

■ 39.INSTALL DUST DEFLECTOR

33309A

a.



Using SST and a press, install a new dust deflector.

SST

09316-20011 09316-60011 (09316-00011)

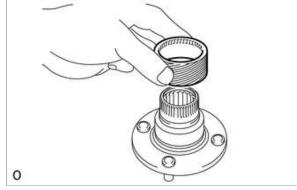
NOTICE:

Press in the dust deflector until it fits to the edge.

40.INSTALL TRANSFER SPEEDOMETER DRIVE GEAR

33481P

a.



Install the transfer speedometer drive gear.

41.INSTALL TRANSFER OUTPUT SHAFT COMPANION FLANGE SUB-ASSEMBLY

33309

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE REAR OIL SEAL>REPLACEMENT

42.INSTALL SHIFT DETENT BALL SPRING PLUG

36275

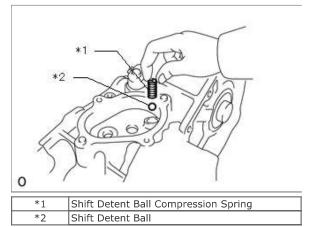
- **a.** for Front Transfer Case Side:
 - i. Clean and degrease the shift detent ball spring plug and the installation hole.
 - ii. Apply adhesive to 2 or 3 threads on the ends of the shift detent ball spring plug.

Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

iii. Using a T40 "TORX" socket wrench, install the 2 shift detent ball spring plugs.



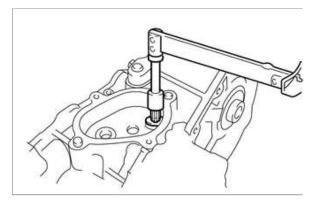


Install the shift detent ball and shift detent ball compression spring.

v. Apply adhesive to 2 or 3 threads of the shift detent ball spring plug. Adhesive:

Toyota Genuine Adhesive 1344, Three Bond 1344 or equivalent

vi.

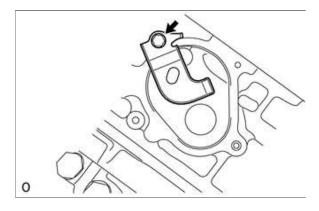


Using a T40 "TORX" socket wrench, install the shift detent ball spring plug.

Torque:

18.62 N*m (190 kgf*cm, 14 ft.*lbf)

vii.



Install the bracket with the bolt.

Torque:

11.76 N*m (120 kgf*cm, 9 ft.*lbf)

b. for Front Transfer Extension Housing Side: Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER CASE FRONT OIL SEAL>REPLACEMENT

■ 43.INSTALL NO. 1 TRANSFER INDICATOR SWITCH (L4 POSITION) (w/ ABS)

84222

■ 44.INSTALL TRANSFER HEAT INSULATOR (w/ ABS)

36336

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER INDICATOR SWITCH>INSTALLATION

■ 45.INSTALL NO. 1 TRANSFER INDICATOR SWITCH (4WD POSITION)

84222

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER INDICATOR SWITCH>INSTALLATION

- **■** 46.INSTALL SPEEDOMETER DRIVEN GEAR SUB-ASSEMBLY (w/o ABS)
- Install the speedometer driven gear sub-assembly with the bolt.

Torque:

16 N*m (163 kgf*cm, 12 ft.*lbf)

■ 47.INSTALL SPEEDOMETER DRIVEN HOLE COVER SUB-ASSEMBLY (w/ ABS)

33403D

- a. Coat a new O-ring with transfer oil and install it to the speedometer driven hole cover sub-assembly.
- **b.** Install the speedometer driven hole cover sub-assembly with the bolt.

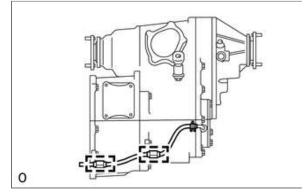
Torque:

16 N*m (163 kgf*cm, 12 ft.*lbf)

■ 48.INSTALL REAR NO. 1 TRANSFER CASE HOSE

36112B

a.



Install the rear No. 1 transfer case hose.

- **b.** Connect the rear No. 1 transfer case hose to the 2 clamps.
- **■** 49.ADD TRANSFER OIL

Click hereDrivetrain>HF1A (TRANSFER / 4WD / AWD)>TRANSFER OIL>REPLACEMENT

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