

DAIHATSU

CHARADE

Chassis

3

SECTION 3

MANUAL TRANSMISSION

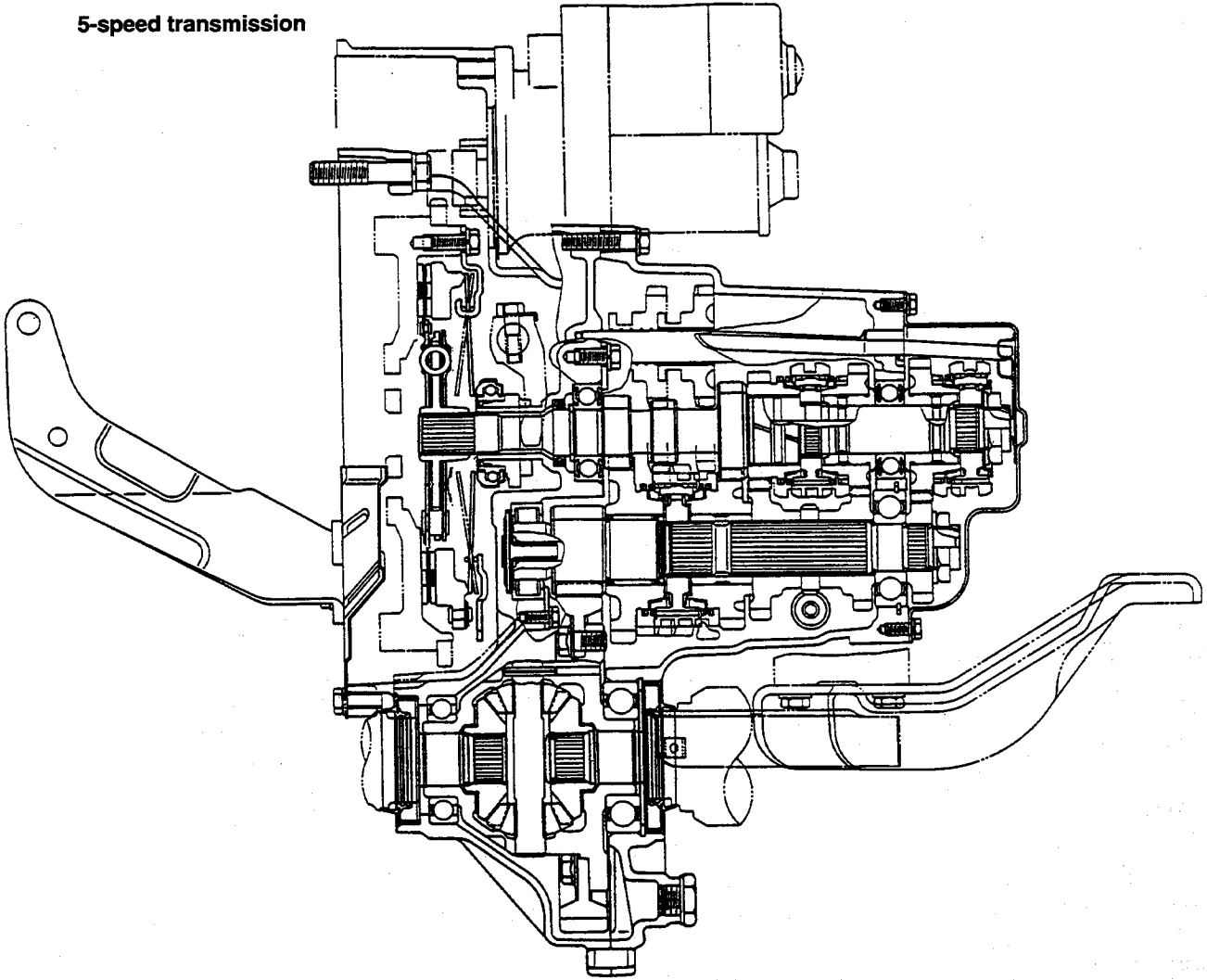
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WR-03001

MANUAL TRANSMISSION

SECTIONAL VIEW

5-speed transmission



Part of 4-speed transmission

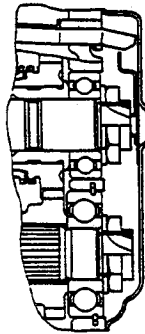


Fig. 3-1

WR-03002

MANUAL TRANSMISSION

| Item | Kind | 4-speed | | 5-speed | | |
|--|--------------------------------------|---|--|--|--|--|
| | | CB-23 | CB-23 | CL-11 | CB-61, CL-61 | CB-80 |
| Engine type | | CB-23 | CB-23 | CL-11 | CB-61, CL-61 | CB-80 |
| Transmission type | | Forward gears: Constant mesh, Reverse gear: Selective sliding | | | | |
| Gear ratio (Tooth number) | 1st gear | 3.090 (34/11) | 3.090 (34/11) | 3.090 (34/11) | 3.090 (34/11) | 3.090 (34/11) |
| | 2nd gear | 1.842 (35/19) | 1.842 (35/19) | 1.842 (35/19) | 1.842 (35/19) | 1.750 (35/20) |
| | 3rd gear | 1.230 (32/26) | 1.230 (32/26) | 1.230 (32/26) | 1.230 (32/26) | 1.230 (32/26) |
| | 4th gear | 0.864 (32/37) | 0.864 (32/37) | 0.864 (32/37) | 0.864 (32/37) | 0.916 (33/36) |
| | 5th gear | — | 0.707 (29/41) | 0.707 (29/41) | 0.707 (29/41) | 0.750 (30/40) |
| | Reverse gear | 3.142 (44/30/14) | 3.142 (44/30/14) | 3.142 (44/30/14) | 3.142 (44/30/14) | 3.142 (44/30/14) |
| Final reduction gear ratio (Tooth number) | | * ¹ 4.500 (72/16) | * ³ 4.500 (72/16) | 4.933 (74/15) | 4.642 (65/14) | 4.642 (65/14) |
| Number of speedometer gear teeth (driven/drive) | | * ² 16/4 | * ⁴ 16/4 | * ⁵ 18/4 | 21/5 | 21/5 |
| Transmission oil | Kind | SAE 80, GL-3 | SAE-80, GL-3 | SAE-80, GL-3 | SAE-80, GL-3 | SAE-80, GL-3 |
| | Capacity ℓ (Imp. qts U.S. qts) | 1.9 - 2.0 (1.67 - 1.76, 2.0 - 2.1) | 2.1 - 2.2 (1.85 - 1.94, 2.2 - 2.3) | 2.1 - 2.2 (1.85 - 1.94, 2.2 - 2.3) | 2.1 - 2.2 (1.85 - 1.94, 2.2 - 2.3) | 2.1 - 2.2 (1.85 - 1.94, 2.2 - 2.3) |

*¹4.933 (74/15), *²18/4 for Swedish specifications

*³4.933 (74/15), *⁴18/4 for Swiss & Swedish specifications

*⁵ 17/4: When 155/80 R13 tires are used:

WR-03003

MANUAL TRANSMISSION ASSEMBLY REMOVAL

1. Remove the engine hood assembly.
2. Remove the hold-down clamp and battery.
3. Remove the battery carrier stay.

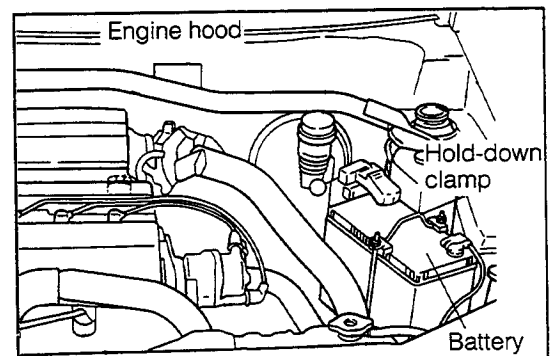


Fig. 3-2

WR-03004

4. Disconnect the following harnesses:
 - (1) Harness to starter ①
 - (2) Transmission earth
 - (3) Backup lamp harness ②

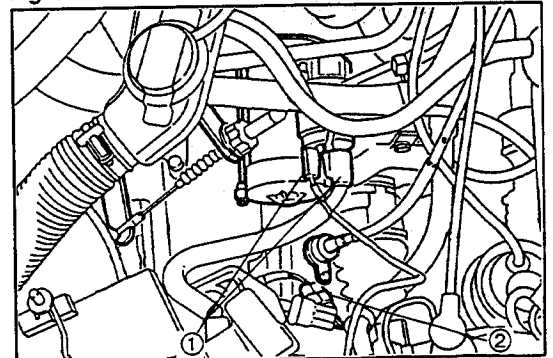


Fig. 3-3

WR-03005

MANUAL TRANSMISSION

5. Remove the intercooler assembly.
(Vehicles mounted with Type CB-80 engine only)

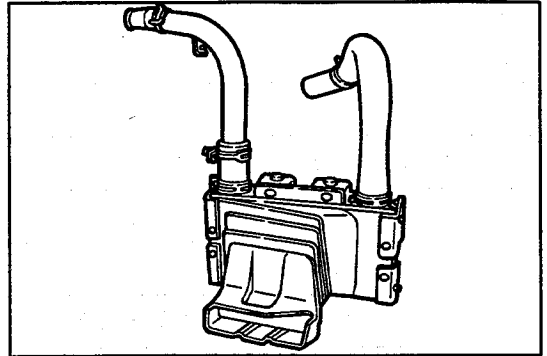


Fig. 3-4

WR-03006

6. Remove the starter assembly.

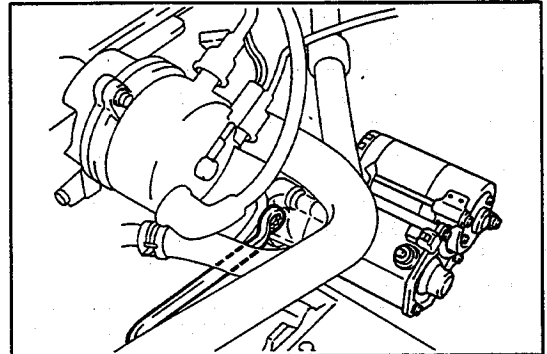


Fig. 3-5

WR-03007

7. Disconnect the speedometer cable.

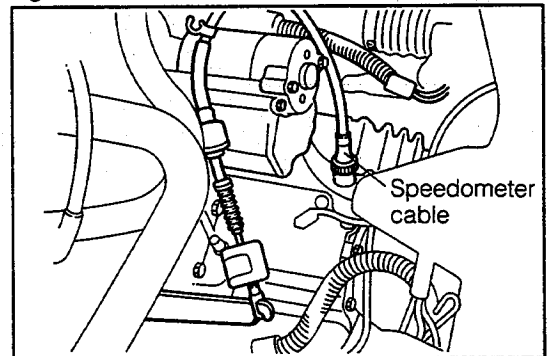


Fig. 3-6

WR-03008

8. Detach the three harness clamps.

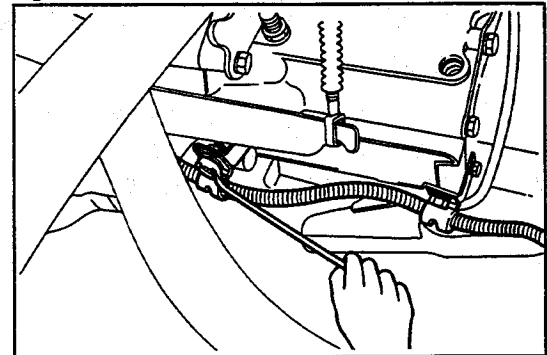


Fig. 3-7

WR-03009

9. Disconnect the clutch cable.

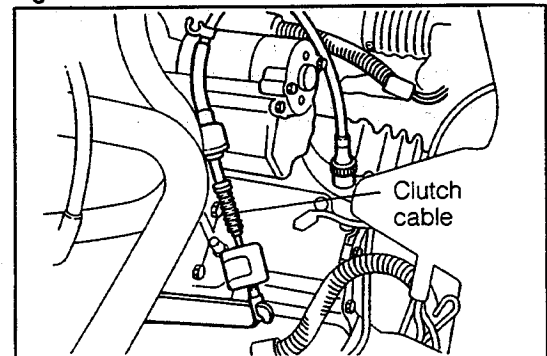


Fig. 3-8

WR-03010

10. Remove the two bolts that directly attach the transmission assembly to the engine.

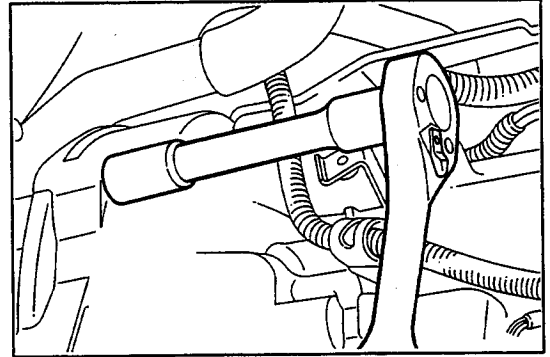


Fig. 3-9

WR-03011

11. Jack up the vehicle. Remove the front tires at the right and left sides of the vehicle.

NOTE:

Be sure to support the vehicle securely by means of safety stands.

12. Drain the transmission oil.

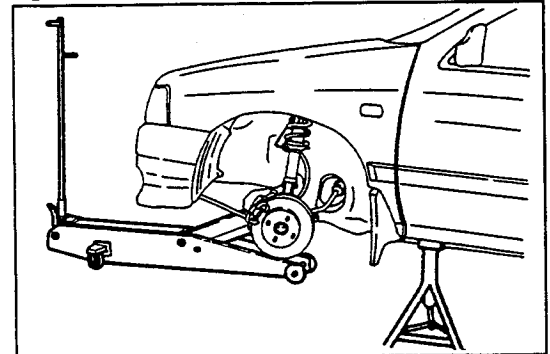


Fig. 3-10

WR-03012

13. Detach the engine undercover. (Type CL engine only)
14. Remove the lower suspension brace. (Types CB-61 and CB-80 engines only)

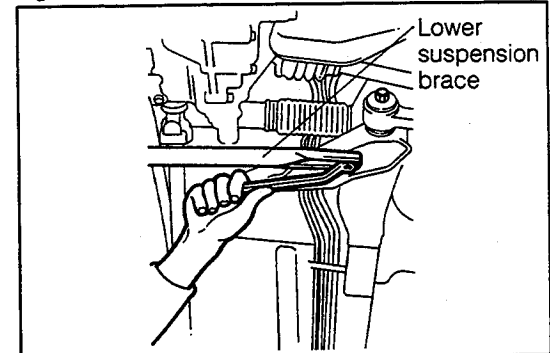


Fig. 3-11

WR-03013

15. Disconnect the front exhaust pipe at the bracket support No.1 and manifold sides.

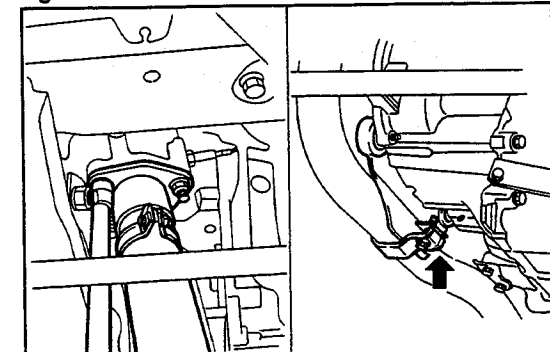


Fig. 3-12

WR-03014

16. Disconnect the following control linkage-related parts from the transmission housing.
 - (1) Shift & select shaft S/A
 - (2) Extension rod S/A

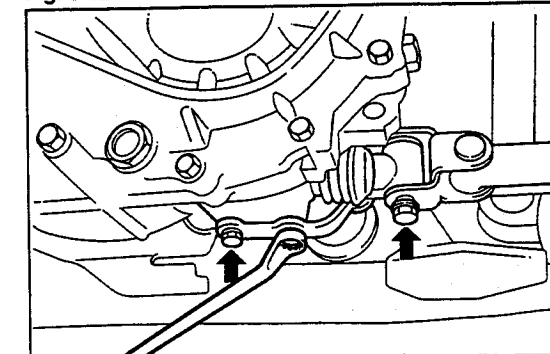


Fig. 3-13

WR-03015

MANUAL TRANSMISSION

17. Remove the stabilizer bar.

- (1) Remove the stabilizer bar end nut and retainer.
- (2) Remove the stabilizer bar installing nuts.

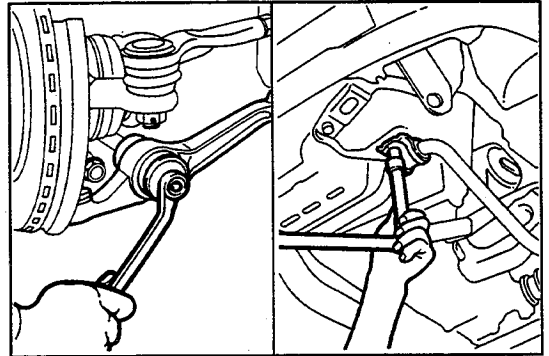


Fig. 3-14

WR-03016

18. Disconnect the lower arm at the bracket side.

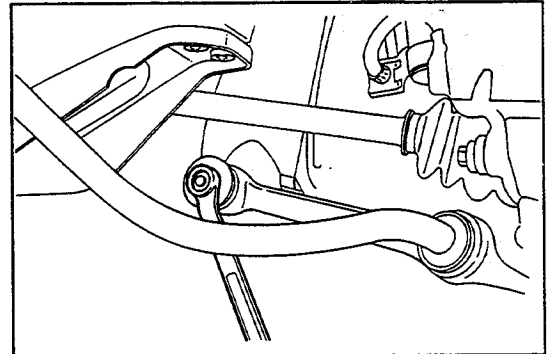


Fig. 3-15

WR-03017

19. Remove the drive shafts at the right and left sides, using the following SST.

SST: 09648-87201-000

NOTE:

1. No stopper is provided at the inboard side of the drive shaft. Hence, be sure to support the inboard joint section during the removal.
2. Be very careful not to damage the lip section of the oil seal during the removal.

3. As for the right side of vehicles mounted with Type CB-80 engine, insert a crowbar into between the protruding section of the bearing shaft and the drive shaft. Then take out the front drive shaft, being very careful not to deform the dust cover of the drive shaft.

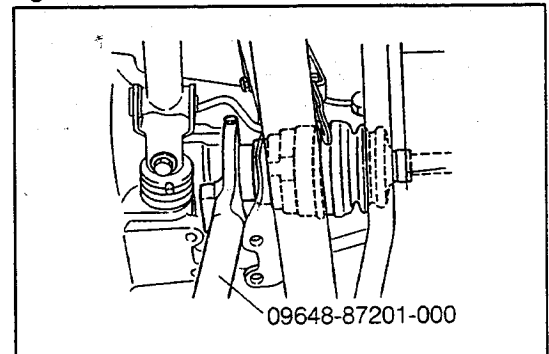


Fig. 3-16

WR-03018

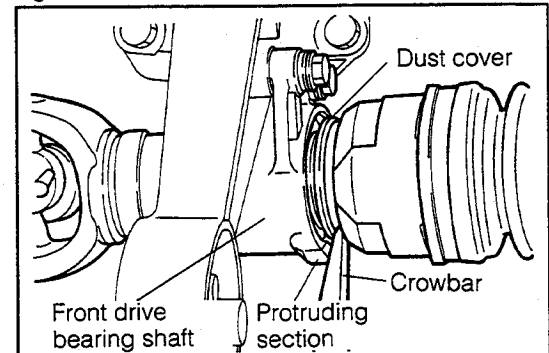


Fig. 3-17

WR-03019

20. Remove the front drive bearing shaft assembly.

(Vehicles mounted with Type CB-80 engine only)

- (1) Remove the two bolts and pull out the front driveshaft bearing shaft from the transmission assembly.

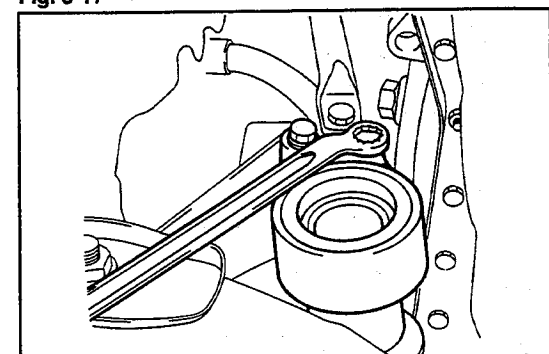


Fig. 3-18

WR-03020

21. Remove the transmission assembly attaching bolts.

NOTE:

Be sure to leave the one bolt located at the front central part.

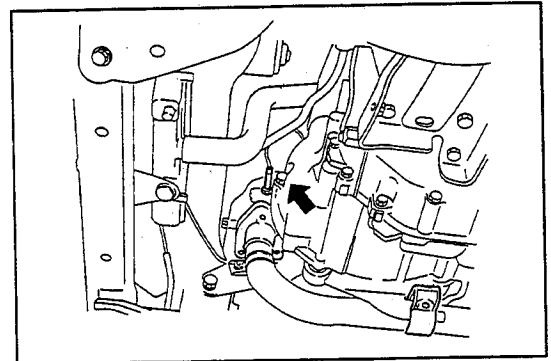


Fig. 3-19

WR-03021

22. Lightly support the lower part of the transmission, using a jack. Then, remove the engine mounting lower/left bracket attaching bolts.

Turn the engine mounting lower/left insulator 90 degrees so that it may point upward.

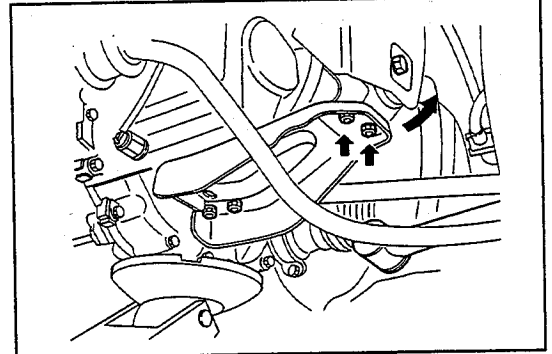


Fig. 3-20

WR-03022

23. Remove the one bolt located at the front central part of the transmission assembly. Slowly jack down the transmission assembly and take it out from below the vehicle.

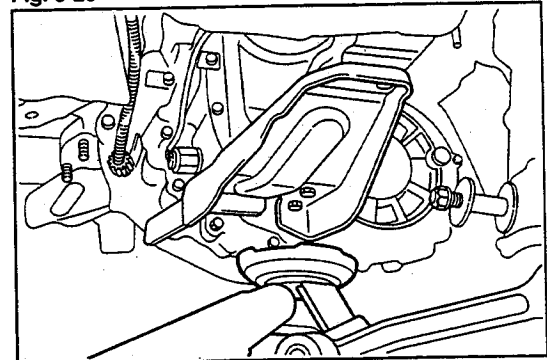


Fig. 3-21

WR-03023

INSTALLATION

1. Install the transmission assembly to the engine assembly as follows:
 - (1) Ensure that the clutch disc is centered in position, using the SST given below.
SST: 09301-87702-000
 - (2) Install the transmission, making sure that the clutch disc may not be pried. Temporarily tighten the attaching bolts.

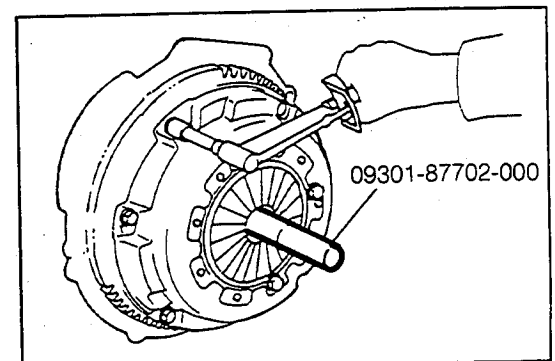


Fig. 3-22

WR-03024

MANUAL TRANSMISSION

2. Tighten the transmission assembly attaching bolts securely.

Tightening Torque: 5.0 - 7.0 kg-m (36 - 51 ft-lb)

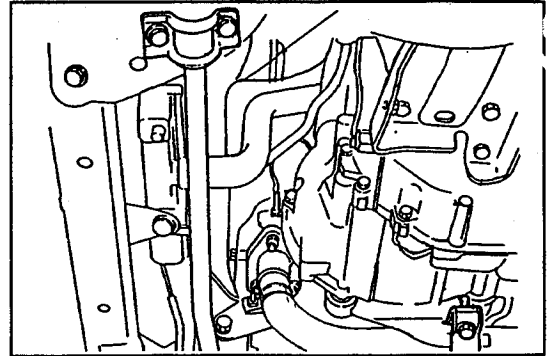


Fig. 3-23

WR-03025

3. Install the engine mounting lower/left insulator and engine mounting lower/left bracket.

Bracket Tightening Torque:

3.0 - 4.5 kg-m (22 - 33 ft-lb)

Insulator Tightening Torque:

7.5 - 10.5 kg-m (54 - 76 ft-lb)

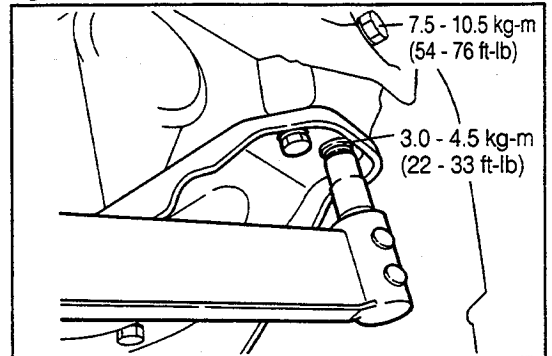


Fig. 3-24

WR-03026

4. Install the front drive bearing shaft assembly as follows:
(Vehicles mounted with Type CB-80 engine only)

(1) Slowly install the bearing shaft assembly to the differential case, making sure that no damage is made to the lip section of the oil seal.

(2) Tighten the two attaching bolts.

Tightening Torque: 3.0 - 4.5 kg-m (22 - 33 ft-lb)

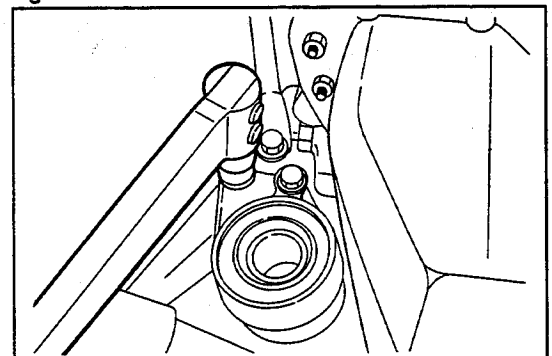


Fig. 3-25

WR-03027

5. Install the drive shafts at the right and left sides.

NOTE:

Slowly install the drive shaft to the differential case, making sure that no damage is made to the lip section of the oil seal.

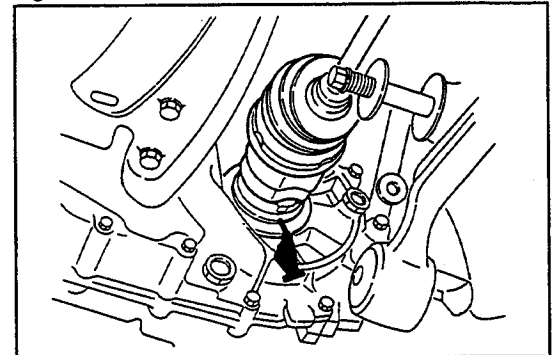


Fig. 3-26

WR-03028

6. Install the lower arm (at the bracket side). Temporarily tighten the attaching bolts.

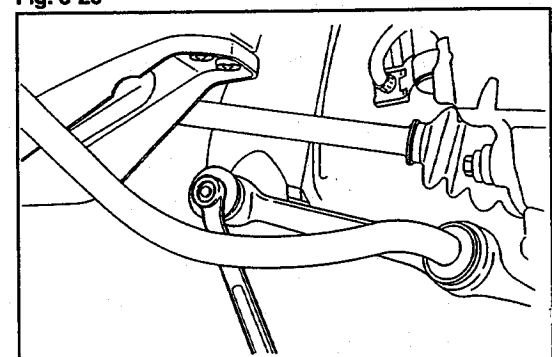


Fig. 3-27

WR-03029

7. Install the stabilizer bar.
- (1) Temporarily tighten the stabilizer bar end nut.
 - (2) Tighten the cushion and stabilizer bar bracket.
- Tightening Torque: 4.0 - 6.0 kg-m (29 - 43 ft-lb)**

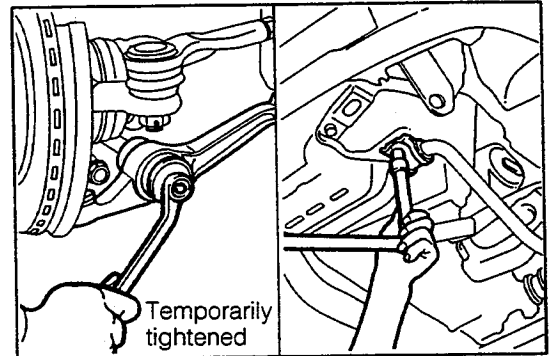


Fig. 3-28

WR-03030

8. Install the following control linkage-related parts:
- (1) Shift & select shaft S/A
Tightening Torque: 1.0 - 1.6 kg-m (7.2 - 11.6 ft-lb)
 - (2) Extension rod S/A
Tightening Torque: 1.0 - 1.6 kg-m (7.2 - 11.6 ft-lb)

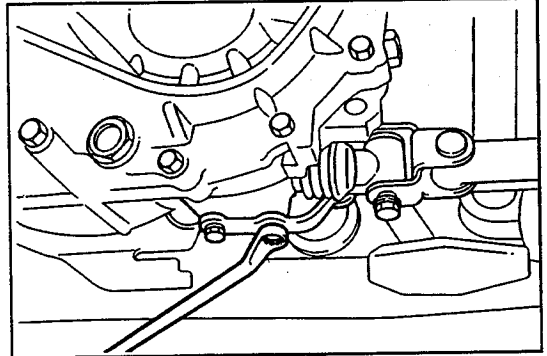


Fig. 3-29

WR-03031

9. Install the manifold side of the front exhaust pipe. Install the bracket support No.1.
- (1) Manifold side
Tightening Torque: 3.0 - 5.0 kg-m (22 - 36 ft-lb)
 - (2) Bracket support No.1
Tightening Torque: 2.0 - 3.0 kg-m (14.5 - 22 ft-lb)

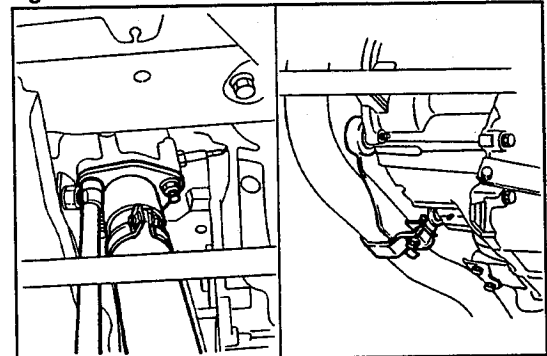


Fig. 3-30

WR-03032

10. Install the lower suspension brace.
(Vehicles mounted with Type CB-61 and CB-80 engines only)
- Tightening Torque: 4.0 - 5.5 kg-m (29 - 40 ft-lb)**

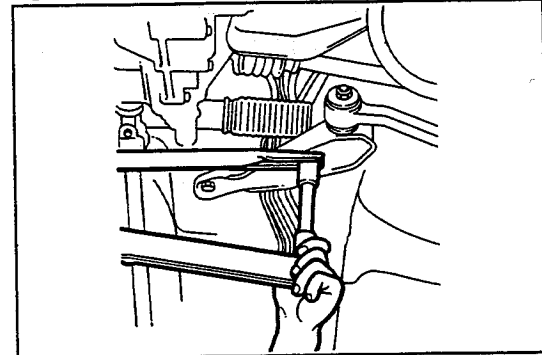


Fig. 3-31

WR-03033

11. Install the engine undercover.
(Vehicles mounted with Type CL engine only)
12. Install the front wheels at the right and left wheels. Jack down the vehicle.
13. Rock the vehicle in a up-and-down direction a few times so as to settle the suspension.
With the vehicle in an unloaded, tighten the nuts.
- (1) Stabilizer bar installing nuts
Tightening Torque: 7.5 - 11.0 kg-m (54 - 80 ft-lb)
 - (2) Lower arm (bracket side)
Tightening Torque: 7.0 - 10.0 kg-m (51 - 72 ft-lb)

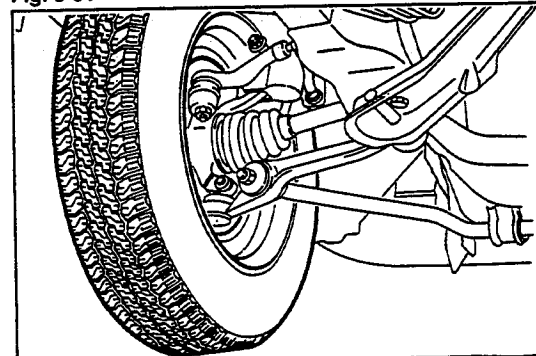


Fig. 3-32

WR-03034

MANUAL TRANSMISSION

13. Fill the transmission oil.

Oil capacity:

4-speed transmission: 1.9 - 2.0 ℓ
(1.7 - 1.8 Imp qts, 2.0 - 2.1 U.S. qts.)

5-speed transmission: 2.1 - 2.2 ℓ
(1.8 - 1.9 Imp qts, 2.2 - 2.3 U.S. qts.)

14. Install the clutch cable.

(See page 2-3.)

15. Attach the three harness clamps.

16. Install the speedometer cable.

17. Install the starter assembly.

Tightening Torque: 5.0 - 7.0 kg-m (36 - 51 ft-lb)

18. Install the intercooler assembly.

(Vehicles mounted with Type CB-80 engine only)

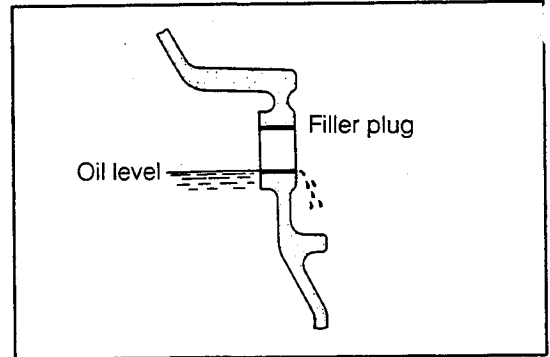


Fig. 3-33

WR-03035

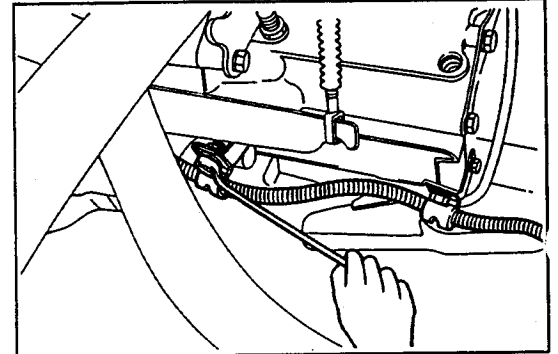


Fig. 3-34

WR-03036

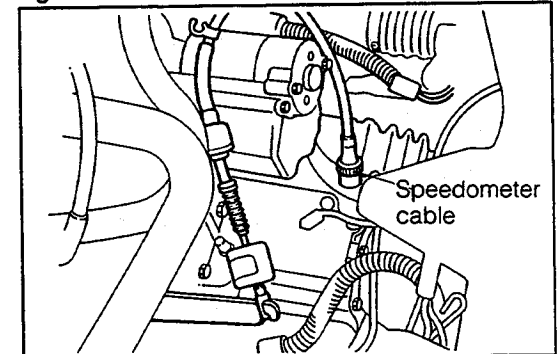


Fig. 3-35

WR-03037

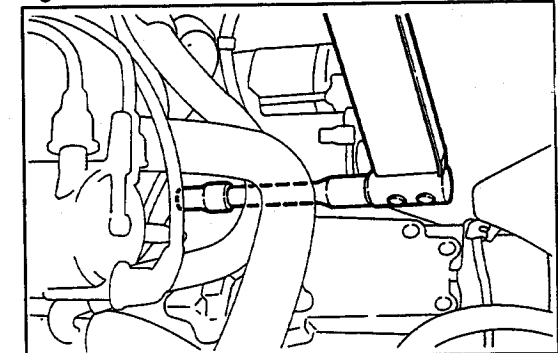


Fig. 3-36

WR-03038

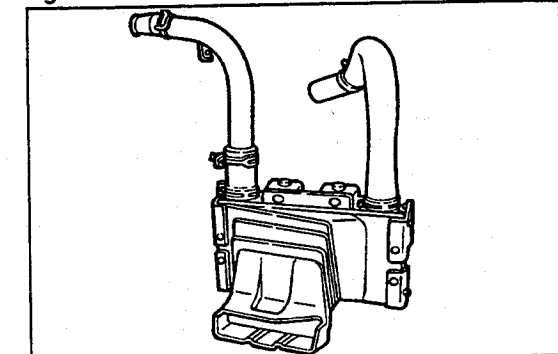


Fig. 3-37

WR-03039

19. Install the following harnesses:

- (1) Harness to starter ①
- (2) Transmission earth ②
- (3) Backup lamp harness ③

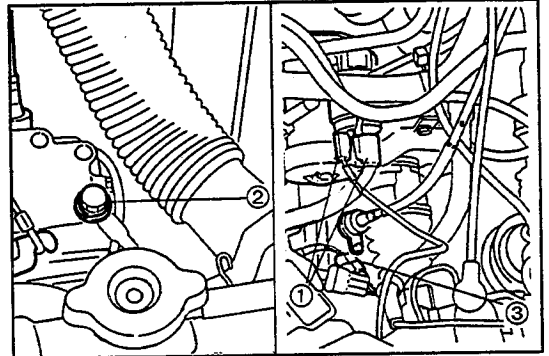


Fig. 3-38

WR-03040

20. Install the battery carrier stay, battery, hold-down clamp and engine hood assembly.

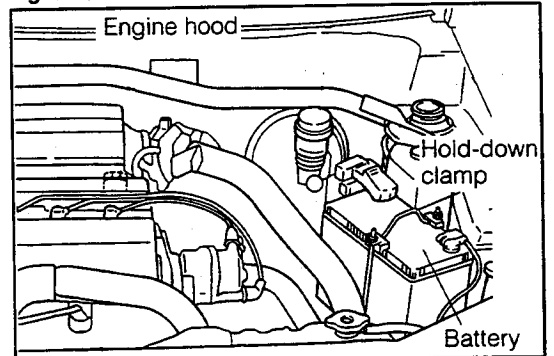


Fig. 3-39

WR-03041

MANUAL TRANSMISSION

DISASSEMBLY, INSPECTION AND ASSEMBLY OF TRANSMISSION HOUSING, CASE S/A AND CASE COVER COMPONENTS (PART 1)

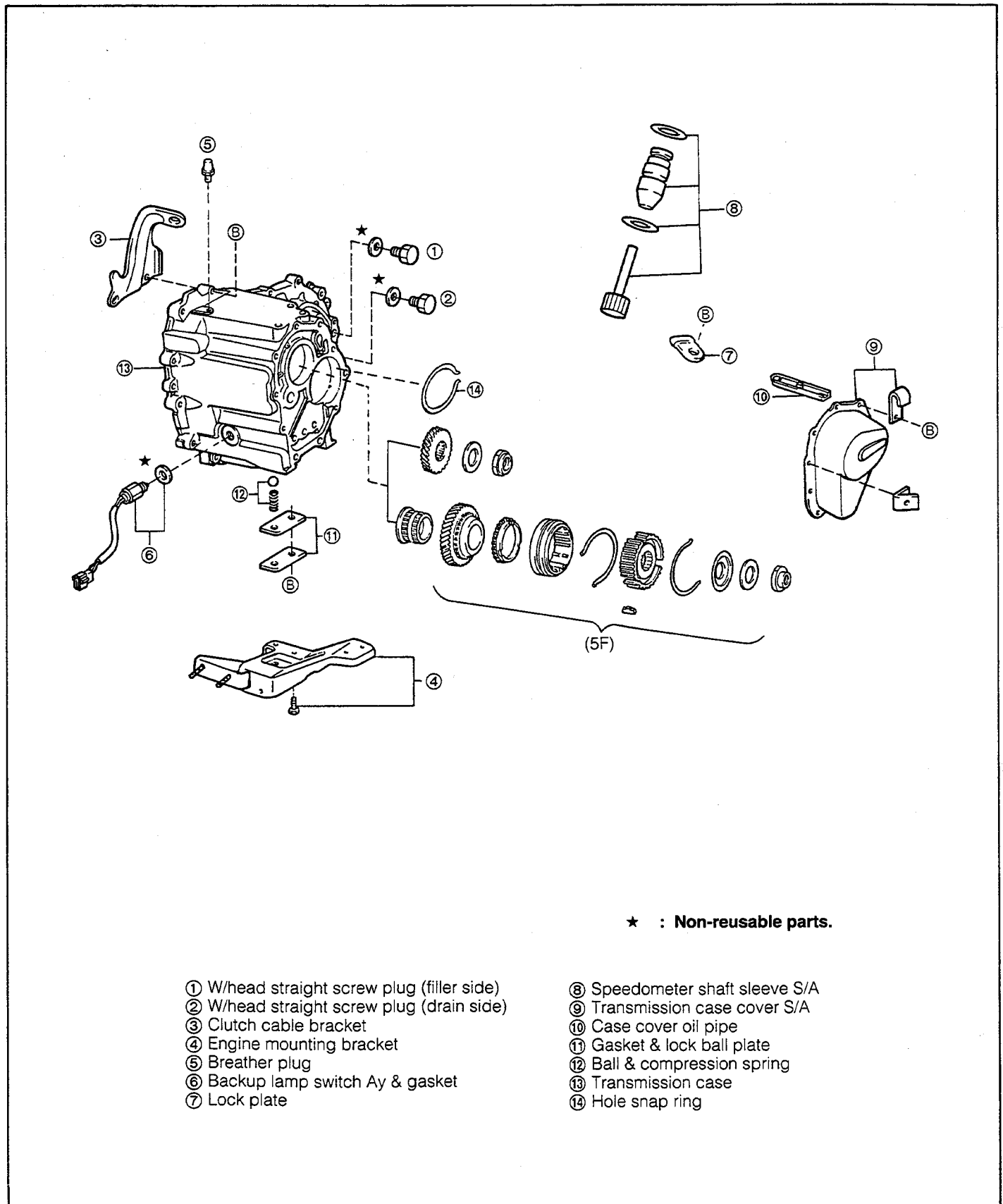
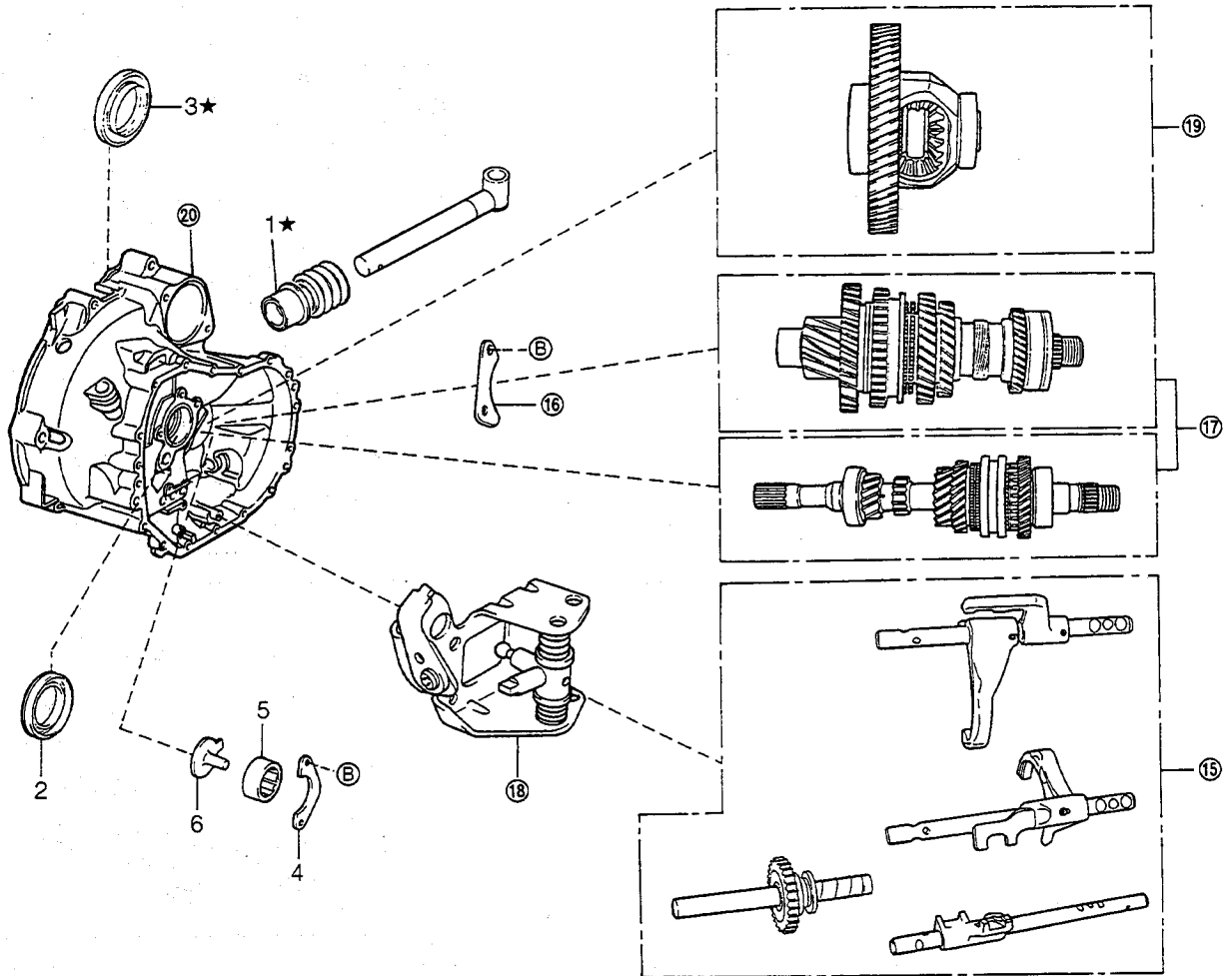


Fig. 3-40

WR-03041A

COMPONENTS (PART 2)



★ : Non-reusable parts.

- ⑮ Control related parts
- ⑯ Input shaft bearing lock plate
- ⑰ Input shaft Ay & output shaft Ay
- ⑱ Selector support Ay & shifting bell crank
- ⑲ Differential case Ay
- ⑳ Transaxle case
- 1, 2, 3. Oil seal
- 4. Output shaft bearing lock plate
- 5. Needle roller bearing
- 6. Output shaft cover

Fig. 3-41

WR-03041B

MANUAL TRANSMISSION

DISASSEMBLY

1. Remove the screw plugs (at the drain and filler sides).
2. Remove the clutch cable bracket and engine mounting bracket.
3. Remove backup lamp switch assembly and breather plug.
4. Remove the lock plate and speedometer shaft sleeve subassembly.
5. Remove the oil seal, using the SST given below.
SST: 09921-00010-000
6. Remove the transmission case cover subassembly as follows:
 - (1) To drive out the case cover subassembly, tap the flange section lightly in the axial direction, using a plastic hammer.

NOTE:
Never tap the case cover at its side.

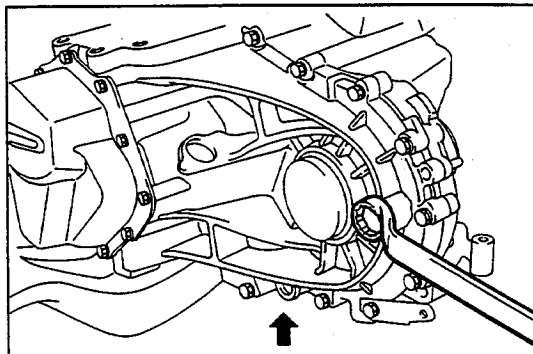


Fig. 3-42

WR-03042

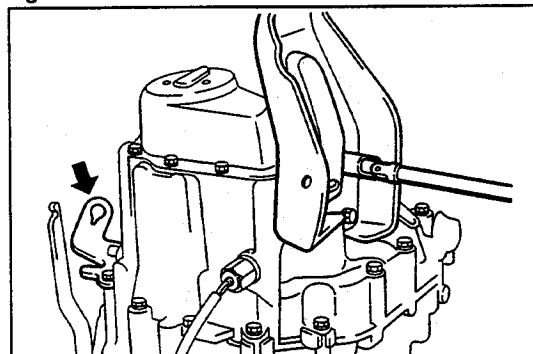


Fig. 3-43

WR-03043

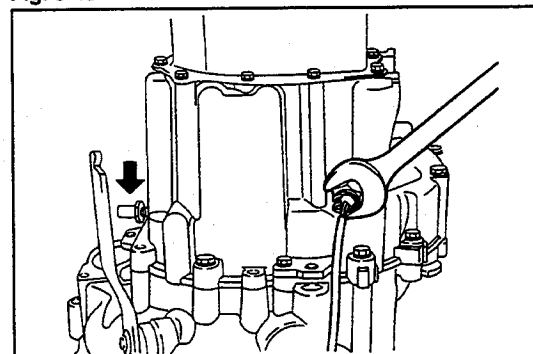


Fig. 3-44

WR-03044

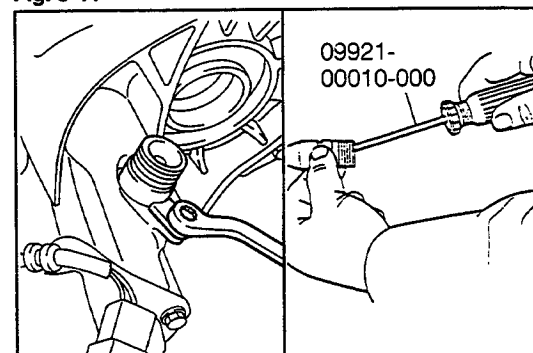


Fig. 3-45

WR-03045

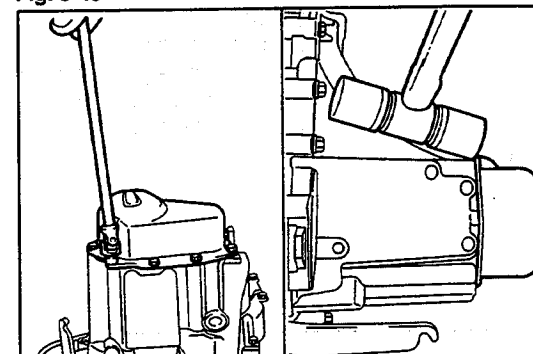


Fig. 3-46

WR-03046

7. Remove the case cover oil pipe.

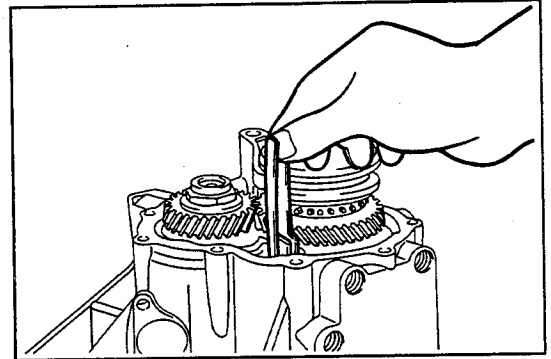


Fig. 3-47

WR-03047

8. Remove the lock ball plate and gasket. Take out the compression spring and ball.
(In the case of the 5-speed transmission, proceed to this operation after the 5th gear has been disassembled.)

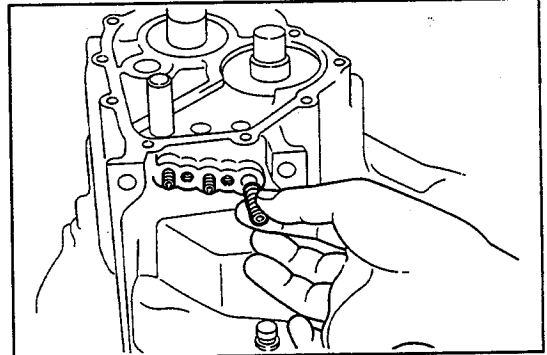
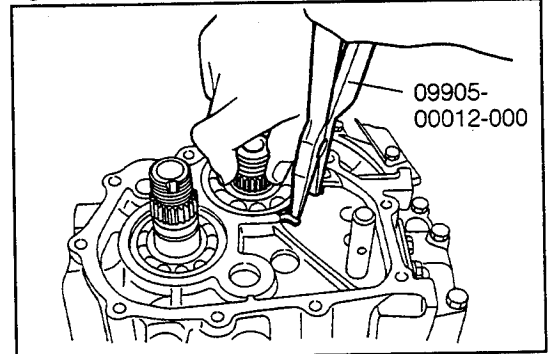


Fig. 3-48

WR-03048

9. Remove the transmission case as follows:
(1) With the hole snap ring for output shaft bearing use held in an expanded state by means of the SST, drop the shaft.
SST: 09905-00012-000
(2) To drive out the transmission case, tap the case rib with a plastic hammer.



09905-00012-000

Fig. 3-49

WR-03049

10. Detach the hole snap ring.

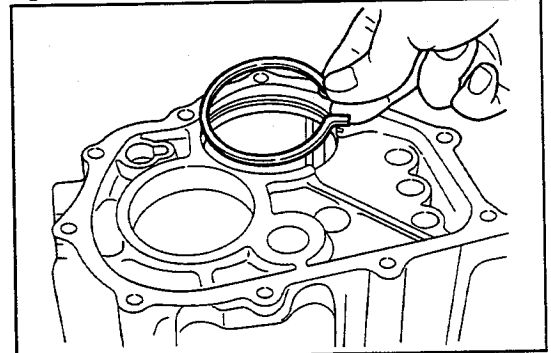


Fig. 3-50

WR-03050

11. Remove the control linkage-related parts.
(For the disassembly procedure for each part, see page 3-50.)

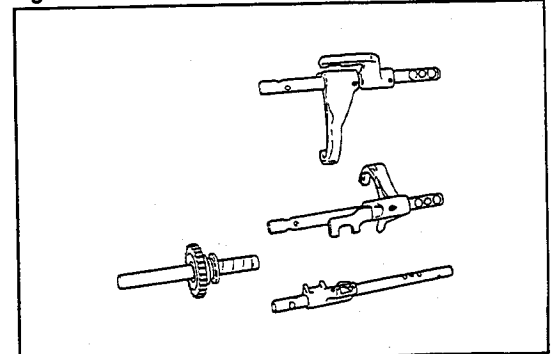


Fig. 3-51

WR-03051

MANUAL TRANSMISSION

12. Remove the input shaft bearing lock plate.

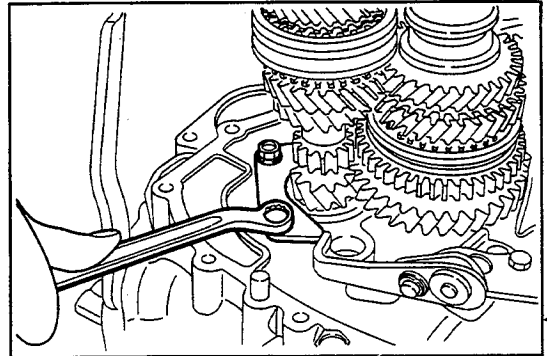


Fig. 3-52

WR-03052

13. Remove the input shaft assembly and output shaft assembly at the same time.

(1) Alternately pull out both shafts a little at a time.

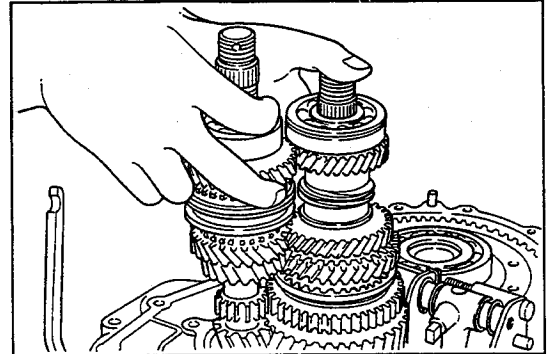


Fig. 3-53

WR-03053

14. Remove the selector support assembly, shifting bell crank and magnet.

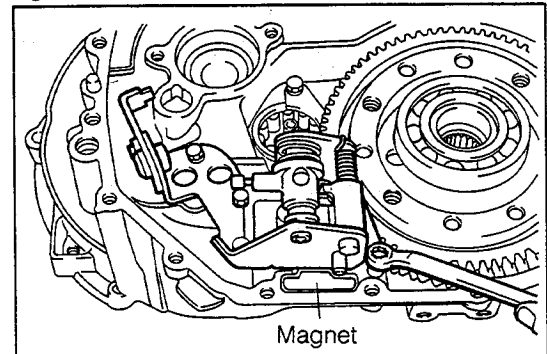


Fig. 3-54

WR-03054

15. Remove the differential case as follows:

(1) With a brass bar placed on the inner race of the side bearing, lightly tap the bar so that the differential case may be driven out from the transaxle case.

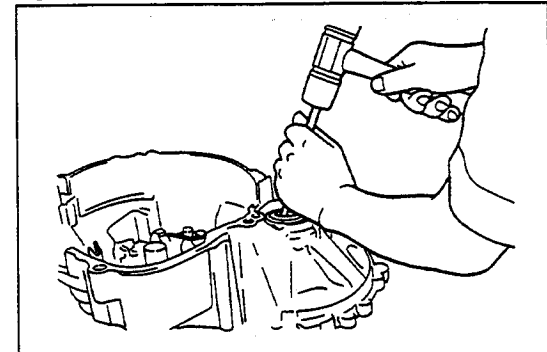


Fig. 3-55

WR-03055

REPLACEMENT

Inspect the following parts. (See page 3-18.) Replace any parts that exhibit defects, following the procedure given below.

1. Oil seal for control shaft use

Disassembly: Remove the oil seal by pinching its flange section with pliers.

Assembly: Drive the oil seal into position, until it comes into contact with the axle case.

SST: 09515-87201-000

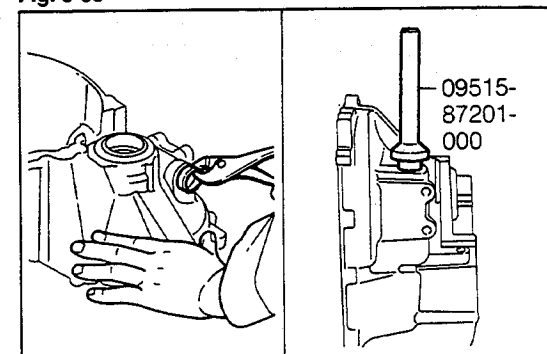


Fig. 3-56

WR-03056

2. Oil seal for input shaft use

Disassembly: Remove the oil seal with a common screwdriver.

Assembly: Drive the oil seal into position, until it becomes flush with the edge surface of the transaxle case.

SST: 09606-87201-000

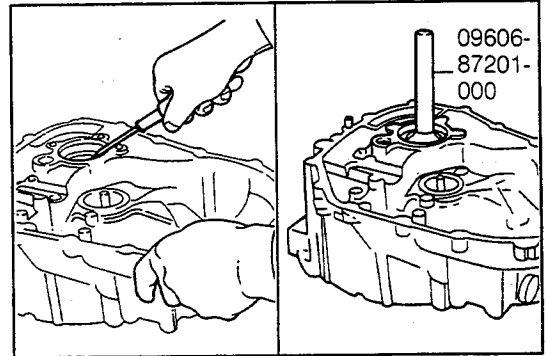


Fig. 3-57

WR-03057

3. Needle Roller Bearing

Disassembly: After the output shaft bearing lock plate has been removed, remove the roller bearing, using the SST given below.

SST: 09308-00010-000

Assembly:

(1) Assemble the roller bearing, using the SST given below.

SST: 09309-87201-000

NOTE:

Visually check to see if the output shaft cover exhibits severe distortion or clogging.

(2) Install the bearing lock plate.

Tightening Torque: 0.7 - 1.0 kg-m (5.1 - 7.2 ft-lb)

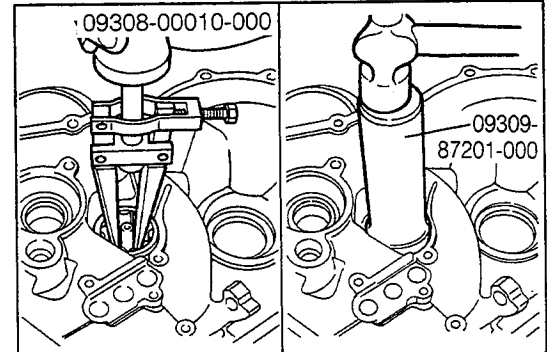


Fig. 3-58

WR-03058

4. Oil seal for differential use

Disassembly: Remove the oil seal with a common screwdriver.

Assembly: Drive the oil seal into position, until it comes into contact with the rib of the axle case.

SST: 09517-87701-000 (Case side)

09517-87702-000 (Housing side)

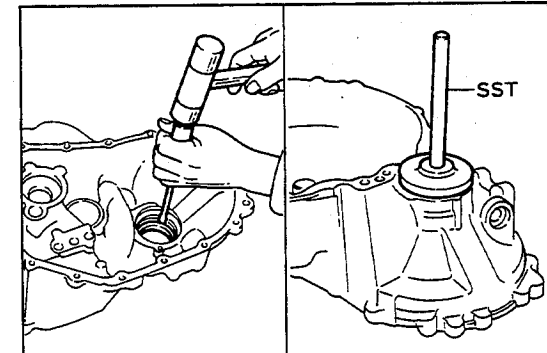


Fig. 3-59

WR-03059

INSPECTION

1. Check each bearing for wear or damage.

| Part | Inspection criteria |
|---------|--|
| Bearing | When the inner race is rotated by your fingers, it should rotate smoothly without any binding. |

2. Check each oil seal for wear or damage.

| Part | Inspection criteria |
|-------------------------|---|
| Lip section of oil seal | Visually inspect to see if the lip section exhibits excessive damage or wear. |

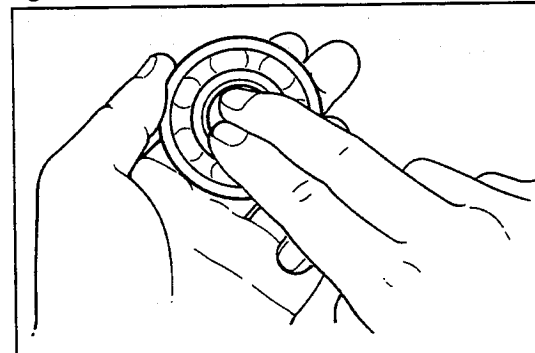


Fig. 3-60

WR-03060

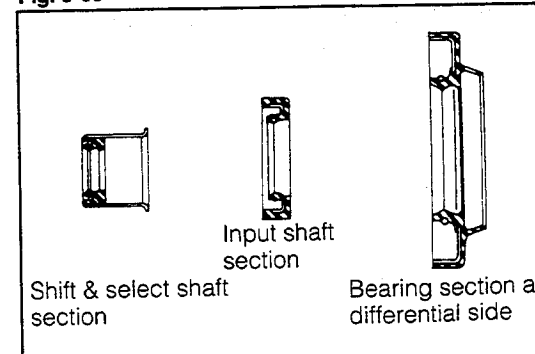


Fig. 3-61

WR-03061

MANUAL TRANSMISSION

3. Check the speedometer shaft sleeve subassembly for wear or damage.

| Part | | Specified value mm (inch) | Limit mm (inch) |
|----------------------------|---|--|--------------------|
| Driven gear shaft diameter | ① | 8 $\begin{smallmatrix} -0.013 \\ -0.028 \end{smallmatrix}$ (0.3150 $\begin{smallmatrix} +0.0005 \\ +0.0011 \end{smallmatrix}$) | 7.96 (0.313) |
| Shaft sleeve bore | ② | 8 $\begin{smallmatrix} +0.065 \\ +0.029 \end{smallmatrix}$ (0.3150 $\begin{smallmatrix} +0.0026 \\ +0.0011 \end{smallmatrix}$) | 8.10 (0.319) |
| Oil seal lip section | ③ | Visually inspect the section for excessive wear or damage. | |
| "O" ring | ④ | | |
| Driven gear tooth surface | ⑤ | | |

ASSEMBLY

1. Assemble the differential case.
(For the assembly procedure for each part, see page 3-47.)

2. Assemble the magnet and selecting & shifting bell crank support assembly.
(For the assembly procedure for each part, see page 3-57.)

Tightening Torque: 0.7 - 1.0 kg-m (5.1 - 7.2 ft-lb)

3. Assemble the input shaft assembly and output shaft assembly at the same time.

4. Assemble the input shaft bearing lock plate.

Tightening Torque: 1.5 - 2.2 kg-m (11 - 16 ft-lb)

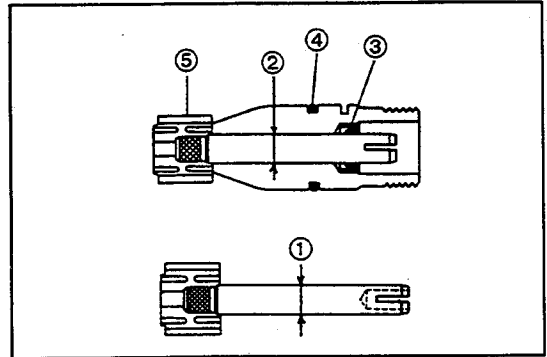


Fig. 3-62

WR-03165

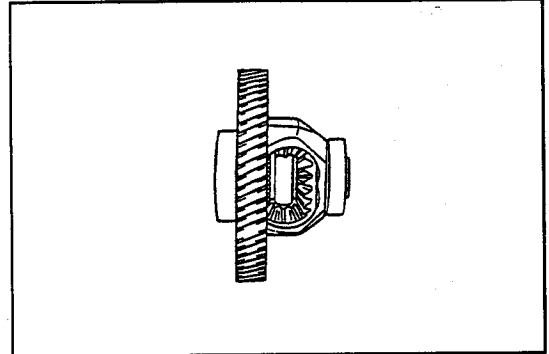


Fig. 3-63

WR-03062

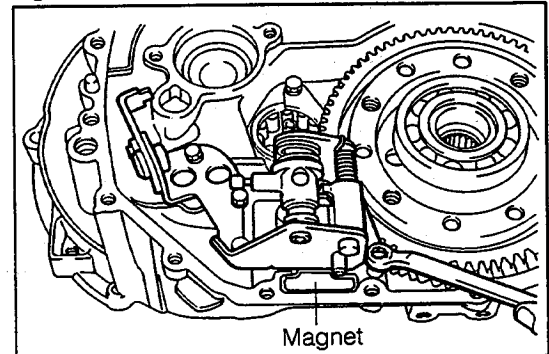


Fig. 3-64

WR-03063

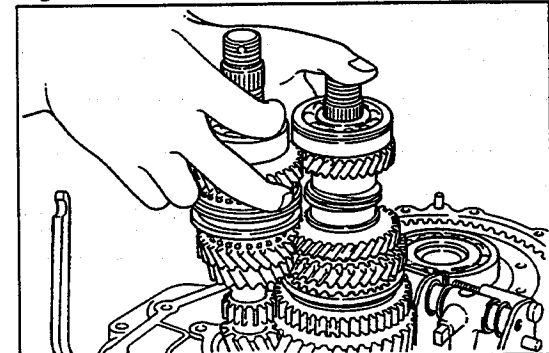


Fig. 3-65

WR-03064

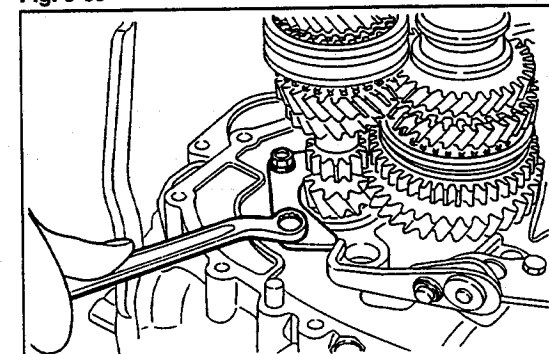


Fig. 3-66

WR-03065

5. Assemble the control linkage-related parts.
(For the assembly procedure for each part, see page 3-57.)

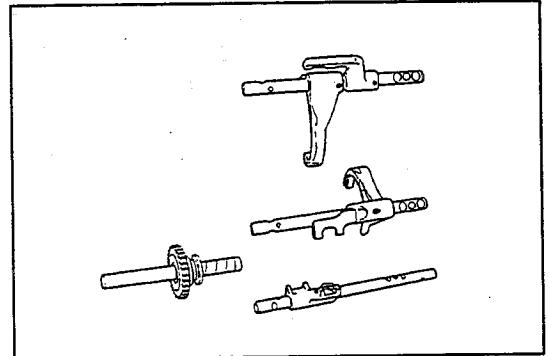


Fig. 3-67

WR-03066

6. Install the hole snap ring in the transmission case.

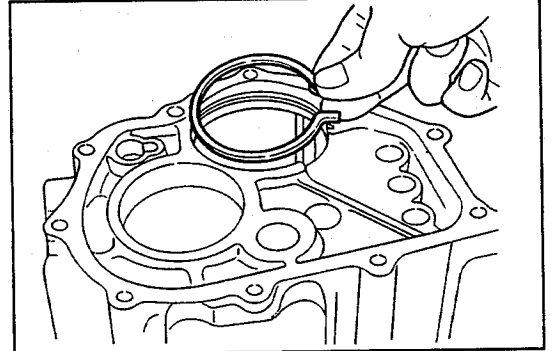


Fig. 3-68

WR-03067

7. Assemble the transmission case as follows:
(1) Apply the Three Bond sealer 1216 to the mating surface of the housing. While the hole snap ring of the bearing is held in an expanded state, assemble the transmission case in the axle case.

SST: 09905-00012-000

NOTE:

Make sure that the snap ring is fitted positively in the bearing, by raising the output shaft by your hand.

- (2) Tighten the housing attaching bolts.
Tightening Torque: 1.5 - 2.2 kg-m (11 - 16 ft-lb)

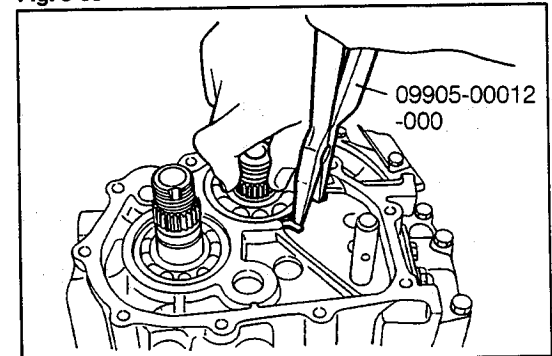


Fig. 3-69

WR-03068

8. Assemble the ball and compression spring.

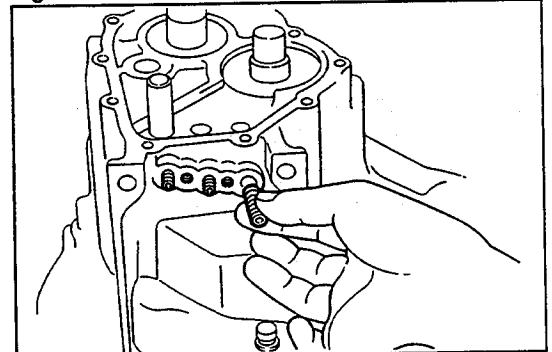


Fig. 3-70

WR-03069

9. Assemble the lock ball plate and gasket as follows:
(1) Perform the assembling, using the bolts.

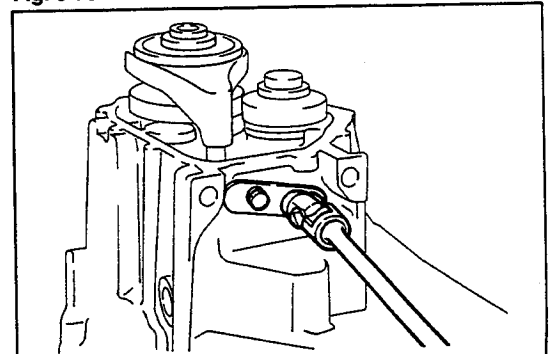


Fig. 3-71

WR-03070

MANUAL TRANSMISSION

10. Install the case cover oil pipe as follows:
(1) Insert the oil pipe, until its rib section comes into contact with the case.

NOTE:

The oil pipe for the 4-speed transmission differs from that for the 5-speed transmission in its overall length and tip-end shape.

Overall length:

- Oil pipe for 4-speed transmission
126 mm (5.0 inch)
- Oil pipe for 5-speed transmission
167 mm (6.6 inch)

11. Assemble the transmission case cover as follows:
(1) Apply the liquid gasket sealer (Three Bond 1216) to the mating surfaces of the case, except for those hole areas. (See page 3-19.)
Tightening Torque: 0.7 - 1.0 kg-m (5.1 - 7.2 ft-lb)

12. Assemble the oil seal for speedometer shaft sleeve, using the SST given below.
SST: 09201-60011-000
13. Assemble the speedometer shaft sleeve subassembly and lock plate.
Tightening Torque: 0.7 - 1.0 kg-m (5.1 - 7.2 ft-lb)

14. Install the backup lamp switch and breather plug.
Tightening Torque
Backup Lamp Switch: 3.0 - 5.0 kg-m (22 - 36 ft-lb)
Breather Plug: 1.0 - 1.3 kg-m (7.2 - 9.4 ft-lb)

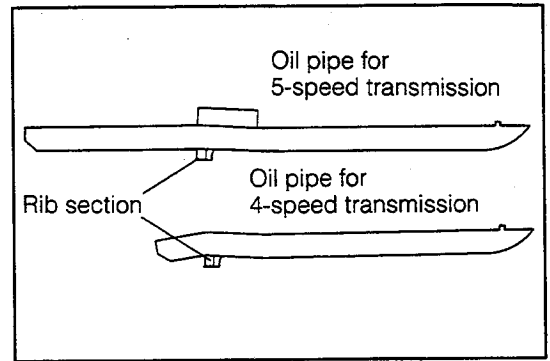


Fig. 3-72

WR-03071

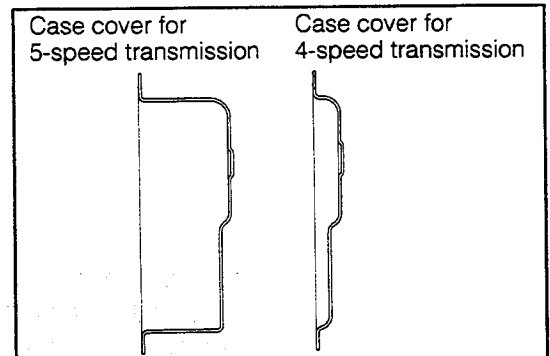


Fig. 3-73

WR-03072

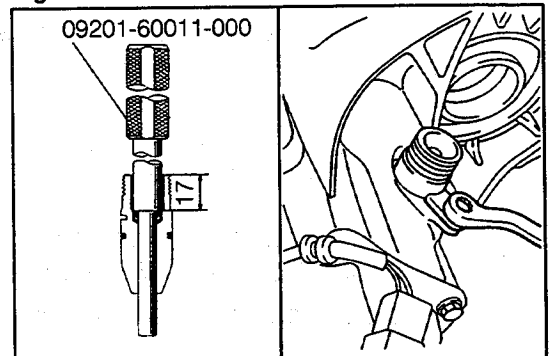


Fig. 3-74

WR-03073

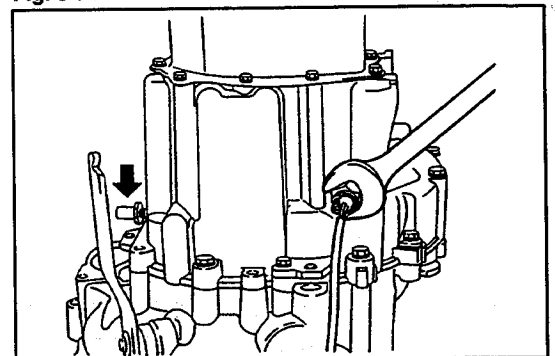


Fig. 3-75

WR-03074

15. Install the clutch cable bracket and engine mounting bracket.

Tightening Torques

Clutch Cable Bracket: 1.5 - 2.2 kg-m (11 - 16 ft-lb)

Engine Mounting Bracket: 3.0 - 4.5 kg-m (22 - 33 ft-lb)

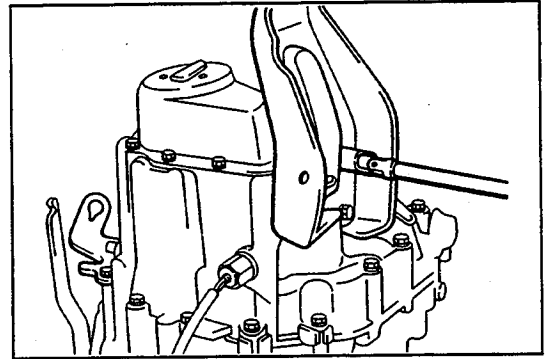


Fig. 3-76

WR-03075

16. Install the screw plugs (at the drain and filler sides).

Tightening Torque: 3.0 - 5.0 kg-m (22 - 36 ft-lb)

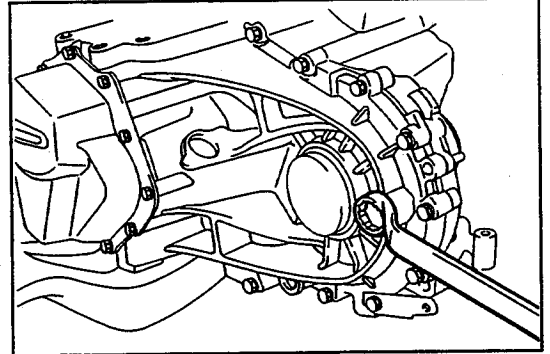


Fig. 3-77

WR-03076

MANUAL TRANSMISSION

APPLICATION POINTS OF GREASE & BOND AND APPLICATION PROCEDURE

NOTE:

As for each gear clustered on the input and output shafts and the rotary and sliding sections of the oil seals, apply gear oil to the entire surface of each part.

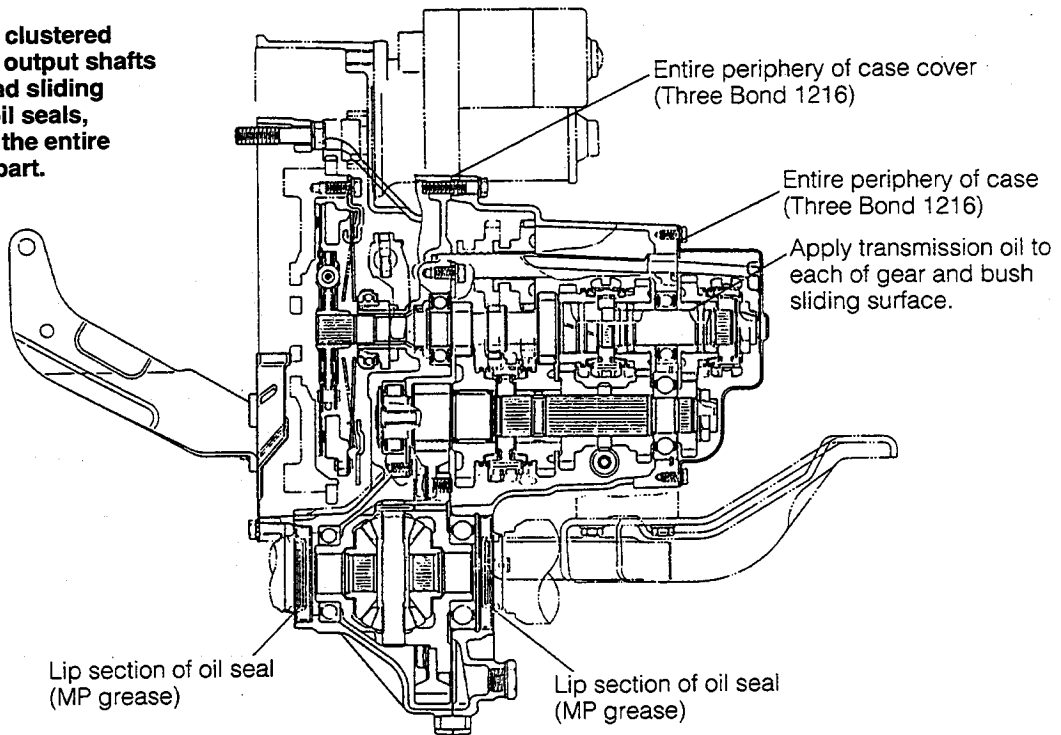


Fig. 3-78

WR-03077

Application Procedure for Liquid Gasket Sealer (Three Bond 1216 ... Part No. 999-0480-8U90-00)

1. Cut the first stage of the nozzle of the Daihatsu genuine sealer (Three Bond 1216) that is furnished in accessories.

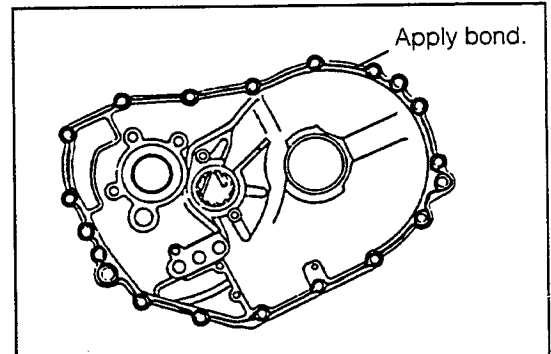
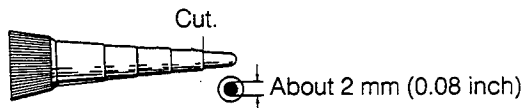


Fig. 3-79

WR-03078

2. Remove any remaining trace of the liquid gasket that may be found on the housing or the case with thinner or a scraper. Care must be exercised not to scratch the surfaces during the cleaning.

3. Apply the liquid sealer to the entire periphery of the housing and case without any unapplied spot, as indicated in the illustration at the right.

NOTE:

1. Apply the liquid sealer to the inside of each hole, excluding those bolts holes.
2. Be sure to perform the assembling within five minutes after the application of the liquid sealer.
3. Make sure to dry the thinner completely.

NOTE:

<Handling Instructions on Liquid gasket>

1. The liquid gasket starts to cure when it reacts with the moisture in the atmosphere. Hence, upon completion of the work, be sure to expel any air trapped in the tube and tighten the tube cap securely.
2. As regards the storage place for this liquid gasket, avoid such places where high temperature or high humidity prevails or those exposed to direct sunrays. Make sure to store it in a dry, cold and dark place.
(The allowable limit for use is approximately six months.)

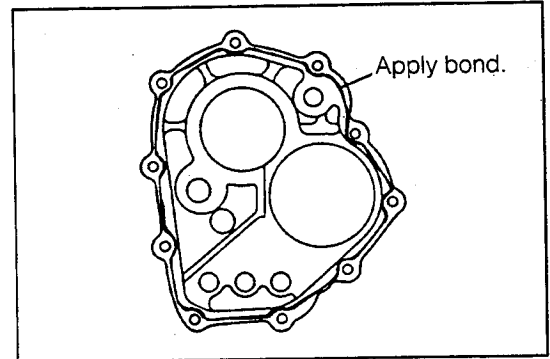
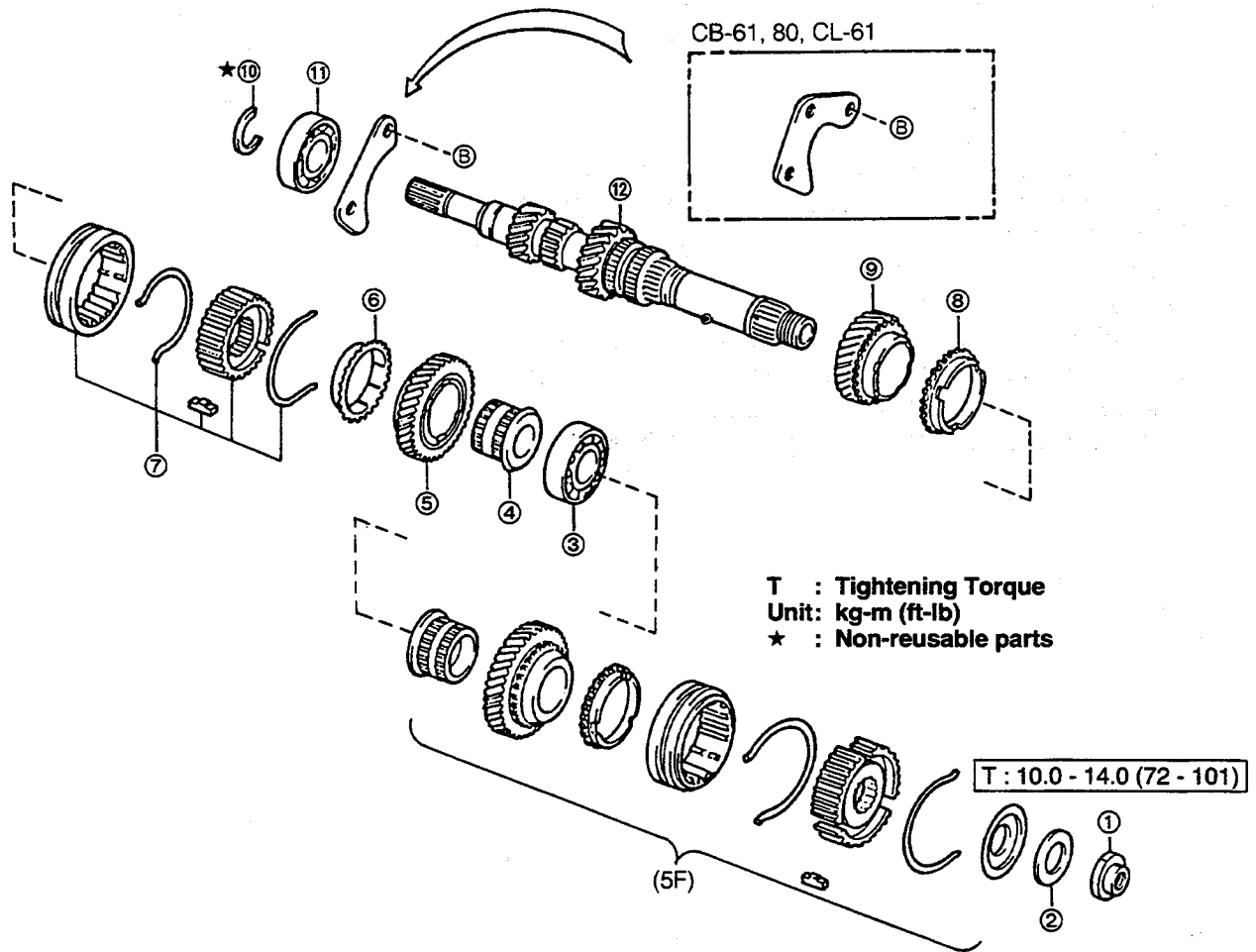


Fig. 3-80

WR-03079

DISASSEMBLY, INSPECTION AND ASSEMBLY OF INPUT SHAFT COMPONENTS



- ① Lock nut
- ② Conical washer
- ③ Bearing
- ④ 4th gear bush
- ⑤ 4th gear
- ⑥ Synchronizer ring

- ⑦ Synchronizer hub Ay No.2
- ⑧ Synchronizer ring
- ⑨ 3rd gear
- ⑩ Shaft snap ring
- ⑪ Bearing
- ⑫ Input shaft

Fig. 3-81

WR-03079A

Operation Prior to Disassembly

Pull out the input shaft and the output shaft at the same time from the transmission case. Proceed to the next disassembly operation. (See page 3-16.)

DISASSEMBLY

1. Remove the lock nut. (4-speed transmission only)
 - (1) Clamp the 1st gear section of the input shaft in a vise, making sure that no scratch is made to the clamped section.
 - (2) Release the staked section of the lock nut, using a chisel.
 - (3) Remove the lock nut.

NOTE:

For the 5-speed transmission, see page 3-39.

2. Remove the conical spring washer. Then, remove the bearing, using the SST given below.
SST: 09602-87301-000

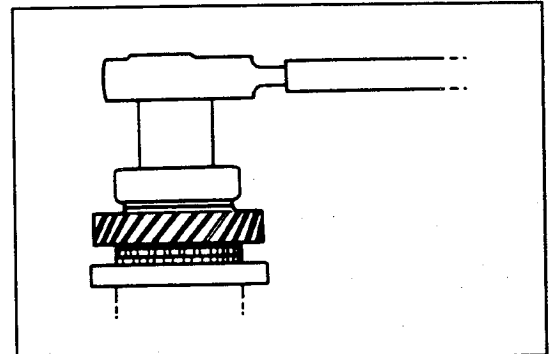


Fig. 3-82

WR-03080

3. Remove the 4th gear and 4th gear bush.

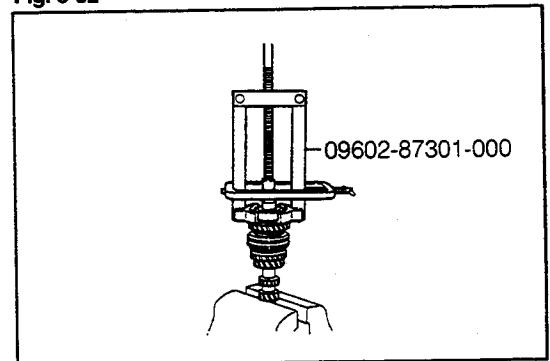


Fig. 3-83

WR-03081

4. Remove the synchronizer ring. Then, remove the synchronizer hub assembly No.2.
 - (1) Detach the two synchromesh shifting springs and three synchromesh shifting keys.

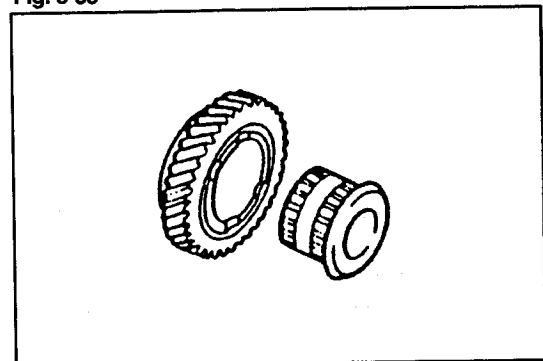


Fig. 3-84

WR-03082

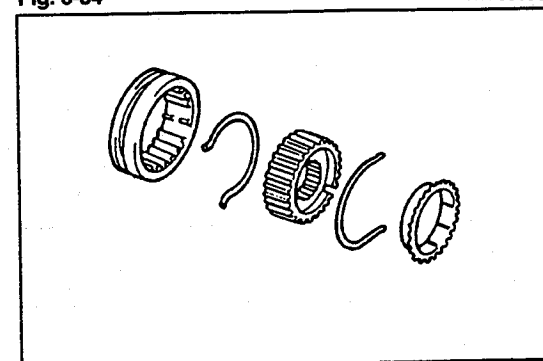


Fig. 3-85

WR-03083

MANUAL TRANSMISSION

5. Remove the synchronizer ring and 3rd gear.

6. Detach the shaft snap ring, using two common screwdrivers.

NOTE:

1. Special care must be exercised as to the snap ring which may jump out during the disassembly.
2. Particular attention should be paid to avoid scratching the shaft.

7. Remove the bearing, using the SST given below.

SST: 09602-87301-000

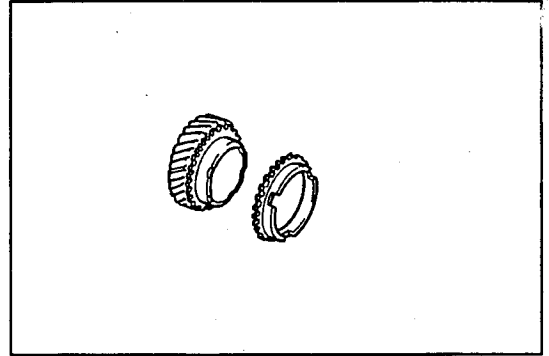


Fig. 3-86

WR-03084

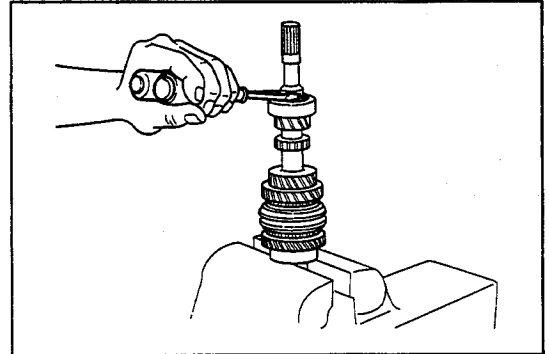


Fig. 3-87

WR-03085

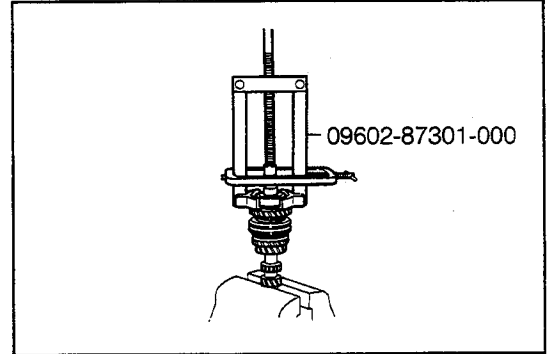


Fig. 3-88

WR-03086

INSPECTION

1. Check the 4th gear bush for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|-------------------------------|---|------------------|
| Bore ① | 25 ^{+0.042} / _{+0.027} (0.9843 ^{+0.0017} / _{+0.0011}) | 25.02 (0.985) |
| Outer diameter ② | 37 ^{-0.040} / _{-0.080} (1.4567 ^{-0.0016} / _{-0.0031}) | 36.89 (1.452) |
| Overall length ③ | 29 ± 0.03 (1.1417 ± 0.0012) | 28.97 (1.141) |
| Thickness of flange section ④ | 3 ± 0.06 (0.1181 ± 0.0024) | 2.94 (0.116) |

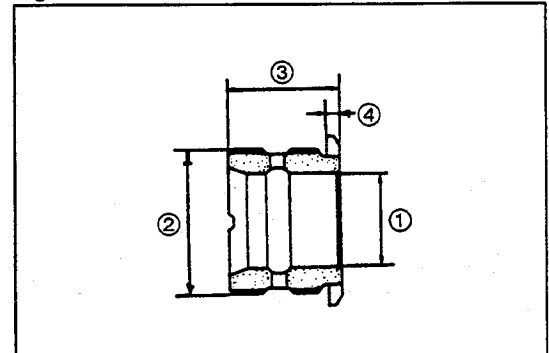


Fig. 3-89

WR-03087

2. Check each gear for wear or damage.

| Part | Specified value mm (inch) | | Limit mm (inch) | |
|-----------------------------------|--|--|------------------|-----------------|
| | Bore ① | Width ⑥ | Bore ① | Width ⑥ |
| 3rd gear (input) | $37 \begin{smallmatrix} +0.025 \\ 0 \end{smallmatrix}$ (1.4567 $\begin{smallmatrix} +0.0010 \\ 0 \end{smallmatrix}$) | $27.5 \begin{smallmatrix} -0.20 \\ 0.27 \end{smallmatrix}$ (1.0827 $\begin{smallmatrix} -0.0079 \\ -0.0108 \end{smallmatrix}$) | 37.05 (1.459) | 27.2 (1.071) |
| 4th gear (input) | $37 \begin{smallmatrix} +0.025 \\ 0 \end{smallmatrix}$ (1.4567 $\begin{smallmatrix} +0.0010 \\ 0 \end{smallmatrix}$) | $26 \begin{smallmatrix} -0.13 \\ -0.20 \end{smallmatrix}$ (1.0236 $\begin{smallmatrix} -0.0051 \\ -0.0079 \end{smallmatrix}$) | 37.05 (1.459) | 25.7 (1.012) |
| Splined section | Visually inspect the section for excessive damage or wear. | | | |
| Gear section ③ | | | | |
| Tapered section ② | | | | |
| Both edge surfaces of gear ④ | | | | |
| Fitting section with hub sleeve ⑤ | Inspect the section for excessive play, nick or rounded edge. | | | |

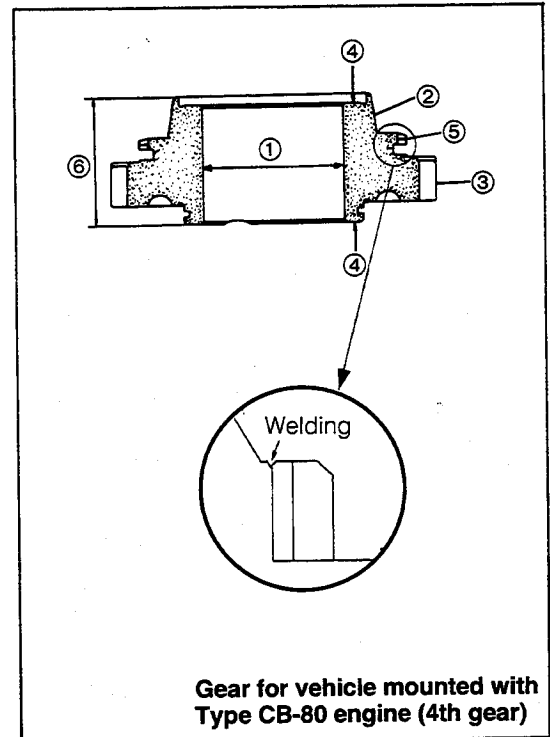


Fig. 3-90

WR-03088

3. Check the clutch hub and sleeve for the 3rd & 4th gear use for wear or damage.

Clutch Hub

| Part | Limit |
|--|--|
| Splined section ① | Visually inspect the section for excessive damage or wear. |
| Synchromesh shifting key fitting groove ② | |
| With the hub fitted into the sleeve, check for excessive looseness in up-&-down direction and slant of the hub and sleeve. | |

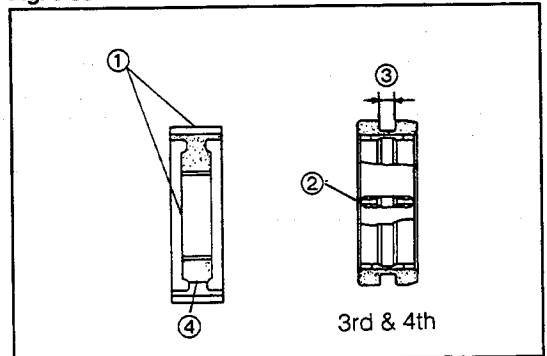


Fig. 3-91

WR-03089

Sleeve

| Part | Specified value mm (inch) | Limit mm (inch) |
|-----------------------------|---|-----------------|
| Shift fork groove width ③ | $7.0 \begin{smallmatrix} \pm 0.12 \\ \pm 0.05 \end{smallmatrix}$ (0.276 $\begin{smallmatrix} \pm 0.004 \\ \pm 0.002 \end{smallmatrix}$) | 7.3 (0.287) |
| Fitting section with gear ④ | Visually inspect the section for excessive damage, wear, nick or rounded edge. | |

4. Check the input shaft for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|---|---|------------------|
| Outer diameter of bush bore-contact-section ① | $25 \begin{smallmatrix} +0.017 \\ +0.002 \end{smallmatrix}$ (0.9843 $\begin{smallmatrix} +0.0007 \\ +0.0001 \end{smallmatrix}$) | 24.99 (0.984) |
| Tooth surfaces of gear and spline | Visually inspect the surface for excessive damage, wear, nick or rounded edge. | |

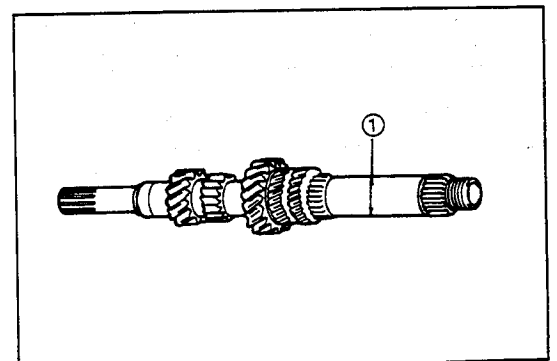


Fig. 3-92

WR-03090

MANUAL TRANSMISSION

5. Check the synchromesh shifting key and key spring for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|--------------------------------------|---|--------------------|
| Key for 3rd & 4th gear (dimension H) | 5.0 $\begin{smallmatrix} -0.2 \\ -0.4 \end{smallmatrix}$ (0.197 $\begin{smallmatrix} -0.008 \\ -0.016 \end{smallmatrix}$) | 4.3 (0.169) |
| Spring ① | Visually inspect the spring for damage or distortion. | |

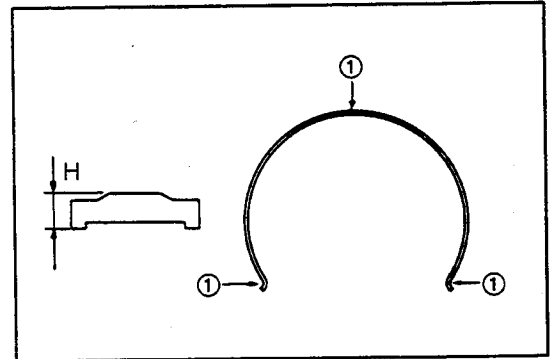


Fig. 3-93

WR-03091

6. Check the synchronizer ring for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|---|--|--------------------|
| Gap when synchronizer ring is pressed to gear | 0.85 - 1.45 (0.034 - 0.06) | 0.5 (0.020) |
| Damage at inner tapered section | Visually inspect the section for excessive damage. | |
| Damage at spline | | |

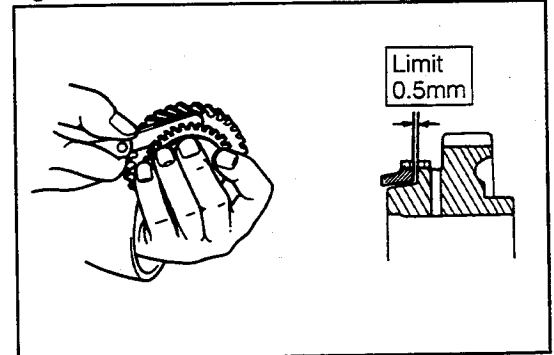


Fig. 3-94

WR-03092

7. Check the bearing for wear or damage.

| Part | Inspection criteria |
|---------|--|
| Bearing | When the inner race is rotated by your fingers, it should rotate smoothly without any binding. |

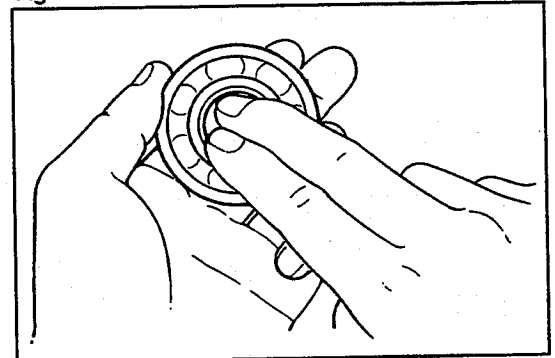


Fig. 3-95

WR-03093

ASSEMBLY

1. Apply gear oil to the entire surface of the rotary or sliding section of each gear of the input shaft.

NOTE:

The overall length of the input shaft differs depending upon the transmission type. Hence, special care must be exercised as to its overall length.

| Transmission type | Overall length mm (inch) | Presence of splines at section A |
|-------------------|-----------------------------|----------------------------------|
| 4-Speed | 269 (10.59) | No |
| 5-Speed | 311 (12.24) | Yes |

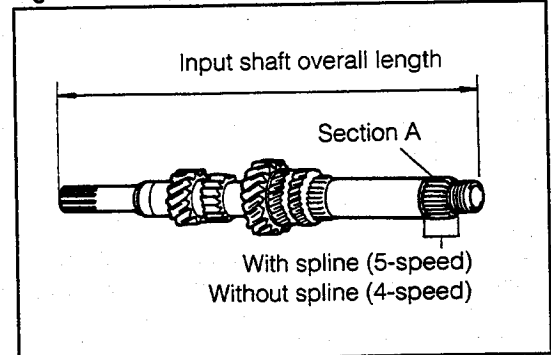


Fig. 3-96

WR-03094

2. Assemble the bearing, using the SST given below.
SST: 09309-87201-000

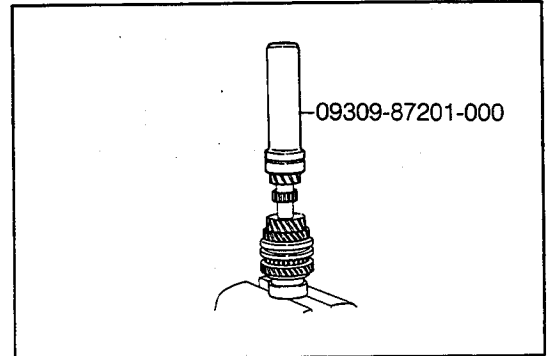


Fig. 3-97

WR-03095

3. Drive a new snap ring into position, using a common screwdriver.
For easier installation, hold the snap ring with the SST given below.

SST: 09309-87201-000

NOTE:

Be very careful not to scratch the shaft.

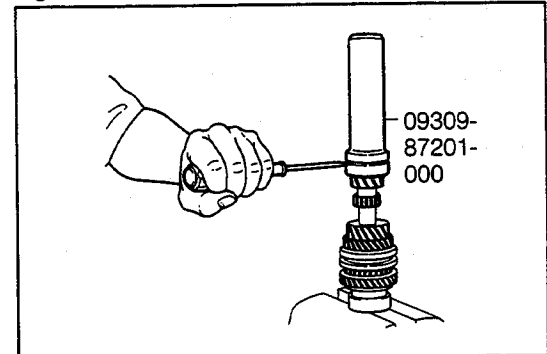


Fig. 3-98

WR-03096

4. Assemble the 3rd gear.

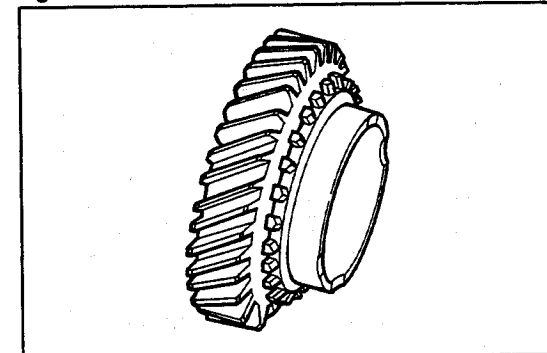


Fig. 3-99

WR-03097

5. Assemble the synchronizer ring and synchronizer hub assembly No.2.

- (1) Assemble the clutch and sleeve. Ensure that both parts can slide smoothly.
- (2) Assemble the shifting keys and springs.

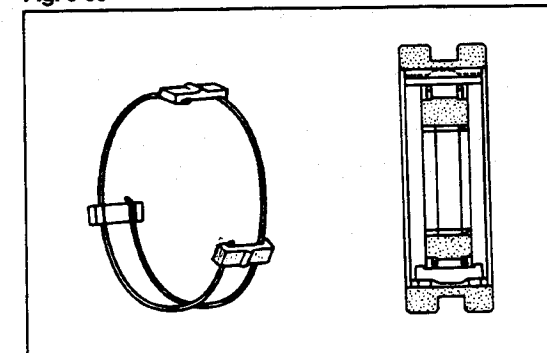


Fig. 3-100

WR-03098

6. Assemble the synchronizer ring and 4th gear.
7. Assemble the 4th gear bush.

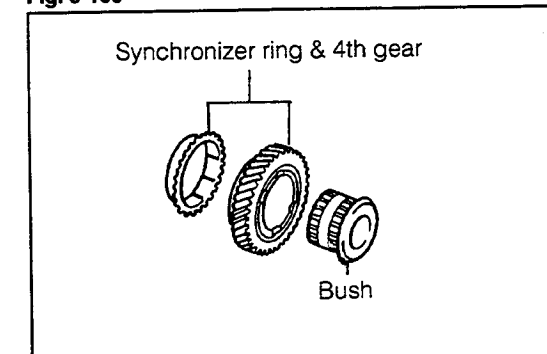


Fig. 3-101

WR-03099

MANUAL TRANSMISSION

8. Assemble the bearing, using the SST given below.

SST: 09309-87201-000

NOTE:

On the 5-speed transmission, measure the end play of each gear after the bearing has been assembled.

(See page 3-43.)

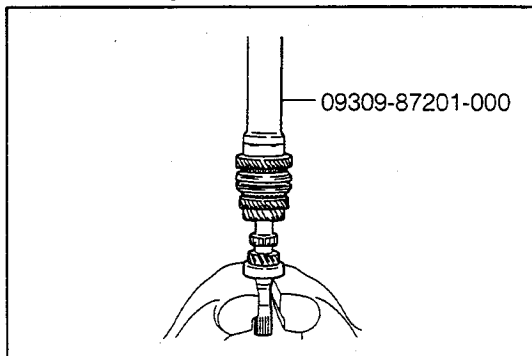


Fig. 3-102

WR-03100

9. Assemble the conical spring washer and lock nut.
(4-speed transmission)

- (1) Install the conical spring in such a way that its expanded side may face toward the shaft side.
- (2) Clamp the reduction gear section in a vise, making sure that no scratch may be made to the section.
- (3) Tighten the lock nut.

Tightening Torque: 10.0 - 14.0 kg-m (72 - 101 ft-lb)

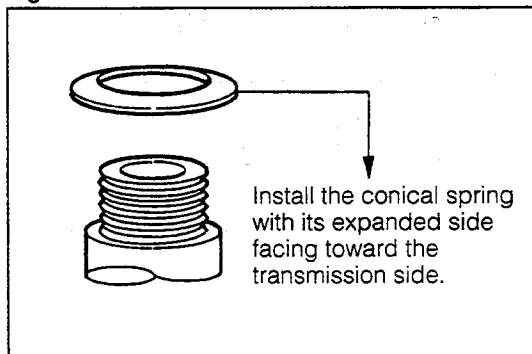


Fig. 3-103

WR-03101

10. Upon completion of the assembly, measure the end play of each part of the input shaft.

| Part | Specified value mm(inch) | Limit mm (inch) |
|------------|---------------------------------|--------------------|
| 2nd gear ① | 0.1 - 0.23 (0.0039 - 0.0091) | 0.4 (0.016) |
| 4th gear ② | | |

NOTE:

If the end play does not comply with the specification, check the gear, bush and clutch hub sliding section. Replace any parts which exhibit defects.

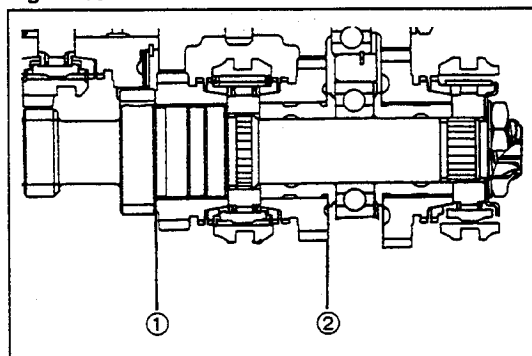


Fig. 3-104

WR-03102

11. Stake the lock nut, using a chisel.

NOTE:

Be sure to stake the central part of the lock nut so as to avoid dislocation or cracks.

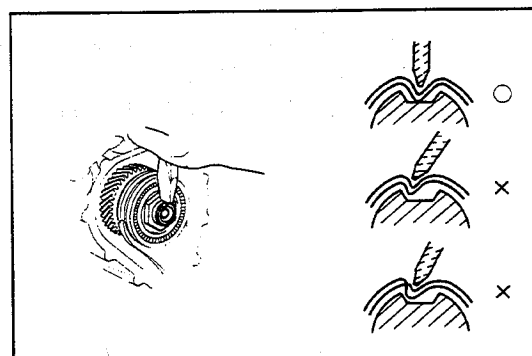
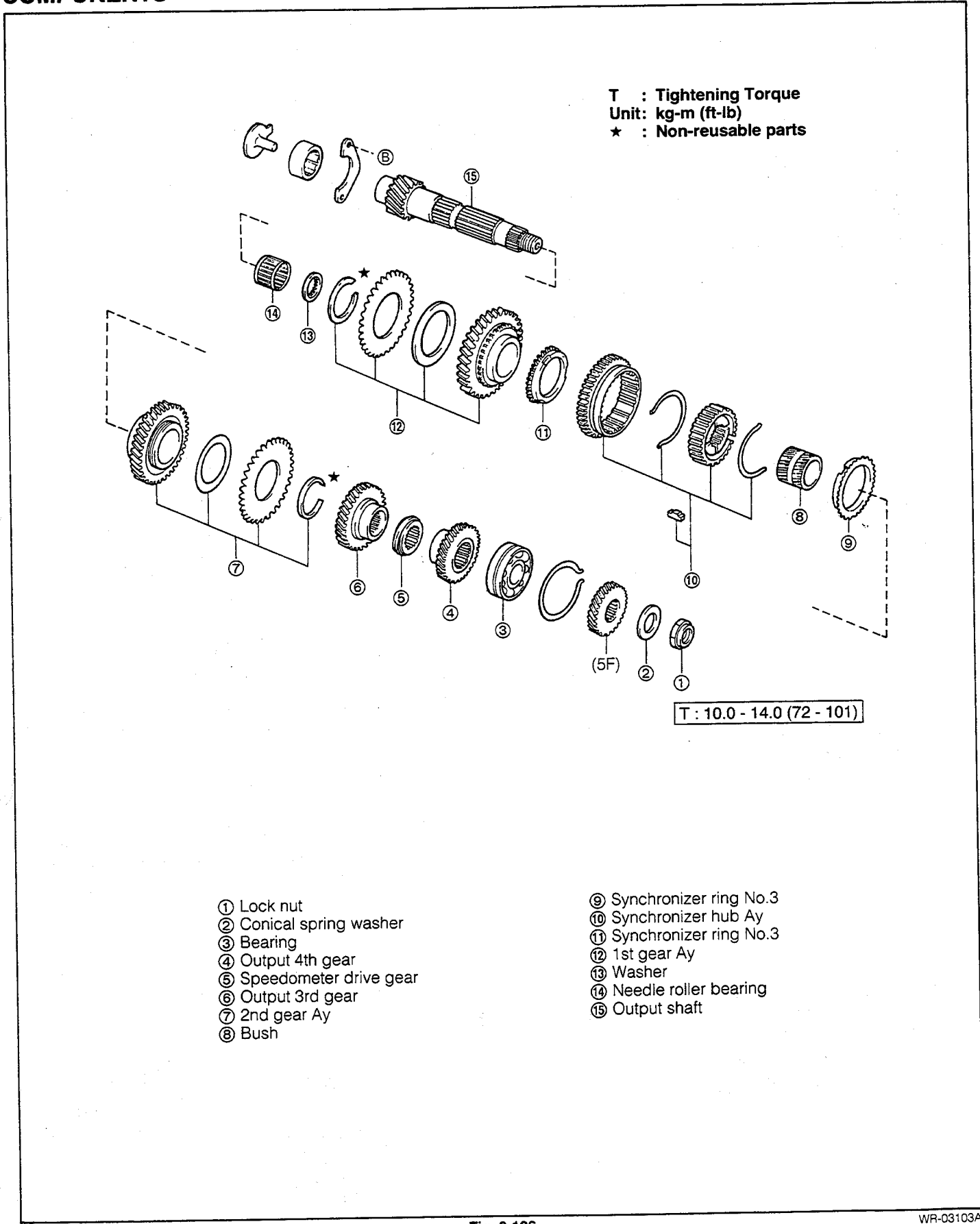


Fig. 3-105

WR-03103

DISASSEMBLY, INSPECTION AND ASSEMBLY OF OUTPUT SHAFT COMPONENTS



- ① Lock nut
- ② Conical spring washer
- ③ Bearing
- ④ Output 4th gear
- ⑤ Speedometer drive gear
- ⑥ Output 3rd gear
- ⑦ 2nd gear Ay
- ⑧ Bush

- ⑨ Synchronizer ring No.3
- ⑩ Synchronizer hub Ay
- ⑪ Synchronizer ring No.3
- ⑫ 1st gear Ay
- ⑬ Washer
- ⑭ Needle roller bearing
- ⑮ Output shaft

Fig. 3-106

WR-03103A

MANUAL TRANSMISSION

Operation Prior to Disassembly

Pull out the output shaft and the input shaft at the same time from the transmission case. Proceed to the next disassembly operation. (See page 3-53.)

DISASSEMBLY

1. Remove the lock nut. (4-speed transmission only)
 - (1) Clamp the reduction gear section of the output shaft in a vise, making sure that no scratch is made to the clamped section.
 - (2) Release the staked section of the lock nut, using a chisel.
 - (3) Remove the lock nut.**NOTE:**
For the 5-speed transmission, see page 3-39.

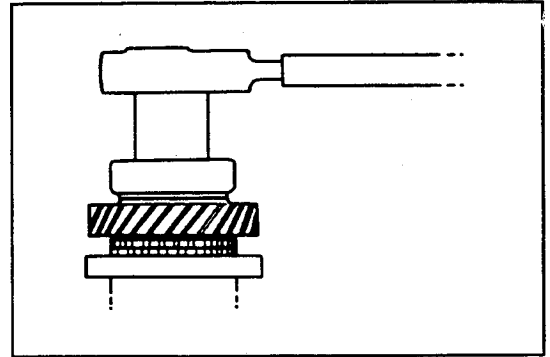


Fig. 3-107

WR-03104

2. Remove the conical spring washer. Then, remove the bearing, using the SST given below.
SST: 09602-87301-000

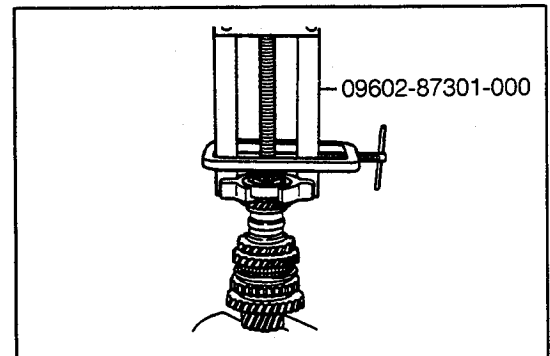


Fig. 3-108

WR-03105

3. Remove the output 4th gear, speedometer drive gear and output 3rd gear.

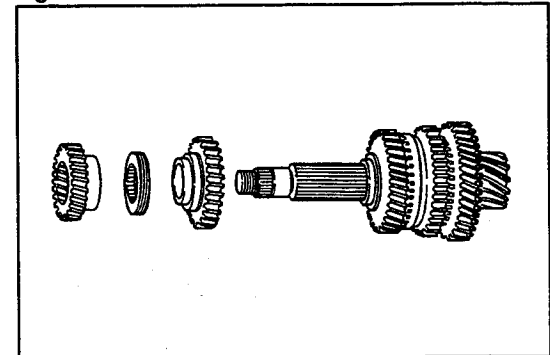


Fig. 3-109

WR-03106

4. Remove the 2nd gear assembly.
 - (1) Detach the shaft snap ring, using the SST given below.
SST: 09905-00012-000
 - (2) Remove the 2nd subgear.
 - (3) Remove the conical spring washer.

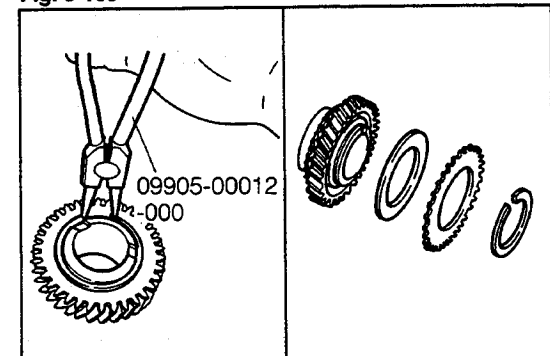


Fig. 3-110

WR-03107

5. Remove the 2nd gear bush and synchronizer ring No.3.

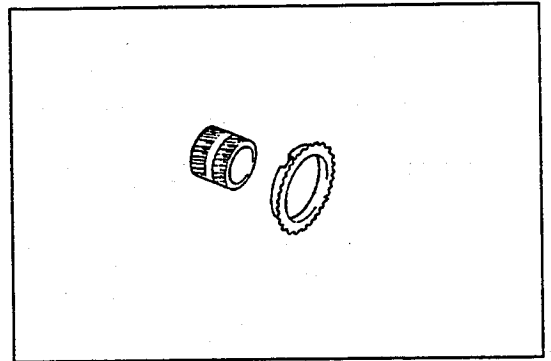


Fig. 3-111

WR-03108

6. Remove the synchronizer hub assembly No.2.

(1) Remove the two synchromesh shifting key springs and three synchromesh shifting keys.

7. Remove the synchronizer ring No.3.

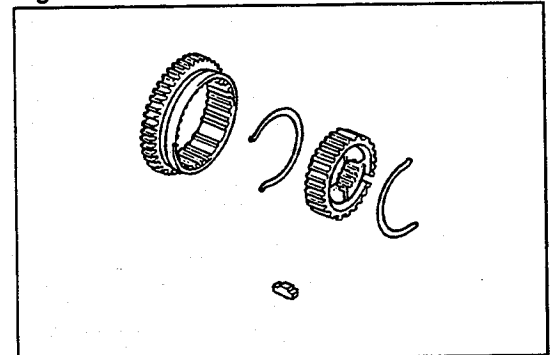


Fig. 3-112

WR-03109

8. Remove the 1st gear assembly.

(1) Detach the shaft snap ring, using the SST given below.

SST: 09905-00012-000

(2) Remove the 1st subgear.

(3) Remove the conical spring washer.

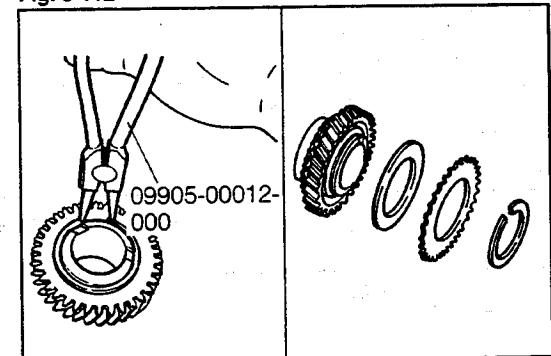


Fig. 3-113

WR-03110

9. Remove the spacer and needle roller bearing.

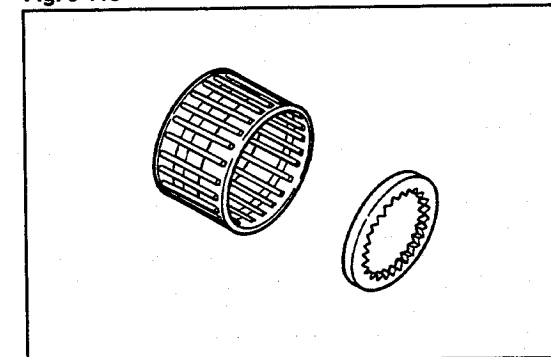


Fig. 3-114

WR-03111

MANUAL TRANSMISSION

INSPECTION

1. Check the 2nd gear bush for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|------------------|---|--------------------|
| Bore ① | $29 \begin{smallmatrix} -0.115 \\ -0.130 \\ -0.0045 \\ -0.0051 \end{smallmatrix}$ (1.1417) | 28.84 (1.135) |
| Outer diameter ② | $37 \begin{smallmatrix} -0.040 \\ -0.080 \\ -0.0016 \\ -0.0031 \end{smallmatrix}$ (1.4567) | 36.89 (1.4524) |
| Overall length ③ | 32.5 ± 0.03 (1.2795 \pm 0.0012) | 32.47 (1.2783) |

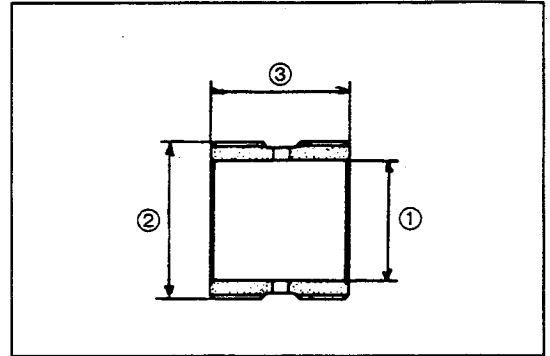


Fig. 3-115

WR-03112

2. Check each gear for wear or damage.

| Part | Specified value mm (inch) | | Limit mm (inch) | |
|--------------------------------------|---|--|------------------|-----------------|
| | Bore ① | Width ⑥ | ① Bore | ⑥ Width |
| 1st gear (output) | $37 \begin{smallmatrix} +0.025 \\ 0 \\ +0.0010 \end{smallmatrix}$ (1.4567) | $*32.5 \begin{smallmatrix} -0.20 \\ -0.27 \\ -0.0079 \\ -0.0106 \end{smallmatrix}$ (1.2795) | 37.05 (1.459) | 32.2 (1.268) |
| 2nd gear (output) | $37 \begin{smallmatrix} +0.025 \\ 0 \\ +0.0010 \end{smallmatrix}$ (1.4567) | $32.5 \begin{smallmatrix} -0.13 \\ -0.20 \\ -0.0051 \\ -0.0079 \end{smallmatrix}$ (1.2795) | 37.05 (1.459) | 32.2 (1.268) |
| Splined section Tapered section ② | Visually inspect the section for excessive damage or wear. | | | |
| Gear section ③ | | | | |
| Both edge surfaces of gear ④ | | | | |
| Fitting section with hub sleeve ⑤ | Inspect the section for excessive play, nick or rounded edge. | | | |

* $30.5 \begin{smallmatrix} -0.20 \\ -0.27 \\ -0.0079 \\ -0.0106 \end{smallmatrix}$ for GTti model
(1.200)

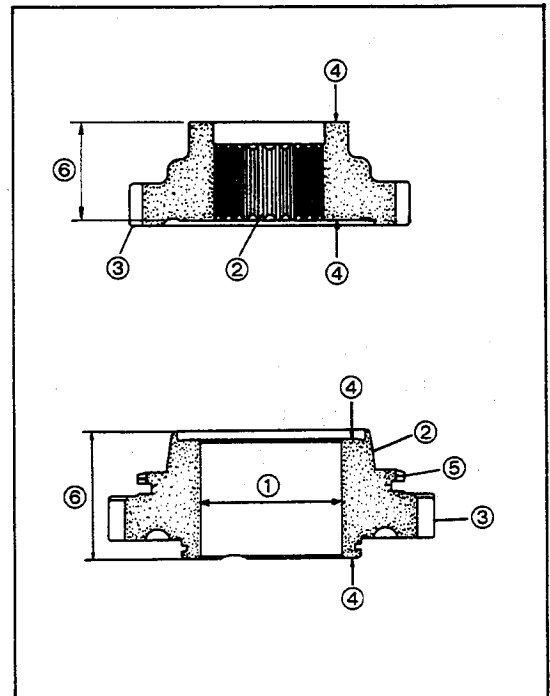


Fig. 3-116

WR-03113

3. Check the clutch hub for the 1st & 2nd gears and reverse gear for wear or damage.

Clutch Hub

| Part | Limit |
|--|--|
| Splined section ① | Visually inspect the section for excessive damage or wear. |
| Synchromesh shifting key fitting groove ② | |
| With the hub fitted into the sleeve, check for excessive looseness in up-&-down direction and slant of the hub and sleeve. | |

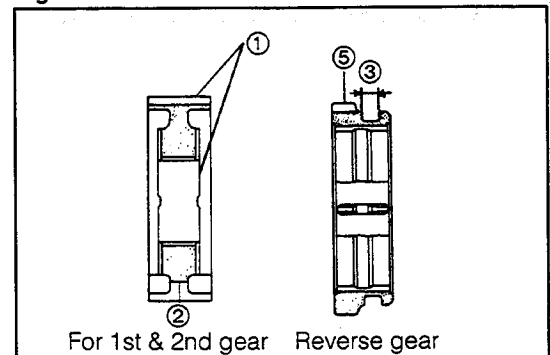


Fig. 3-117

WR-03114

Reverse Gear

| Part | Specified value mm (inch) | Limit mm (inch) |
|------------------------------|---|--------------------|
| Shift fork groove width ③ | $7.0 \begin{smallmatrix} +0.12 \\ +0.05 \\ +0.004 \\ +0.002 \end{smallmatrix}$ (0.276) | 7.3 (0.287) |
| Fitting section with gear ④ | Visually inspect the section for excessive damage, wear, nick or rounded edge. | |
| Reverse gear tooth surface ⑤ | | |

4. Check the output shaft for wear or damage.

| Part | | Specified value mm (inch) | Limit mm (inch) |
|---|---|--|--------------------|
| Outer diameter of the needle roller bearing-contact-section | ① | 30 $\pm 0_{-0.0008}^{+0}$ (1.1811 $\pm 0_{-0.0008}^{+0}$) | 29.96 (1.1795) |
| | ② | 32 $\pm 0_{-0.0011}^{+0.0009}$ (1.2598 $\pm 0_{-0.0011}^{+0.0004}$) | 31.96 (1.2583) |
| Tooth surfaces of gear and spline | | Visually inspect the surface for excessive damage, wear, nick or rounded edge. | |

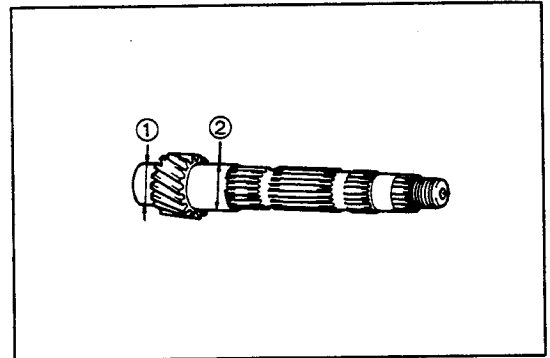


Fig. 3-118

WR-03115

5. Check the synchromesh shifting key and key spring for wear or damage.

| Part | | Specified value mm (inch) | Limit mm (inch) |
|--|---|---|--------------------|
| Shifting key for 1st & 2nd gears (dimension H) | | 5.1 ± 0.1 (0.2008 ± 0.0039) | 4.7 (0.185) |
| Spring | ① | Visually inspect the spring for damage or distortion. | |

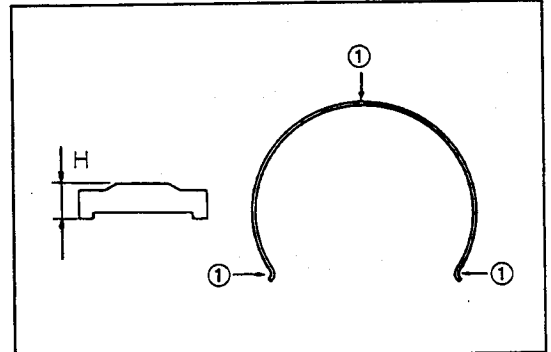


Fig. 3-119

WR-03116

6. Check the 1st and 2nd subgears and conical spring washer for damage or wear. (Except for vehicles mounted with Type CB-80 engine)

| Part | | Specified value mm (inch) | Limit mm (inch) |
|--|---|--|--------------------|
| Bore of subgear | ① | 47 $\pm 0_{+0}^{+0.2}$ (1.8504 $\pm 0_{+0}^{+0.0079}$) | 47.5 (1.870) |
| Subgear-to-conical spring washer sliding surface | ② | Visually inspect the surface for damage or distortion. | |

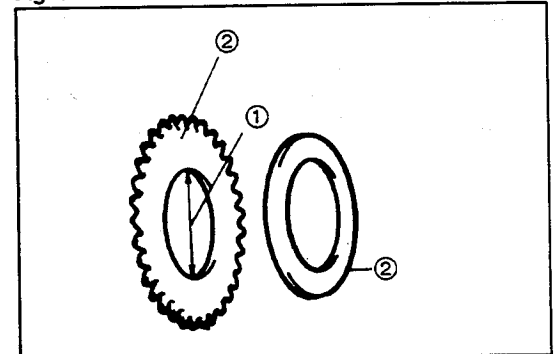


Fig. 3-120

WR-03117

7. Check the synchronizer ring for wear or damage.

| Part | | Specified value mm (inch) | Limit mm (inch) |
|---|-------------------|--|--------------------|
| Gap when synchronizer ring is pressed to gear | 1st and 2nd gears | 0.85 - 1.45 (0.0335 - 0.0571) | 0.5 (0.020) |
| Damage at inner tapered section | | Visually inspect the section for excessive damage. | |
| Damage at spline | | | |

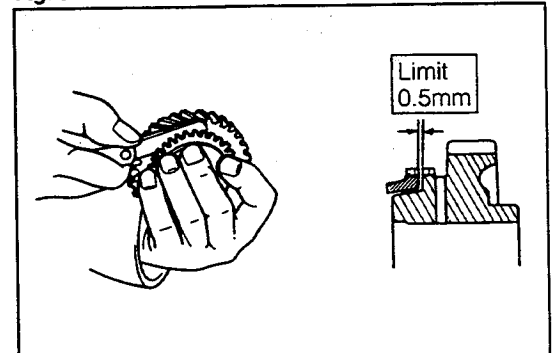


Fig. 3-121

WR-03118

8. Check the bearing for wear or damage.

| Part | Inspection criteria |
|---------|--|
| Bearing | When the inner race is rotated by your fingers, it should rotate smoothly without any binding. |

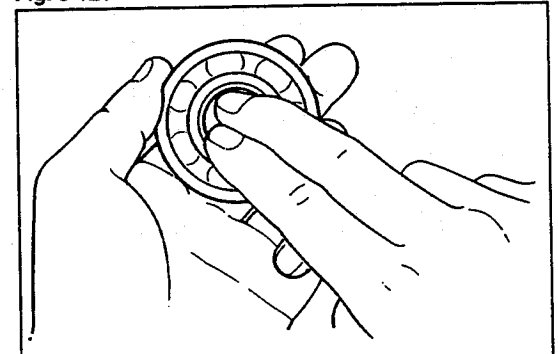


Fig. 3-122

WR-03119

MANUAL TRANSMISSION

ASSEMBLY

NOTE:

Apply gear oil to the entire surface of the rotary or sliding section of each gear of the output shaft.

1. Assemble the needle roller bearing and spacer.
2. Assemble the 1st gear assembly.
 - (1) Install the conical spring in such a way that its expanded side may face toward the subgear side.
 - (2) Assemble the 1st subgear.
 - (3) Assemble a new snap ring, using the SST given blow.
SST: 09905-00012-000
3. Assemble the synchronizer ring No.3.
4. Assemble the synchronizer hub assembly.
 - (1) Assemble the hub clutch and reverse gear. Ensure that both parts can slide smoothly.
 - (2) Assemble the shifting keys and springs.
5. Assemble the synchronizer ring No.3 and 2nd gear bush.
6. Assemble the 2nd gear assembly.
 - (1) Install the conical spring in such a way that its expanded side may face toward the subgear side.
 - (2) Assemble the 2nd subgear.
 - (3) Assemble a new snap ring, using the SST given below.
SST: 09905-00012-000

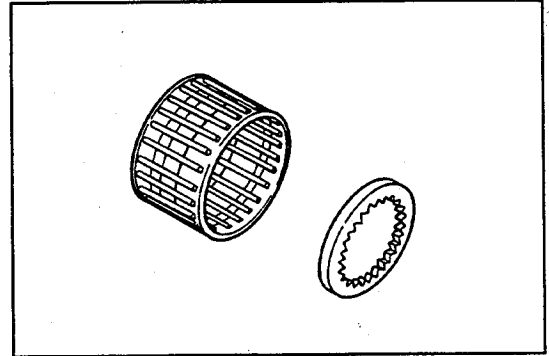


Fig. 3-123

WR-03120

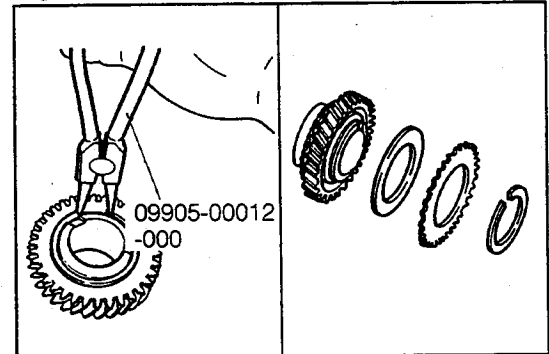


Fig. 3-124

WR-03121

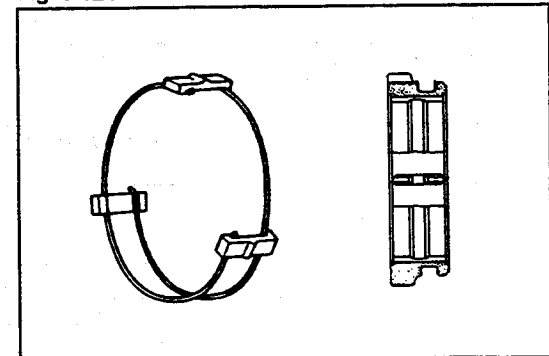


Fig. 3-125

WR-03122

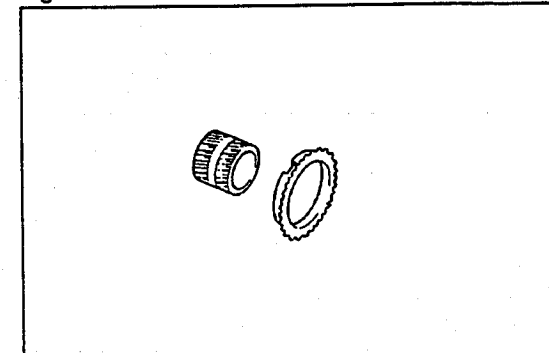


Fig. 3-126

WR-03123

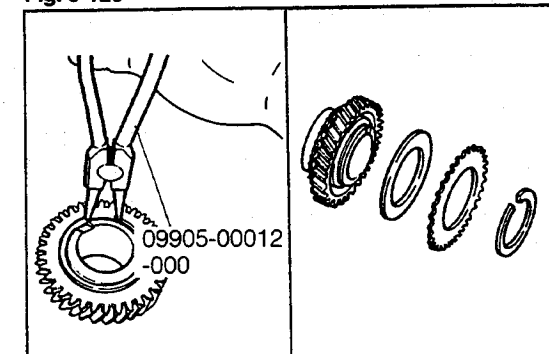


Fig. 3-127

WR-03124

7. Assemble the output 3rd gear, speedometer drive gear and output 4th gear.

NOTE:

The number of the speedometer drive gear teeth differs depending upon the gear reduction ratio. Hence, care must be exercised as to the number of gear teeth during the assembly. (See page 3-3.)

Apply gear oil to the entire surface of the rotary or sliding section of each gear.

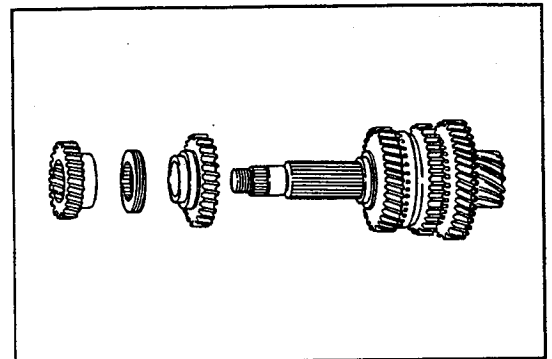


Fig. 3-128

WR-03125

8. Assemble the bearing, using the SST given below.

SST: 09309-87201-000

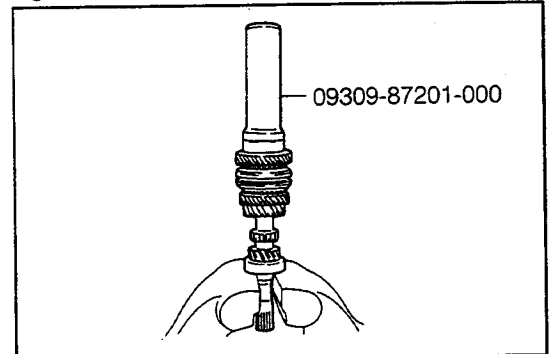


Fig. 3-129

WR-03126

9. Assemble the conical spring washer and lock nut.
(4-speed transmission)

- (1) Install the conical spring in such a way that its expanded side may face toward the gear side.
- (2) Clamp the reduction gear section in a vise, making sure that no scratch may be made to the section.
- (3) Tighten the lock nut.

Tightening Torque: 10.0 - 14.0 kg-m (72 - 101 ft-lb)

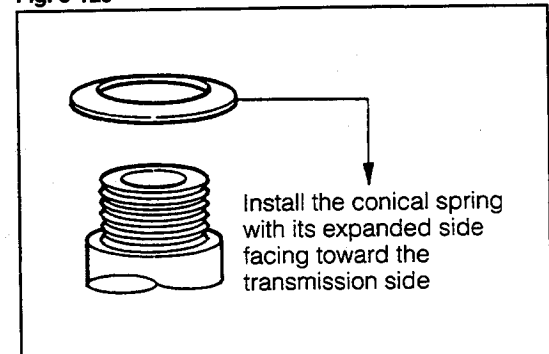


Fig. 3-130

WR-03127

10. Upon completion of the assembly, measure the end play of each part of the output shaft.

| Part | Specified value mm(inch) | Limit mm (inch) |
|------------|---------------------------------|-----------------|
| 1st gear ① | 0.1 - 0.37 (0.0039 - 0.0146) | 0.5 (0.020) |
| 3rd gear ② | | |

NOTE:

If the end play does not comply with the specification, check the gear, bush and clutch hub sliding section. Replace any parts which exhibit defects.

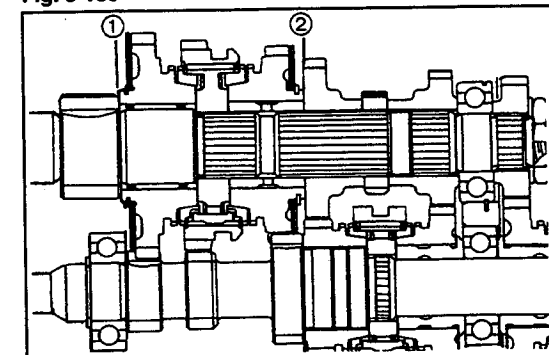


Fig. 3-131

WR-03128

11. Stake the lock nut, using a chisel.

NOTE:

Be sure to stake the central part of the lock nut so as to avoid dislocation or cracks.

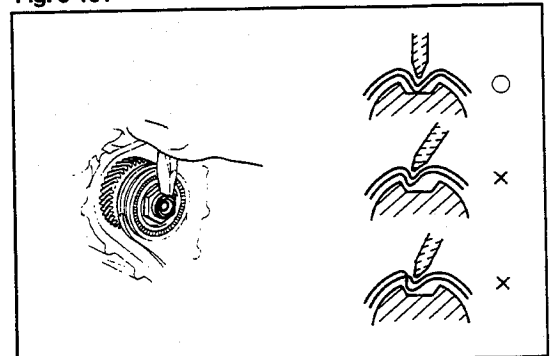
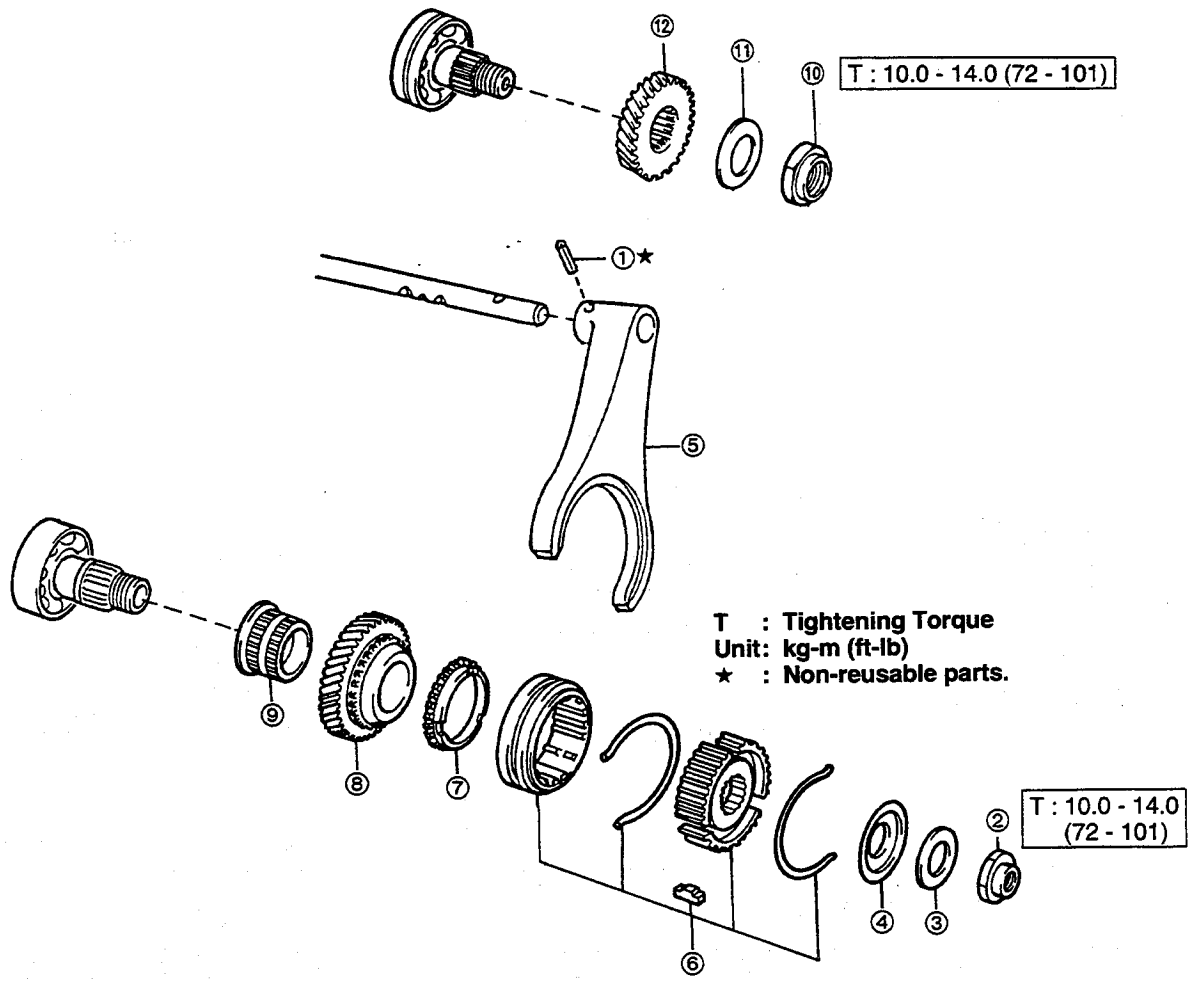


Fig. 3-132

WR-03129

DISASSEMBLY, INSPECTION AND ASSEMBLY OF 5TH GEAR COMPONENTS



T : Tightening Torque
 Unit: kg-m (ft-lb)
 * : Non-reusable parts.

- | | |
|-----------------------------------|-------------------------|
| ① Slotted spring pin | ⑦ Synchronizer ring |
| ② Lock nut | ⑧ 5th gear |
| ③ Conical spring washer | ⑨ 5th gear bush |
| ④ Transmission hub sleeve stopper | ⑩ Lock nut |
| ⑤ 5th shift fork | ⑪ Conical spring washer |
| ⑥ Transmission clutch No.3 hub Ay | ⑫ Output 5th gear |

Fig. 3-133

WR-03129A

DISASSEMBLY

1. Remove the slotted spring pin.

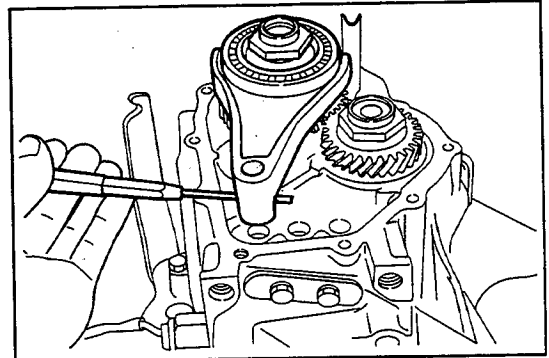


Fig. 3-134

WR-03130

2. Remove the lock nut.

(1) Lock the input shaft, using the recommended tool for this application. (See page 3-66)

(2) Release the staked lock nut, using a chisel.

NOTE:

Be very careful not to damage the threaded portion of the input shaft.

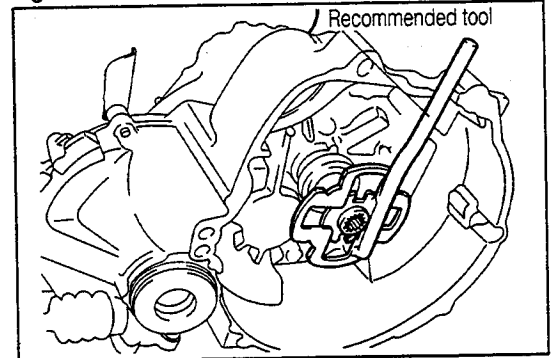


Fig. 3-135

WR-03131

(3) Remove the lock nut at the input shaft, using a socket whose width across flats is 32 mm.

(4) Set the sleeve for 5th gear to the 5th gear position.

(5) Remove the lock nut at the output shaft side.

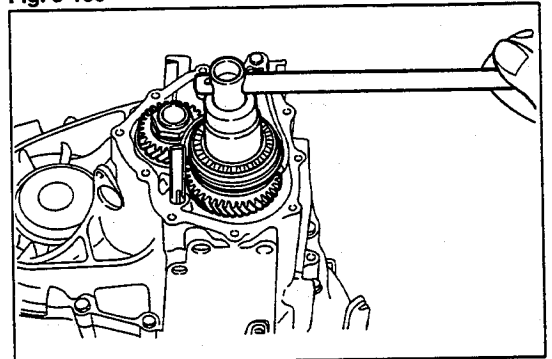


Fig. 3-136

WR-03132

3. Remove the conical spring washer at the input shaft side and transmission hub sleeve stopper.

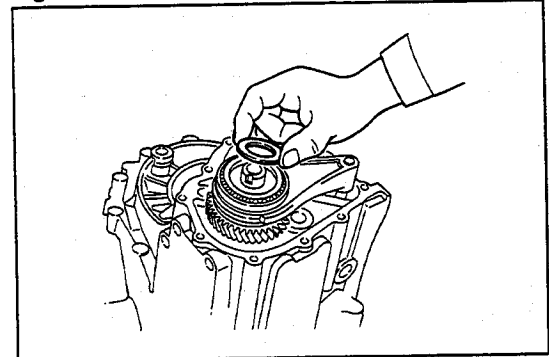


Fig. 3-137

WR-03133

4. Remove the 5th shift fork and transmission clutch hub assembly No.3.

(1) Remove the 5th shift fork and transmission clutch hub assembly No.3 at the same time.

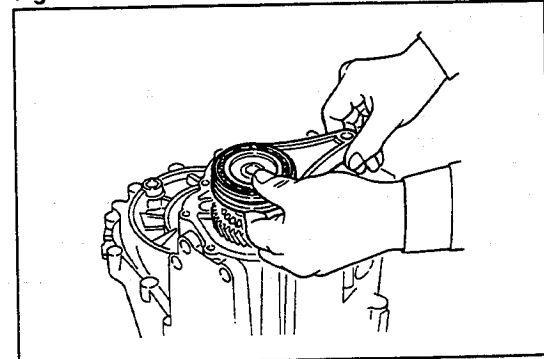


Fig. 3-138

WR-03134

MANUAL TRANSMISSION

5. Remove the synchronizer ring and 5th gear.
6. Remove the 5th gear bush.

7. Remove the conical spring washer at the output shaft side. Remove the output 5th gear.

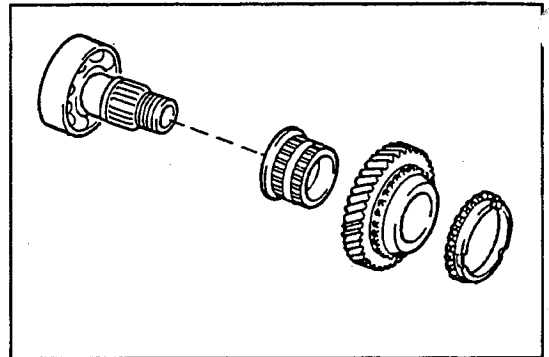


Fig. 3-139

WR-03135

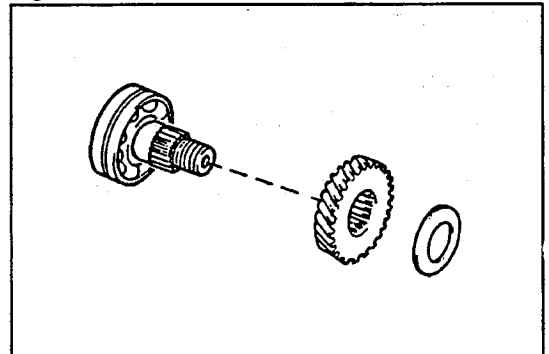


Fig. 3-140

WR-03136

INSPECTION

1. Check the bush wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|-------------------------------|---|------------------|
| Bush bore ① | $25 \begin{smallmatrix} +0.042 \\ +0.027 \end{smallmatrix}$ (0.9843 $\begin{smallmatrix} +0.0017 \\ +0.0011 \end{smallmatrix}$) | 25.02 (0.985) |
| Bush outer diameter ② | $37 \begin{smallmatrix} -0.040 \\ -0.080 \end{smallmatrix}$ (1.4567 $\begin{smallmatrix} -0.0016 \\ -0.0031 \end{smallmatrix}$) | 36.89 (1.452) |
| Overall length ③ | 29 ± 0.03 (1.1417 ± 0.0012) | 28.97 (1.141) |
| Thickness of flange section ④ | 3 ± 0.06 (0.1181 ± 0.0024) | 2.94 (0.116) |

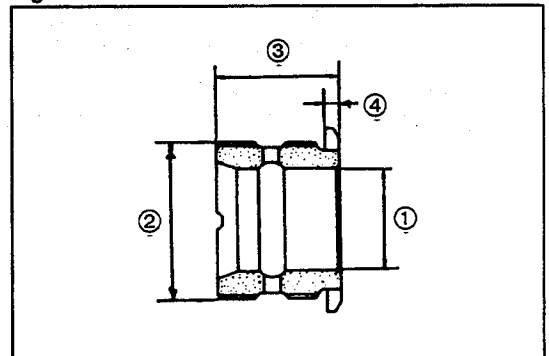


Fig. 3-141

WR-03137

2. Check the 5th gear for wear or damage.

| Part | Specified value mm (inch) | | Limit mm (inch) | |
|--------------------------------------|--|---|------------------|-----------------|
| | Bore ① | Width ⑥ | Bore ① | Width ⑥ |
| 5th gear (input) | $37 \begin{smallmatrix} +0.025 \\ +0.001 \end{smallmatrix}$ (1.4567 $\begin{smallmatrix} +0.001 \\ 0 \end{smallmatrix}$) | $26 \begin{smallmatrix} -0.13 \\ -0.20 \end{smallmatrix}$ (1.0236 $\begin{smallmatrix} -0.005 \\ -0.008 \end{smallmatrix}$) | 37.05 (1.459) | 25.7 (1.012) |
| Splined section Tapered section ② | Visually inspect the section for excessive damage or wear. | | | |
| Gear section ③ | | | | |
| Both edge surfaces of gear ④ | | | | |
| Fitting section with hub sleeve ⑤ | Inspect the section for excessive play, nick or rounded edge. | | | |

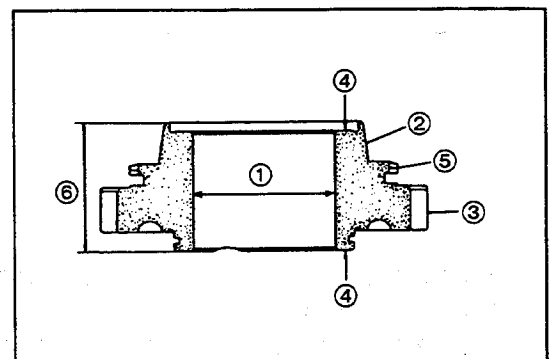


Fig. 3-142

WR-03138

3. Check the clutch hub and sleeve for the 5th gear for wear or damage.

Clutch Hub

| Part | Limit |
|--|--|
| Splined section ① | Visually inspect the section for excessive damage or wear. |
| Synchromesh shifting key fitting groove ② | |
| With the hub fitted into the sleeve, check for excessive looseness in up-&-down direction and slant of the hub and sleeve. | |

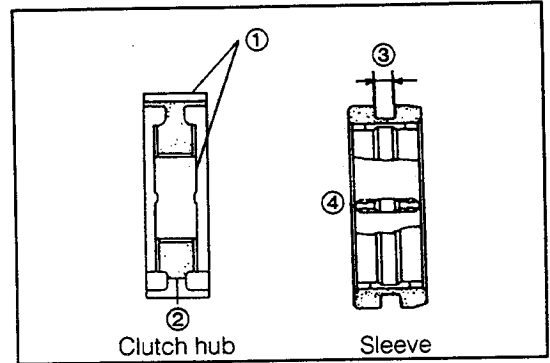


Fig. 3-143

WR-03139

Sleeve

| Part | Specified value mm (inch) | Limit mm (inch) |
|-----------------------------|---|-----------------|
| Shift fork groove width ③ | 70 $\begin{smallmatrix} 0.12 \\ +0.05 \end{smallmatrix}$ (0.276 $\begin{smallmatrix} +0.004 \\ +0.002 \end{smallmatrix}$) | 7.3 (0.287) |
| Fitting section with gear ④ | Visually inspect the section for excessive damage, wear, nick or rounded edge. | |

WR-03139

4. Check the synchromesh shifting key and key spring for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|--------------------------------|--|-----------------|
| Key for 5th gear (Dimension H) | 5.0 $\begin{smallmatrix} -0.2 \\ -0.0079 \end{smallmatrix}$ (0.1969 $\begin{smallmatrix} -0.0158 \end{smallmatrix}$) | 4.3 (0.169) |
| Spring ① | Visually inspect the spring for damage or distortion. | |

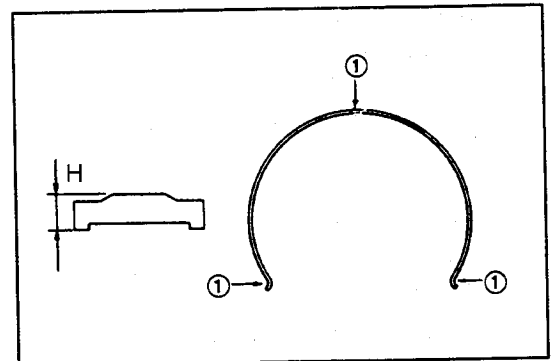


Fig. 3-144

WR-03140

5. Check the synchronizer ring for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|---|--|-----------------|
| Gap when synchronizer ring is pressed to gear | 0.85 - 1.45 (0.033 - 0.057) | 0.5 (0.020) |
| Damage at inner tapered section | Visually inspect the section for excessive damage. | |
| Damage at spline | | |

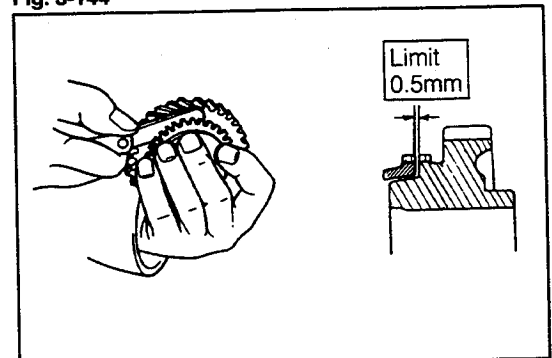


Fig. 3-145

WR-03141

6. Check the shift fork for the 5th gear for damage or wear.

| Part | Specified value mm (inch) | Limit mm (inch) |
|----------------------------------|---------------------------|-----------------|
| Thickness at tip-section of fork | 7.0 (0.28) | 6.3 (0.25) |

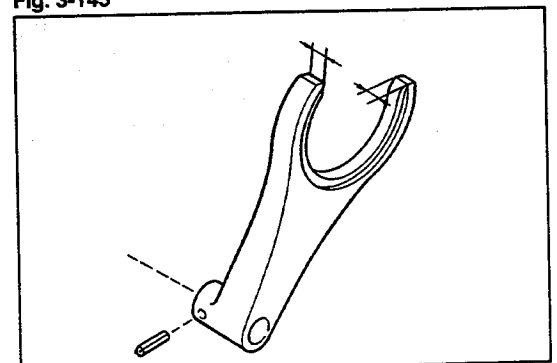


Fig. 3-146

WR-03142

MANUAL TRANSMISSION

ASSEMBLY

NOTE:

Apply gear oil to the entire surface of the rotary or sliding section of each gear of the output shaft.

1. Assemble the output 5th gear and the conical spring washer for the output shaft.

NOTE:

Tighten a new lock nut temporarily.

2. Assemble the 5th gear bush.
3. Assemble the 5th gear and synchronizer ring.

4. Assemble the transmission clutch hub assembly.
 - (1) Assemble the clutch and sleeve. Ensure that both parts can slide smoothly.
 - (2) Assemble the shifting keys and springs.

NOTE:

1. The hub assembly for the 3rd and 4th gear use differs from the hub assembly for the 5th gear use only in the inner diameter of the clutch hub. Other parts are shared in common.
 2. The sleeve and clutch do not have any installing direction to be observed during their assembly.
5. Assemble the transmission clutch hub assembly and the 5th gear shift fork at the same time.

6. Assemble the transmission hub sleeve stopper.
7. Assemble the conical spring washer.
 - (1) Install the conical spring in such a way that its expanded side may face toward the transmission side.

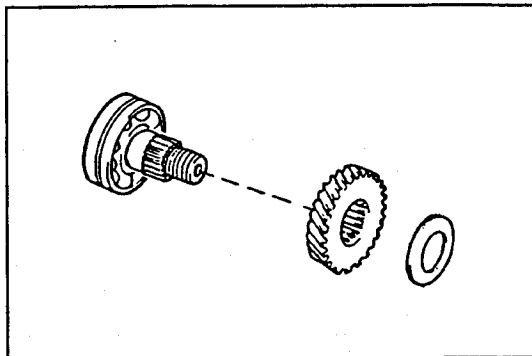


Fig. 3-147

WR-03144

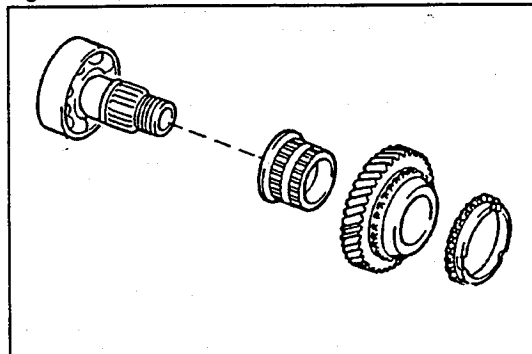


Fig. 3-148

WR-03145

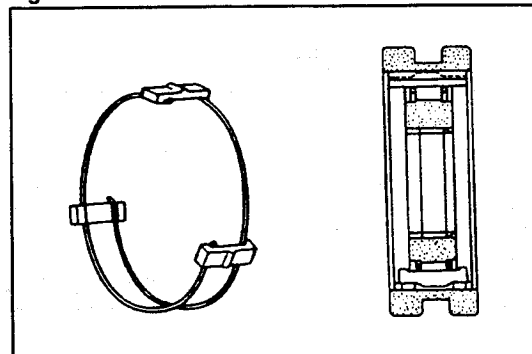


Fig. 3-149

WR-03146

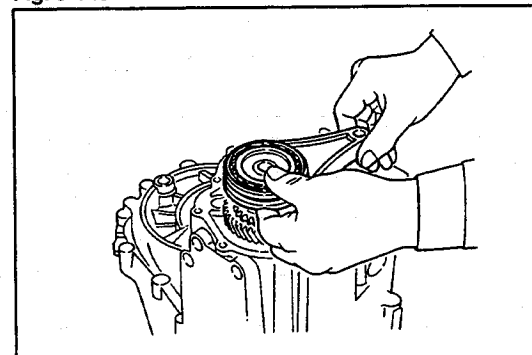


Fig. 3-150

WR-03147

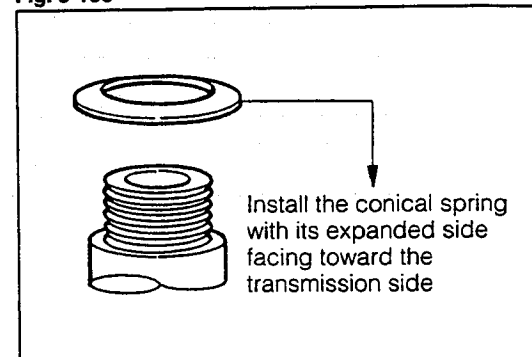


Fig. 3-151

WR-03149

8. Install a new lock nut.
- (1) Lock the input shaft, using the recommended tool for this application. (See page 3-66.)
 - (2) Tighten the lock nut at the input shaft to the specified torque, using a socket whose width across flats is 32 mm.
Tightening Torque: 10.0 - 14.0 kg-m (72 - 101 ft-lb)

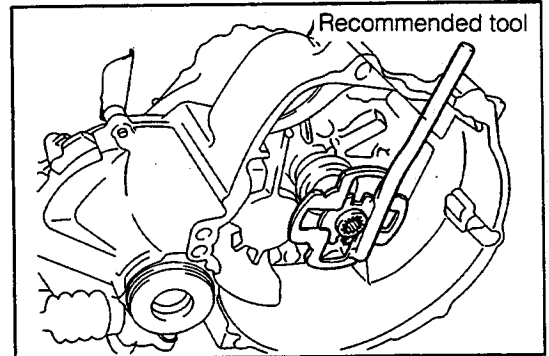


Fig. 3-152

WR-03150

- (3) Set the transmission to the 5th gear position.
- (4) Tighten the lock nut at the output shaft to the specified torque.
Tightening Torque: 10.0 - 14.0 kg-m (72 - 101 ft-lb)

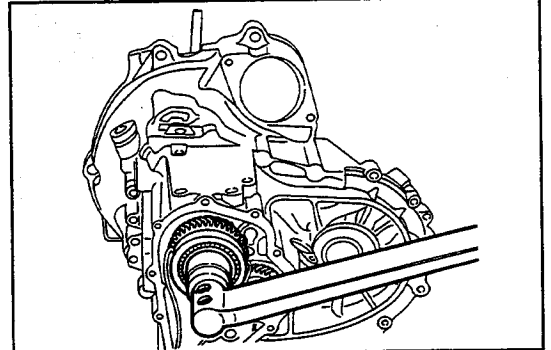


Fig. 3-153

WR-03151

- (5) Before the lock nut is staked, measure the end play of the 5th gear.
Specified Value: 0.1 - 0.23 mm (0.004 - 0.009 inch)
Limit: 0.4 mm (0.016 inch)

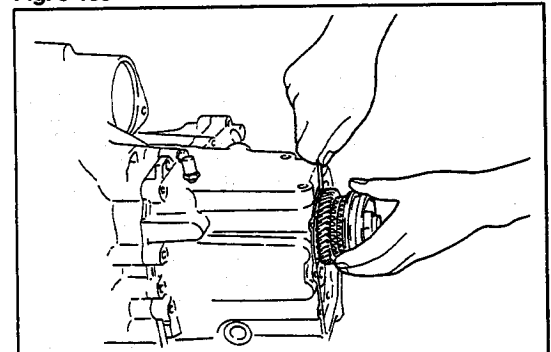


Fig. 3-154

WR-03152

- (6) Stake the lock nut, using a chisel.

NOTE:

Be sure to stake the central part of the lock nut so as to avoid dislocation or cracks.

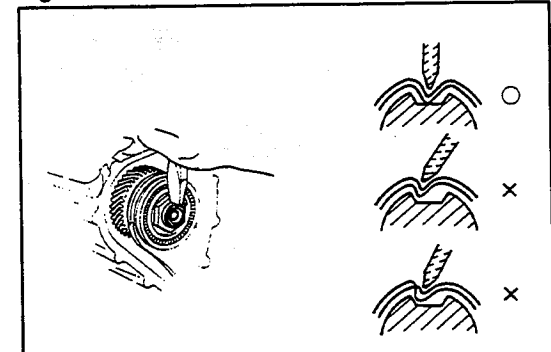


Fig. 3-155

WR-03153

9. Drive the slotted spring pin into position, until it becomes flush with the edge surface of the shift fork.

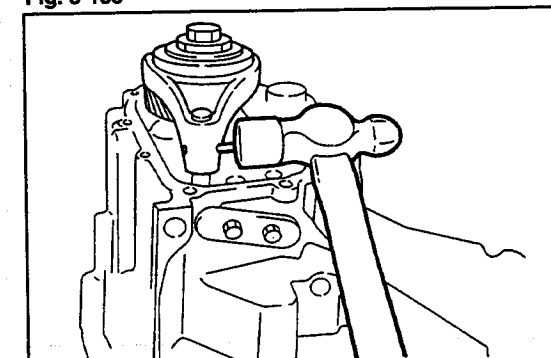
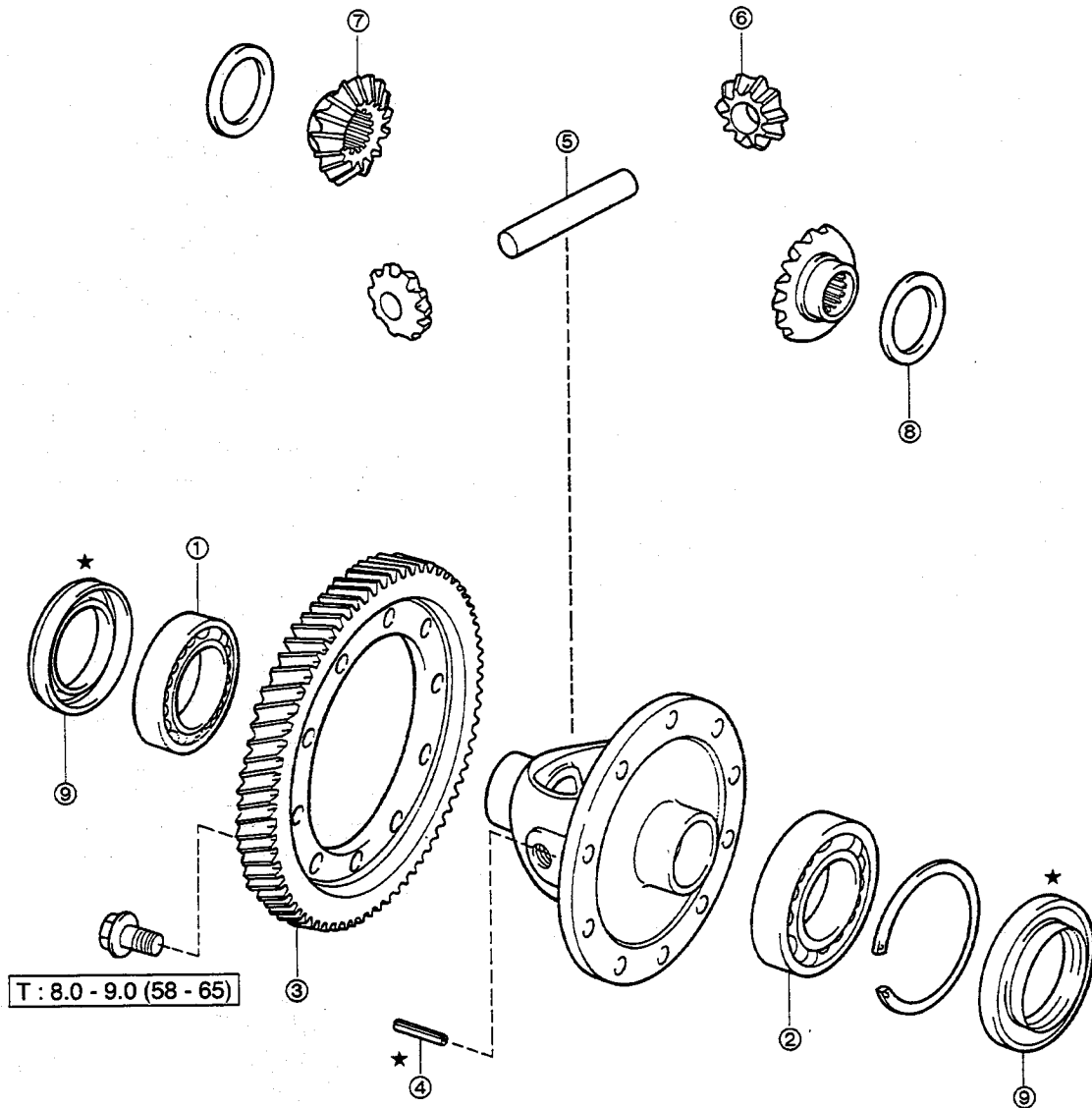


Fig. 3-156

WR-03154

DISASSEMBLY, INSPECTION AND ASSEMBLY OF DIFFERENTIAL CASE COMPONENTS

COMPONENTS



T : 8.0 - 9.0 (58 - 65)

T : Tightening Torque
Unit: kg-m (ft-lb)
* : Non-reusable parts

- ① Radial ball bearing
- ② Radial ball bearing
- ③ Differential gear
- ④ Slotted spring pin
- ⑤ Differential pinion shaft
- ⑥ Differential pinion
- ⑦ Differential side gear
- ⑧ Differential washer
- ⑨ Oil seal

Fig. 3-157

WR-03154A

DISASSEMBLY

1. Remove the radial ball bearing.
 - (1) Remove the bearing at the engine side, using the SST given below.
SST: 09602-87301-000

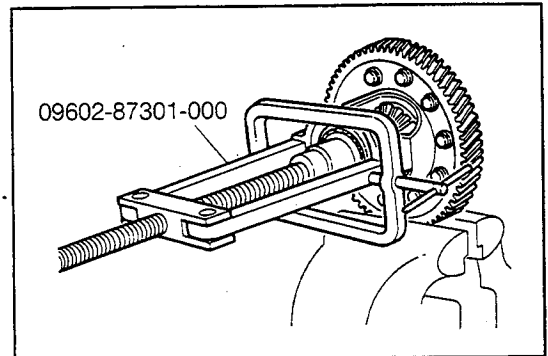


Fig. 3-158

WR-03155

- (2) Remove the bearing at the transmission side, using the SST given below.

SST: 09306-87302-000

NOTE:

Grinding off the interfering section of the SST will make the operation easier.

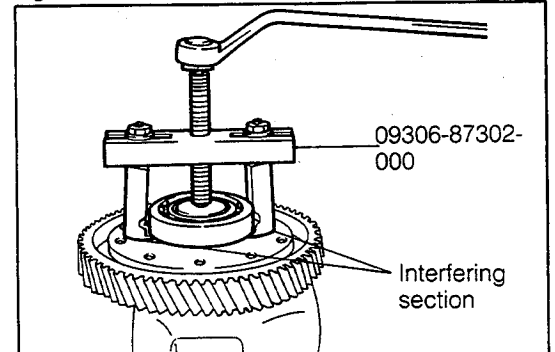


Fig. 3-159

WR-03156

2. Remove the differential ring gear.
 - (1) Clamp the differential case in a vise. Remove the attaching bolts.

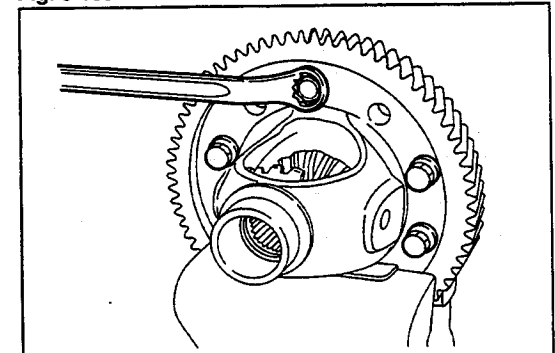


Fig. 3-160

WR-03157

- (2) Remove the differential ring gear.

If any difficulty in removing the ring gear is encountered, evenly tap the peripheral section of the ring gear, using a plastic hammer.

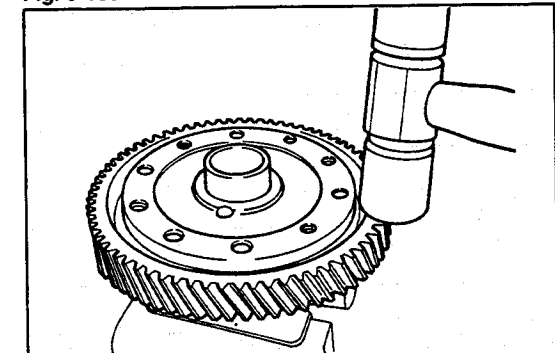


Fig. 3-161

WR-03158

3. Drive out the slotted spring pin, using a punch pin.

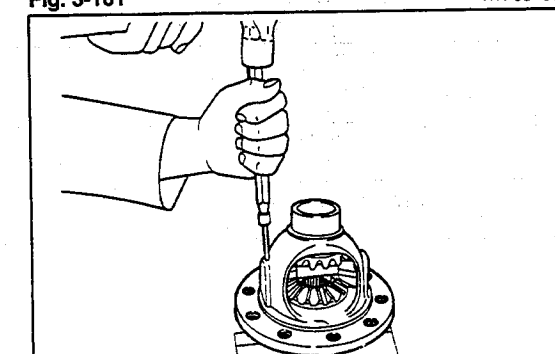


Fig. 3-162

WR-03159

MANUAL TRANSMISSION

4. Pull out the differential pinion shaft.

5. Remove the differential pinion, differential side gear and differential pinion washer.

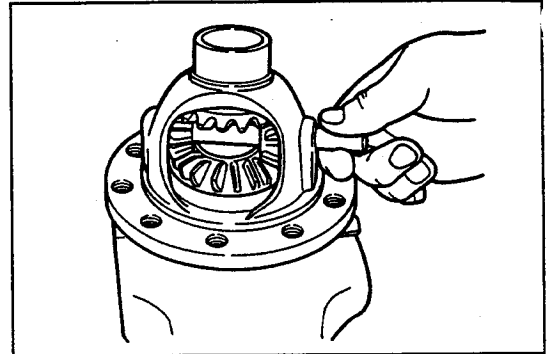


Fig. 3-163

WR-03160

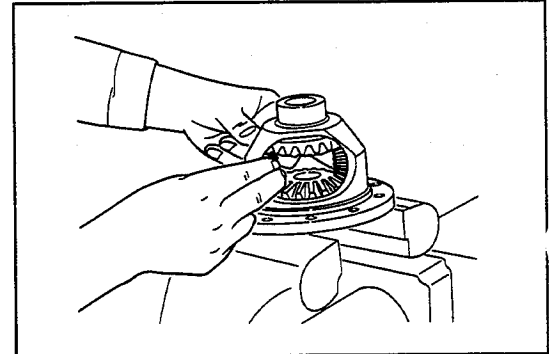


Fig. 3-164

WR-03161

INSPECTION

1. Check the differential ring gear for wear or damage.

| Part | Inspection criteria |
|--------------------|--|
| Gear tooth surface | Visually inspect the surface for wear, damage, nick or rounded edge. |

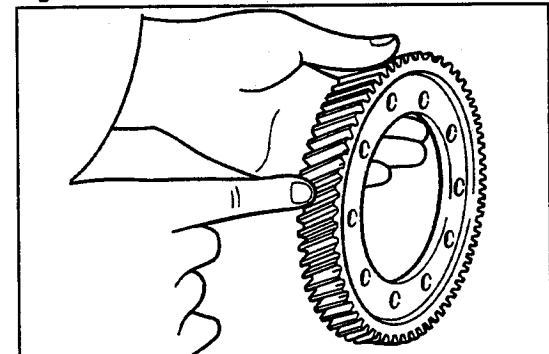


Fig. 3-165

WR-03162

2. Check the side gear, pinion and pinion shaft for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) | |
|--|--|---|------------------|
| Outer diameter of side gear boss section ① | Except vehicles mounted with Type CB-80 engine | 32.0 $\begin{smallmatrix} -0.025 \\ -0.050 \end{smallmatrix}$ (1.2598 $\begin{smallmatrix} -0.0019 \\ -0.0020 \end{smallmatrix}$) | 31.97 (1.259) |
| | Vehicles mounted with Type CB-80 engine | 35.0 $\begin{smallmatrix} -0.005 \\ -0.030 \end{smallmatrix}$ (1.3780 $\begin{smallmatrix} -0.0002 \\ -0.0012 \end{smallmatrix}$) | 34.97 (1.377) |
| Pinion shaft fitting hole of pinion ② | Except vehicles mounted with Type CB-80 engine | 15.0 $\begin{smallmatrix} +0.008 \\ +0.003 \end{smallmatrix}$ (0.5906 $\begin{smallmatrix} +0.0003 \\ +0.0001 \end{smallmatrix}$) | 15.03 (0.592) |
| | Vehicles mounted with Type CB-80 engine | 16.0 $\begin{smallmatrix} +0.008 \\ +0.003 \end{smallmatrix}$ (0.6299 $\begin{smallmatrix} +0.0003 \\ +0.0001 \end{smallmatrix}$) | 16.03 (0.631) |
| Outer diameter of pinion shaft ③ | Except vehicles mounted with Type CB-80 engine | 15.0 $\begin{smallmatrix} -0.032 \\ -0.050 \end{smallmatrix}$ (0.5906 $\begin{smallmatrix} -0.0013 \\ -0.0020 \end{smallmatrix}$) | 14.97 (0.589) |
| | Vehicles mounted with Type CB-80 engine | 16.0 $\begin{smallmatrix} -0.032 \\ -0.050 \end{smallmatrix}$ (0.6299 $\begin{smallmatrix} -0.0013 \\ -0.0020 \end{smallmatrix}$) | 15.97 (0.629) |

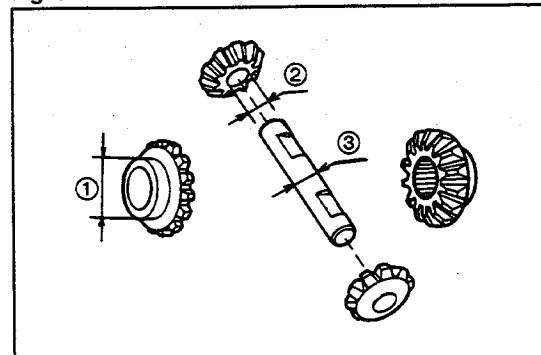


Fig. 3-166

WR-03163

Check the gear tooth surface and the splined section of the side gear for wear or damage.

3. Check the differential case and thrust washer for wear or damage.

| Part | | Specified value mm (inch) | Limit mm (inch) |
|---|--|---|--------------------|
| Thickness of thrust washer | Except vehicles mounted with Type CB-80 engine | 0.8 ± 0.05 (0.0315 ± 0.0020) | 0.7 (0.028) |
| | Vehicles mounted with Type CB-80 engine | 1.1 ± 0.05 (0.043 ± 0.0020) | 1.0 (0.039) |
| Side gear boss fitting hose ① (Except vehicles mounted with Type CB-80 engine) | | $32 \begin{smallmatrix} +0.034 \\ +0.009 \\ +0.0013 \\ +0.0035 \end{smallmatrix}$ (1.2598) | 32.08 (1.263) |
| Drive shaft fitting hose ① (Vehicles mounted with Type CB-80 engine) | | $28 \begin{smallmatrix} +0.034 \\ +0.009 \\ +0.0013 \\ +0.0035 \end{smallmatrix}$ (1.1024) | 28.08 (1.106) |
| Pinion gear-contact-section ② | | Visually inspect the section for excessive wear or damage. | |
| Side gear thrust washer-contact-section ③ | | | |

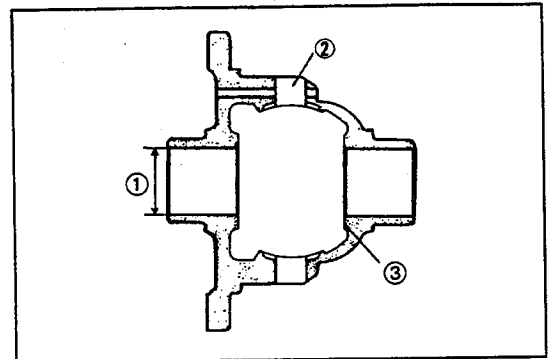


Fig. 3-167

WR-03164

ASSEMBLY

1. Assemble the differential pinion washers and differential side gears.

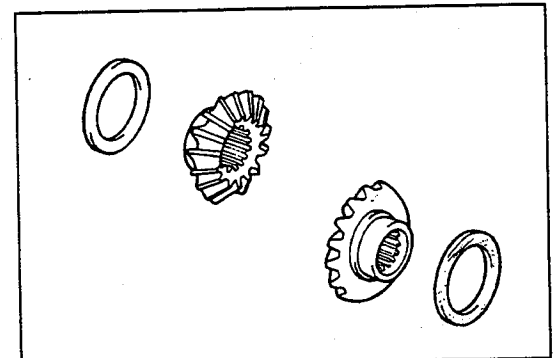


Fig. 3-168

WR-03166

2. Assemble the differential pinions.

- (1) Make the two pinions mesh with the side gears, working from the case side. Rotate the side gear so that the pinion's hole may align with the pinion shaft hole provided in the case.

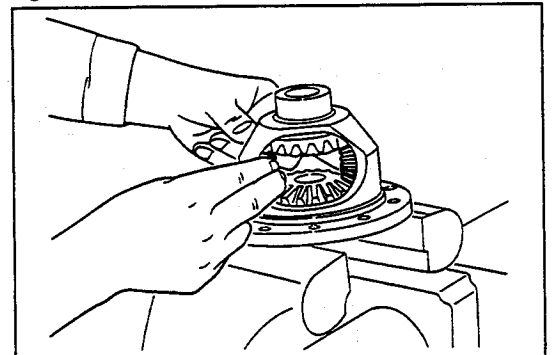


Fig. 3-169

WR-03167

3. Assemble the differential pinion shaft.

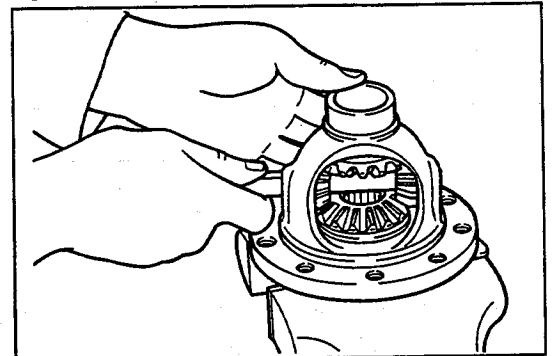


Fig. 3-170

WR-03168

MANUAL TRANSMISSION

Measurement of Side Gear Backlash

- (1) Fix the side gear at one side.
- (2) Measure the backlash of each side gear at the right and left sides at several points, using a dial gauge.
Specified Backlash: 0.02 - 0.20 mm (0.001 - 0.008 inch)

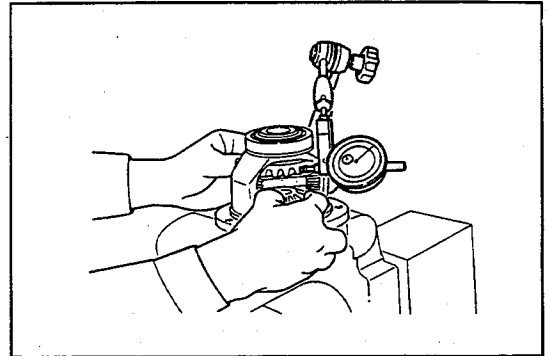


Fig. 3-171

WR-03169

4. Drive a new slotted spring pin into position.
 - (1) Align the pin hole of the pinion shaft with the corresponding pin hole in the case.
 - (2) Working from the backside of the case (ring gear side), drive a new slotted spring pin into position, until it becomes flush with the case edge surface.

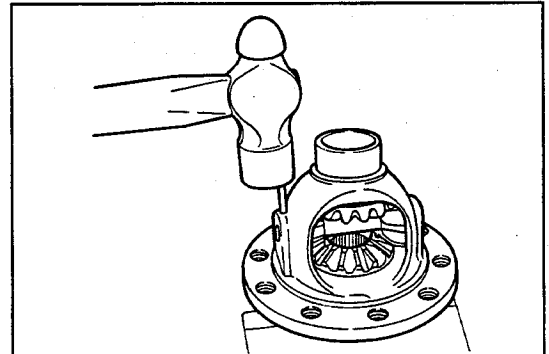


Fig. 3-172

WR-03170

5. Assemble the differential ring gear.
 - (1) Install the ring gear in such a way that the side having large chamfer at its inner diameter comes at the case side.

NOTE:

1. The number of gear teeth varies depending upon each reduction ratio. Hence, it is necessary to identify the ring gear by checking the identification groove.
2. Care must be exercised to ensure that no foreign matter gets into the mating surface.

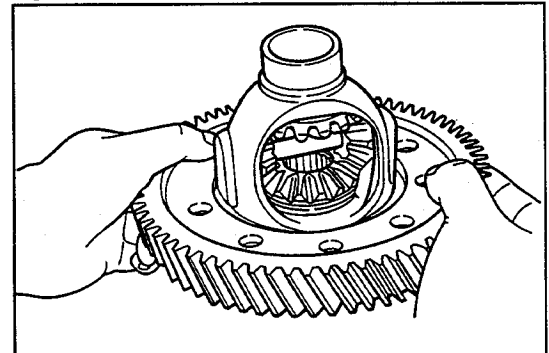


Fig. 3-173

WR-03171

Identification of Ring Gear

| Number of gear teeth | Identification groove | Final reduction gear ratio |
|----------------------|-----------------------|----------------------------|
| 72 | One | 4.500 |
| 74 | None | 4.933 |
| 65 | Two | 4.642 |
| * 65 | Three | 4.642 |

* For Type CB-80 engine

- (2) Tighten the ring gear attaching bolts.
Tightening Torque: 8.0 - 9.0 kg-m (58 - 65 ft-lb)

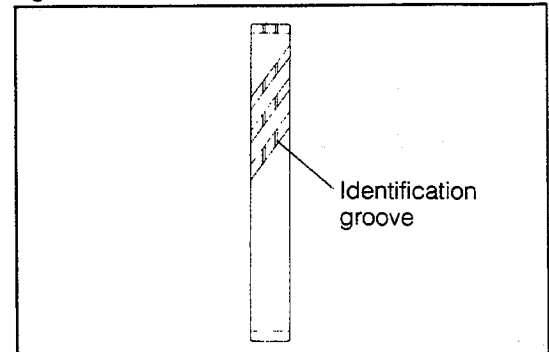


Fig. 174

WR-03172

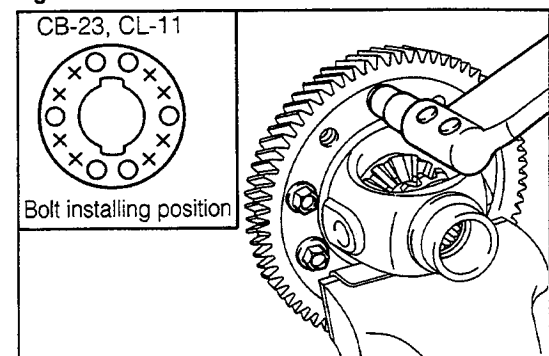


Fig. 3-175

WR-03173

6. Assemble the radial ball bearings, using the SST given below.

SST: 09618-87301-000

NOTE:

Install the radial ball bearings with the bearing having a smaller outer diameter assembled at the ring gear side.

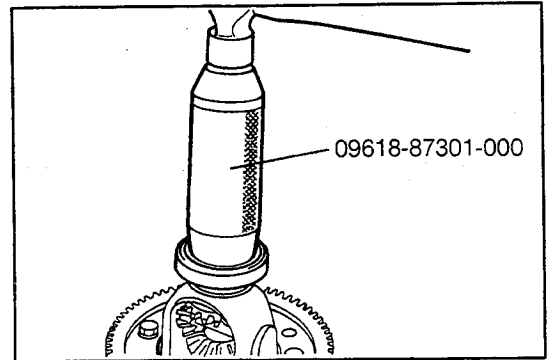
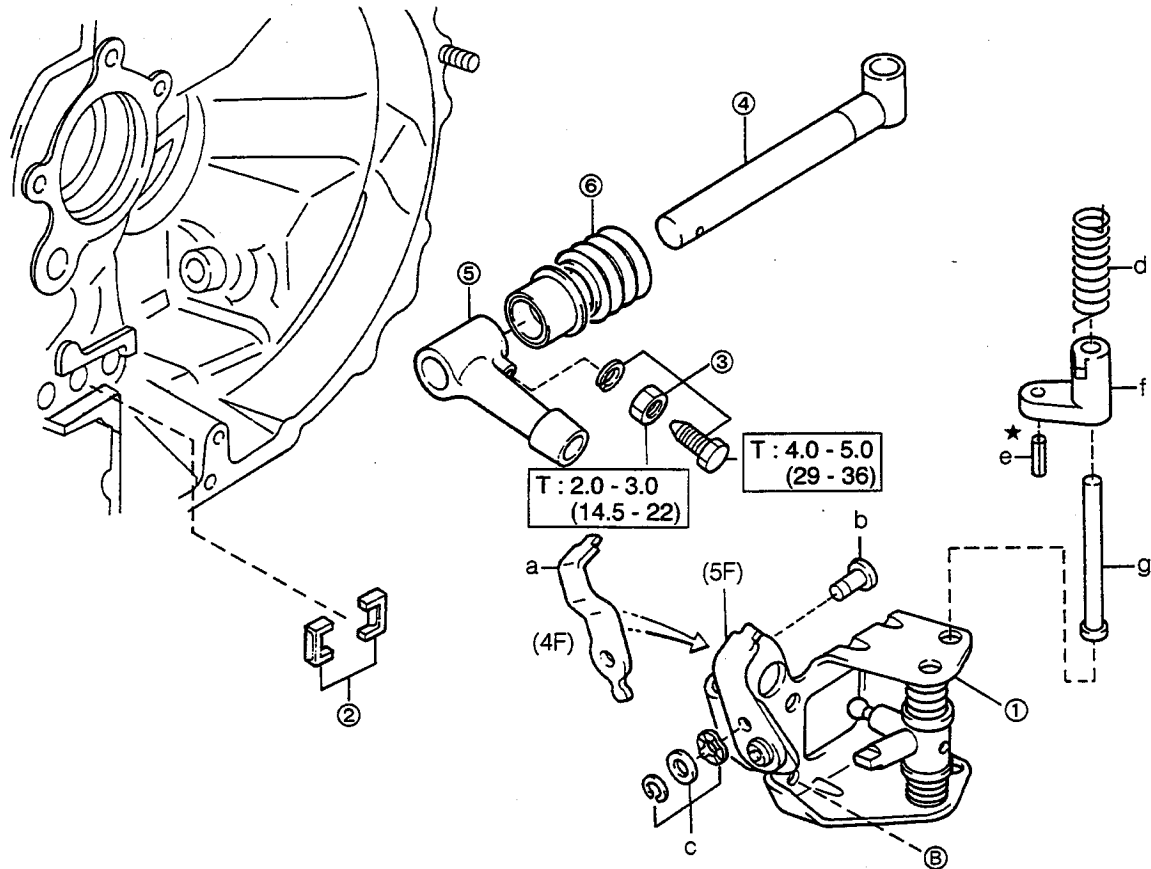


Fig. 3-176

WR-03174

**DISASSEMBLY, INSPECTION AND ASSEMBLY OF CONTROL LINKAGE-RELATED PARTS
COMPONENTS (PART 1)**



T : Tightening Torque
Unit: kg-m (ft-lb)
★ : Non-reusable parts

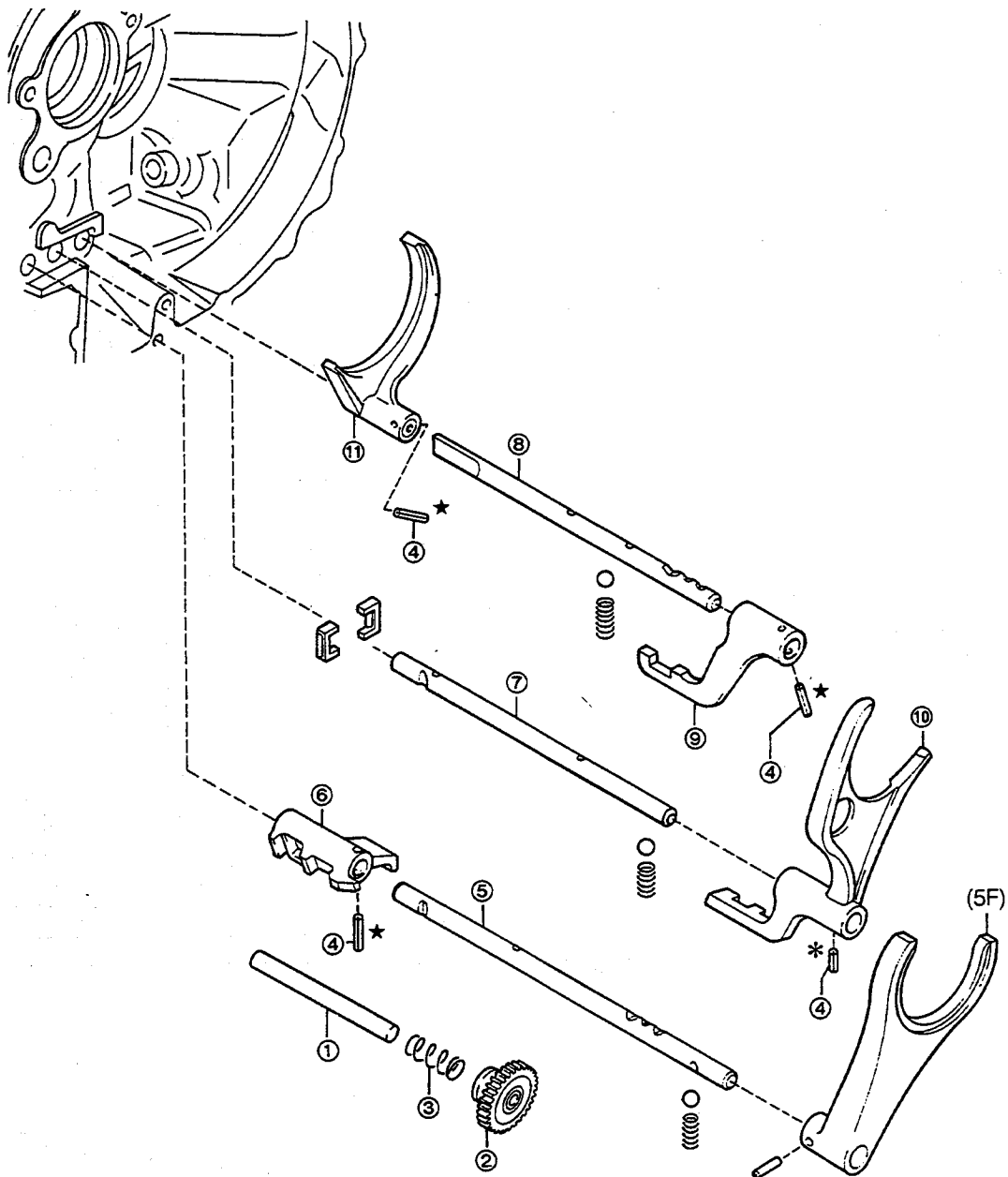
- ① Select support Ay & shifting bell crank
 - a. Reverse shift arm (4 M/T)
 - b. Shift arm pin & washer
 - c. E ring & washer
 - d. Compression spring
 - e. Slotted spring pin
 - f. Reverse restrict cam
 - g. Reverse restrict shaft

- ② Shift inter lock plate
- ③ Wave washer, bolt and nut set
- ④ Shift & select shaft
- ⑤ Shift inner lever
- ⑥ Control shaft boot

Fig. 3-177

WR-03174A

COMPONENTS (PART 2)



★ : Non-reusable parts

- ① Reverse idler shaft
- ② Reverse idler gear
- ③ Compression spring
- ④ Slotted spring pin × 4
- ⑤ 5th & reverse shift fork shaft
- ⑥ Reverse shift arm head

- ⑦ 3rd & 4th shift fork shaft
- ⑧ 1st & 2nd shift fork shaft
- ⑨ 1st & 2nd shift head
- ⑩ 3rd & 4th shift fork
- ⑪ 1st & 2nd shift fork

Fig. 3-178

WR-031748

MANUAL TRANSMISSION

DISASSEMBLY

1. Pull out the reverse idler gear shaft. Remove the reverse idler gear together with the compression spring.
2. Pull out the slotted spring pin.
(1) Working from the arrow-headed direction in the figure, drive out the slotted spring pin by means of a punch pin. (Four points)
3. Pull out the 5th & reverse shift fork shaft. Remove the reverse shift arm head.
4. Remove the 3rd & 4th shift fork shaft and the 3rd & 4th shift fork.
5. Pull out the 1st & 2nd shift fork shaft. Remove the 1st & 2nd shift fork and the 1st & 2nd shift head.

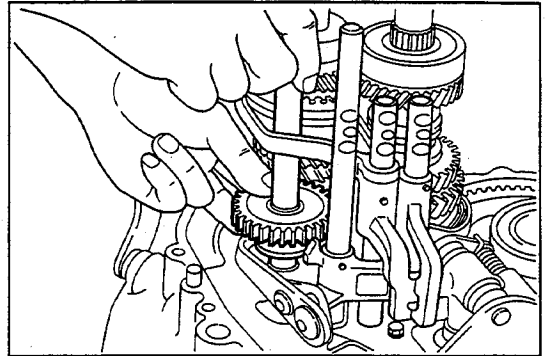


Fig. 3-179

WR-03175

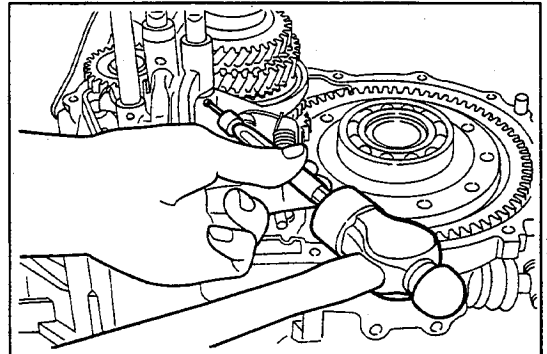


Fig. 3-180

WR-03176

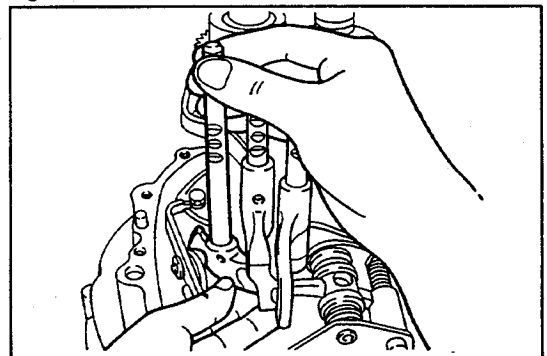


Fig. 3-181

WR-03177

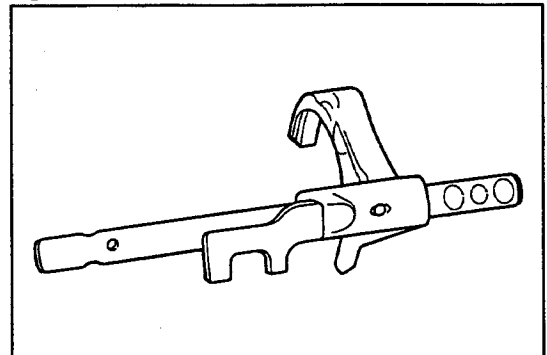


Fig. 3-182

WR-03178

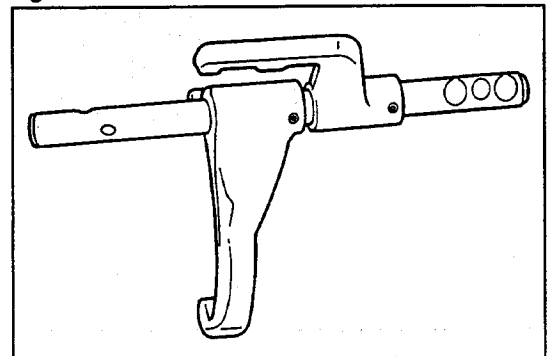


Fig. 3-183

WR-03179

6. Remove the input shaft and output shaft at the same time.

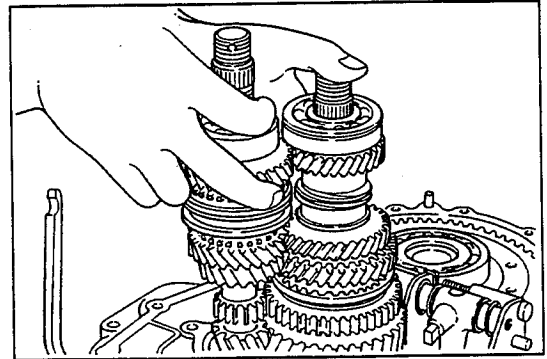


Fig. 3-184

WR-03180

7. Remove the selecting & shifting bell crank support assembly and magnet.

NOTE:

1. Be sure not to release the staked section of the bell crank.
2. On both the 4-speed and 5-speed transmissions, replacement parts are supplied only as those with the bell crank support assembly. (In the case of the replacement parts for the 5-speed transmission, the reverse restricting cam is excluded.)
Furthermore, it should be noted that the reverse restricting cam can not be disassembled.

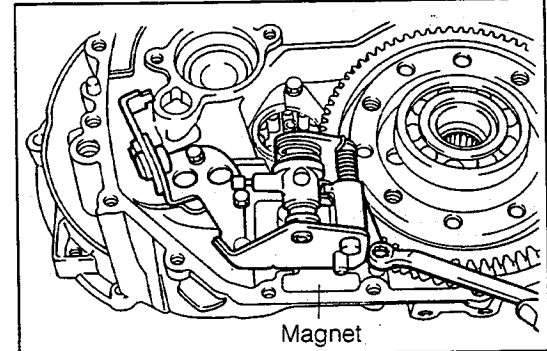


Fig. 3-185

WR-03181

8. Remove the shift interlock plate.

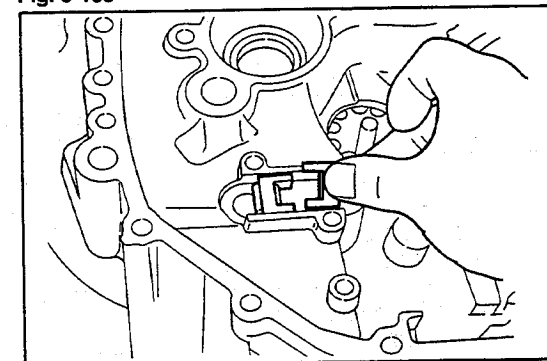


Fig. 3-186

WR-03182

9. Remove the wave washer, nut and set bolt.
(1) After the nut has been slackened, proceed to slacken the set bolt.

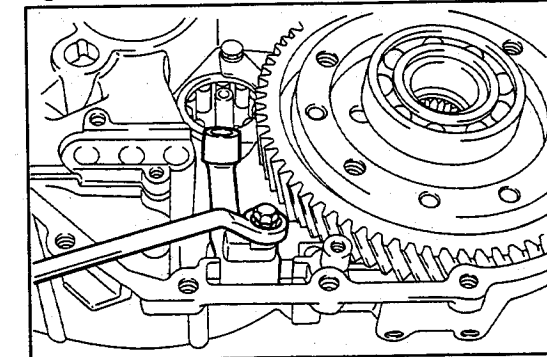


Fig. 3-187

WR-03183

10. After the differential case assembly has been removed (see page 3-16), remove the shift & select shaft.

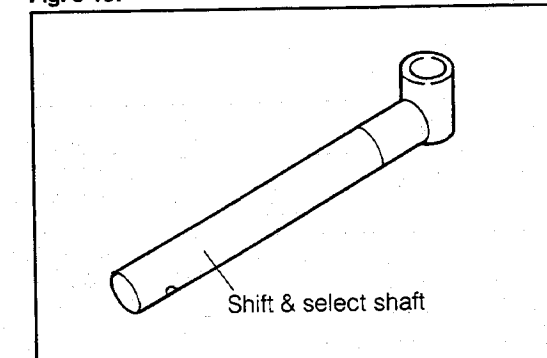


Fig. 3-188

WR-03184

MANUAL TRANSMISSION

11. Remove the shift inner lever and control shaft boot.

INSPECTION

1. Check the shift fork shafts, balls and springs for damage or wear.

| Part | Inspection criteria |
|---|--|
| Ball lock section and interlock section of fork shaft ① | Visually inspect the section for excessive damage or wear. |

2. Check the 1st shift fork, the 2nd shift fork and the reverse shift head for damage or wear.

| Part | Specified value mm (inch) | Limit mm (inch) |
|---|---|--------------------|
| Thickness at tip-section of fork ① | 7.0 (0.276) | 6.3 (0.248) |
| Groove width of shift inner lever-contact-section ② | 12.1 $^{+0.1}_0$ (0.476 $^{+0.004}_0$) | 12.7 (0.500) |
| Groove width of reverse shift arm pin-contact-section ③ | 150 $^{+0.043}_0$ (0.5906 $^{+0.0017}_0$) | 15.1 (0.595) |

3. Check the interlock plate for damage or wear.

| Part | Specified value mm (inch) | Limit mm (inch) |
|-----------------------|---|--------------------|
| *Length of lock plate | 16.3 ± 0.15 (0.642 ± 0.006) | 16.0 (0.630) |
| Roller section | Check the section for excessive damage or wear. | |

*Two lock plates must be replaced at the same time.

4. Check the control shaft and inner lever for damage or wear.

| Part | Inspection criteria |
|--|---|
| Control shaft ① | Visually inspect the following items given below. <ul style="list-style-type: none"> ● Shaft for bend ● Recessed section of inner lever and shaft inserting section for wear or damage. ● Dust boot for cracks or wear ● Tip-end of lock bolt for wear |
| Inner lever recessed section and shaft inserting section ② | |
| Sliding section of dust boot and breakage ③ | |
| Tip-end of lock bolt ④ | |

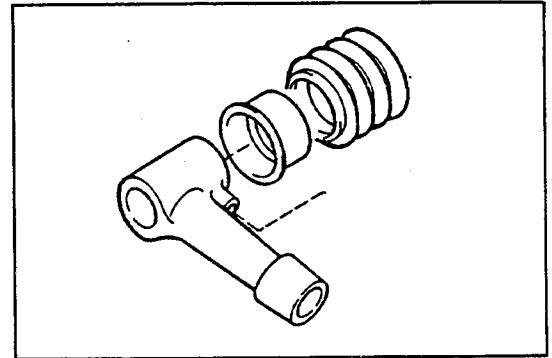


Fig. 3-189

WR-03185

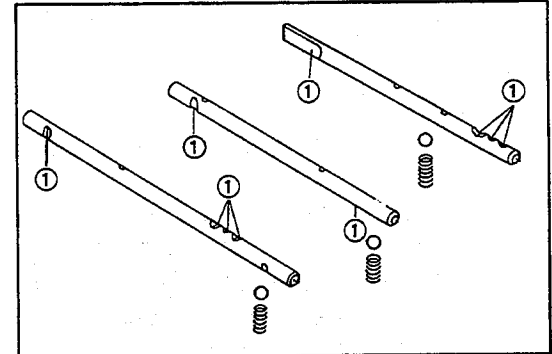


Fig. 3-190

WR-03186

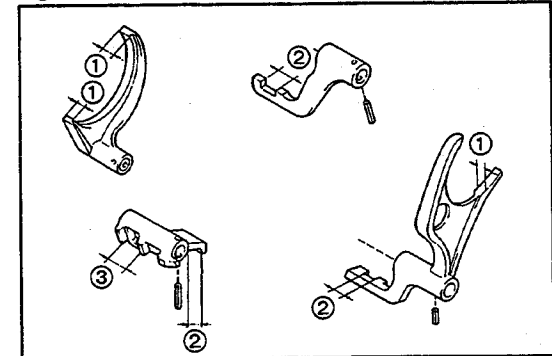


Fig. 3-191

WR-03187

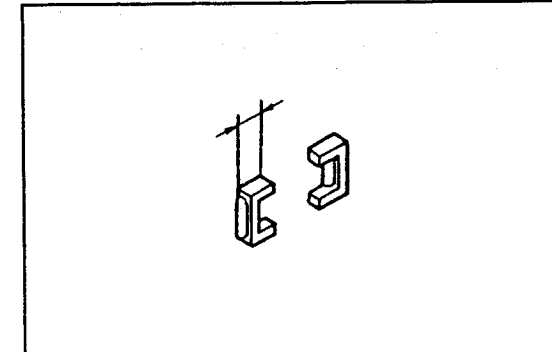


Fig. 3-192

WR-03188

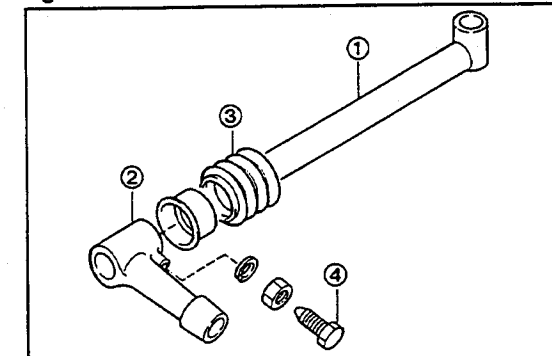


Fig. 3-193

WR-03189

5. Check the selecting & shifting bell crank and the reverse shift arm for damage or wear.

| Part | Specified value mm (inch) | Limit mm (inch) |
|--|---|--------------------|
| Reverse shift arm pin diameter ① | 15.0 $\begin{smallmatrix} -0.050 \\ -0.093 \end{smallmatrix}$ (0.5906 $\begin{smallmatrix} -0.0029 \\ -0.0037 \end{smallmatrix}$) | 14.85 (0.585) |
| Tip-end width of reverse shift arm ② | 8.0 $\begin{smallmatrix} -0.080 \\ -0.116 \end{smallmatrix}$ (0.3150 $\begin{smallmatrix} -0.0031 \\ -0.0046 \end{smallmatrix}$) | 7.8 (0.307) |
| Operation of selecting & shifting bell crank | Check to see if the bell crank can move in up-and-down direction with detent falling. | |

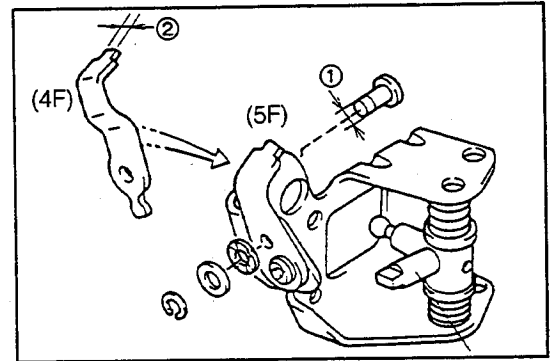


Fig. 3-194

WR-03190

6. Check the reverse restricting cam and shaft for damage or wear. (5-speed transmission only)

| Part | Inspection criteria |
|--|---|
| Operation of restricting cam | <ul style="list-style-type: none"> Ensure that the mis-operation preventing mechanism functions at the support assembly. ① The cam should be raised at the same time when the section A is lifted. ② When turned to the left, ensure that the cam drops and the section A is locked. |
| Each part of reverse restricting cam and shaft ① | Visually inspect each part for damage or wear. |

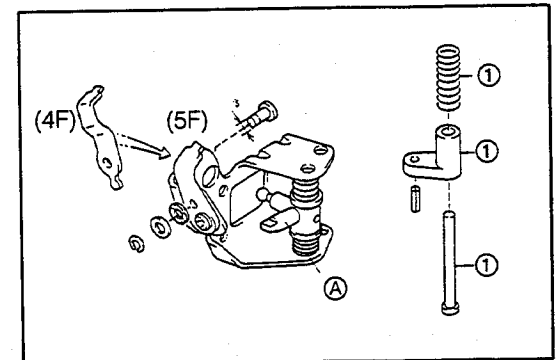


Fig. 3-195

WR-03191

7. Check the reverse idler gear and shaft for wear or damage.

| Part | Specified value mm (inch) | Limit mm (inch) |
|----------------------------|---|--------------------|
| Bush inner diameter ① | 17 $\begin{smallmatrix} +0.027 \\ +0 \end{smallmatrix}$ (0.6693 $\begin{smallmatrix} +0.0011 \\ +0 \end{smallmatrix}$) | 17.05 (0.671) |
| Shaft outer diameter ② | 17 $\begin{smallmatrix} -0.032 \\ -0.059 \end{smallmatrix}$ (0.6693 $\begin{smallmatrix} -0.0013 \\ -0.0023 \end{smallmatrix}$) | 16.9 (0.665) |
| Groove width ③ | 8 $\begin{smallmatrix} +0.058 \\ +0 \end{smallmatrix}$ (0.3150 $\begin{smallmatrix} +0.0023 \\ +0 \end{smallmatrix}$) | 8.2 (0.323) |
| Wear or damage of spring ④ | Visually inspect the spring for flattened condition and the washer for wear or damage. | |

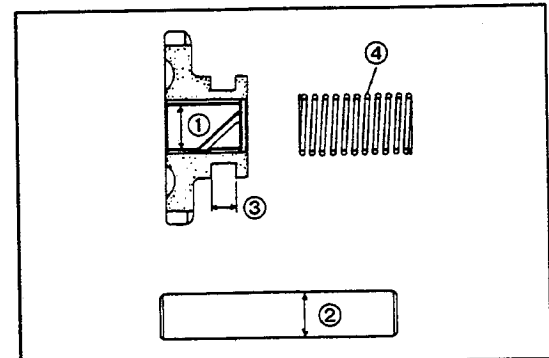


Fig. 3-196

WR-03192

ASSEMBLY

- Assemble the boot and shift inner lever on the control shaft.

NOTE:

Be very careful not to scratch the boot.

- Assemble the shift & select shaft in the case.

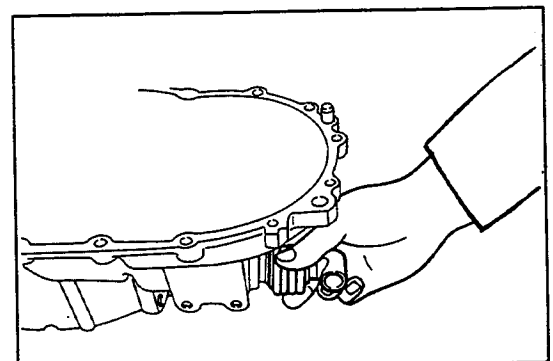


Fig. 3-197

WR-03193

MANUAL TRANSMISSION

3. After the differential case assembly has been installed, assemble the wave washer, nut and setting bolt.

(1) Align the hole of the shift inner lever with the cut-out section of the shift & select shaft. Proceed to tighten the set bolt to the specified torque.

Tightening Torque: 4.0 - 5.0 kg-m (29 - 36 ft-lb)

(2) Tighten the nut to the specified torque.

Tightening Torque: 2.0 - 3.0 kg-m (16 - 22 ft-lb)

4. Assemble the shift interlock plate.

(1) Assemble the plate in the Neutral position.

5. Install the magnet into position.

6. Assemble the input shaft and output shaft at the same time.

7. Install the input shaft bearing lock plate. Tighten the nuts.

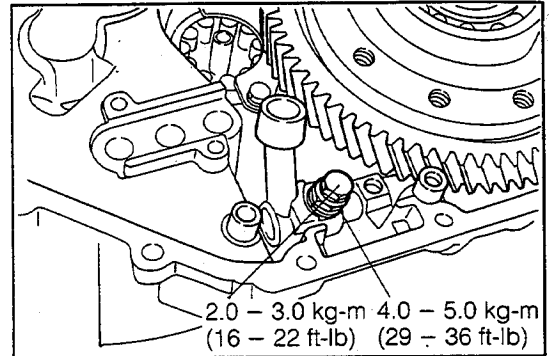


Fig. 3-198

WR-03194

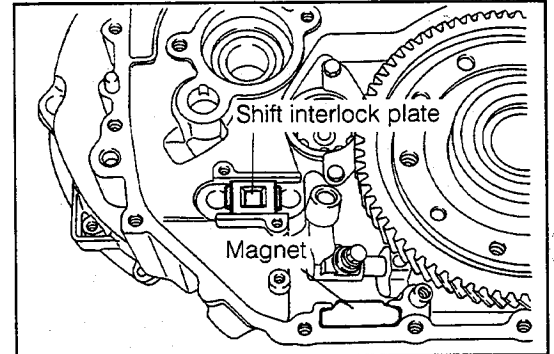


Fig. 3-199

WR-03195

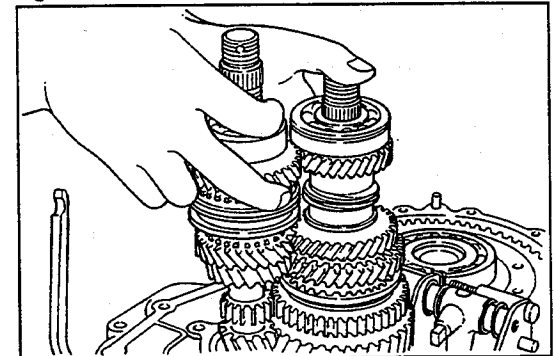


Fig. 3-200

WR-03195A

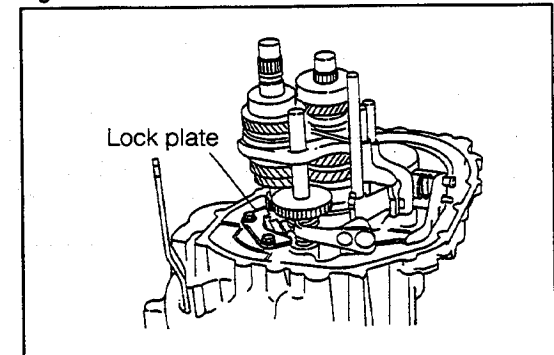


Fig. 3-201

WR-03195B

8. Assemble the selecting & shifting bell crank support assembly.
- (1) Working from the inside of the case, install the shift arm pin. Assemble the washer.
 - (2) Drive the slotted spring pin into position, until it becomes flush with the edge surface (A) of the restricting cam.
 - (3) Assemble the restricting cam.
 - ① Assemble the restricting cam in such a way that the slotted spring pin may be inserted into the hole (B)

NOTE:

Be sure not to forget to attach the spring in place.

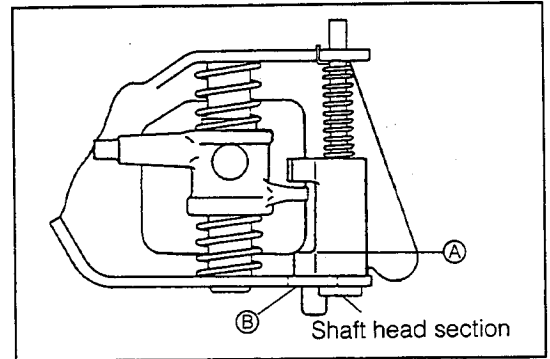


Fig. 3-202

WR-03196

9. Assemble the 1st & 2nd shift fork and the 3rd & 4th shift fork.

NOTE:

Prior to the assembling, apply gear oil to the sliding section of each shift fork.

- (1) Assemble the 1st & 2nd shift fork onto the synchronizer hub for the 1st & 2nd gear use provided at the output shaft side.
- (2) Assemble the 3rd & 4th shift fork onto the synchronizer hub for the 3rd & 4th gear use provided at the input shaft side.

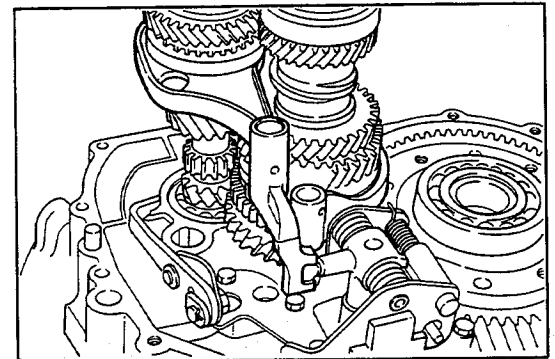


Fig. 3-203

WR-03197

10. Assemble the 1st & 2nd shift head, the 1st & 2nd shift fork shaft and the 3rd & 4th shift fork shaft.

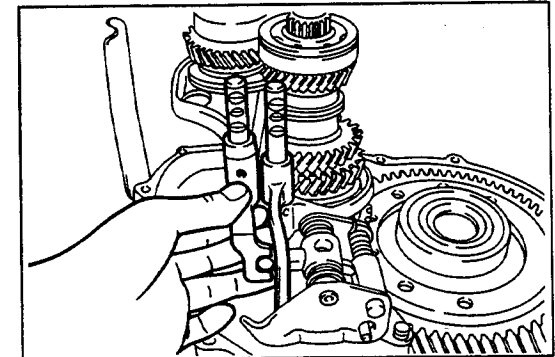


Fig. 3-204

WR-03198

11. Assemble the reverse shift arm head.

- (1) Assemble the arm head in the direction as indicated in the right figure.

NOTE:

It should be noted that the arm head for the 4-speed transmission differs from that for the 5-speed transmission in its shape.

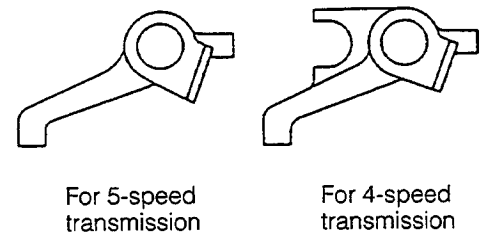


Fig. 3-205

WR-03199

MANUAL TRANSMISSION

12. Assemble the 5th & reverse shift fork shaft.

NOTE:

It should be noted that the fork shaft for the 4-speed transmission differs from that for the 5-speed transmission in its length.

Shaft Length

For 4-speed transmission: 175 mm (6.89 inch)

For 5-speed transmission: 223 mm (8.79 inch)

13. Working from the direction as indicated in the figure, drive the slotted spring pin into position, until it becomes flush with the edge surface of the shift fork.

14. Assemble the compression spring, reverse idler gear and reverse idler gear shaft.

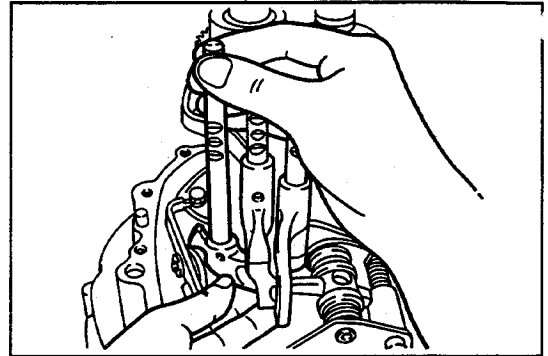


Fig. 3-206

WR-03200

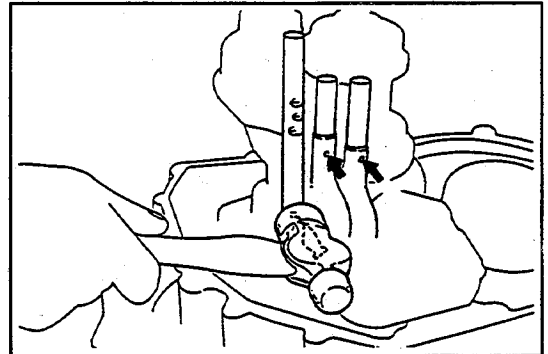


Fig. 3-207

WR-03201

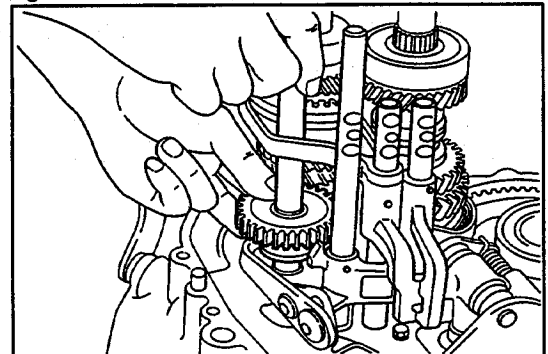
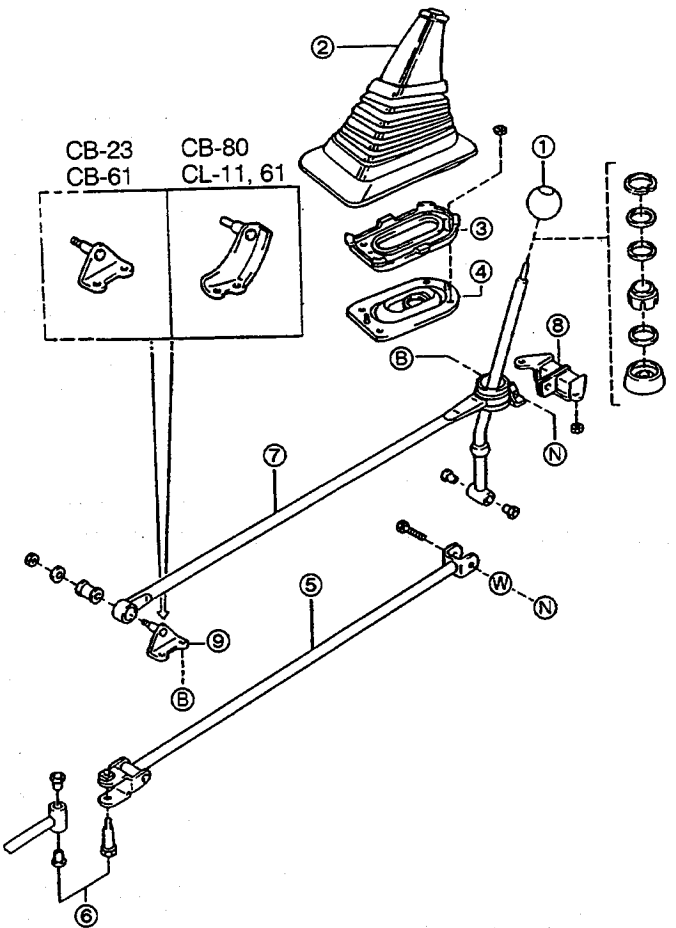


Fig. 3-208

WR-03202

SHIFT LEVER & SHIFTING SELECTING ROD COMPONENTS



- ① Shift lever knob
- ② Shift & select lever boot
- ③ Dust seal retainer
- ④ Dust boot
- ⑤ Shift & select shaft S/A (transmission side)
- ⑥ Bush
- ⑦ Extension rod S/A
- ⑧ Floor shift support No.2
- ⑨ Floor shift support No.1

Fig. 3-209

WR-03203

MANUAL TRANSMISSION

REMOVAL

1. Detach the shift lever knob and the shift & select lever boot.
2. Detach the dust seal retainer and dust boot.
3. Disconnect the shift & select shaft subassembly at the transmission side.
4. Remove the bush.
5. Remove the extension rod subassembly and floor shift support No.2.

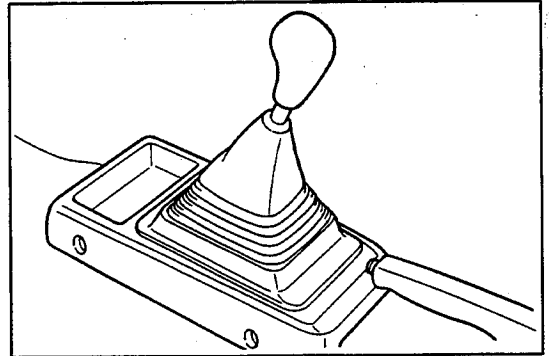


Fig. 3-210

WR-03204

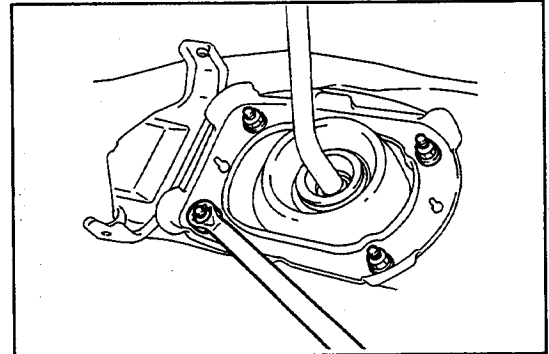


Fig. 3-211

WR-03205

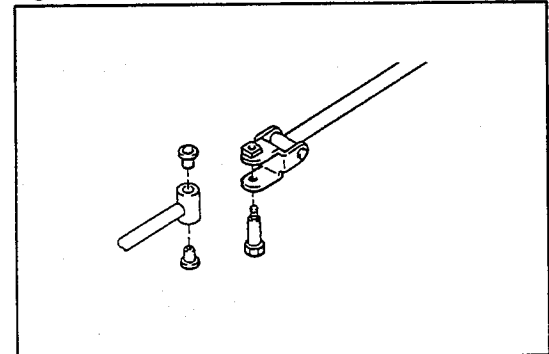


Fig. 3-212

WR-03206

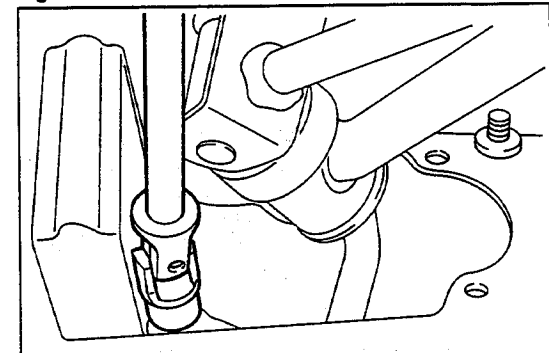


Fig. 3-213

WR-03207

INSPECTION

Check to see if each joint section under an assembled condition rotates smoothly without any binding.

(See the figure below.)

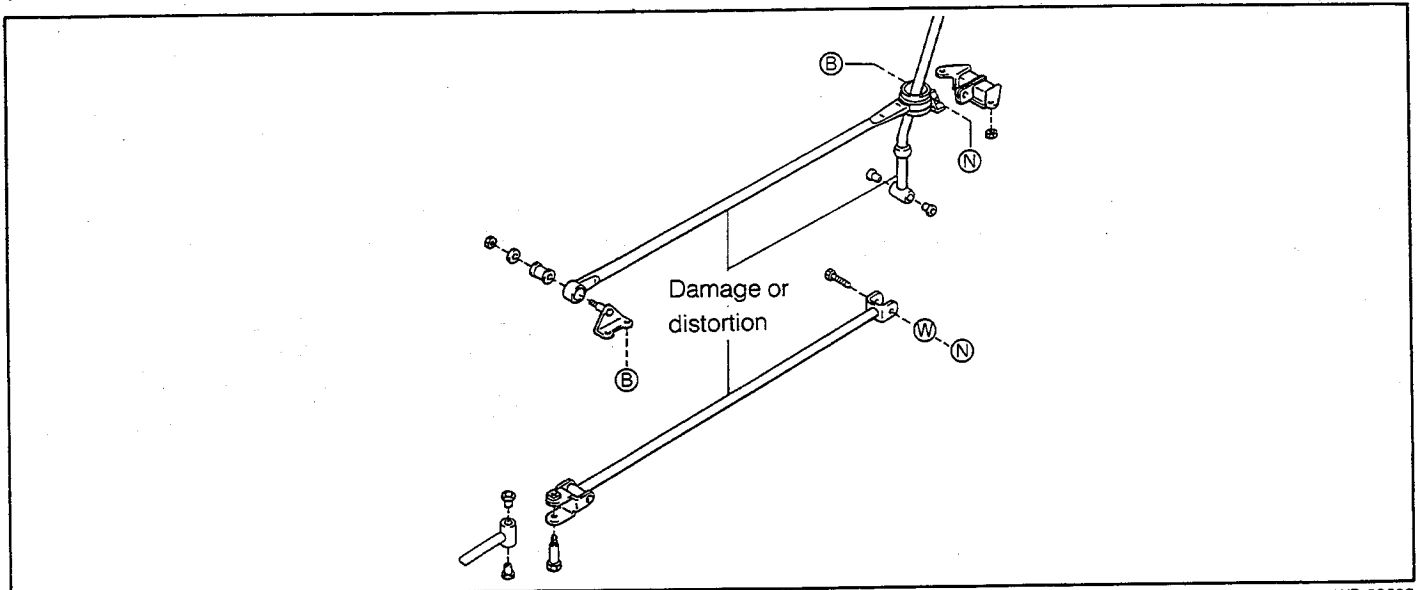


Fig. 3-214

WR-03208

DISASSEMBLY

1. Working from the case side, pull out the hole snap ring by means of the SST.

SST: 09905-87001-000

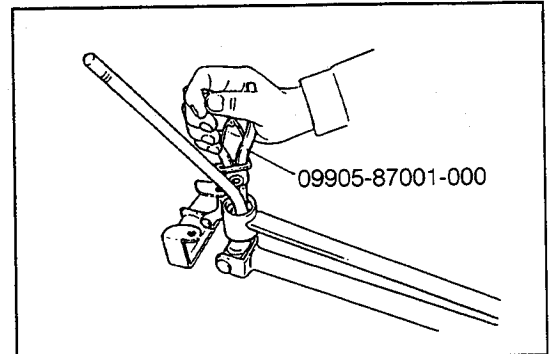


Fig. 3-215

WR-03209

2. Disassemble the plate washer, bush and shift lever seat.

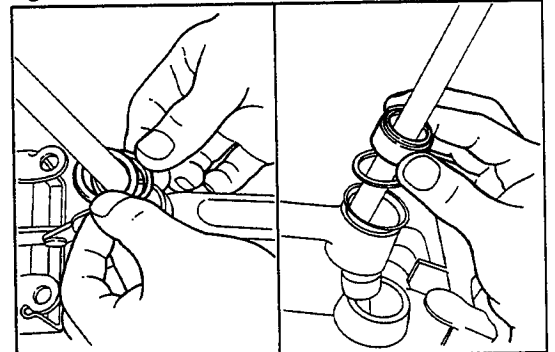


Fig. 3-216

WR-03210

3. Remove the extension rod subassembly from the shift lever subassembly.

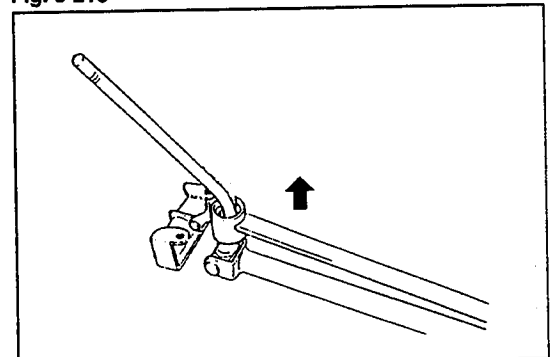


Fig. 3-217

WR-03211

MANUAL TRANSMISSION

4. Disassemble the plate washer and shift lever retainer dust boot.

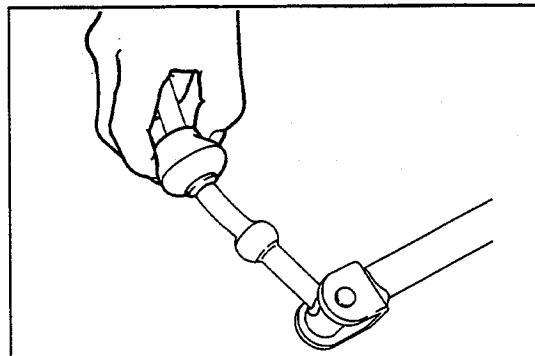


Fig. 3-218

WR-03212

5. Disassemble the bush, nut, plate washer and floor shift support No.1.

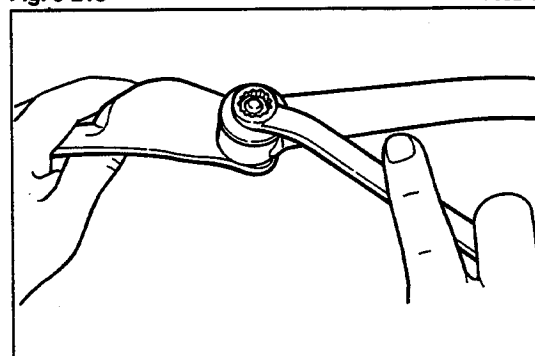


Fig. 3-219

WR-03214

6. Grind off the staked section of the extension rod sub-assembly, using a grinder.
7. Grind off the staked section of the shift & select sub-assembly, using a grinder.

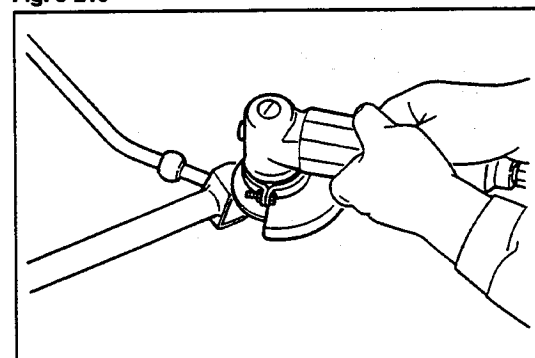


Fig. 3-220

WR-03215

INSPECTION

Inspect the following parts. Replace any parts which exhibit defects.

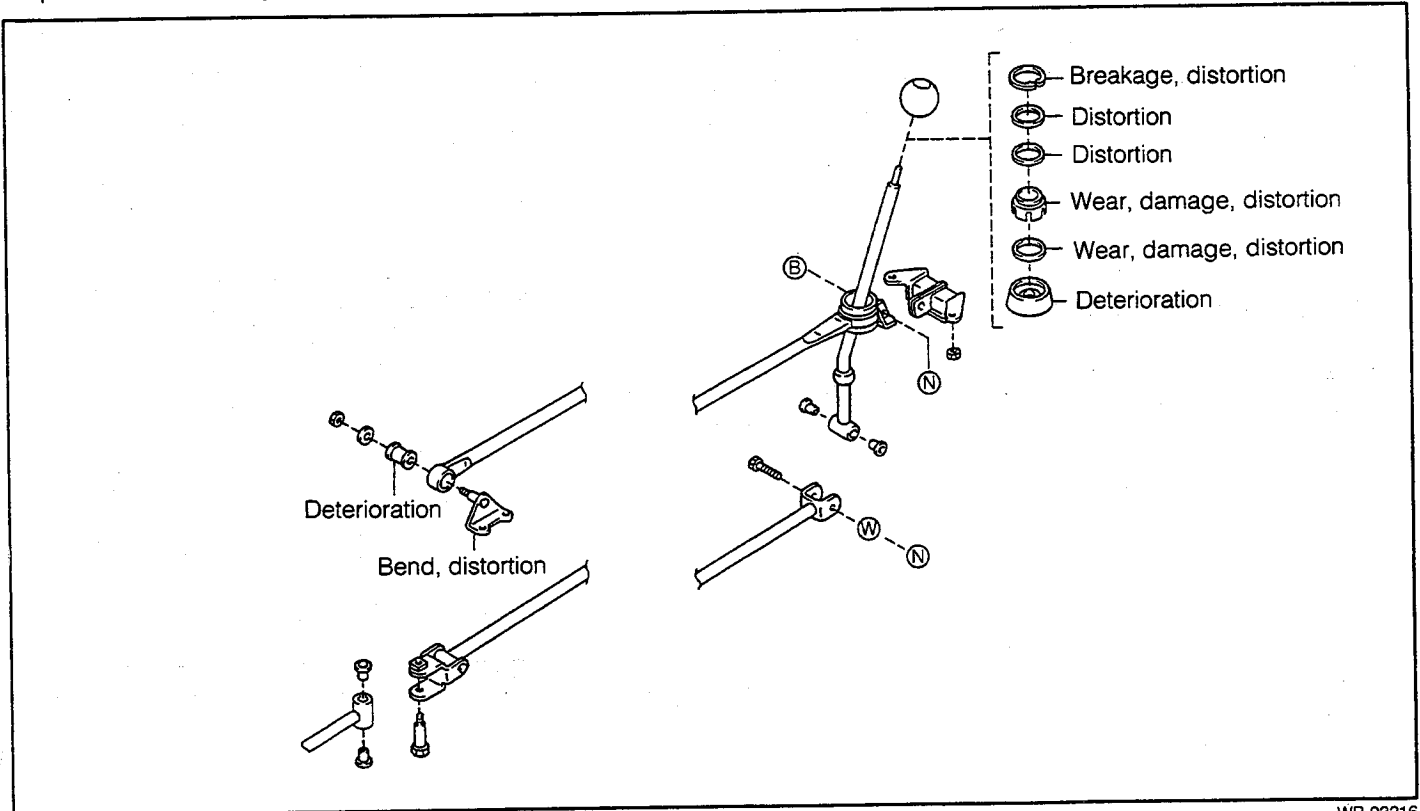


Fig. 3-221

WR-03216

Grease Application Points

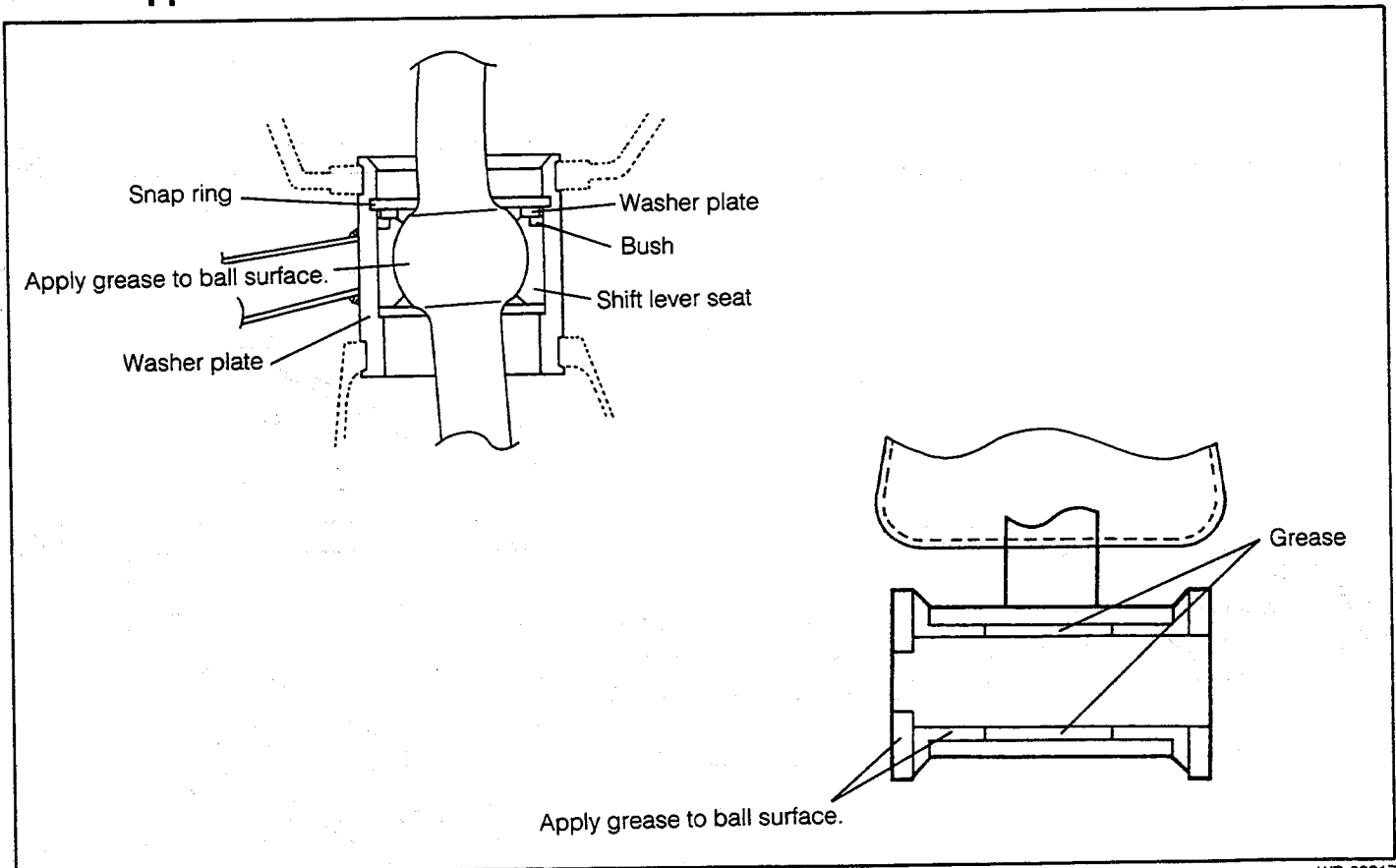


Fig. 3-222

WR-03217

MANUAL TRANSMISSION

ASSEMBLY

1. Assemble the extension rod.

NOTE:

On replacement parts, the connecting method with the support employs a bolt. Hence, care must be exercised to ensure that the assembling is carried out in the correct direction.

2. Insert the bush into position.

NOTE:

If any difficulty is encountered in inserting the bush, apply soap water to the case side for easier installation.

3. Assemble the floor shift support No.1. Install the nut and washer.

4. Assemble the bush in the shift lever subassembly.

1. Assemble the shift & select shaft.

NOTE:

On replacement parts, the connecting method with the shift lever employs a bolt. Hence, care must be exercised to ensure that the assembling is carried out in the correct direction.

Tightening Torque: 1.0 - 1.6 kg-m (7.2 - 11.6 ft-lb)

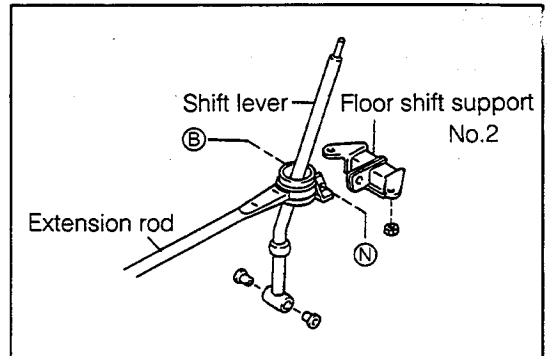


Fig. 3-223

WR-03218

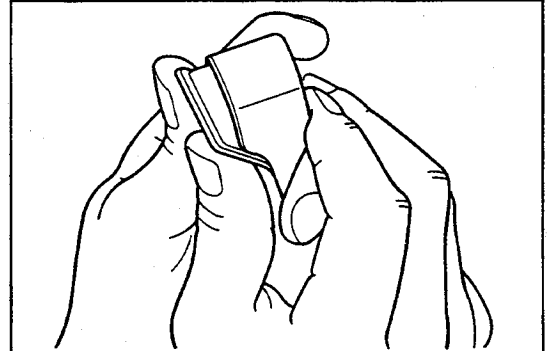


Fig. 3-224

WR-03219

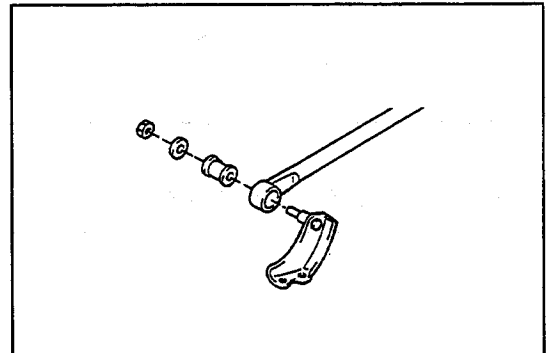


Fig. 3-225

WR-03220

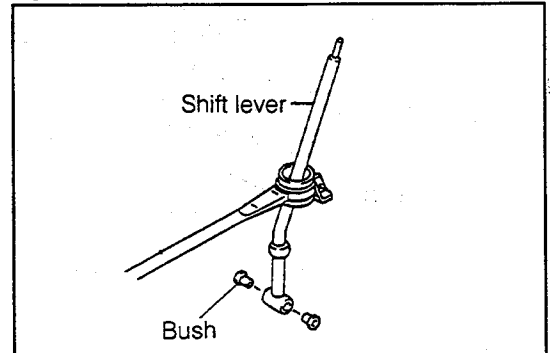


Fig. 3-226

WR-03221

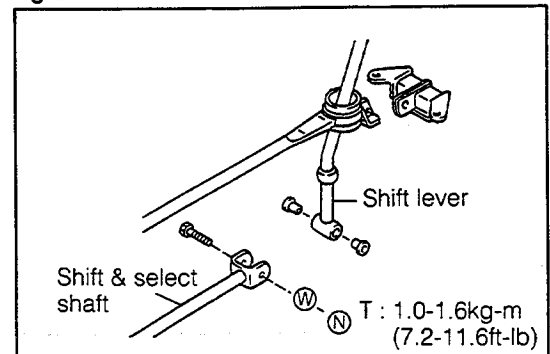


Fig. 3-227

WR-03222

- Assemble the shift lever retainer dust boot and plate washer onto the extension rod.

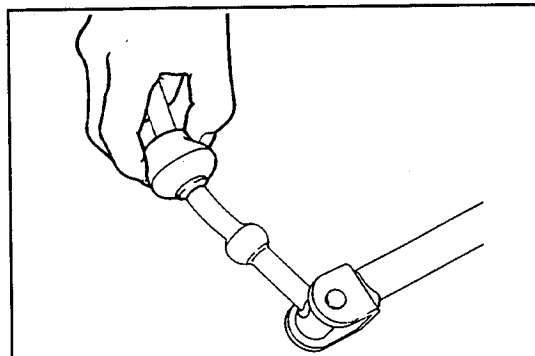


Fig. 3-228

WR-03223

- After the shift lever subassembly has been installed, assemble the shift lever seat, bush and plate washer.

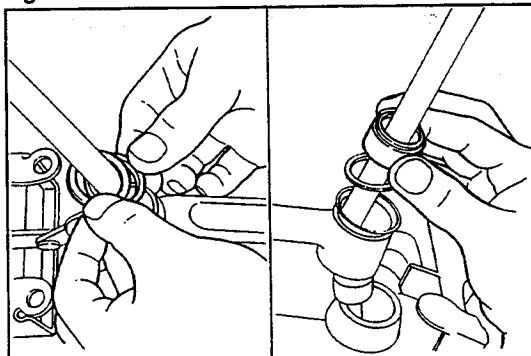


Fig. 3-229

WR-03224

- Assemble the hole snap ring, using the SST given below.
SST: 09905-87001-000

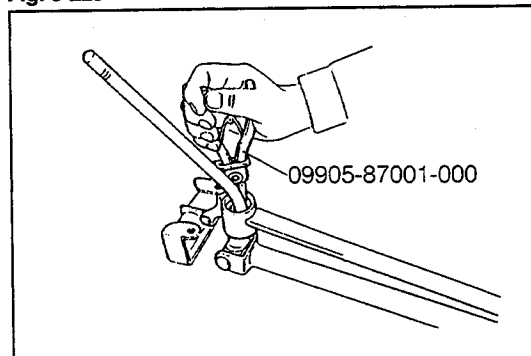


Fig. 3-230

WR-03225

INSTALLATION

- Install the floor shift support No.2, shift lever and extension rod as a set on the vehicle.

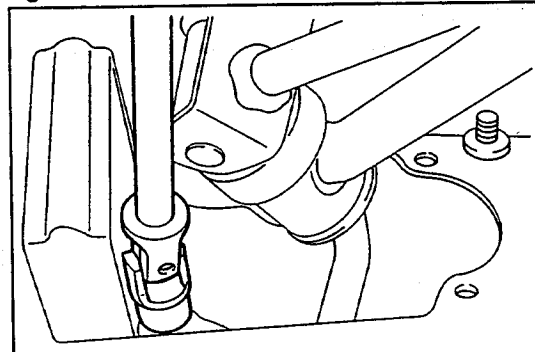


Fig. 3-231

WR-03226

- Install the extension rod subassembly, onto the transmission.

Tightening Torque: 1.0 - 1.6 kg-m (7.2 - 11.6 ft-lb)

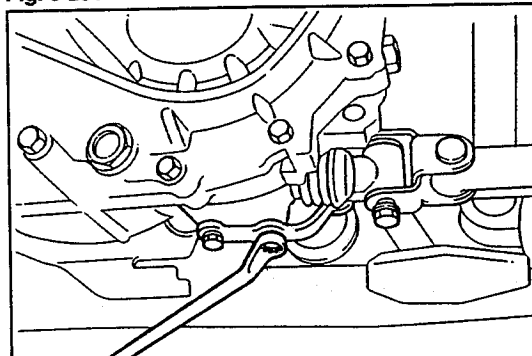


Fig. 3-232

WR-03227

MANUAL TRANSMISSION

3. Assemble the bush in the shift & select shaft. Install the transmission side of the shift & select shaft subassembly.

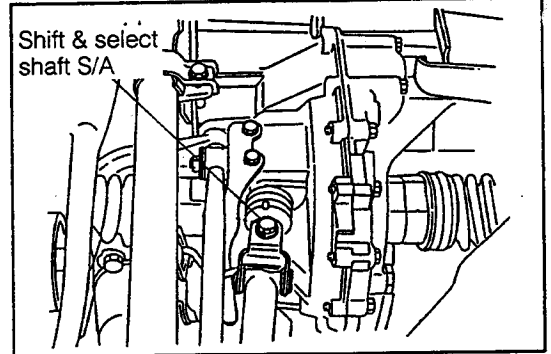


Fig. 3-233

WR-03228

4. Install the dust boot and dust seal retainer.

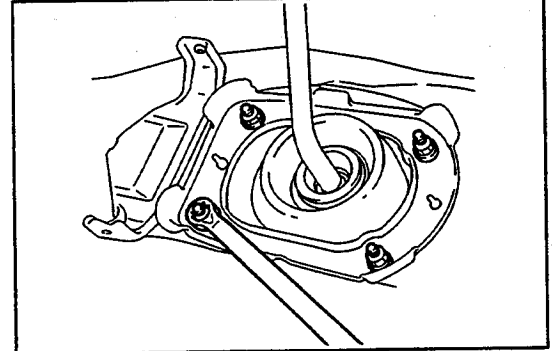


Fig. 3-234

WR-03229

5. Install the shift & select lever boot and the shift lever knob.

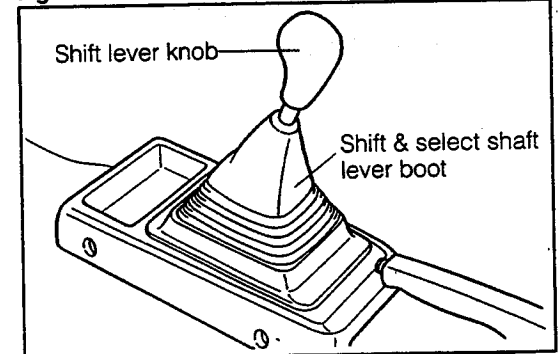


Fig. 3-235

WR-03230

Input Shaft Locking Tool

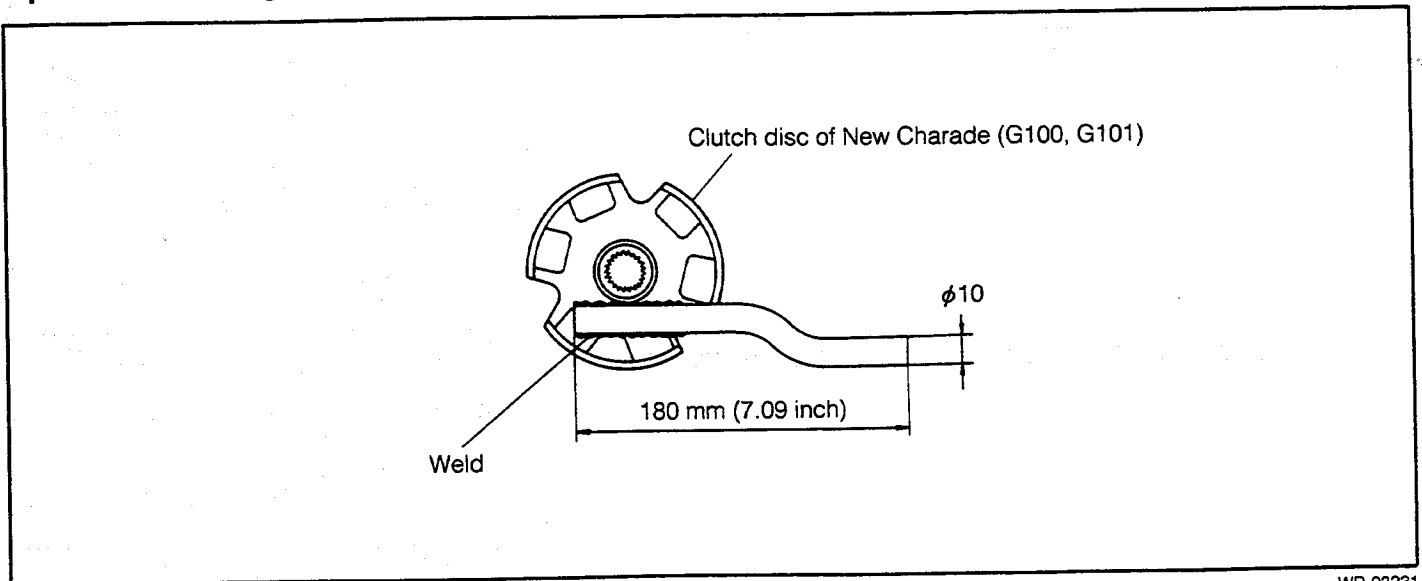


Fig. 3-236

WR-03231

Make the input shaft locking tool with clutch disc of new Charade (G100, G101) as shown in the above illustration.