

DAIHATSU

ROCKY

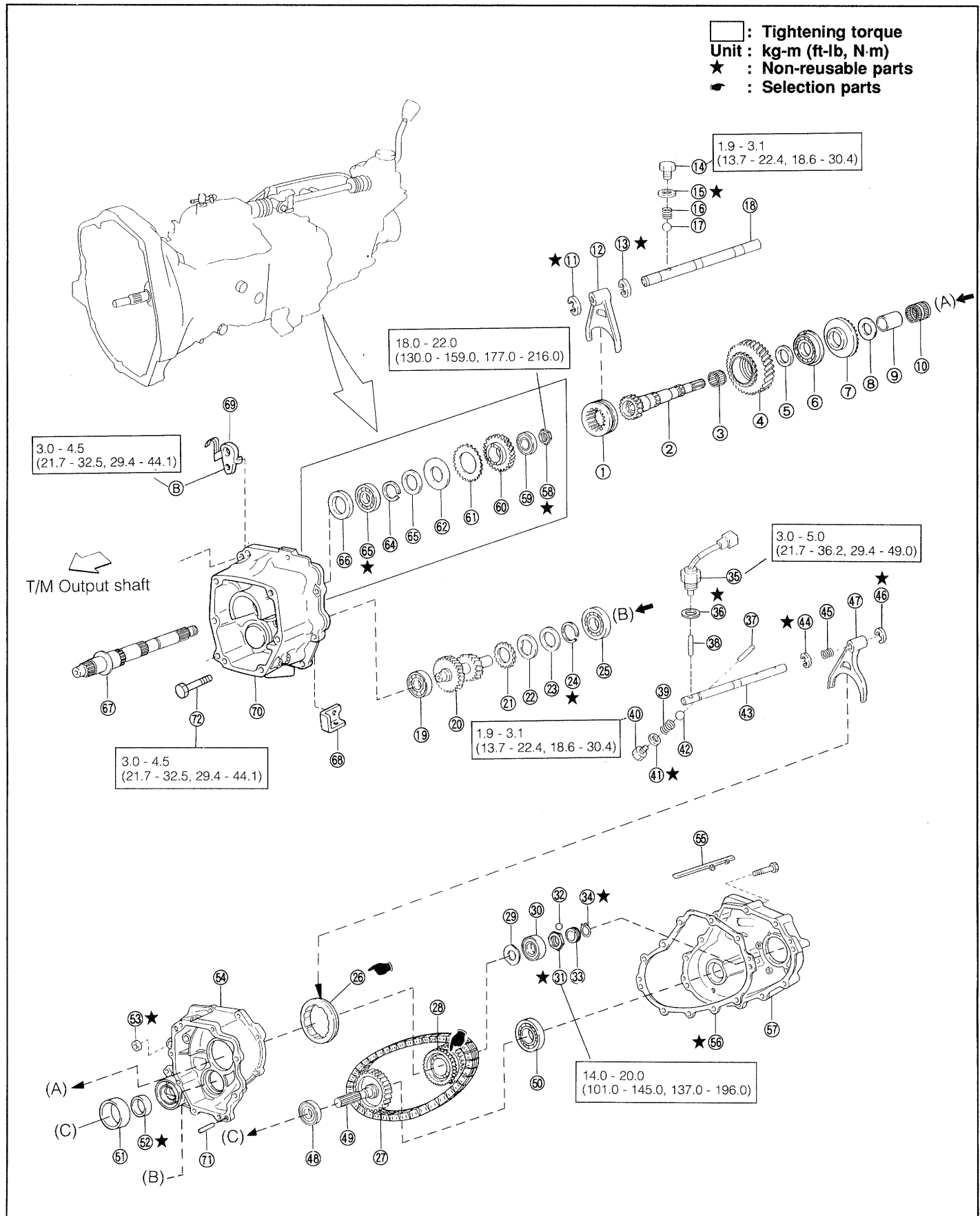
TRANSMISSION & TRANSFER

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TR

WRU92-TR409

TRANSFER COMPONENTS



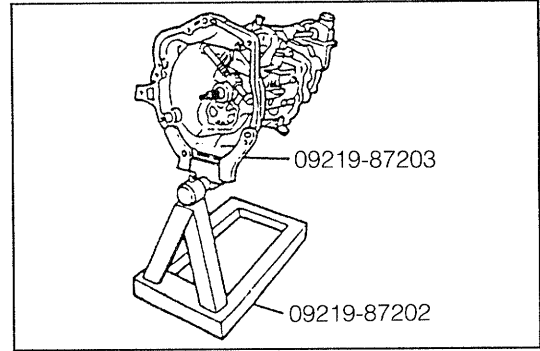
- | | |
|--|--|
| ① Transfer high & low clutch sleeve | ③⑦ Roller |
| ② Transfer output rear shaft | ③⑧ Roller |
| ③ Needle roller bearing | ③⑨ Spring |
| ④ Transfer low speed output gear | ④⑩ Bolt |
| ⑤ Transfer output gear thrust washer | ④⑪ Gasket |
| ⑥ Radial ball bearing | ④⑫ Ball |
| ⑦ Front drive clutch hub | ④⑬ Transfer front drive shift fork shaft |
| ⑧ Transfer output shaft spacer No. 2 | ④⑭ "E" ring |
| ⑨ Transfer front drive gear bearing inner race | ④⑮ Spring |
| ⑩ Needle roller bearing | ④⑯ "E" ring |
| ⑪ "E" ring | ④⑰ Transfer front drive shift fork |
| ⑫ Transfer high & low shift fork | ④⑱ Radial ball bearing |
| ⑬ "E" ring | ④⑲ Transfer output front shaft |
| ⑭ Bolt | ④⑳ Radial ball bearing |
| ⑮ Gasket | ④㉑ Extension housing dust deflector |
| ⑯ Spring | ④㉒ Oil seal |
| ⑰ Ball | ④㉓ Tight plug |
| ⑱ Transfer high & low shift fork shaft | ④㉔ Transfer front case subassembly |
| ⑲ Radial ball bearing | ④㉕ Transfer oil supply pipe |
| ⑳ Transfer counter gear | ④㉖ Transfer case gasket |
| ㉑ Sub-gear No. 2 | ④㉗ Transfer rear case |
| ㉒ Washer plate | ④㉘ Lock nut |
| ㉓ Conical spring washer | ④㉙ Bearing |
| ㉔ Snap ring | ④㉚ Transfer low speed input gear |
| ㉕ Radial ball bearing | ④㉛ Sub-gear No. 1 |
| ㉖ Transfer front drive gear sleeve | ④㉜ Washer plate |
| ㉗ Transfer front drive chain | ④㉝ Conical spring washer |
| ㉘ Transfer front drive gear | ④㉞ Snap ring |
| ㉙ Transfer output gear thrust washer | ④㉟ Radial ball bearing |
| ㉚ Radial ball bearing | ④㊱ Oil seal |
| ㉛ Lock nut | ④㊲ Transmission output shaft |
| ㉜ Ball | ④㊳ Exhaust pipe support bracket |
| ㉝ Speedometer drive gear | ④㊴ Engine hanger |
| ㉞ Snap ring | ④㊵ Transfer adapter subassembly |
| ㉟ Transmission position detecting switch | ④㊶ Straight pin |
| ㊱ Gasket | ④㊷ Hexagon bolt |

TRANSFER DISASSEMBLY

1. Install the transmission with transfer on the overhaul stand, using the following SSTs.

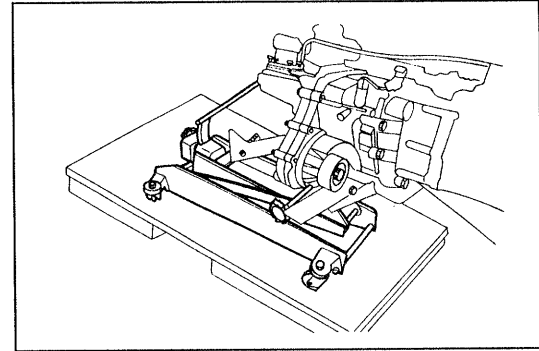
SST: 09219-87202-000
09219-87203-000

(As for the removal of transmission assembly with transfer, see page MT-16 to MT-20.)



WRU92-TR409

2. Place a wooden plate(s) or any other suitable materials on the overhauling stand, as shown in the diagram at right.
3. Support the transfer front case and transfer rear case with a transmission jack.

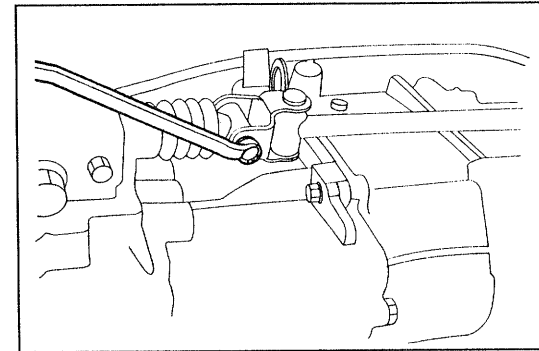


WRU90-TR005

4. Remove the control shaft with installed the shift lever retainer subassembly by removing the hexagon bolt.

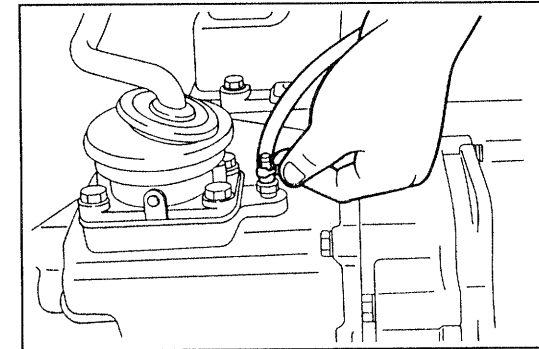
NOTE:

- When disconnecting the control shaft from the shift & select No. 1 shaft, care must be exercised as to the "O" ring which may be detached during the removal.



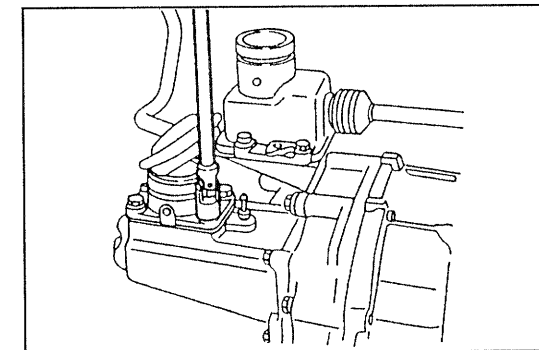
WRU90-TR006

5. Remove the breather hose by detaching a clip.



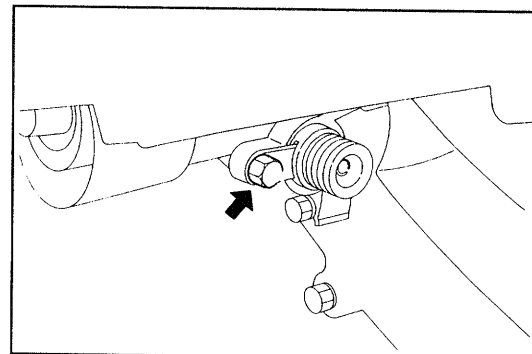
WRU90-TR007

6. Remove the transfer shift lever retainer and gasket by removing the four bolts.
(As for the disassembly/assembly and inspection for the removed parts, see page TR-36.)



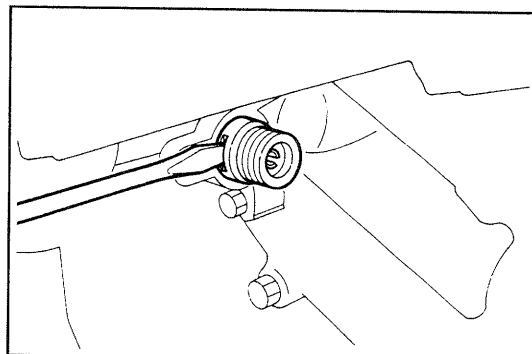
WRU92-TR410

7. Remove the speedometer sleeve lock plate by removing the bolt.



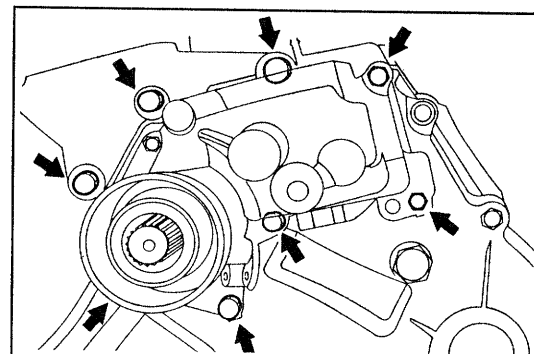
WRU90-TR009

8. Remove the speedometer sleeve, using the standard tool of flat driver arrow to remove the speedometer sleeve.



WRU90-TR010

9. Removal of transfer output shaft bearing retainer
 - (1) Remove the eight bolts.

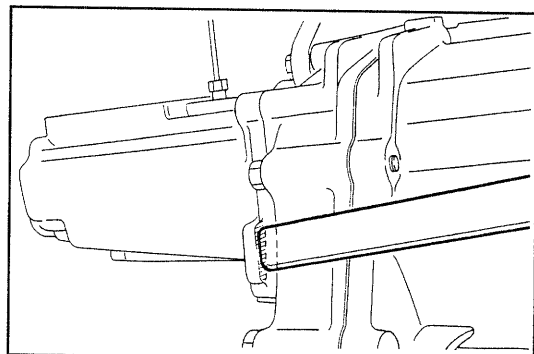


WRU90-TR011

- (2) Remove the transfer output shaft bearing retainer by tapping the both right and left ribs section, using the wooden bar with plastic hammer lightly.
 - (3) Remove the gasket.

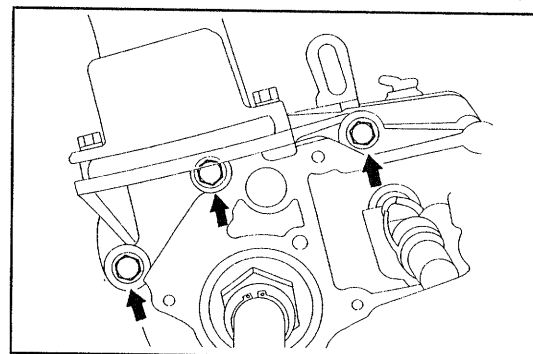
NOTE:

- Never reuse the removed gasket.



WRU90-TR012

10. Remove the control shaft lower No. 1 bracket with installed the shift & select shaft and control shaft by removing the two hexagon bolts and the bolt.



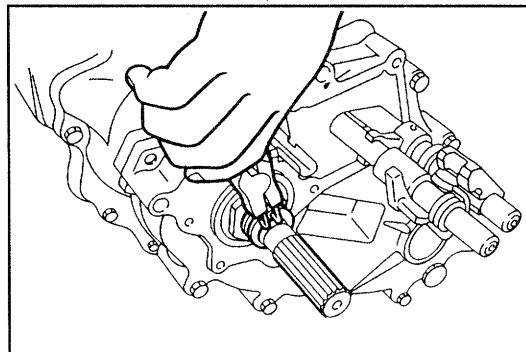
WRU90-TR013

TRANSMISSION & TRANSFER

11. Detach the snap ring. Remove the speedometer driven gear and ball.

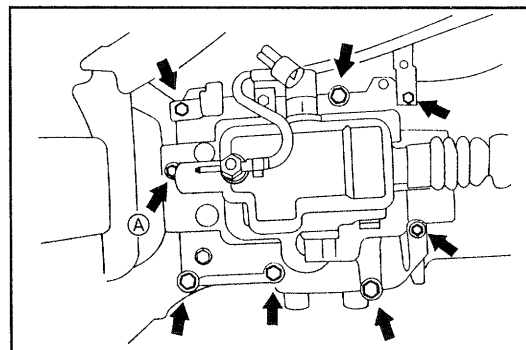
NOTE:

- Never reuse the removed snap ring.



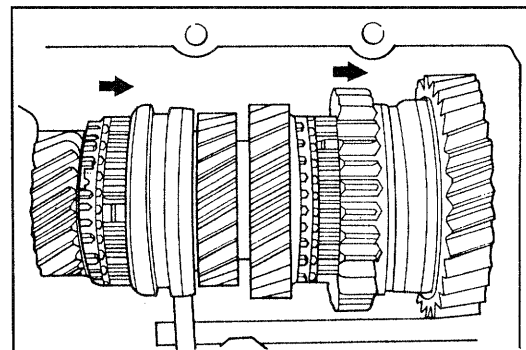
WRU90-TR014

12. Remove the transmission case cover subassembly by removing the seven bolts and the reamer bolt (A).



WRU90-TR015

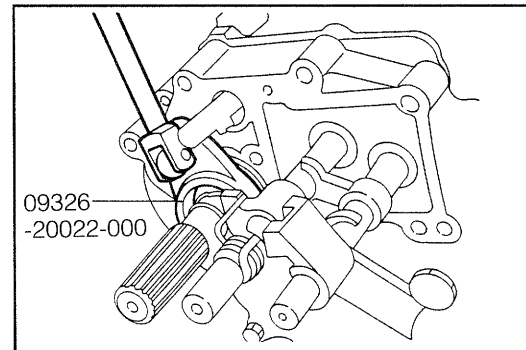
13. Interlock the 1st gear and the 3rd gear.



WRU90-TR016

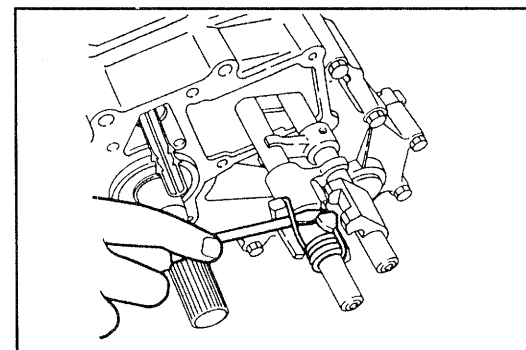
14. Raise the lock section of the lock nut.
15. Remove the lock nut from the transfer output rear shaft, using the following SST.

SST: 09326-20022-000



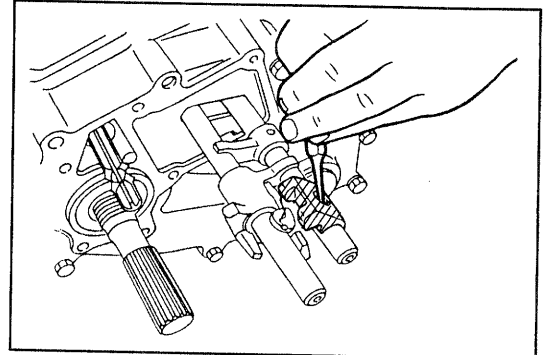
WRU90-TR017

16. Remove the torsion bar spring, using the standard tool of flat driver.



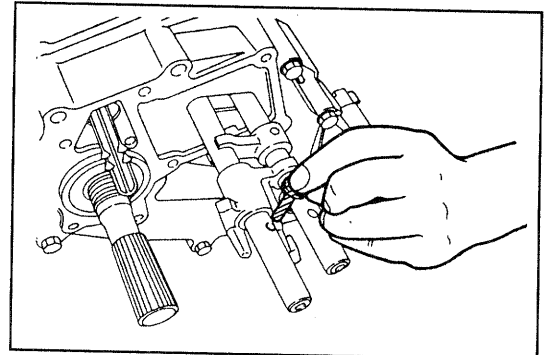
WRU90-TR018

17. Drive out the slotted pin of the transfer front drive shift head. Remove the transfer front drive shift head. (As for the inspection for the removed parts, see page TR-19.)



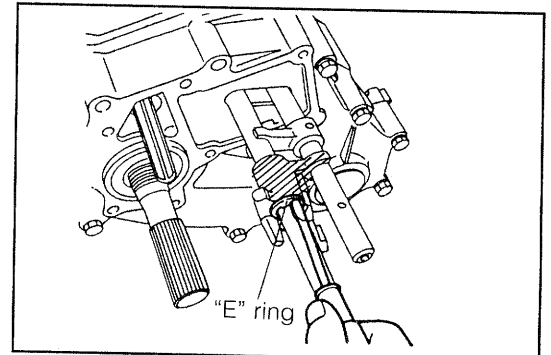
WRU90-TR019

18. Remove the transfer fork shaft pin. (As for the inspection for the removed parts, see page TR-19.)



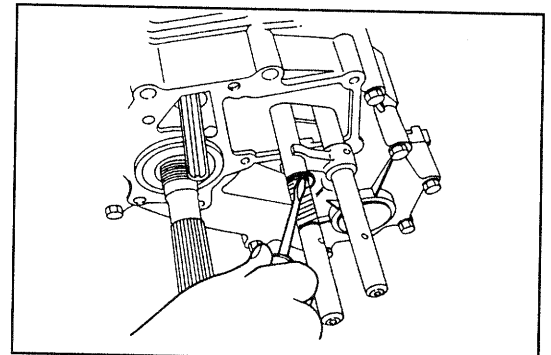
WRU90-TR020

19. Remove the "E" ring. Remove the transfer high & low shift head. (As for the inspection for the removed parts, see page TR-19.)



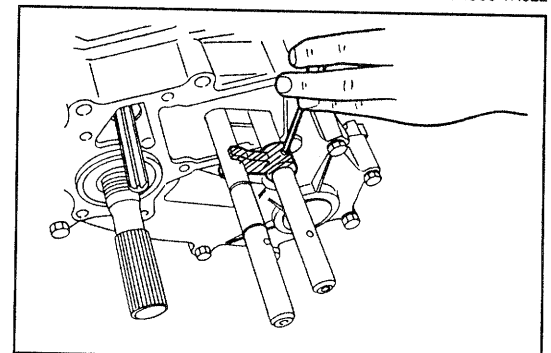
WRU90-TR021

20. Remove the "E" ring.



WRU90-TR022

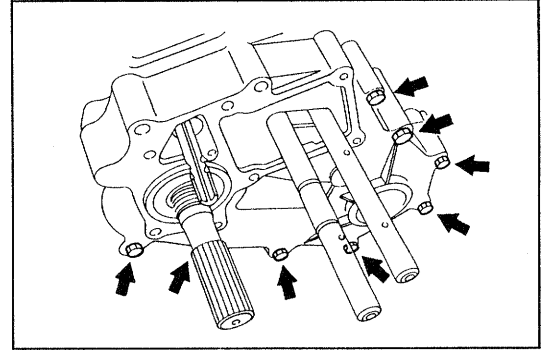
21. Drive out the slotted pin of the transfer front drive shift head No. 2. Remove the transfer front drive shift head No. 2. (As for the inspection for the removed parts, see page TR-19.)



WRU90-TR023

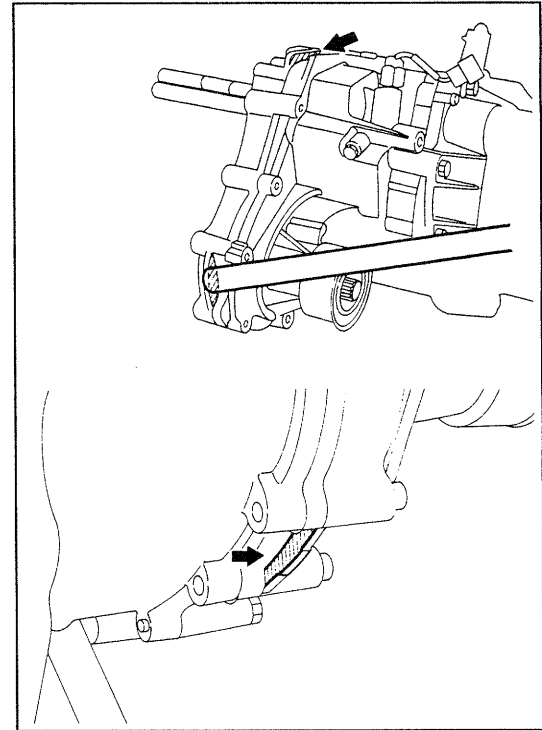
TRANSMISSION & TRANSFER

22. Remove the transfer rear case by removing the eight bolts.



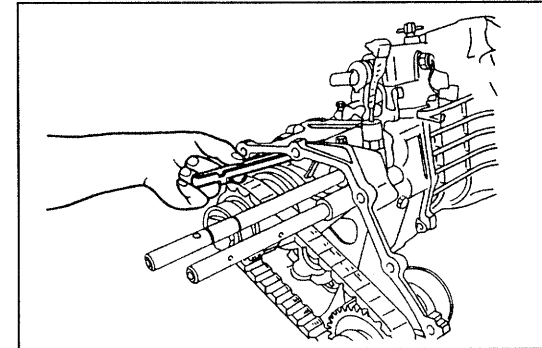
WRU90-TR024

23. Remove the transfer rear case by lightly tapping the ribs section using the wooden bar with plastic hammer.



WRU90-TR025

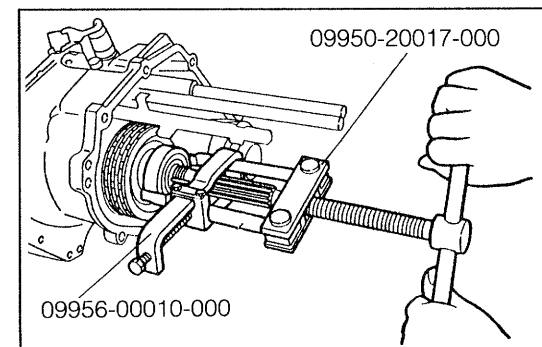
24. Remove the gasket and transfer oil supply pipe.



WRU90-TR026

25. Remove the bearing, using the following SSTs.
(As for the inspection for the removed parts, see page TR-17.)

SST: 09950-20017-000
09956-00010-000

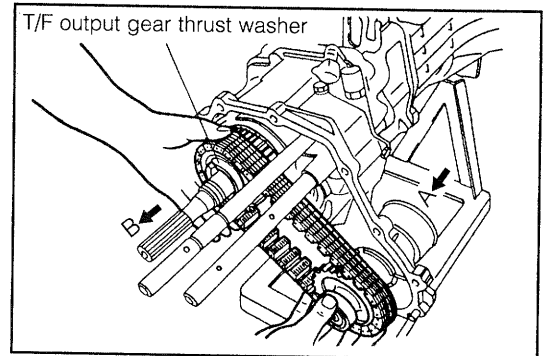


WRU92-TR411

26. Remove the transfer output gear thrust washer.
27. Remove the transfer front drive chain and transfer output gear together with the transfer output front shaft.
(As for the inspection for the removed parts, see page TR-15.)

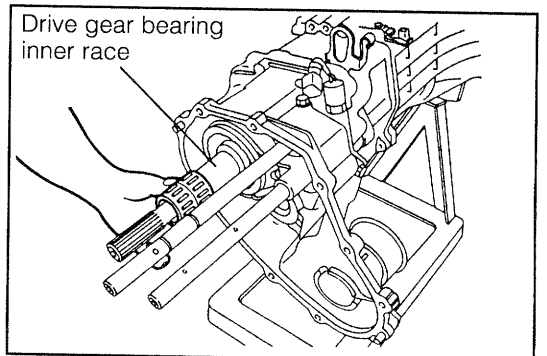
NOTE:

- Lightly tapping the transfer front shaft A with a plastic hammer.
- Pull out the transfer output rear shaft and transfer front shaft with installed the transfer front drive chain toward you B.



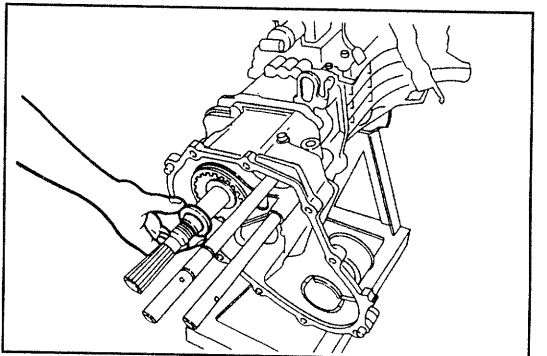
WRU90-TR028

28. Remove the needle roller bearing and transfer front drive gear bearing inner race.
(As for the inspection for the removed parts, see page TR-19.)



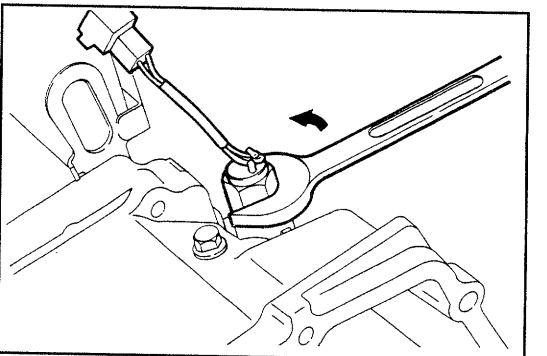
WRU90-TR029

29. Remove the transfer output gear thrust washer.



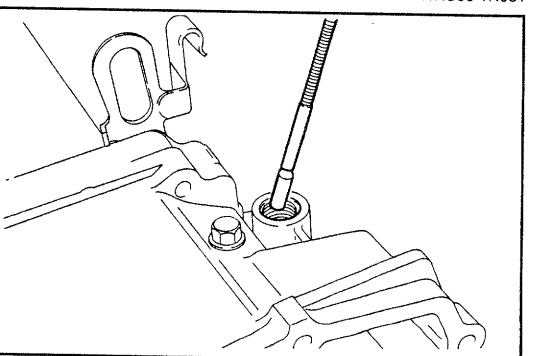
WRU90-TR030

30. Remove the transmission position detect switch and gasket.
NOTE:
 - Never reuse the removed gasket.



WRU90-TR031

31. Remove the roller, using the standard tool of magnet hand.



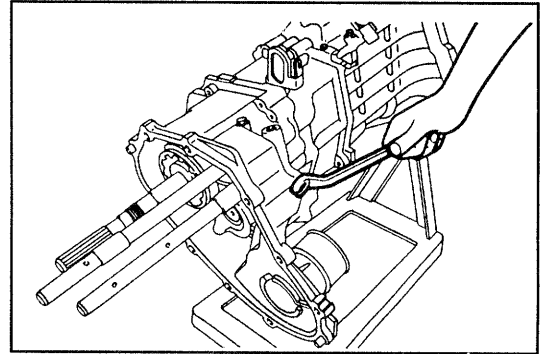
WRU90-TR032

TRANSMISSION & TRANSFER

32. Remove the lock bolt of the transfer front drive shift fork shaft and gasket.

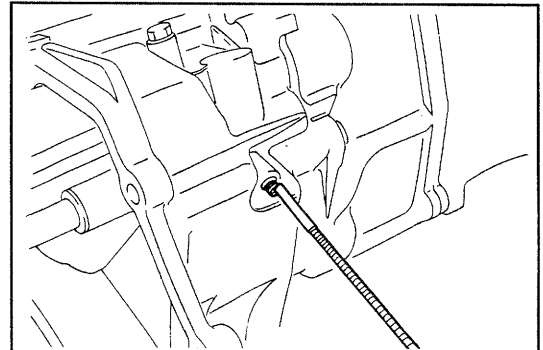
NOTE:

- Never reuse the removed gasket.



WRU90-TR033

33. Remove the compression spring and ball, using the standard tool of magnet hand.

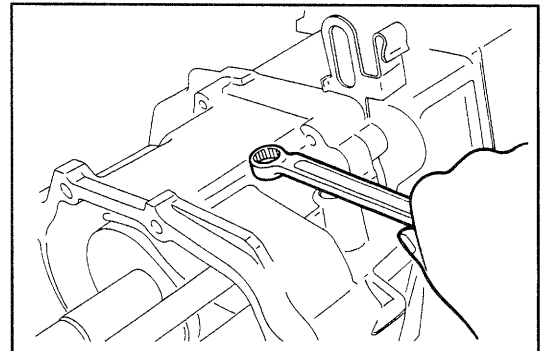


WRU90-TR034

34. Remove the lock bolt of the transfer high & low shift fork shaft and gasket.

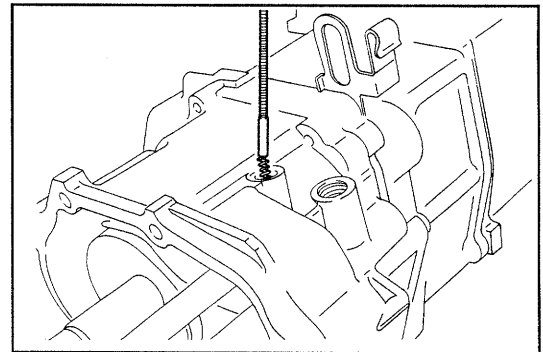
NOTE:

- Never reuse the removed gasket.



WRU90-TR035

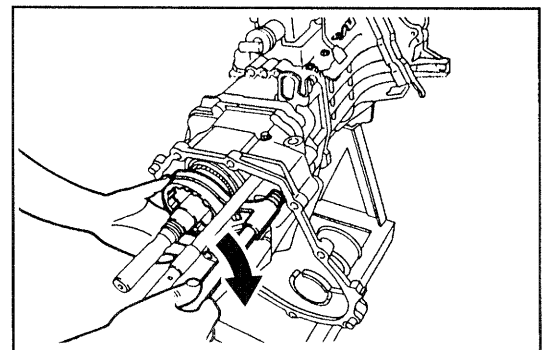
35. Remove the compression spring and ball, using the standard tool of magnet hand.



WRU90-TR036

36. Turn the transfer front drive shift fork shaft 180 degree and then, remove the following parts in a set.

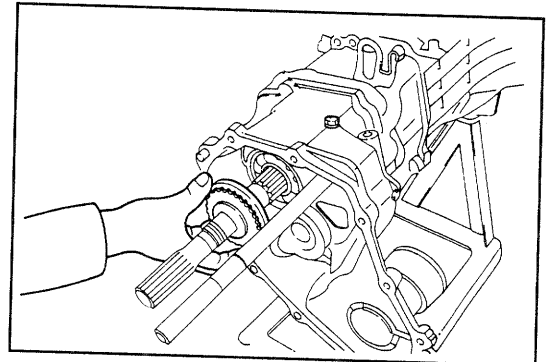
- Transfer front drive gear sleeve
- Transfer front drive shift fork
- Transfer front drive shift fork shaft
- Needle roller bearing
- Transfer front drive gear bearing inner race



WRU90-TR037

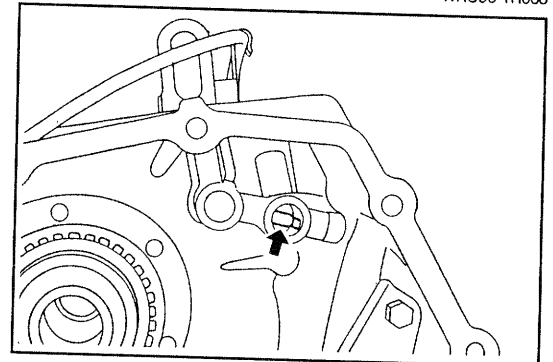
37. Remove the transfer front drive clutch hub and transfer output shaft spacer.

(As for the inspection for the removed parts, see page TR-18.)



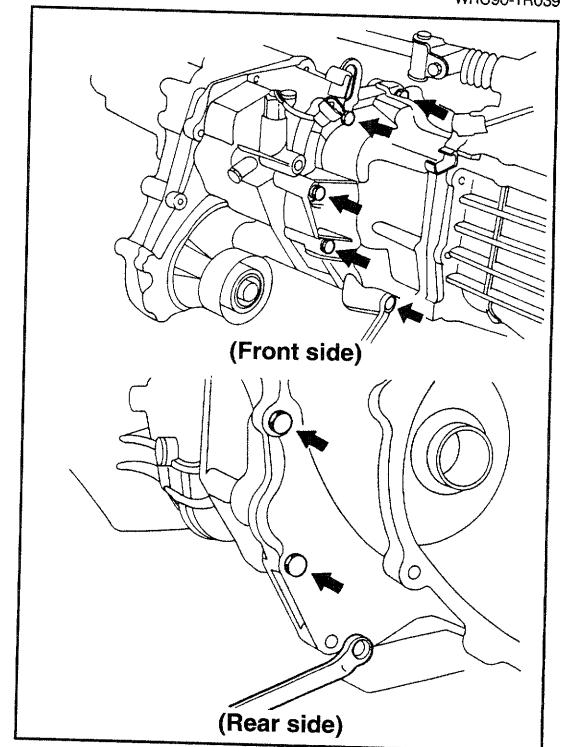
WRU90-TR038

38. Remove the roller, using the common tool of magnet hand.



WRU90-TR039

39. Remove the transfer front case by removing the seven bolts.

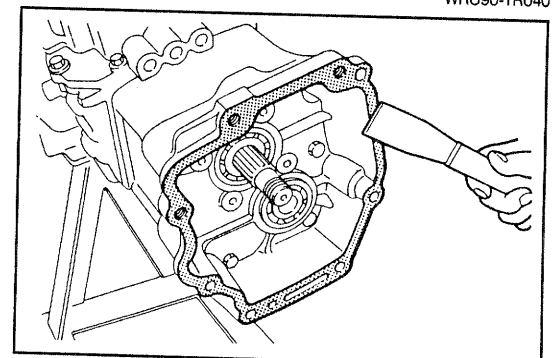


WRU90-TR040

40. Remove the gasket on the transfer adapter, using the gasket scraper.

NOTE:

- Be very careful not to scratch the attaching surface.



WRU90-TR041

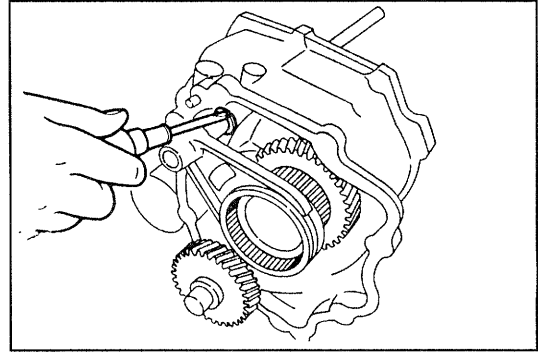
TRANSMISSION & TRANSFER

41. Remove the two “E” rings at the front and rear that retain the transfer high & low shift fork in the thrust direction.

NOTE:

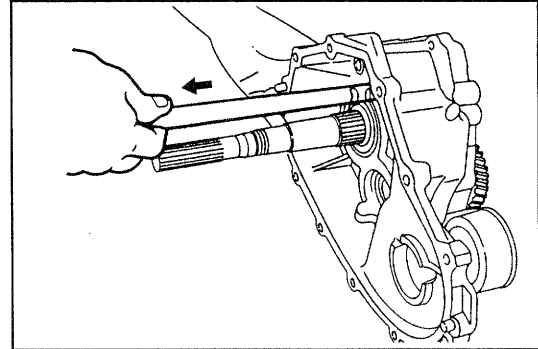
- Never reuse the removed “E” rings.

42. Remove the transfer high & low shift fork.



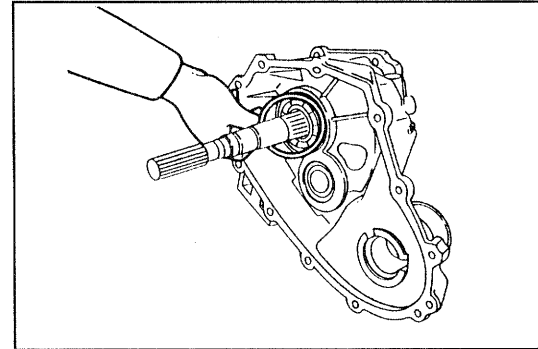
WRU90-TR042

43. Pull out the transfer high & low shift fork shaft toward you.



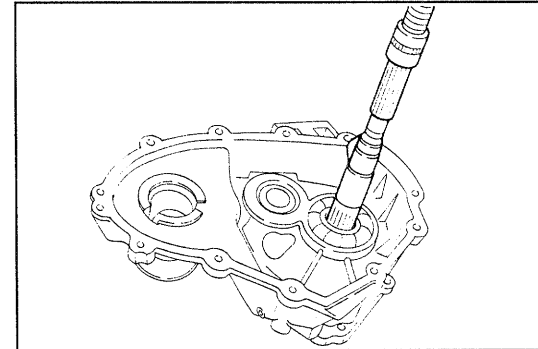
WRU90-TR043

44. Detach the stop ring of the transfer output rear shaft bearing.



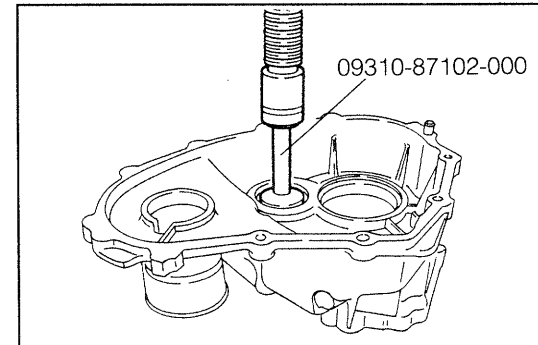
WRU90-TR044

45. Remove the transfer output rear shaft, using a press.



WRU90-TR045

46. Press the transfer counter shaft, using the following SST.
SST: 09310-87102-000



WRU90-TR046

47. Set the disc-shaped plate (C) on the oil seal, using the following SST. Remove the dust deflector.

SST: 09950-20017-000

(Disc-shaped plate (C) that is a part of 09950-20017-000)

48. Remove the oil seal with a screwdriver.

CAUTION:

- Never reuse the removed oil seal.

DISASSEMBLY OF TRANSFER OUTPUT FRONT SHAFT

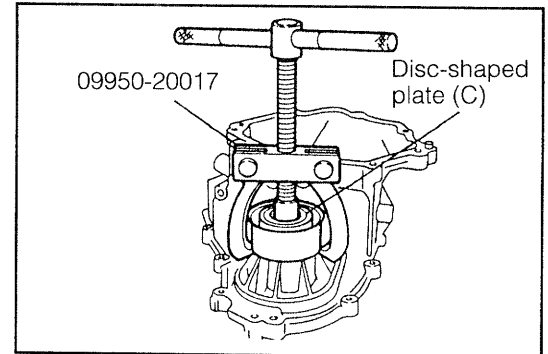
1. Set the following SST in a vice with transfer output front shaft installed.

Remove the bearing at the rear side of the transfer output front shaft, using the following SST.

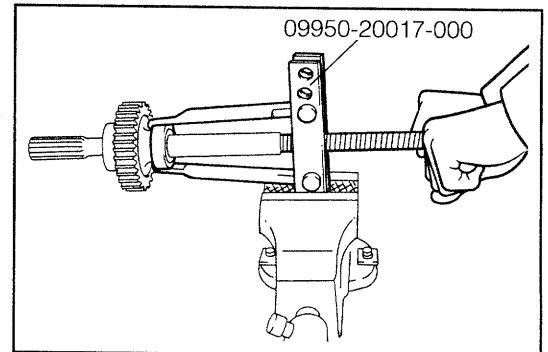
SST: 09950-20017-000

Remove the bearing at the front side of the transfer output front shaft.

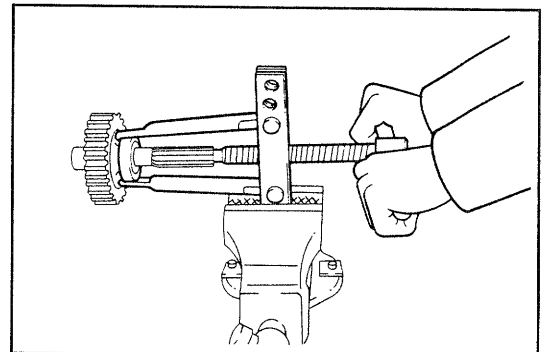
SST: 09950-20017-000



WRU90-TR047



WRU90-TR048



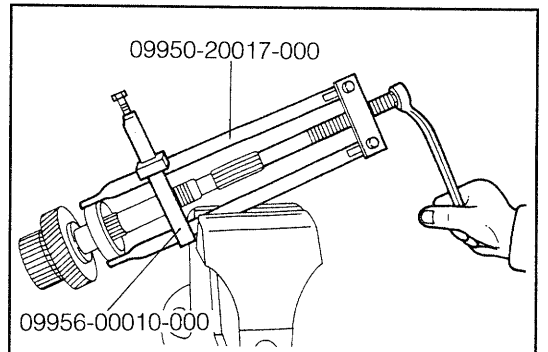
WRU90-TR049

DISASSEMBLY OF TRANSFER OUTPUT REAR SHAFT

1. Remove the bearing from the transfer output rear shaft, using the following SSTs.

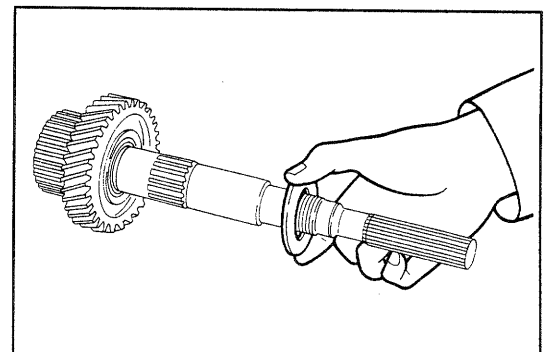
SST: 09950-20017-000

09956-00010-000



WRU90-TR050

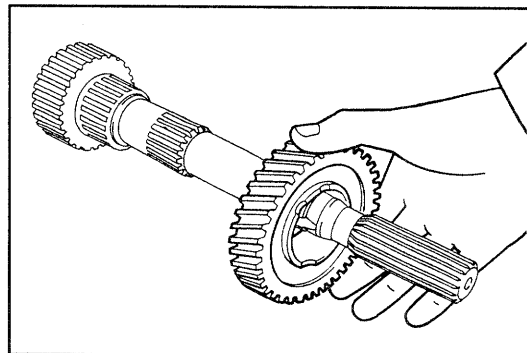
2. Remove the transfer output gear thrust washer from the transfer output rear shaft.



WRU90-TR051

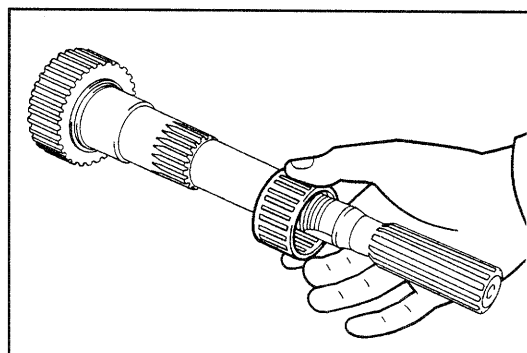
TRANSMISSION & TRANSFER

3. Remove the transfer low speed output gear from the transfer output rear shaft.



WRU90-TR052

4. Remove the needle roller bearing from the transfer output rear shaft.

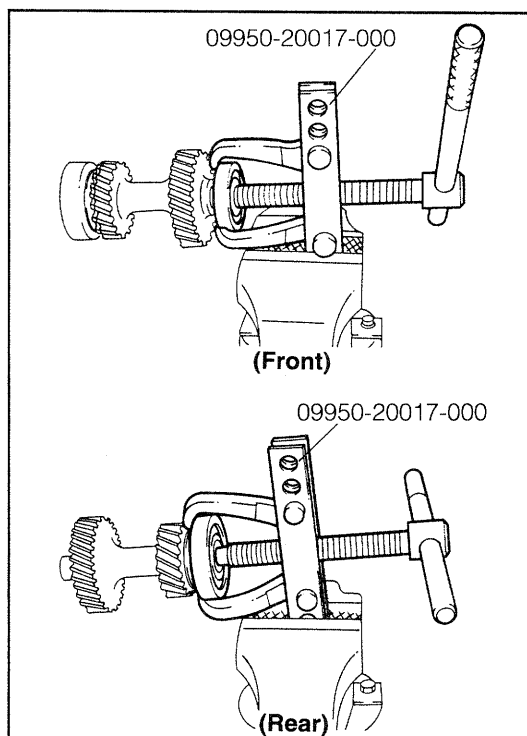


WRU90-TR053

DISASSEMBLY OF TRANSFER COUNTER GEAR

1. Set the SST in a vice with the transfer counter gear installed. Remove the front and rear bearings.

SST: 09950-20017-000

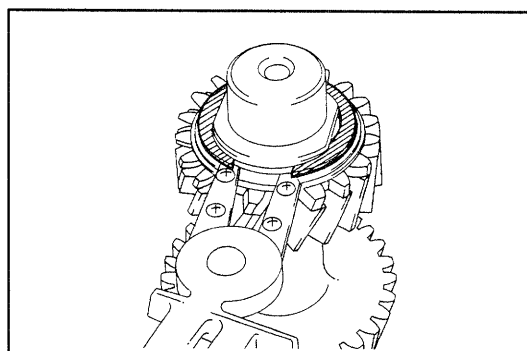


WRU90-TR054

2. Remove the snap ring, using the standard tool of snap ring plier.

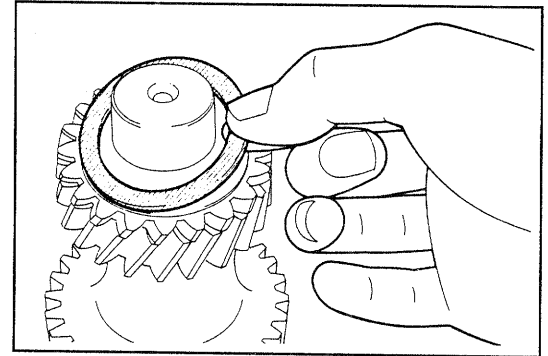
NOTE:

- Never reuse the removed snap ring.



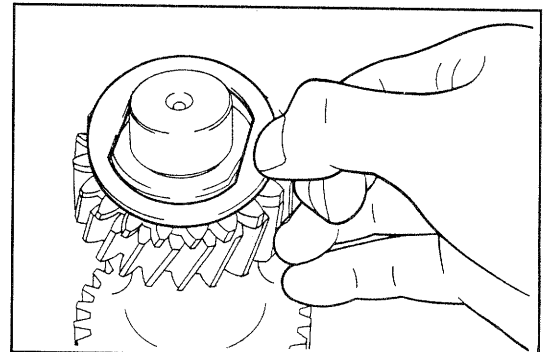
WRU90-TR055

3. Remove the conical spring washer.



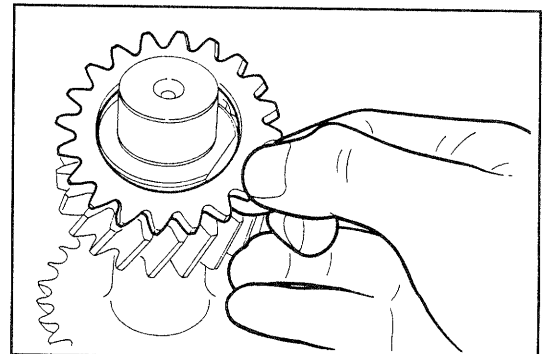
WRU90-TR056

4. Remove the washer plate.



WRU90-TR057

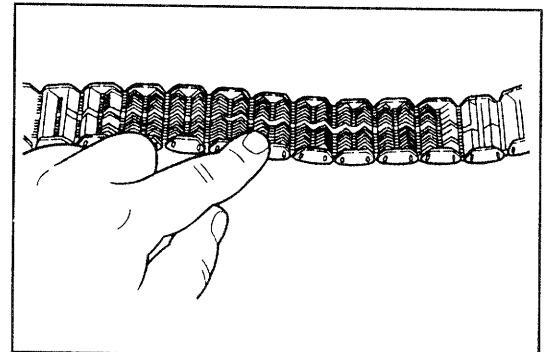
5. Remove the sub gear No. 2.



WRU90-TR058

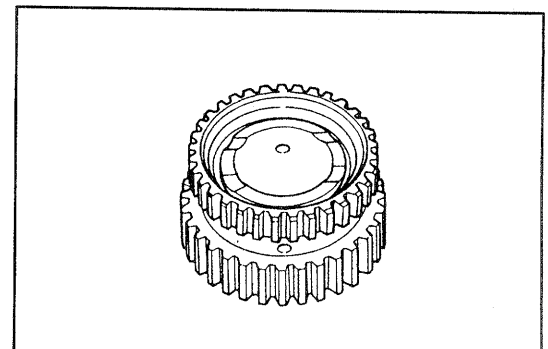
INSPECTION (FRONT DRIVE CHAIN)

1. Check the contacting surface of the transfer front drive chain with each gear for damage.



WRU90-TR059

2. Transfer front drive gear
 - (1) Check the contacting surface of the transfer front drive gear with the transfer front drive chain for damage.



WRU90-TR060

TRANSMISSION & TRANSFER

3. Measure the dimension of the transfer front drive gear and the differential lock sleeve shown in the right figure. Make sure that the clearance (A) between this gear and the differential lock sleeve may conform to the specification.

Specified Value: 0.03 - 0.19 mm
(0.0012 - 0.0075 inch)

- (1) The outer diameter dimension of the transfer front drive gear has been machined in accordance with the bore dimension of the differential lock sleeve. If either part exceeds the specified value above, be certain to replace them as a set.

CAUTION:

- If either part which has exceeded the specified value should be used against this caution, it would cause slipping-out-of-gear and or emanation of abnormal noise.

- (2) With the differential lock sleeve assembled to the transfer front drive gear, measure the tilt width at the section (B) of the differential lock sleeve.

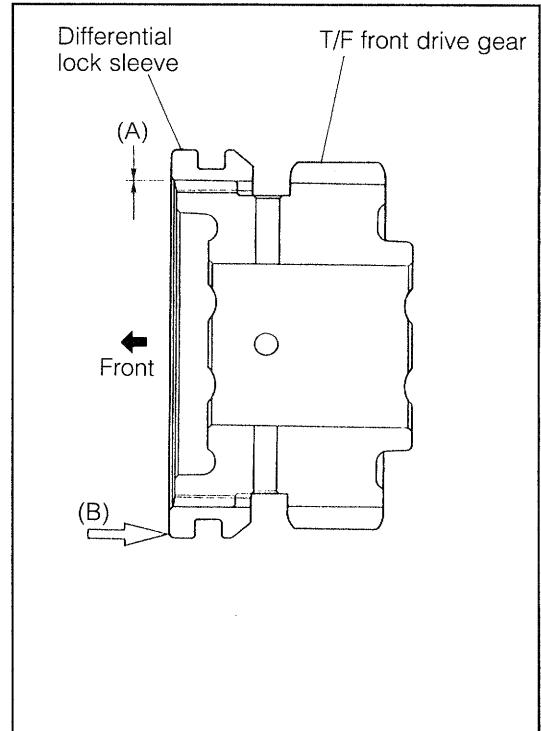
Specified Value: Not to exceed 0.5 mm (0.0197 inch)

NOTE:

- If the tilt width of the differential lock sleeve exceeds the above specified value, be certain to replace those parts of the transfer front drive gear and differential lock sleeve as a set.

Unit: mm (inch)

Classification /No.	Bore dimension	Outer dimension
	Differential lock sleeve	T/F front drive gear
2	87.371 - 87.47 (3.439 - 3.443)	87.28 - 87.34 (3.437 - 3.438)
1	82.71 - 87.37 (3.435 - 3.439)	87.18 - 87.24 (3.432 - 3.434)
3	87.17 - 87.27 (3.431 - 3.435)	87.08 - 87.14 (3.428 - 3.430)



WRU92-TR404

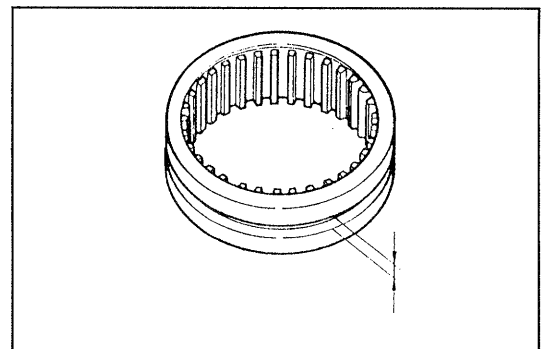
INSPECTION

(TRANSFER HIGH & LOW CLUTCH SLEEVE)

1. Using vernier calipers, measure the installation width of the transfer high & low clutch sleeve with the transfer high & low shift fork.

mm (inch)

Item	Specified value	Allowable limit
Part name		
Transfer high & low clutch sleeve	7.05 - 7.12 (0.2776 - 0.2803)	7.3 (0.2874)



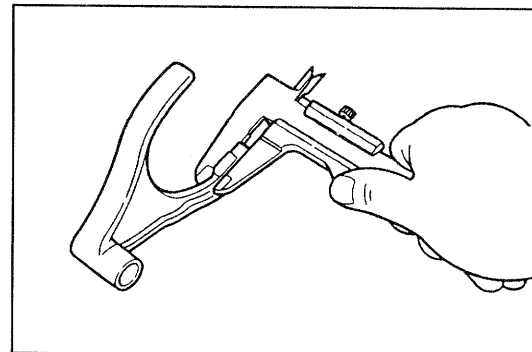
WRU90-TR063

2. Transfer high & low shift fork

Using vernier calipers, measure the contact width of the transfer high & low shift fork with the transfer high & low sleeve.

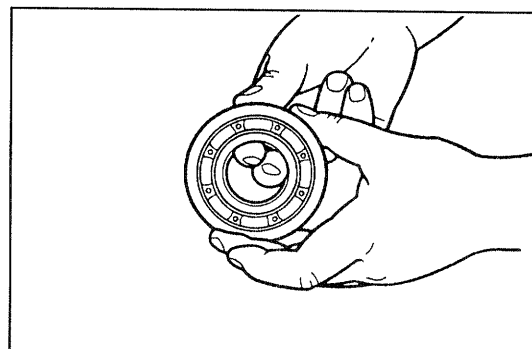
mm (inch)

Part name	Specified value	Allowable limit
Transfer high & low shift fork	6.80 - 7.00 (0.2677 - 0.2756)	6.3 (0.2480)



WRU90-TR064

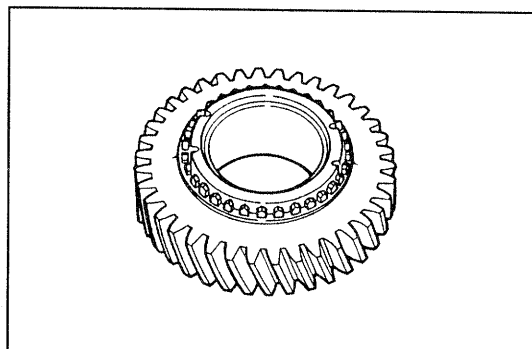
3. Rotate the bearing inner race by applying a force with your finger. Check to see if the bearing inner race rotates smoothly without any binding.



WRU90-TR065

4. Transfer low speed output gear

Check transfer low speed output gear for wear or damage.



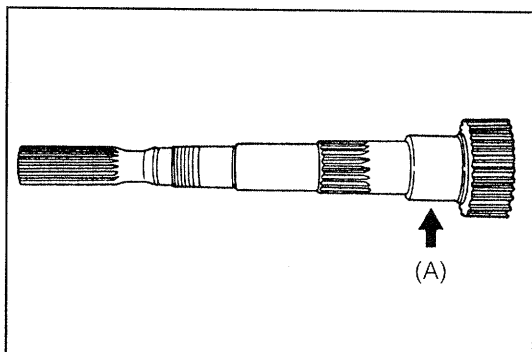
WRU90-TR066

5. Transfer output rear shaft

Measure the (A) section, transfer output rear shaft, using the micrometer.

mm (inch)

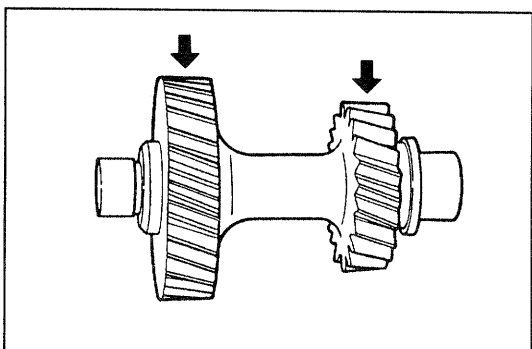
Measuring point	Specified value	Allowable limit
Section (A) in right figure	41.975 - 41.991 (1.6525 - 1.6532)	41.960 (1.6520)



WRU90-TR067

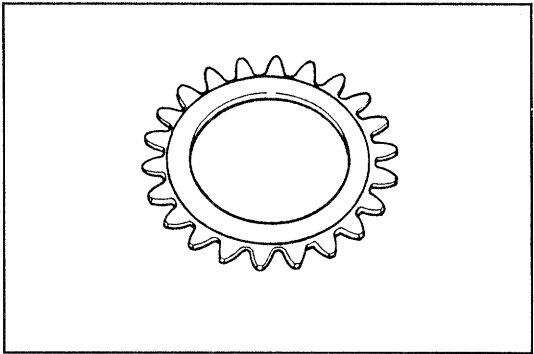
6. Transfer counter gear

Check transfer counter gear for wear or damage.



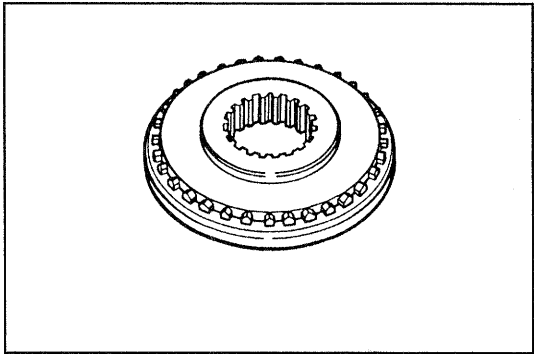
WRU90-TR068

7. Sub gear No. 2
Check sub gear No. 2 for wear or damage and deformation.



WRU90-TR069

8. Transfer front drive clutch hub
Check transfer front drive clutch hub for damage.

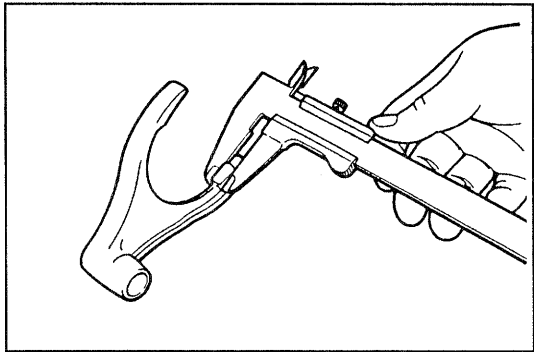


WRU90-TR070

9. Transfer front drive shift fork
Check the contact width transfer front drive shift fork with the transfer front drive gear sleeve.

mm (inch)

Item		
Nomenclature	Specified value	Allowable limit
Dimension of transfer front drive shift fork, as shown in right figure	6.8 - 6.9 (0.2677 - 0.2717)	6.3 (0.2480)



WRU90-TR071

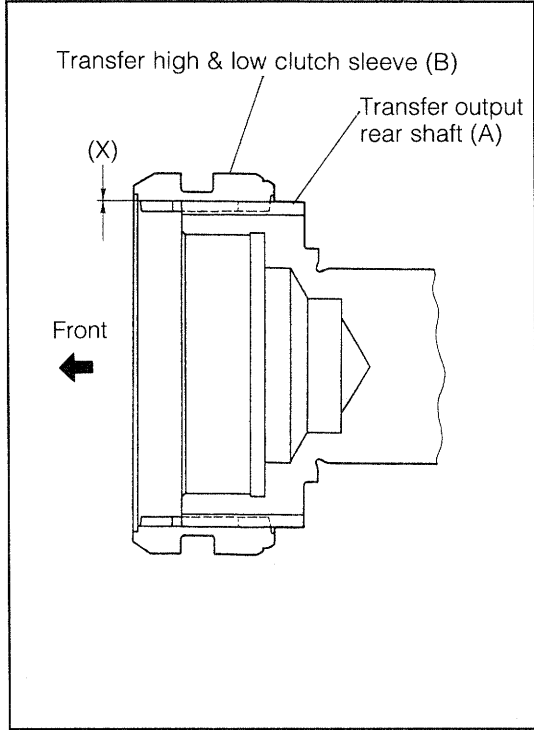
10. Measure the dimension (A) of the transfer output and (B) of the transfer high & low clutch sleeve as shown in the right figure. Make sure that the clearance (X) between this shaft and the sleeve may confirm to the specification.

Specified Valve: 0.03 - 0.19 mm
(0.0012 - 0.0075 inch)

- (1) The outer diameter dimension of the transfer output rear shaft has been machined in accordance with the bore dimension of the transfer high & low clutch sleeve. If either part exceeds the specified value above, be certain to replace them as a set.

CAUTION:

- If either part which has exceed the specified value should be used against this caution, it would cause slipping-out of gear and or emanation of abnormal noise.



WRU90-TR072

- (2) With the transfer high & low clutch sleeve assembled to the transfer output rear shaft, measure the tilt width at the section (Y) of the transfer high & low clutch sleeve.

Specified Value:

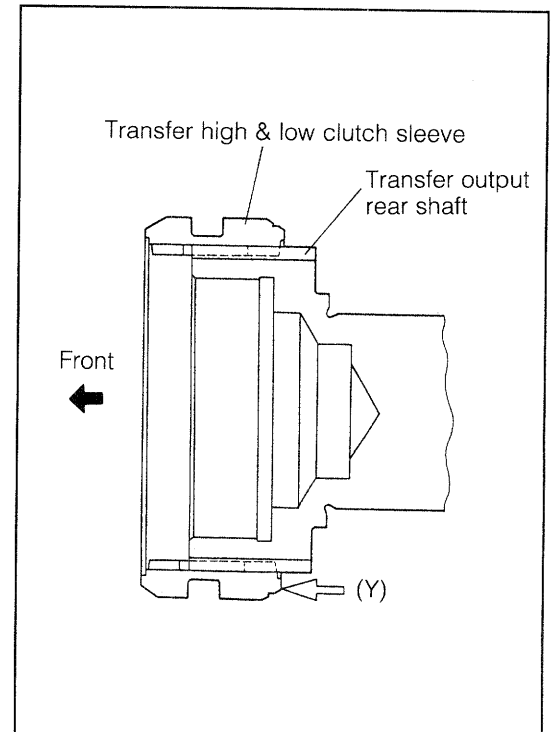
Not to exceed 0.5 mm (0.0197 inch)

NOTE:

- If the tilt width of the transfer high & low clutch sleeve exceeds the above specified value, be certain to replace those parts of the transfer output rear shaft and transfer high & low clutch sleeve as a set.

Unit: mm (inch)

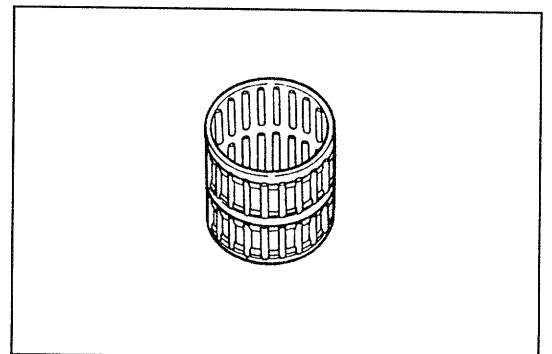
Classification /No.	Bore dimension	Outer dimension
	T/F high & low clutch sleeve	T/F output rear shaft
2	69.871 - 69.97 (2.751 - 2.755)	69.78 - 69.84 (2.747 - 2.750)
1	69.771 - 69.87 (2.747 - 2.751)	69.68 - 69.74 (2.743 - 2.746)
3	69.67 - 69.77 (2.743 - 2.747)	69.58 - 69.64 (2.739 - 2.742)



WRU90-TR400

11. Needle roller bearing

Check to see if any foreign matter is caught needle roller bearing and that the bearing exhibits any damage.

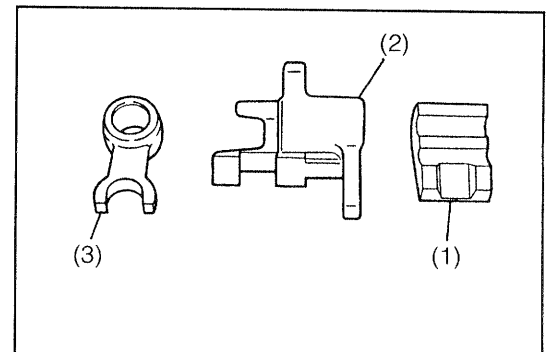


WRU90-TR073

12. Inspection (Transfer shift head-related parts)

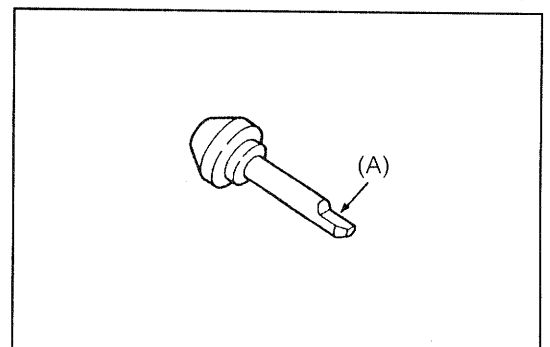
- (1) Check the following parts for damage.

- (1) Transfer front drive shift head No. 2
- (2) Transfer high & low shift head
- (3) Transfer front drive shift head



WRU90-TR074

- (2) Check the section (A) of the transfer fork shaft pin shown in the right figure for wear.



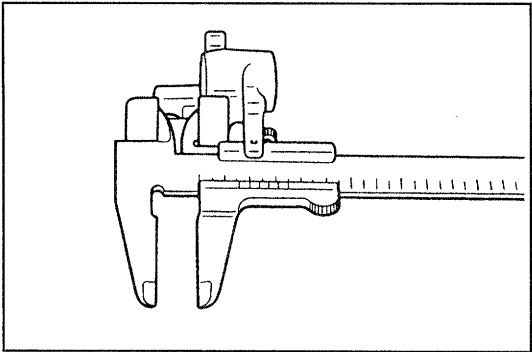
WRU90-TR075

TRANSMISSION & TRANSFER

- (3) Measure the contact width of the transfer high & low shift head with the transfer control shaft, using vernier calipers.

mm (inch)

Part name \ Item	Specified value	Allowable limit
Transfer high & low shift head	16.000 - 16.070 (0.6299 - 0.6327)	16.2 (0.6378)

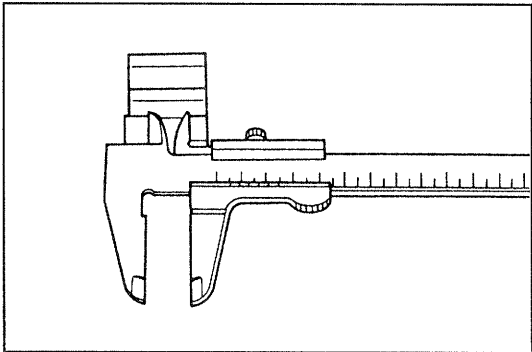


WRU90-TR076

- (4) Measure the contact width of the transfer front drive shift head with the transfer control shaft, using vernier caliper.

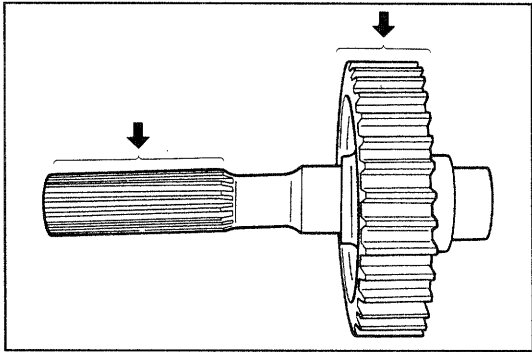
mm (inch)

Part name \ Item	Specified value	Allowable limit
Transfer front drive shift head	16.000 - 16.070 (0.6299 - 0.6327)	16.2 (0.6378)



WRU90-TR077

13. Transfer output front shaft
Check for wear or damage.

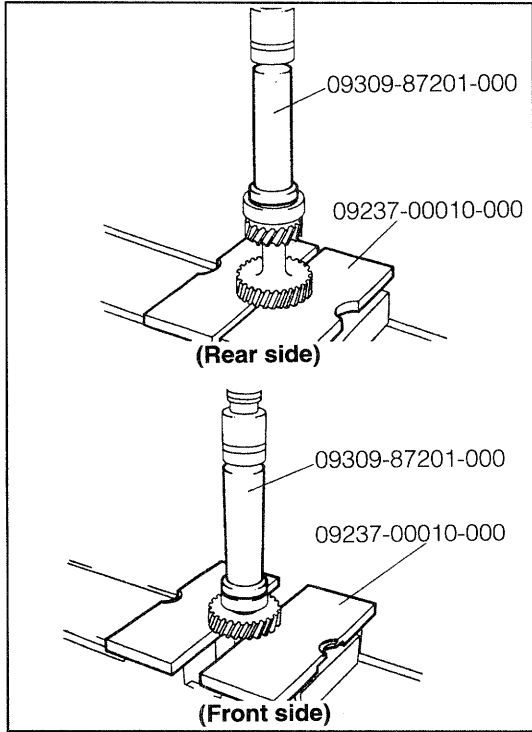


WRU90-TR078

ASSEMBLY
(TRANSFER OUTPUT FRONT SHAFT BEARING)

1. Press the radial bearing into the transfer output front shaft, using the following SSTs.

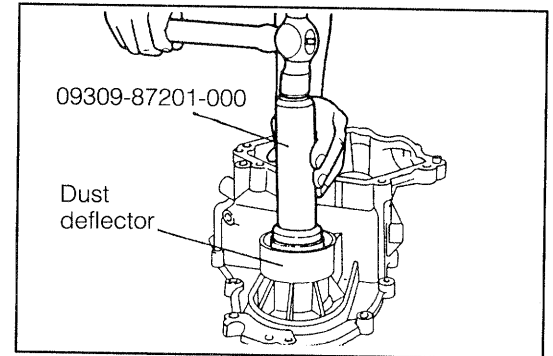
SST: 09309-87201-000
09237-00010-000



WRU90-TR079

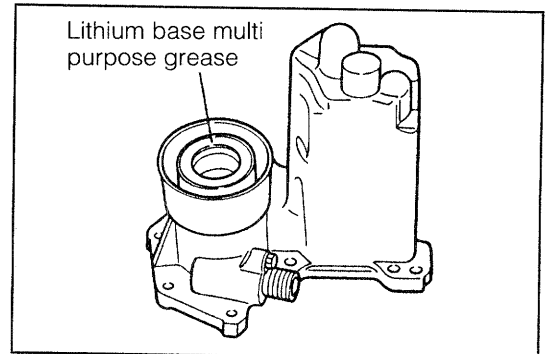
ASSEMBLY

1. Drive a new dust deflector into position, using a hammer.
For this installation, place a wooden block on the dust deflector so that the deflector may not be deformed.
2. Press a new oil seal, using the following SST.
SST: 09309-87201-000



WRU90-TR080

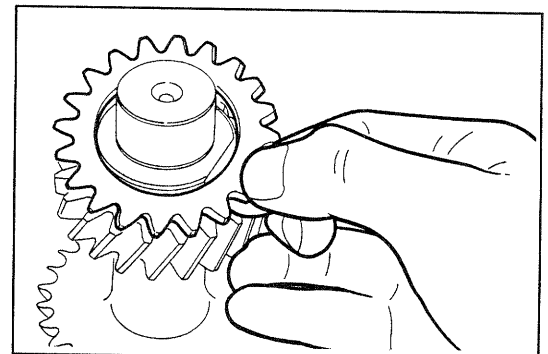
3. Apply lithium base multi purpose grease to the lip section of the oil seal.



WRU90-TR081

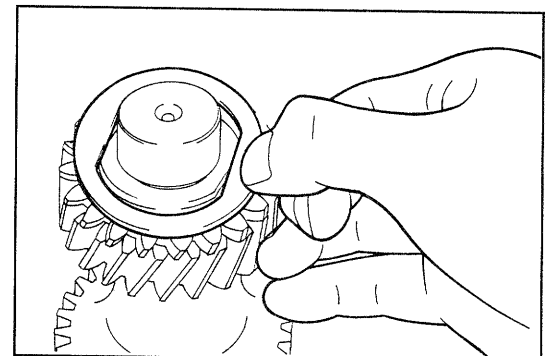
ASSEMBLY OF TRANSFER COUNTER GEAR

1. Install the sub gear No. 2.



WRU90-TR082

2. Install the washer plate.

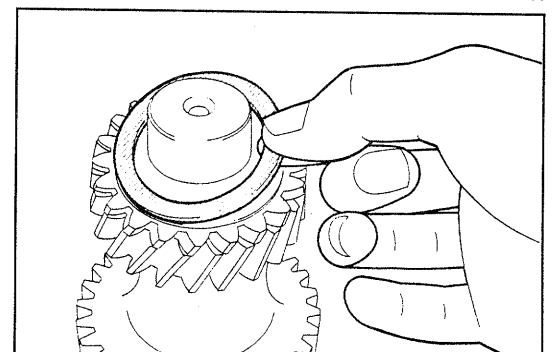


WRU90-TR083

3. Install the conical spring washer.

CAUTION:

- Ensure that the conical spring washer must be installed with in expanded side facing toward the sub gear No. 2.



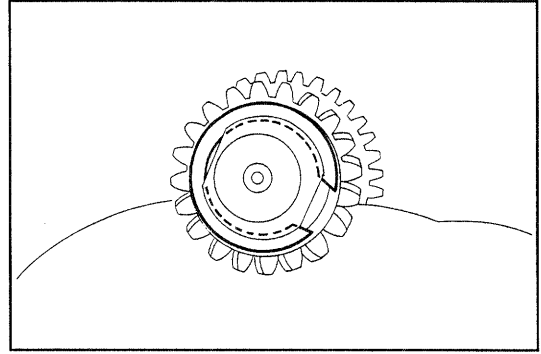
WRU90-TR084

TRANSMISSION & TRANSFER

4. Install the new snap ring, using the standard tool of snap ring plier.

NOTE:

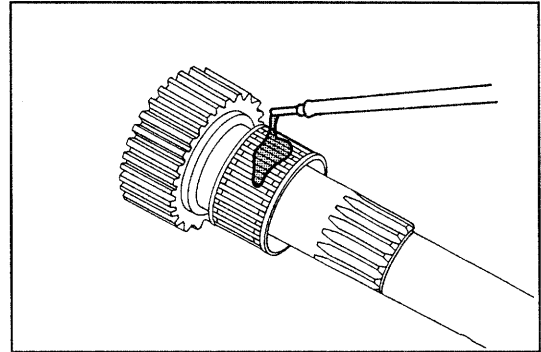
- Ensure that the snap ring should be installed to the groove section of the transfer counter gear securely.



WRU90-TR085

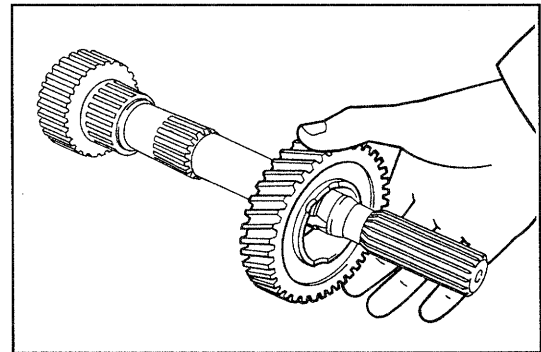
ASSEMBLY OF TRANSFER OUTPUT REAR SHAFT

1. Apply the gear oil to the needle roller bearing and then, install to the transfer output rear shaft.



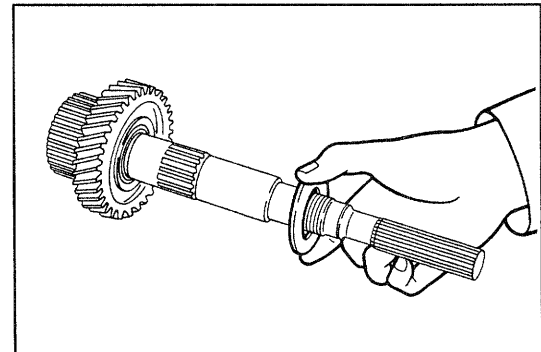
WRU90-TR086

2. Install the transfer low speed output gear as shown in the right figure illustration.



WRU90-TR087

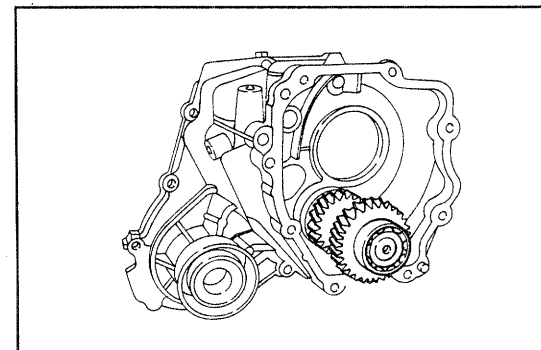
3. Install the transfer output gear thrust washer to the transfer output rear shaft.



WRU90-TR088

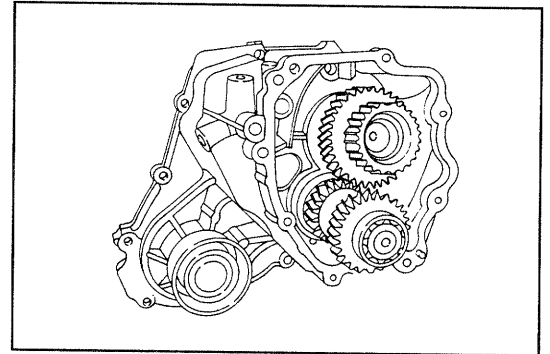
TRANSFER ASSEMBLY

1. Temporarily install the transfer counter gear to the transfer front case.



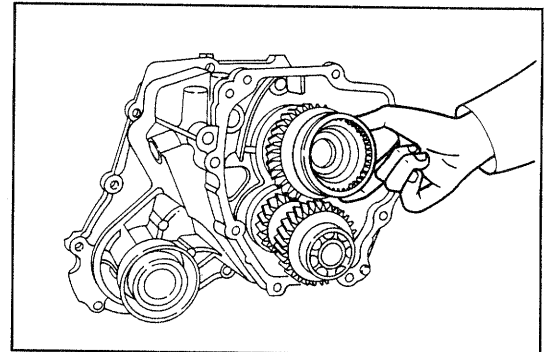
WRU90-TR089

2. Install the transfer output rear shaft to the transfer front case.



WRU90-TR090

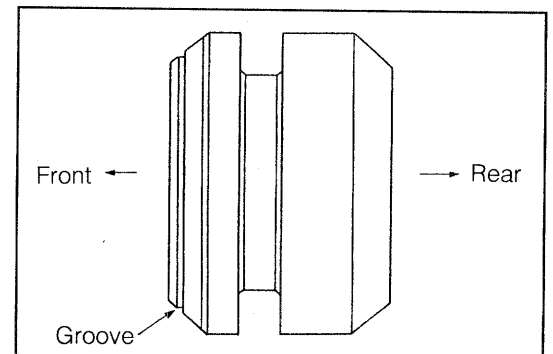
3. Install the transfer high & low clutch sleeve to the transfer output rear shaft.



WRU90-TR091

NOTE:

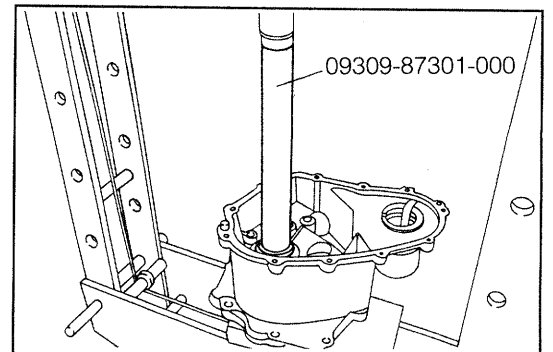
- Be sure to install the sleeve in such a direction that the grooved section, as indicated in the right figure, comes at the front side (transfer low speed output gear side).



WRU90-TR092

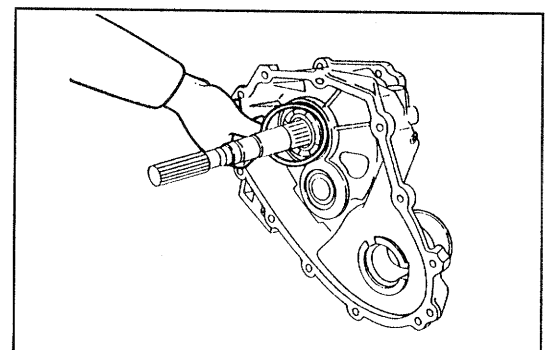
4. Rotate the transfer front case through 180 degrees.
5. Temporarily press the transfer output rear shaft bearing into position using the following SST:

SST: 09309-87301-000



WRU90-TR093

6. Attach the stop ring of the transfer output rear shaft bearing.



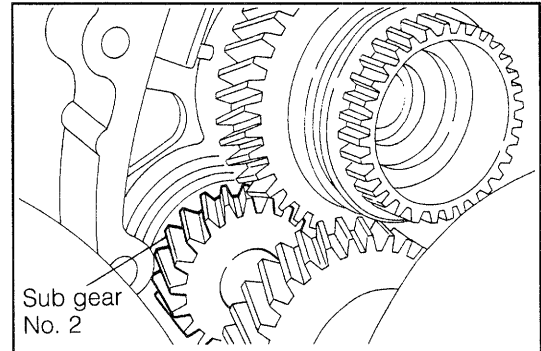
WRU90-TR094

TRANSMISSION & TRANSFER

7. Turn over the transfer front case.

CAUTION:

- Ensure that the gear must be engaged between subgear No. 2 of the transfer counter shaft and transfer low speed output gear.
- If the above operation should fail to be performed, failure to observe this caution may cause deformation of the transfer counter shaft subgear No. 2.

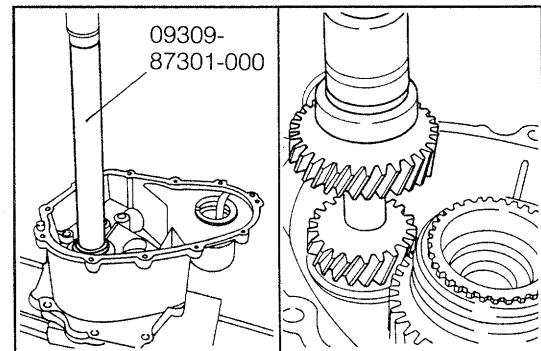


WRU90-TR095

8. Press the transfer output shaft rear bearings into position using the following SST:

SST: 09309-87301-000

9. Press the transfer counter gear.

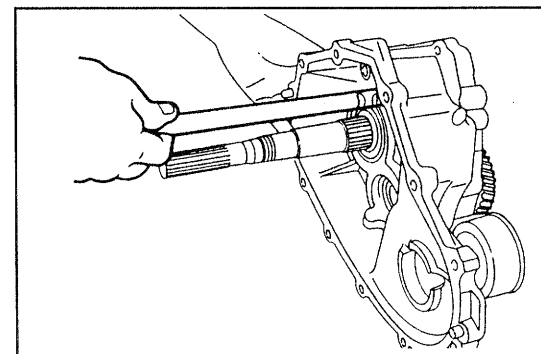


WRU90-TR096

10. Insert the transfer high & low shift fork shaft into the transfer front case.

CAUTION:

- Ensure that the transfer high & low shift fork shaft is longer than the transfer front drive shift fork shaft, prior to install the shaft.

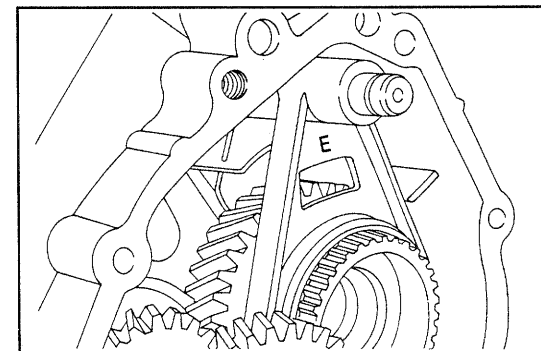


WRU90-TR097

11. Installation of the transfer high & low shift fork
(1) Insert the transfer high & low shift fork shaft into the hole of the transfer high & low shift fork.

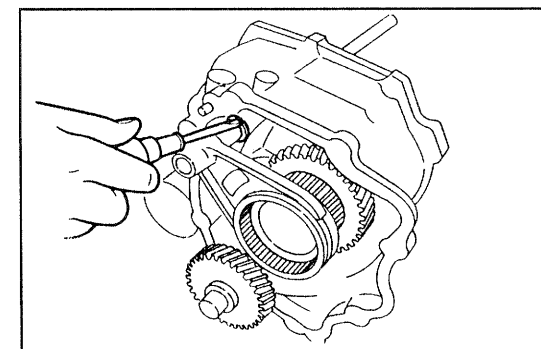
CAUTION:

- Ensure that the E-marking on the transfer high & low shift fork must face toward the front side.



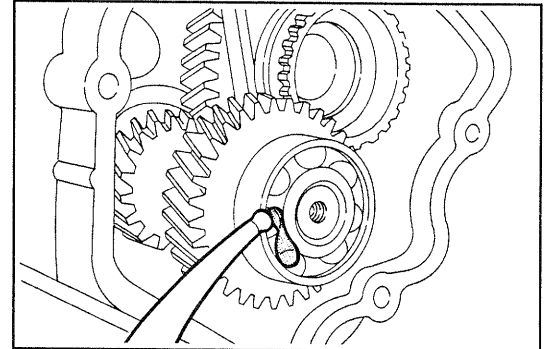
WRU90-TR098

- (2) Install the new two "E" rings on both rear and front of the transfer high & low shift fork.



WRU90-TR099

12. Apply the gear oil to the radial ball bearing of the transfer counter shaft.



WRU90-TR100

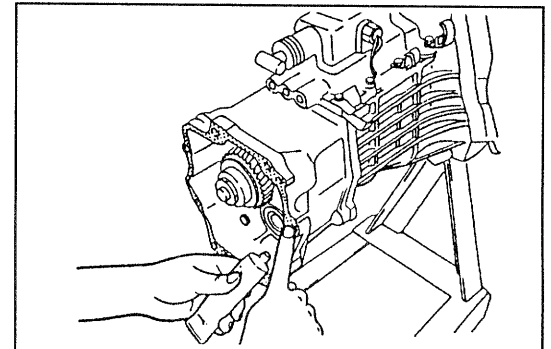
13. Remove the remaining gasket on the transfer adapter with gasket scraper.

NOTE:

- Be very careful not to scratch the attaching surface.

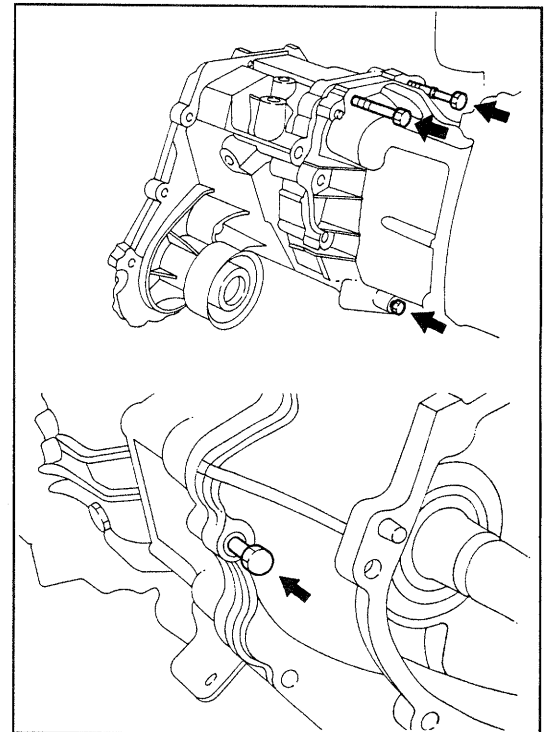
Apply the following bond to the transfer front case attaching surface of the transfer adapter and the threaded portion of the attaching screw.

Bond: Three Bond 1216 (Three Bond made)



WRU90-TR101

14. Installation of the transfer front case
 - (1) With using the two to four dummy bolts, temporarily install the transfer front case to the transfer adapter.

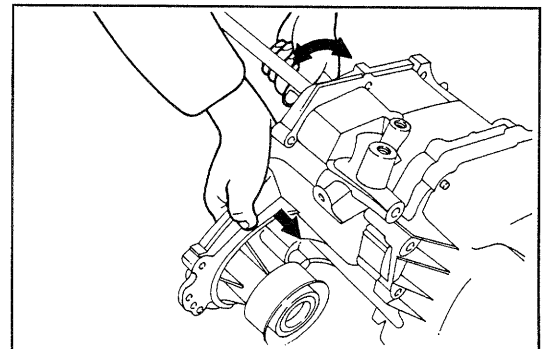


WRU90-TR102

- (2) Brought the transfer front case into carefully/slowly contact with the transfer adapter, while rotating the transfer rear output shaft with clockwise or counterclockwise directions.

CAUTION:

- Be carefully to proceed this jos.
- If this operation should fail to be performed, failure to observe this caution may cause deformation of subgear No. 1.



WRU90-TR103

- (3) Remove the dummy bolts.

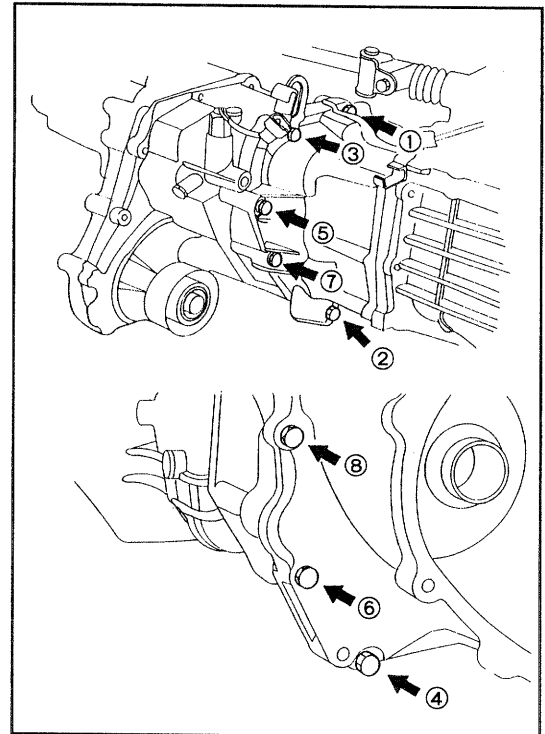
Apply the following bond to the threaded section of the attaching bolts and then tighten the transfer front case subassembly with the eight bolts.

Bond: Three Bond 1216 (Three Bond made)

Tightening Torque: 3.0 - 4.5 kg-m
(21.7 - 32.5 ft-lb, 29.4 - 44.1 N-m)

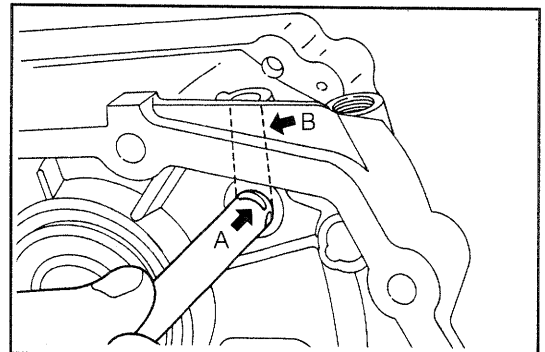
NOTE:

- Be sure to tighten the bolts alternately and diagonally.
(The illustration at the right figure indicates a typical example of the tightening sequence.)



WRU90-TR104

15. Pull the transfer high & low shift fork shaft until the cut-out section A meet with swelling section of the transfer front case B.



WRU90-TR105

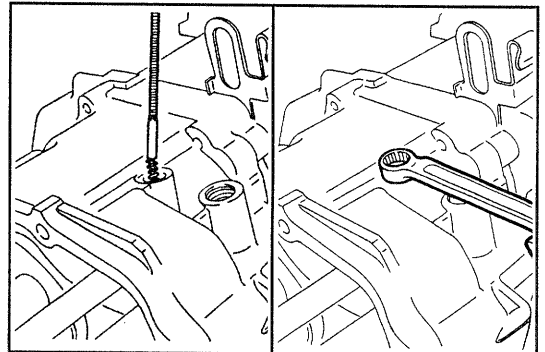
16. Insert the transfer high & low shift fork shaft with the present condition to the transfer front case.

17. Install the ball and compression spring in this sequence.

18. Tighten the bolts, using a new gasket.

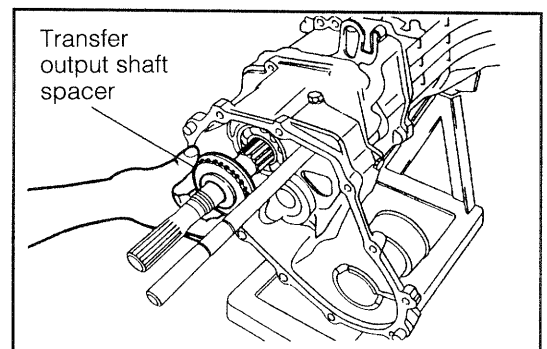
Tightening Torque: 1.9 - 3.1 kg-m
(13.7 - 22.4 ft-lb, 18.6 - 30.4 N-m)

19. Insert the roller, using the standard tool of magnet hand.



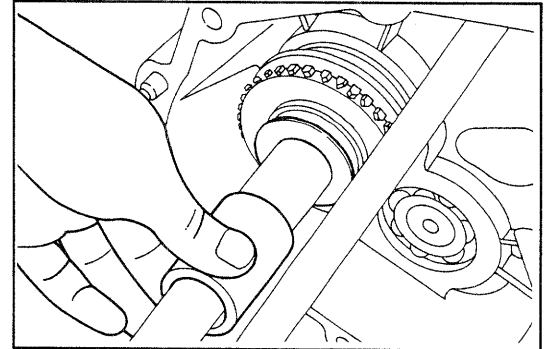
WRU90-TR106

20. Install the transfer front drive clutch hub and transfer output shaft spacer.



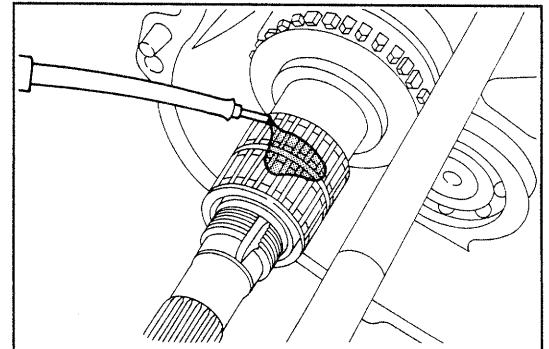
WRU90-TR107

21. Install the transfer output shaft space No. 2 (A) and transfer front drive gear bearing inner race (B) to the transfer output rear shaft.



WRU90-TR108

22. Apply the gear oil to the outer periphery of the transfer front drive gear bearing inner race and needle roller bearing.
23. Install the needle roller bearing to the transfer output rear shaft.

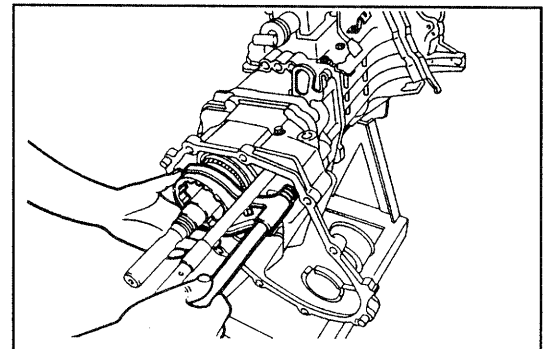


WRU90-TR109

24. Install the transfer front drive gear sleeve, transfer front drive shift fork and transfer front drive shift fork shaft in a set.

CAUTION:

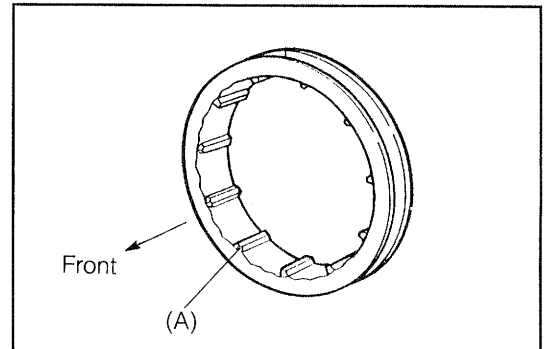
- Use the new two “E” rings.



WRU90-TR110

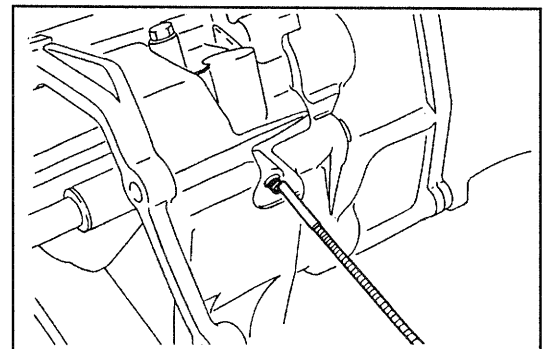
NOTE:

- The transfer front drive gear sleeve should be installed in the correct direction as indicated in the right figure.
- Be sure to install the sleeve in such a direction that the gear chamfered section (A) as indicated in the right figure, comes at the front side (transmission case side).



WRU90-TR111

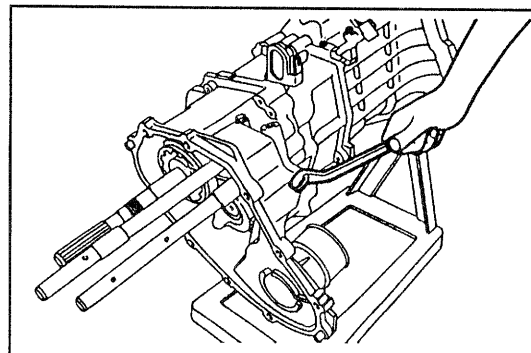
25. Install the ball and compression spring to the transfer front case in this sequence.



WRU90-TR112

TRANSMISSION & TRANSFER

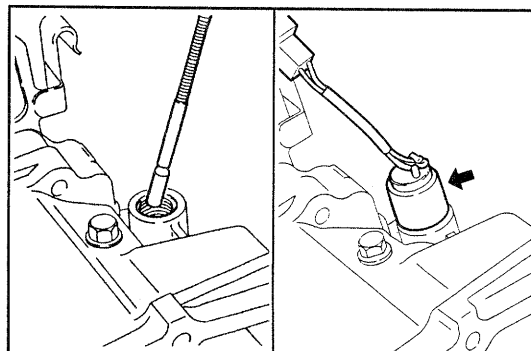
26. Tighten the bolt with a new gasket.
Tightening Torque: 1.9 - 3.1 kg-m
(13.7 - 22.4 ft-lb, 18.6 - 30.4 N·m)



WRU90-TR113

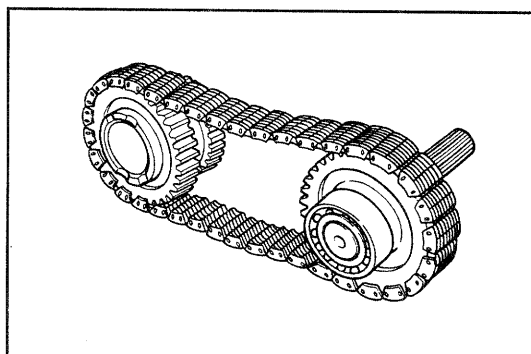
27. Install the roller.
28. Tighten the transmission position detect switch with a new gasket.

Tightening Torque: 3.0 - 5.0 kg-m
(21.7 - 36.2 ft-lb, 29.4 - 49.0 N·m)



WRU90-TR114

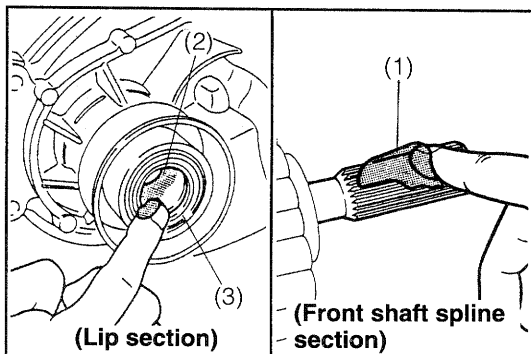
29. Install the front drive chain to the following parts.
(1) Transfer output gear
(2) Transfer output front shaft



WRU90-TR115

30. Apply the lithium based multi purpose grease to the following sections.

- (1) Outer periphery of the spline section in the transfer output shaft
- (2) Inner periphery of the bush
- (3) Lip section of the oil seal



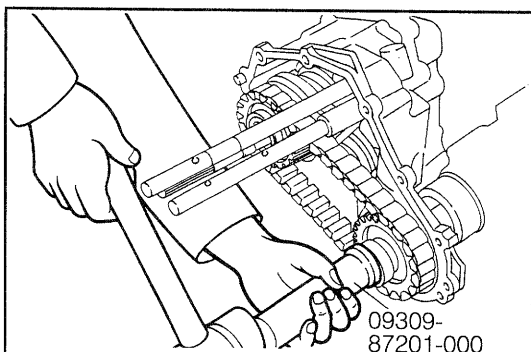
WRU90-TR116

31. Install the front drive chain with the related parts to the transfer front case, using following SST with a plastic hammer.

SST: 09309-87201-000

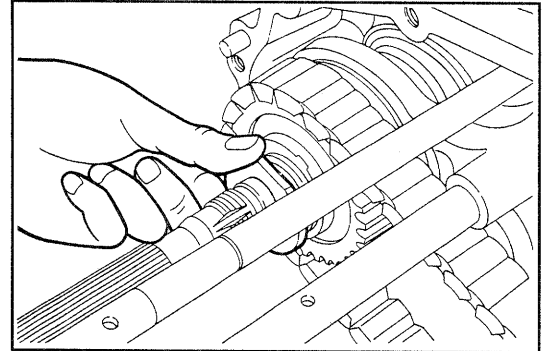
NOTE:

- Be very careful to not damage the lip section of the oil seal during the installation.



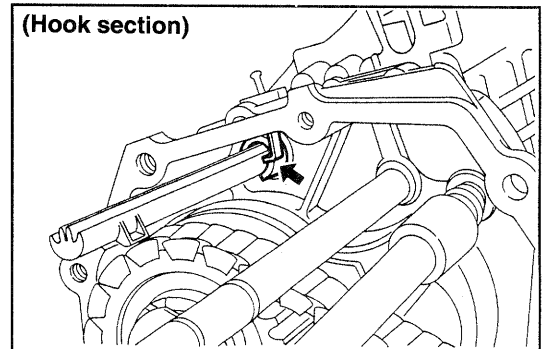
WRU90-TR117

32. Apply the gear oil to the attaching surface of the transfer front drive gear.
33. Install the transfer output gear thrust washer.



WRU90-TR118

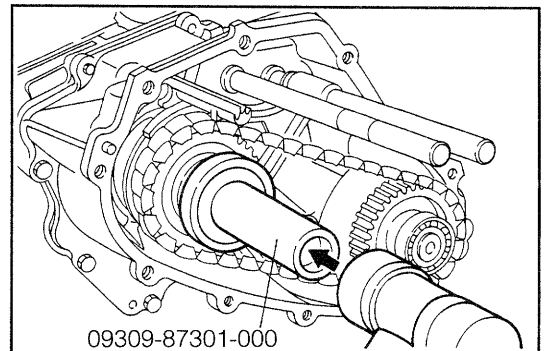
34. Install the oil supply pipe to the transfer front case.
CAUTION:
 - Be sure to securely insert the transfer oil supply pipe as far as it will go. Failure to observe this caution may cause seizure of the transfer.



WRU90-TR119

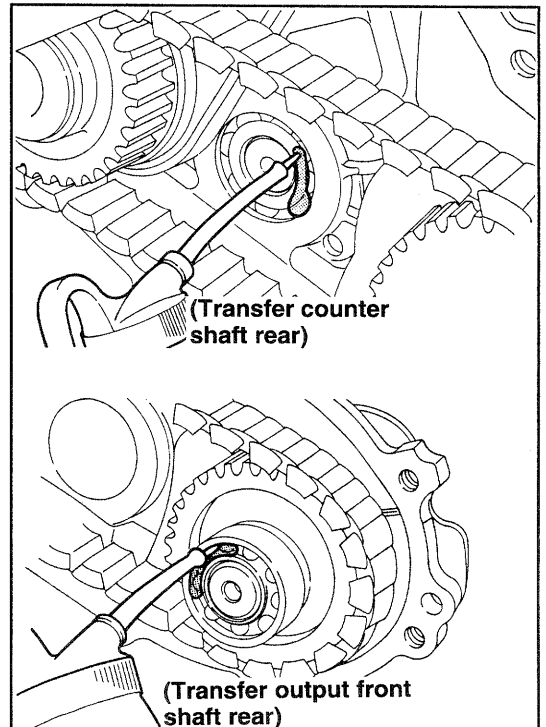
35. Install the bearing to the transfer output shaft and rear shaft with a plastic hammer alternately, using the following SST.
SST: 09309-87301-000

- CAUTION:**
- Ensure that the seal surface of the bearing comes in the transfer rear case. Failure to observe this caution may cause seizure of the bearing.



WRU90-TR120

36. Apply the gear oil to the following bearings at the rear side.
 - Transfer counter gear
 - Transfer output front shaft



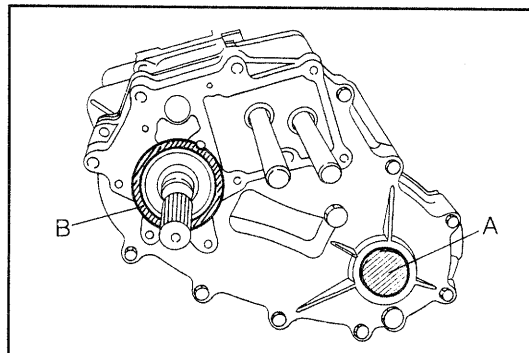
WRU90-TR121

TRANSMISSION & TRANSFER

37. Install the transfer rear case with a new gasket interposed.

NOTE:

- Be sure to securely install the transfer rear case alternately and evenly in the A and B sections with a plastic hammer.



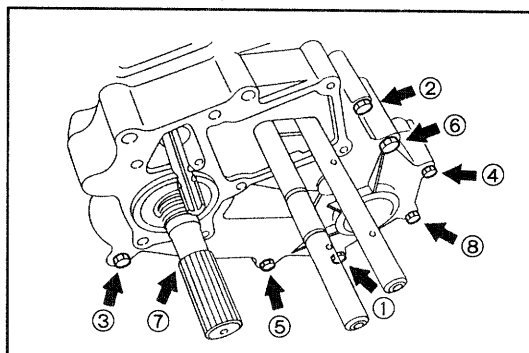
WRU90-TR122

38. Tighten the transfer rear case with the eight bolts.

Tightening Torque: 3.0 - 4.5 kg-m
(21.7 - 32.5 ft-lb, 29.4 - 44.1 N·m)

NOTE:

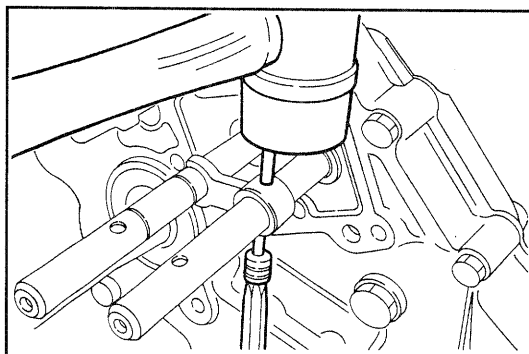
- Be sure to tighten the bolts alternately and diagonally (the right figure illustration indicates a typical example of tightening sequence)



WRU90-TR123

39. Lightly drive a new slotted pin into transfer front drive shift head No. 2 in advance.

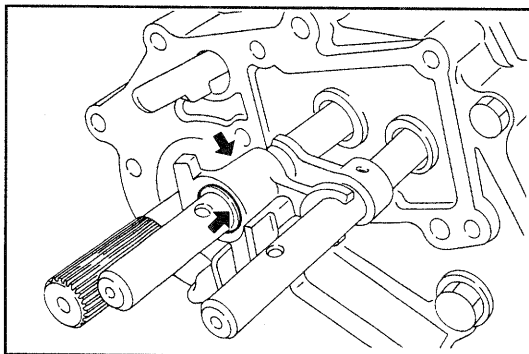
40. Insert transfer front drive shift head No. 2 into the transfer front drive shift fork shaft, then insert a pin punch, as a guide, and install the slotted pin lightly tapping it with a hammer.



WRU90-TR124

41. Attach the new E-ring to the transfer high & low shift fork shaft.

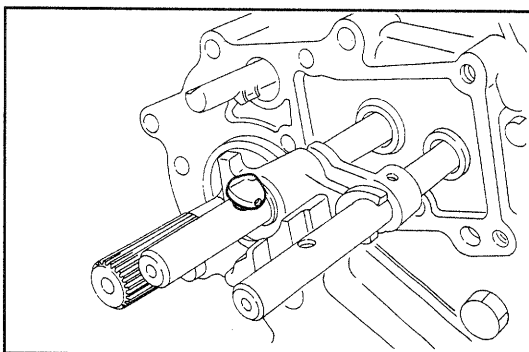
42. Install the transfer high & low shift head to the shaft.



WRU90-TR125

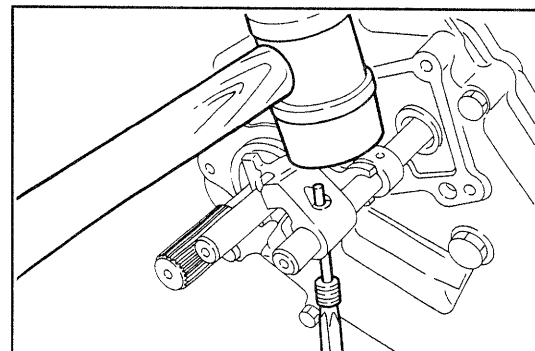
43. Attach the new E-ring on the transfer high & low shift fork shaft.

44. Insert the transfer fork shaft pin into the transfer high & low shift fork shaft.



WRU90-TR126

45. Lightly drive the new slotted pin into the front drive shift head in advance slotted pin.
46. Insert the transfer front drive shift head into the transfer front drive shift fork shaft, then insert a pin punch, as a guide, and install the slotted pin lightly tapping it from above with a plastic hammer.

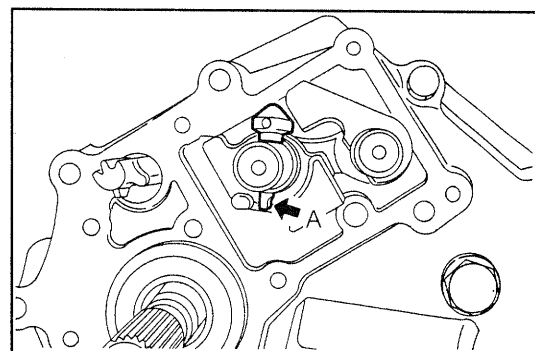


WRU90-TR127

47. Install the transfer fork shift pin.

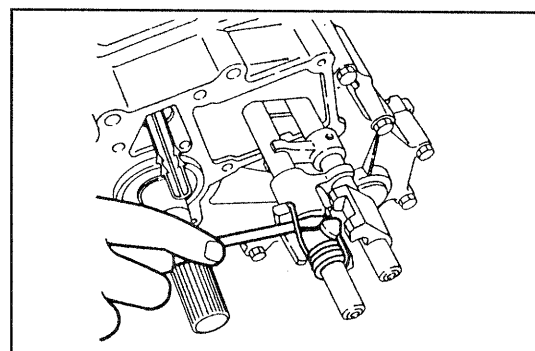
CAUTION:

- The cut section (A) of the transfer fork shaft pin should be faced toward the transfer front drive shift head during the installation, as shown in the right figure.
- Failure to observe this caution may cause trouble in the transfer operation.



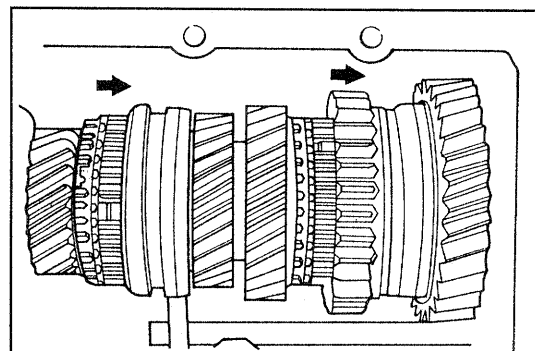
WRU90-TR128

48. Install the torsion spring.



WRU90-TR129

49. Interlock the 1st and 3rd gears.



WRU90-TR130

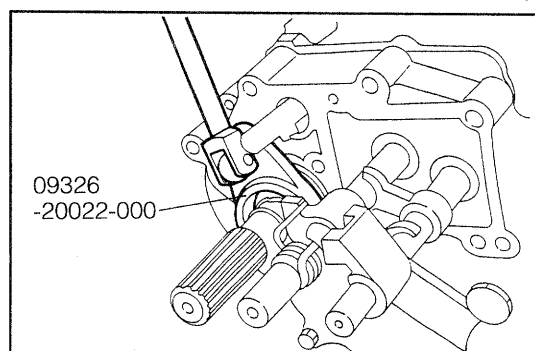
50. Tighten the transfer output rear shaft by means of the lock nut. Proceed to stake the lock nut with a chisel or the like, using the following SST.

SST: 09326-20022-000

Tightening Torque:

14.0 - 20.0 kg-m

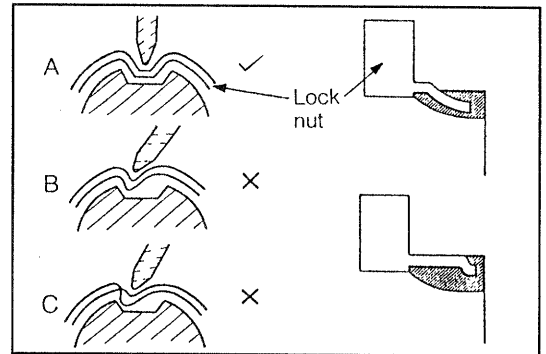
(101.0 - 145.0 ft-lb, 137.0 - 196.0 N-m)



WRU90-TR131

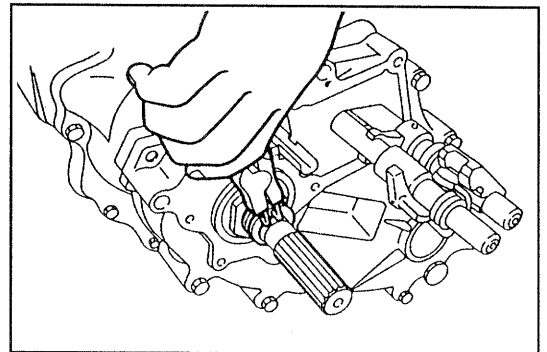
NOTE:

- When staking the lock nut, point a suitable staking tool toward the transfer output rear shaft axis center and stake to lock nut securely, as shown in the right figure A.
- Poor staking may cause abnormal noise or gear disengagement as shown in the right figure B and C.



WRU90-TR132

51. Install the ball and speedometer drive gear onto the transfer output rear shaft. Secure them with the new snap ring.

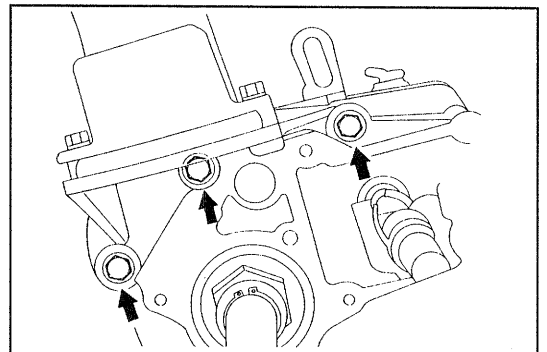


WRU90-TR133

52. Install control shaft lower No. 1 bracket with installed the shift & select shaft and control shaft with the two hexagon bolts and the bolt.

Tightening Torque:

3.0 - 4.5 kg-m (21.7 - 32.5 ft-lb, 29.4 - 44.1 N-m)



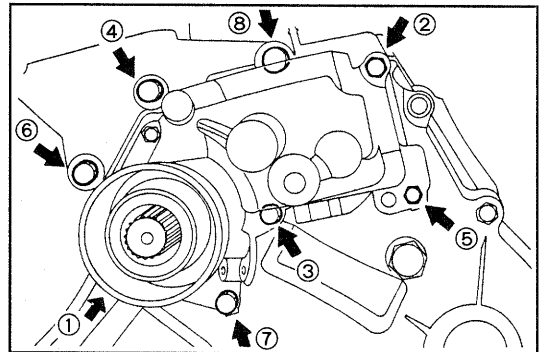
WRU90-TR134

53. Install the transfer rear output bearing retainer with the new gasket interposed.

Tighten the eight bolts.

Tightening Torque:

1.5 - 2.2 kg-m (10.8 - 15.9 ft-lb, 14.7 - 21.6 N-m)



WRU90-TR135

NOTE:

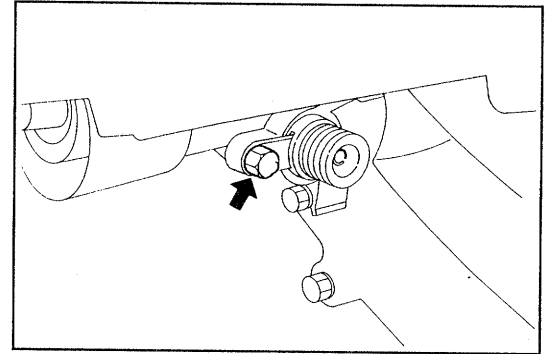
- Apply gear oil to the contact sections of the transfer rear output shaft bearing retainer with the transfer high & low shift fork shaft and the transfer front drive shift fork shaft.
- Be sure to tighten the bolts alternately and diagonally (The illustration at the right figure indicates a typical example of the tightening sequence).
- Apply the following bond to the threaded section of the bolts.

Three band 1324 (three bond made)

54. Apply the gear oil to the outer periphery of the O-ring and the speedometer sleeve, prior to install.
55. Install the speedometer sleeve with the speedometer sleeve lock plate and a bolt.

Tightening Torque:

0.7 - 1.0 kg-m (5.1 - 7.2 ft-lb, 6.9 - 9.8 N·m)



WRU90-TR137

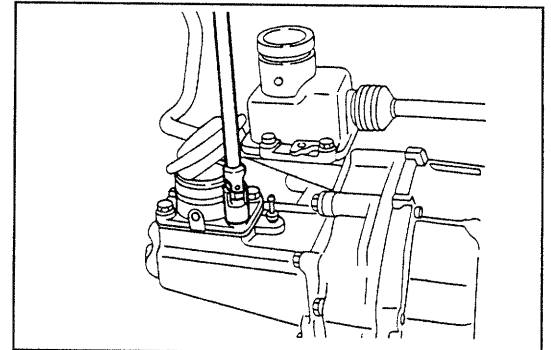
56. With a new gasket used, install the transfer shift lever retainer with the four bolts and, tighten them.

Tightening Torque:

1.5 - 2.2 kg-m (10.8 - 15.9 ft-lb, 14.7 - 21.6 N·m)

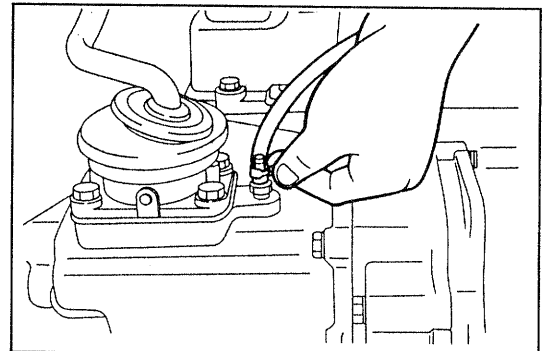
NOTE:

- Apply the 1324 bond (three bond made) to the thread sections of the bolt, prior to install.



WRU90-TR138

57. Install the breather hose by attaching a clip.



WRU90-TR139

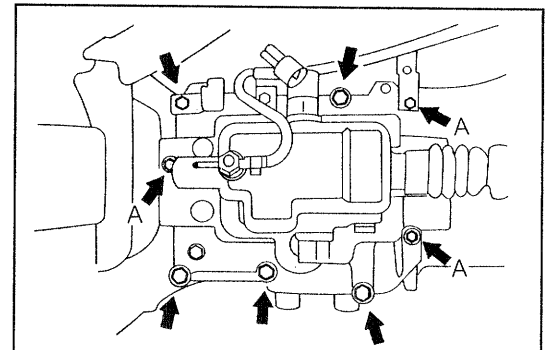
58. Install the transmission case cover subassembly (see page TR-00 to TR-00) and tighten them.

Tightening Torque:

1.5 - 2.2 kg-m (10.8 - 15.9 ft-lb, 14.7 - 21.6 N·m)

A-section

0.7 - 1.0 kg-m (5.1 - 7.2 ft-lb, 6.9 - 9.8 N·m)

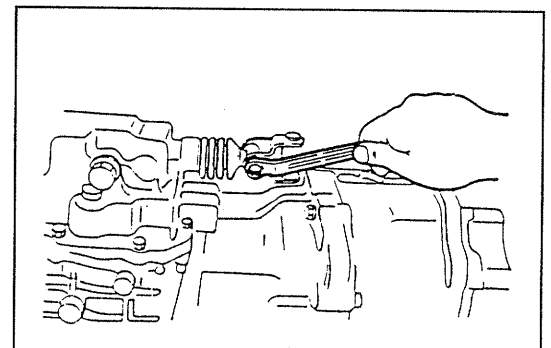


WRU92-TR405

59. Apply lithium base multi purpose grease to the shift & select No. 1 shaft installing hole of the control shaft. Install the control shaft and the shift & select No. 1 shaft with the new hexagon bolt.

Tightening Torque:

1.5 - 2.2 kg-m (10.8 - 15.9 ft-lb, 14.7 - 21.6 N·m)



WRU90-TR141

TRANSMISSION & TRANSFER

60. Remove the transmission assy with transfer from the over-haul stand and then, install them to the vehicle (see page MT-105 to MT-109).
61. Fill in the transmission and transfer oil through the oil filler plugs, when the transmission assy with transfer installed completely.

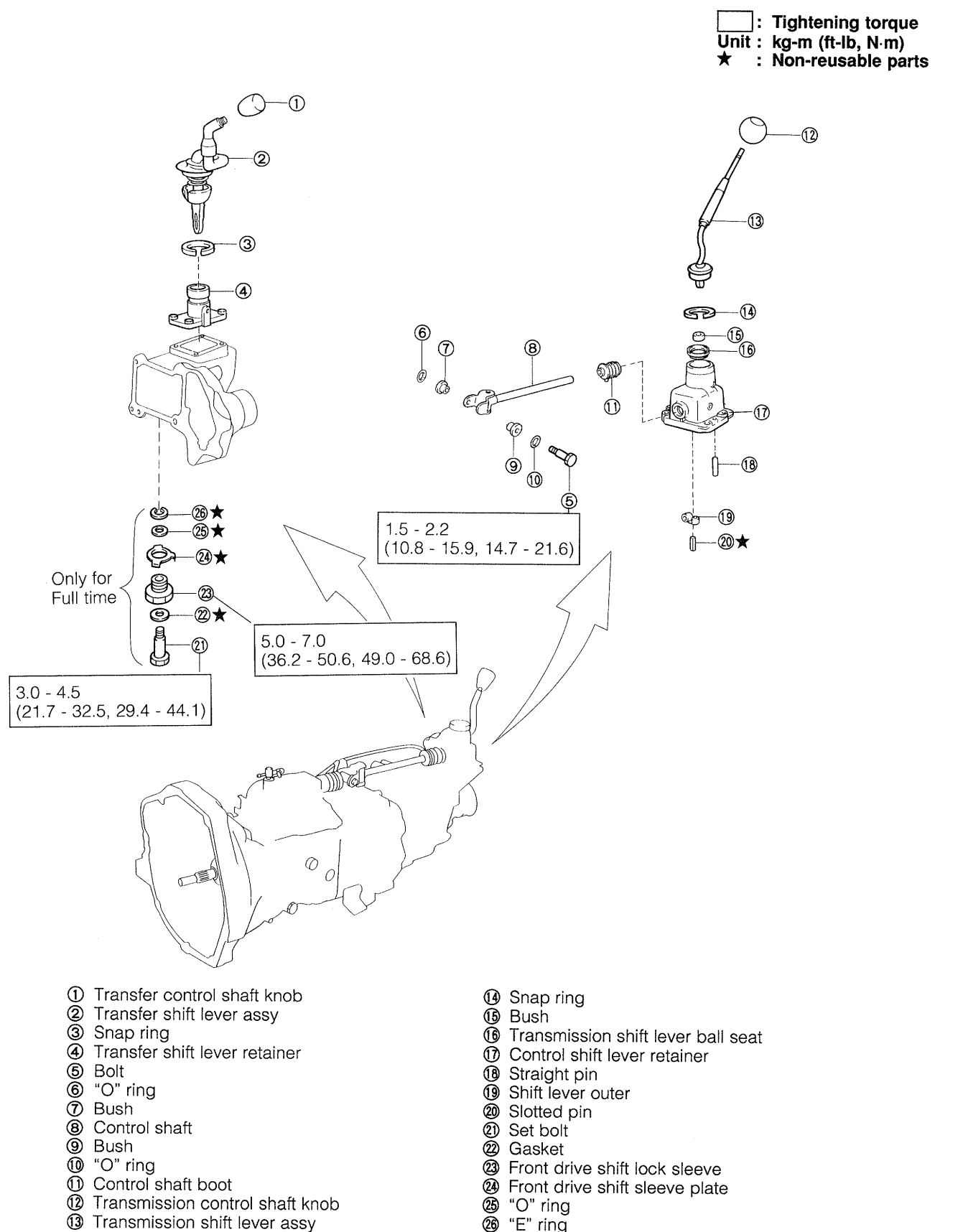
Oil: API GL-3 or GL-4

SAE75W-85 or 75W-90

Oil Capacity: 1.4 liters (0.36 USA gal)
(1.48 US qts)

WRU92-TR412

CONTROL LEVER-RELATED COMPONENTS

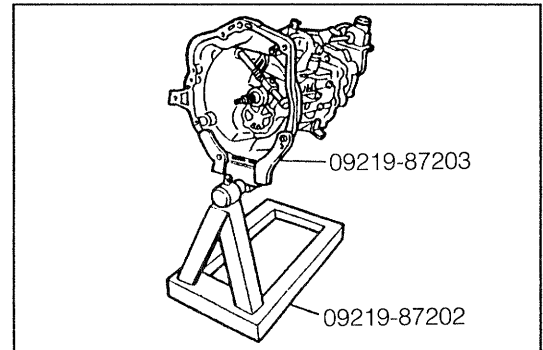


TRANSMISSION & TRANSFER

REMOVAL

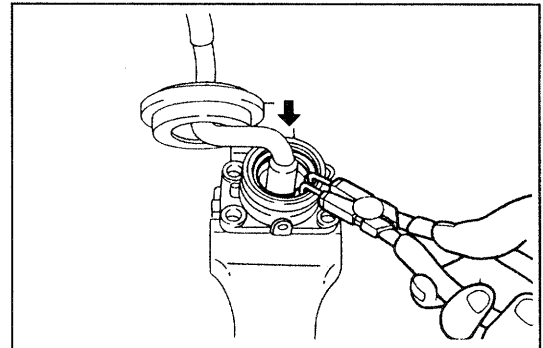
1. Remove the transmission assembly with transfer from the vehicle (see page MT-16 to MT-20).
2. Install the transmission with transfer on the overhaul stand, using the following.

SST: 09219-87202-000
09219-87203-000



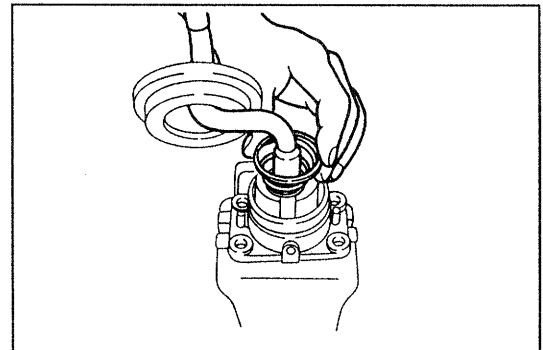
WRU92-TR413

3. Detach the hole snap ring, while the transfer shift lever is being lowered.



WRU90-TR145

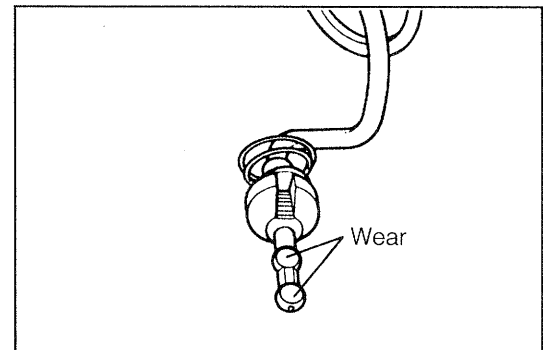
4. Remove the transfer shift lever with the conical spring installed.



WRU90-TR146

INSPECTION

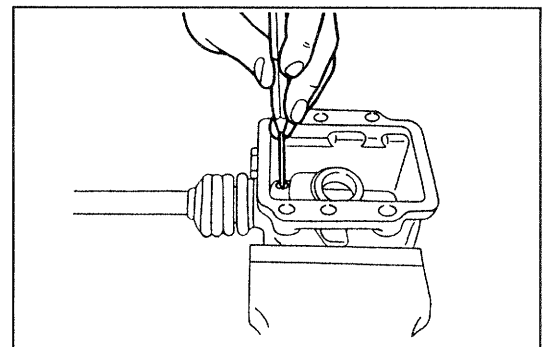
1. Check the forward end of the transfer shift lever for wear.



WRU90-TR147

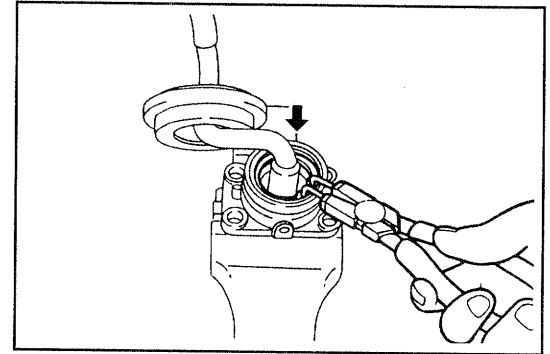
INSTALLATION

1. Apply lithium base multi purpose grease of the transfer shift lever.



WRU90-TR148

2. Install the transfer shift lever with the hole snap ring to the transfer shift lever retainer subassembly, while the conical spring is being lowered.
3. Visually check that the hole snap ring must be installed securely into the groove section of the transfer shift lever retainer subassembly.



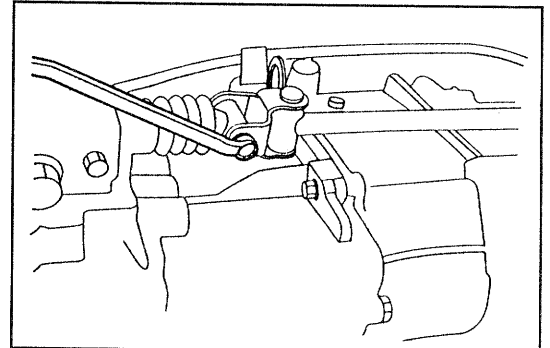
WRU90-TR149

DISASSEMBLY OF SHIFT & SELECT SHAFT No. 1

1. Remove the control shaft with installed the shift lever retainer subassembly by removing the hexagon bolt.

NOTE:

- When disconnecting the control shaft from the shift & select No.1 shaft, care must be exercised as to the "O" ring which may be detached during the removal.

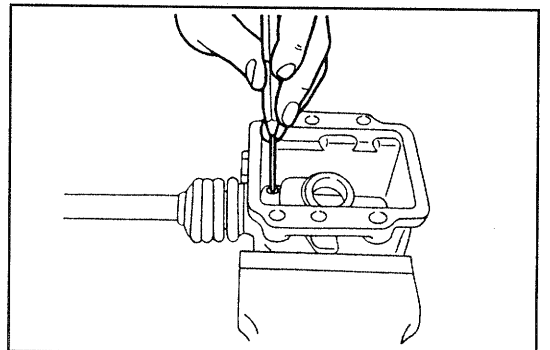


WRU90-TR157

2. Drive off the slotted pin of the shift outer lever.

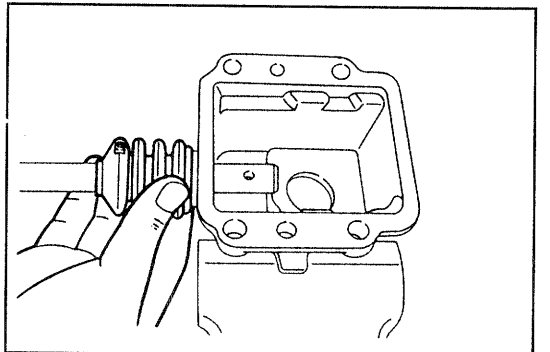
CAUTION:

- Never reuse the removed slotted pin.



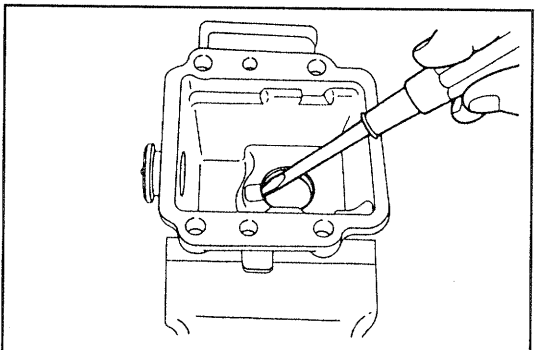
WRU90-TR158

3. Remove the control shaft and control shaft boot.



WRU90-TR159

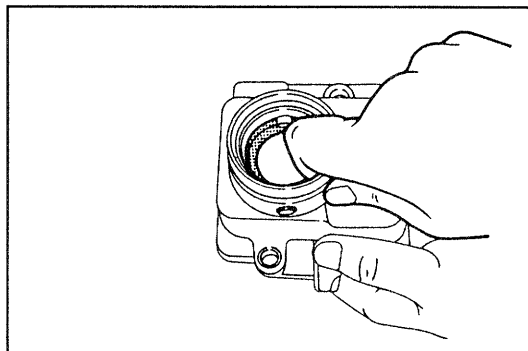
4. Remove the T/M shift lever ball seat.



WRU90-TR160

ASSEMBLY

1. Install the T/M shift lever ball seat with your fingers.
2. Apply lithium-based multi-purpose grease to the inner surface of the seat.

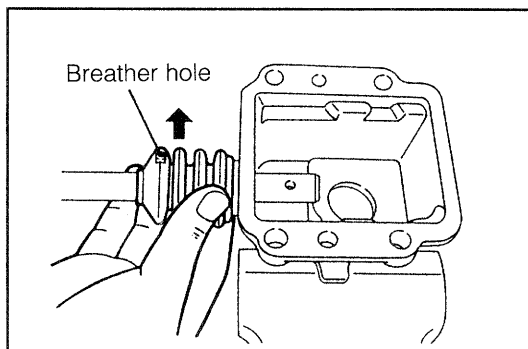


WRU90-TR161

3. Install the control shaft and control shaft boot.

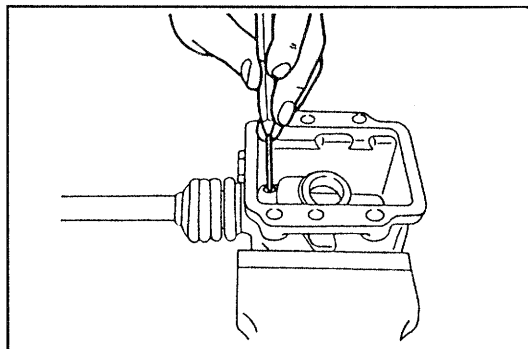
NOTE:

- Install the control shaft boot in such a way that the breather hole of the control shaft boot may face toward the transmission case side (lower side).



WRU90-TR162

4. Drive the new slotted pin of the shift outer lever into position.
5. Connect the shift a select No. 1 shaft and control shift.



WRU90-TR163