MANUAL TRANSMISSION

Service manual

1991-1996
Dodge Stealth R/T Turbo
1990-1999
Mitsubishi GTO Twin Turbo
1991-1999
Mitsubishi 3000GT VR4

W5MG1,W6MG1
MANUAL TRANSMISSION

Preface

This book was translated from the original Japanese language service manual published by Mitsubishi Motors Corporation of Japan. Translation was performed by volunteers from 3000GT/Stealth International, an owners and enthusiast group focused on the Mitsubishi 3000GT, Dodge Stealth and Mitsubishi GTO.

Great care has been taken to ensure the accuracy of the information contained in this manual, but errors may still be possible due to the nature of the translation. Therefore, this manual is presented as a guide only, and repair procedures should not be undertaken by unskilled individuals who do not posess a thorough understanding of the subject material.

The authors of this manual will not be held responsible for any personal injury or damage to property incurred while performing the procedures described within.

All tasks in this manual are undertaken at your own risk.

Group Index

Applicable Models

This book covers the Getrag W5MG1 and W6MG1 all-wheel drive manual transaxles found in the following models:

1991 - 1996 Dodge Stealth R/T Turbo
1991 - 1999 Mitsubishi 3000GT VR4
1990 - 1999 Mitsubishi GTO Twin Turbo

This book would not be possible without the contributions of the following people:

Translation, and layout
Jeff VanOrsdal
Additional Translation
Frank Chen, Kotaru Yamaguchi, Corumisri
Technical Assistance
Bret Brinkmann
Jeff Lucius
Financial assistance
Many generous members of 3000GT / Stealth International

Introduction

Scope of this manual

This book explains the main service points regarding the transmission itself. However, please utilize the relevant service manual for the car model and year in question when concerns arise regarding onboard inspection and service.

Important points

(1) Component diagrams are published at the beginning of each section so that you may more easily visualize the assembled state of the component or sub-assembly.

(2) Numbered service procedures are displayed in the component diagrams along with indications of non-reusable parts and torque specifications.

(3) Main service points and maintenance points are explained in detail, along with usage and descriptions of special tools.

About inspection

Descriptions are provided for procedures to be taken when defective or damaged parts are discovered during inspection.

Symbols for lubricants, sealants and adhesives
Information concerning the locations of lubricarion and for application of sealants and adhesives is provided, by using symbols, in the diagram of component parts or on the page following the component parts page.


.....Grease (multipurpose unless there is a brand or type specifed)


.....Brake fluid or automatic transmission fluid


.....Sealant or adhesive


.....Gear oil

Removal procedures
The part designation number corresponds to the number in the illustration to indicate removal procedures.

Disassembly procedures
The part designation number corresponds to the number in the illustration to indicate disassembly procedures.

Installation procedures
Specified in case installation is impossible in reverse order of removal procedures. Omitted if installation is possible in reverse order of removal procedures

Reassembly procedures
Specified in case reassembly is impossible in reverse order of disassembly procedures. Omitted if reassembly is possible in reverse order of disassembly procedures.

Classification of major maintenance or service points


: Indicates that there are essential points for removal or disassembly.

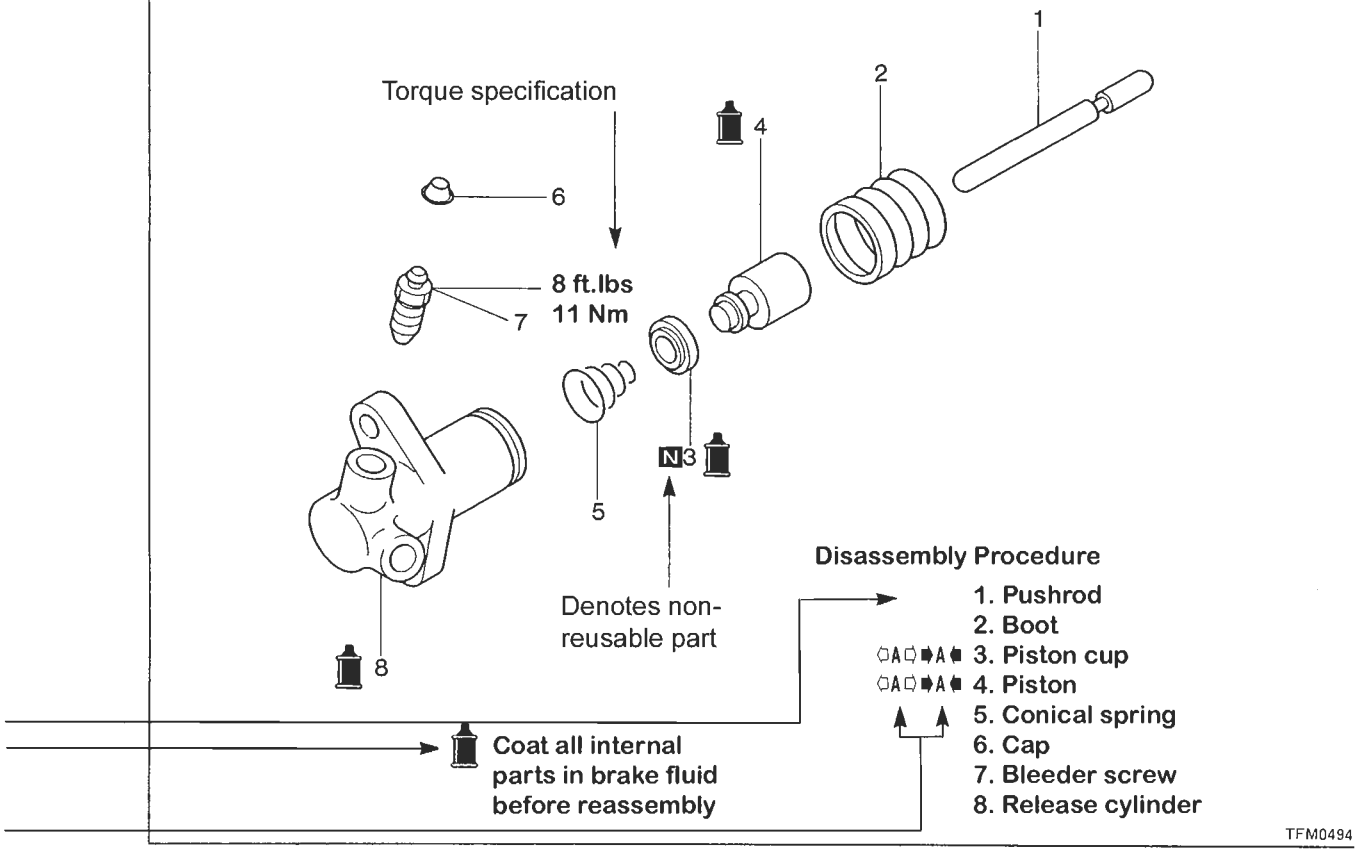
: Indicates that there are essential points for installation or reassembly.

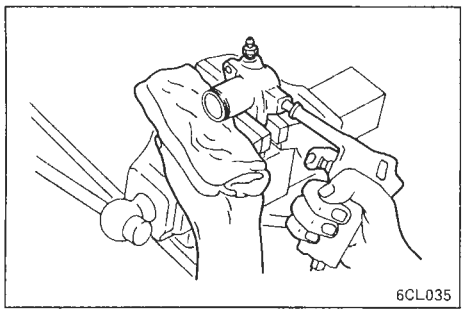
Group number and page number → 21 - 8

Group title → Clutch - Clutch Release Cylinder

Section title

Disassembly / Reassembly





Disassembly service points

◇A◇ Removal of piston cup / piston

(1) Remove the corrosion from the piston-removal port of the release cylinder.
(2) Remove the piston from the release cylinder using compressed air.

Caution
1. Cover with rags to prevent the piston from popping out.
2. Apply compressed air slowly to prevent brake fluid from splashing.

21 CLUTCH

Maintenance Standards

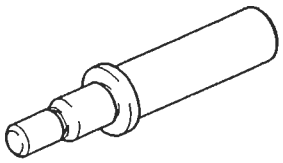
Item	Limit Value mm
Clutch disk facing rivet sink	Below 0.3
Diaphragm spring end height difference	Within 0.5
Opening of release cylinder bore and piston major diameter	Above 0.15

Torque Specifications

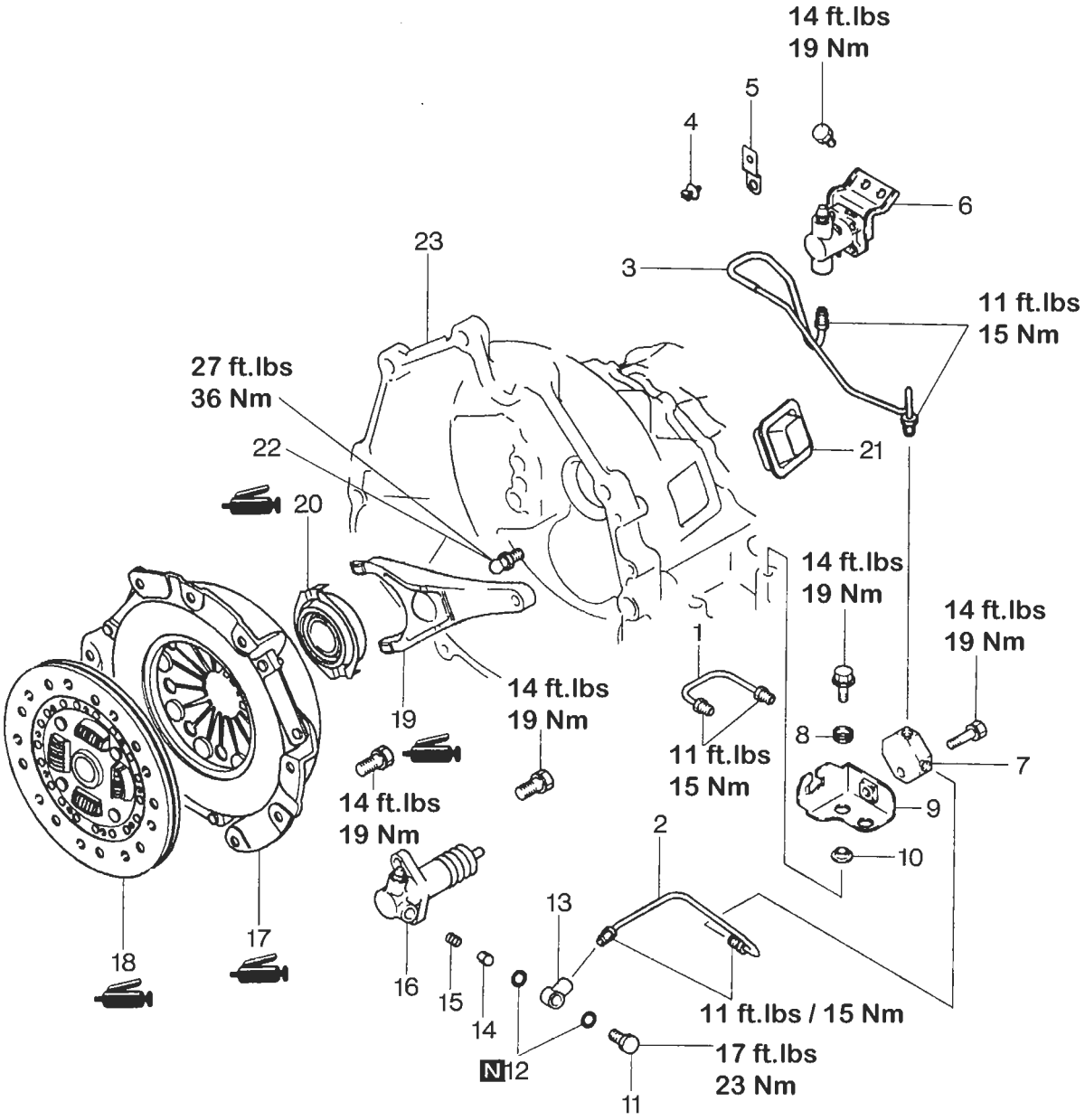
Item	Torque
Clutch damper bracket attachment bolt	6.5 ft.lbs / 9 Nm
Clutch damper installation bolt	14 ft.lbs / 19 N.m
Clutch oil tube filling nut	11 ft.lbs / 15 Nm
Release fork fulcrum	26 ft.lbs / 36 Nm
Clutch oil line bracket attachment bolt	14 ft.lbs / 19 N.m
3-way type connector mounting bolt	14 ft.lbs / 19 N.m
Clutch release cylinder mounting bolt	14 ft.lbs / 19 N.m
Union bolt	17 ft.lbs / 23 Nm
Clutch cover installation bolt	14 ft.lbs / 19 N.m
Clutch release cylinder air breather	8 ft.lbs / 11 Nm
Clutch damper air breather	6.5 ft.lbs / 9 Nm

Lubricants

Item	Specified lubricant
Clutch release bearing sleeve diameter	Molykote TA #2
Clutch release bearing and shift fork contact section	
Shift fork and fulcrum contact section	
Clutch release cyliner pushrod tip	
Inside splines of clutch disk	Molykote TA #1 or #2
Clutch release cylinder piston and piston cup	SAE J1703 (DOT3)
Clutch damper O-ring	

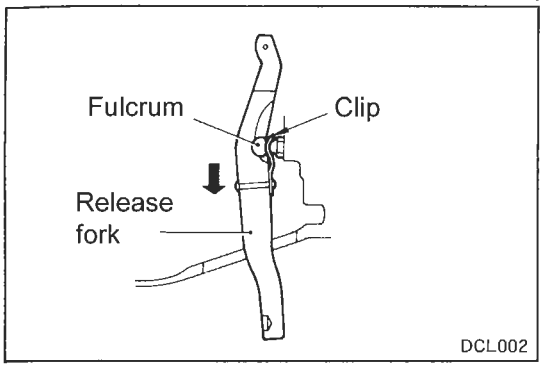
Tool	Part Number	Name	Use
	**MD998126**	Clutch disk centering guide	Positioning the clutch disk

Removal / Installation



Removal Procedure

1. Clutch cylinder release tube
2. Clutch cylinder release tube
3. Clutch cylinder release tube
4. Clip
5. Bracket
6. Clutch damper
7. 3-way junction block
8. Insulator
9. Bracket
10. Insulator
11. Banjo bolt
12. Crush washer
13. Union
14. Release cylinder valve
15. Release cylinder spring
- ◆D◆ 16. Clutch release cylinder
- ◆C◆ 17. Clutch cover
- ◆C◆ 18. Clutch disk
- ◇A◇◆B◆ 19. Clutch release fork
- ◆A◆ 20. Throw-out bearing
21. Boot
22. Release fork fulcrum
23. Clutch housing



Removal service points

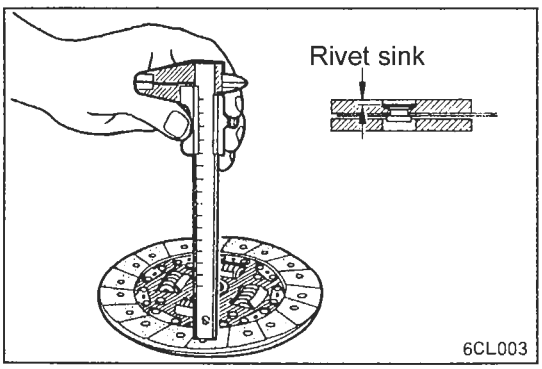
⇦A⇨ Release fork removal

(1)Slide release fork in direction of arrow and disengage fulcrum from clip to remove release fork. Be careful not to cause damage to clip by pushing release fork in the direction other than that of arrow and removing it with force.

Inspection

Clutch cover assembly

(1)Check the diaphragm spring end for wear and uneven height. Replace if wear is evident or height difference exceeds the limit.
Limit: 0.5 mm (.020 in.)
(2)Check the pressure plate surface for wear, cracks and seizure.
(3)Check the strap plate rivets for looseness and replace the clutch cover assembly if loose.



Clutch disk

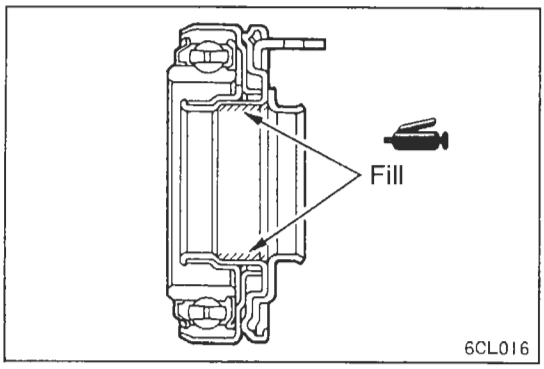
(1)Check the facing for loose rivets, uneven contact, deterioration due to seizure, adhesion of oil or grease, and replace the clutch disc if defective.
(2)Measure the rivet sink and replace the clutch disc if it is out of specification.
Limit: 0.3 mm (.012 in.)
(3)Check for torsion spring play and damage and if defective, replace the clutch disc.
(4)Combine the clutch disc with the input shaft and check sliding condition and play in the rotating direction. If it does not slide smoothly or the play is excessive, check after cleaning and reassembling. If the play is excessive, replace the clutch disc and/or the input shaft.

Clutch release bearing

Caution
Release bearing is packed with grease. Therefore do not wash it in cleaning solvent or the like.
(1)Check bearing for seizure, damage, noise, or improper rotation. Check also diaphragm spring contact surface for wear.
(2)Replace bearing if its release fork contact surface is abnormally worn.

Release fork

(1)Replace release fork if its bearing contact surface is abnormally worn.

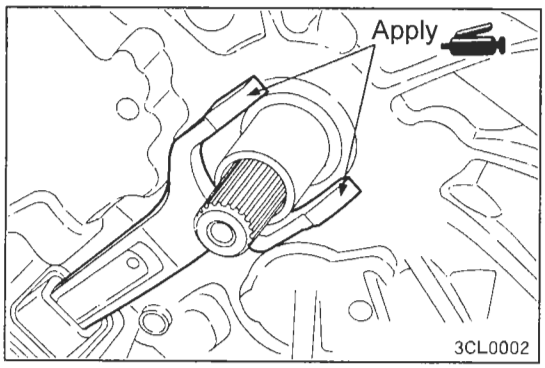


Installation service points

◆A◆ Installation of clutch release bearing

(1) Fill the lip section with grease as illustrated

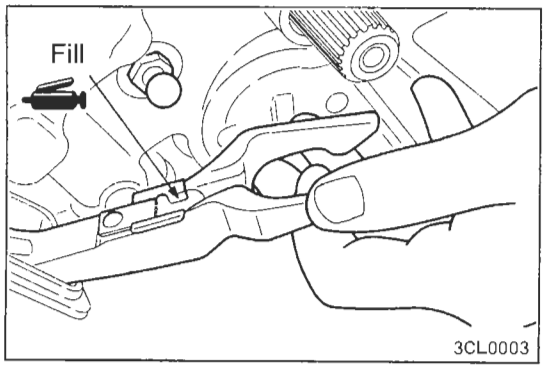
Specified grease:
Molykote TA #2

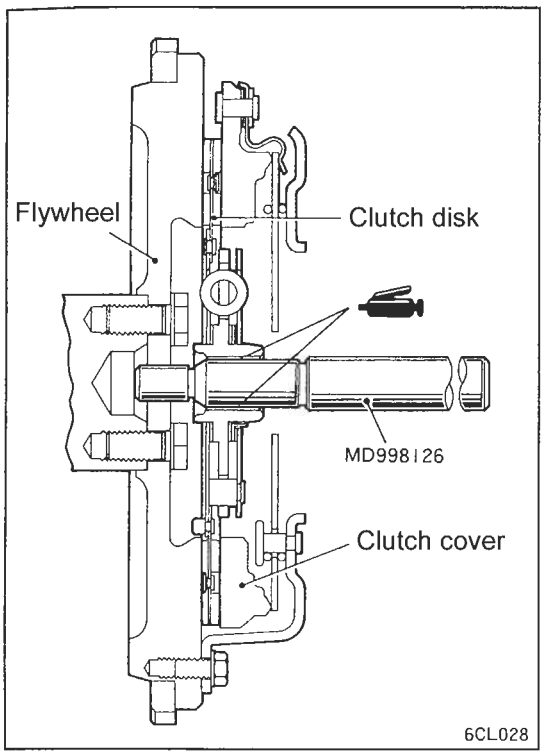


◆B◆ Lubrication of release fork

(1) Apply grease to release fork as illustrated

Specified grease:
Molykote TA #2



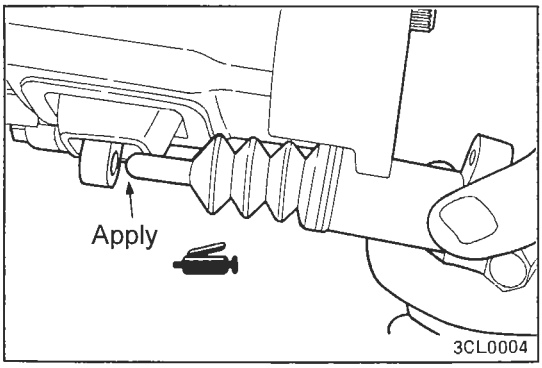


➧C➧ Installation of clutch disk cover

(1) Apply specified grease to clutch disc splines and squeeze it in place with a brush.

Specified grease:
Molykote TA #1 or #2

(2) Use the clutch disc guide to position clutch disc on flywheel.
(3) When installing the clutch cover, tighten the bolts in a diagonal pattern.
(4) Remove clutch guide tool

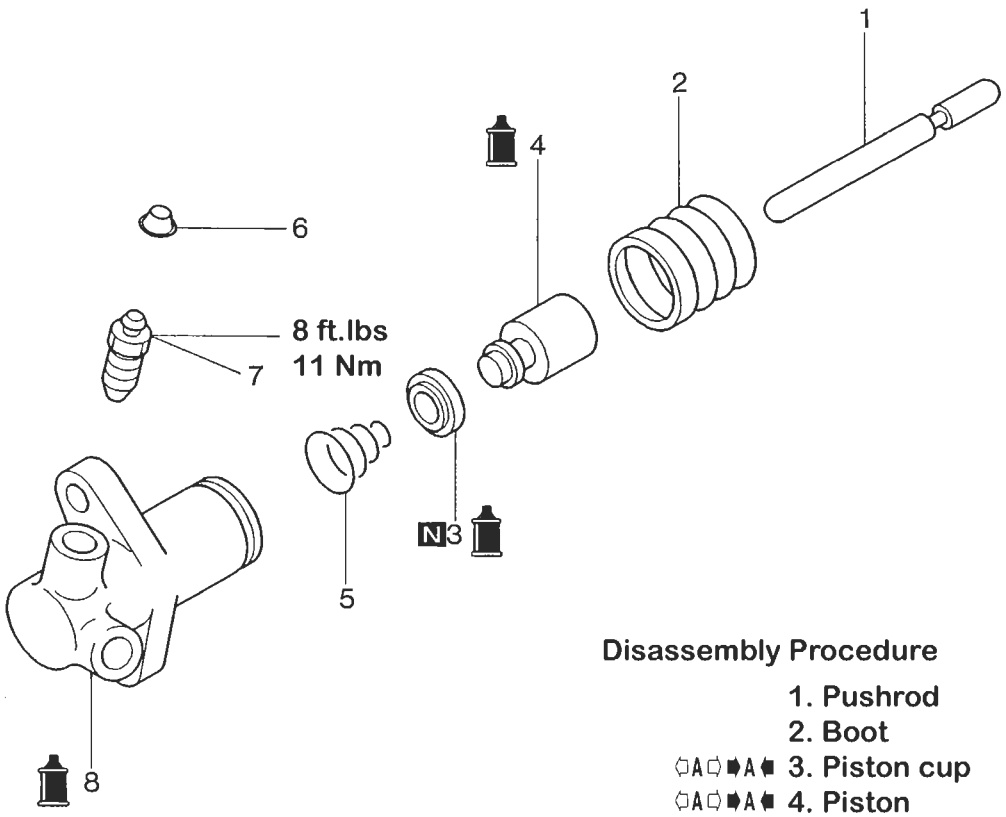


➧D➧ Installation of clutch release cylinder

(1) Apply grease to tip of release cylinder pushrod as illustrated.

Specified grease:
Molykote TA #2

Disassembly/ Reassembly



Disassembly Procedure

1. Pushrod
2. Boot
3. Piston cup ◇A◇ ◆A◆
4. Piston ◇A◇ ◆A◆
5. Conical spring
6. Cap
7. Bleeder screw
8. Release cylinder

Coat all internal parts in brake fluid before reassembly

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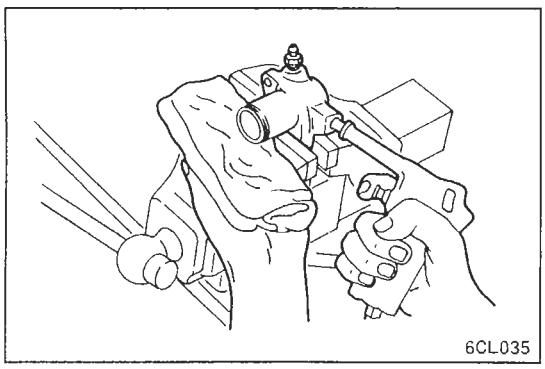


Disassembly service points

◇A◇ Removal of piston cup / piston

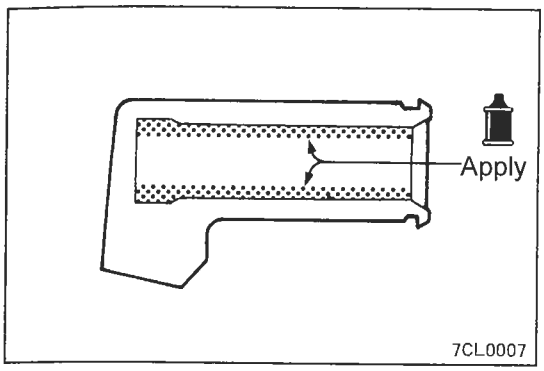
(1) Remove the corrosion from the piston-removal port of the release cylinder.
(2) Remove the piston from the release cylinder using compressed air.

Caution
1. Cover with rags to prevent the piston from popping out.
2. Apply compressed air slowly to prevent brake fluid from splashing.

Inspection

(1) Remove any rust or corrosion from the inside of the release cylinder
(2) Measure the inside diameter of the cylinder at 3 places (bottom, middle and top) If the diameter of the cylinder exceeds the outside diameter of the piston by more than the limit value, replace the release cylinder assembly.

Limit value:
0.15 mm

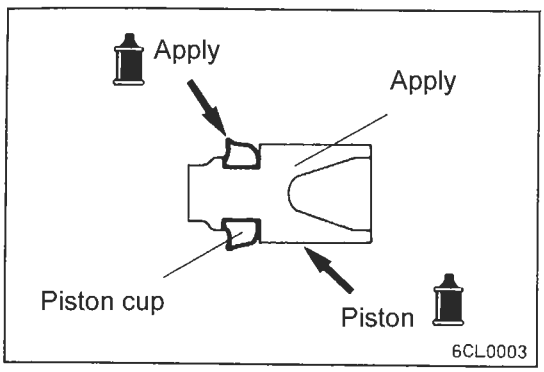


Assembly service points

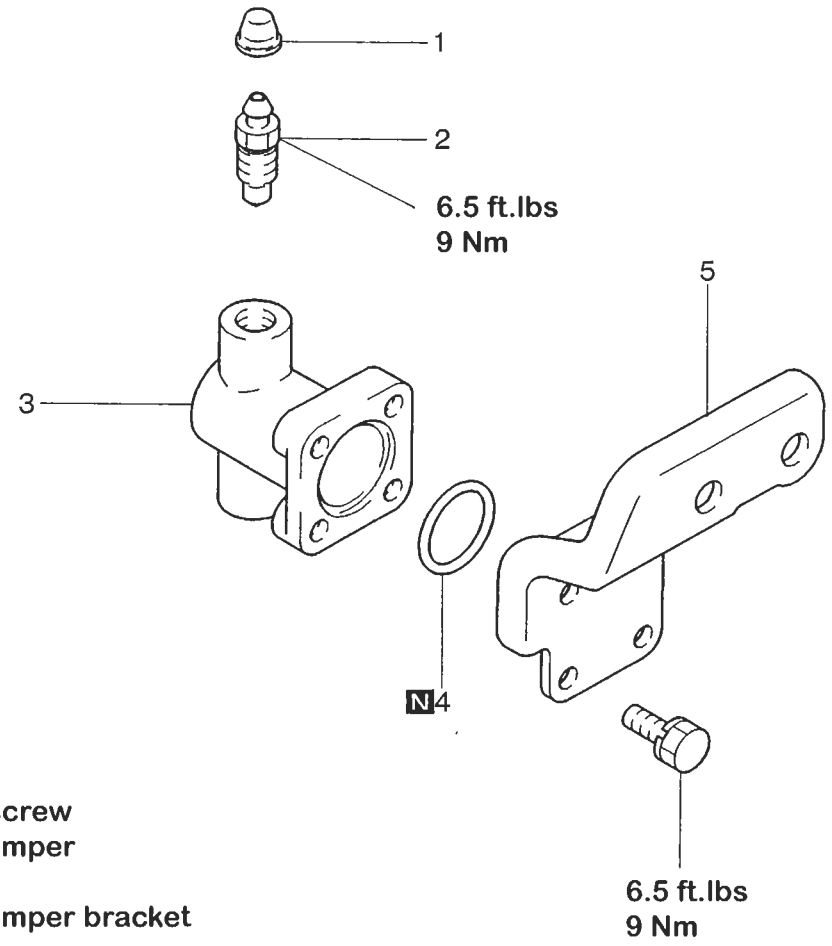
➧A➧ Installation of piston / piston cup

(1)Apply specified brake fluid to the release cylinder inside and outer surface of the piston and piston cup and push the piston cup assembly in the cylinder.

Specified brake fluid:
SAE J1703 (DOT3)



Disassembly/ Reassembly



Disassembly Procedure

1. Cap
2. Bleeder screw
3. Clutch damper
- A - 4. O-Ring
5. Clutch damper bracket

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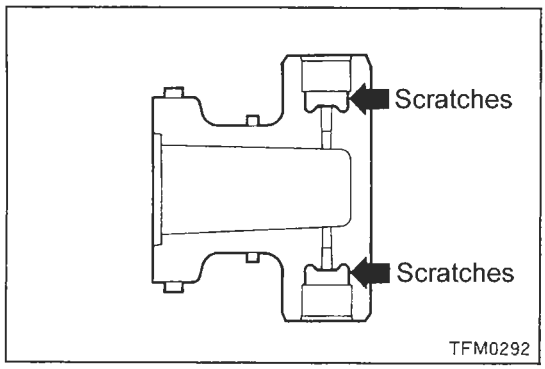
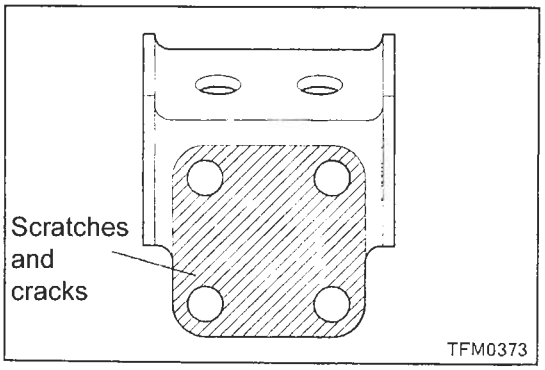




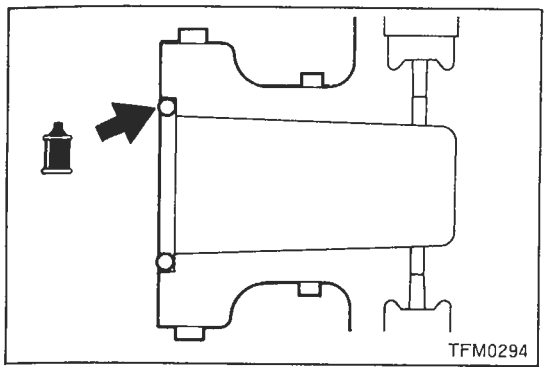
Inspection

Clutch damper

(1) Check that there are no scratches on the parts indicated in the illustration.
(2) Clean completely the inside of the clutch damper and confirm that there is no foreign material left.

Clutch damper bracket

(1) Check that there are no scratches of cracks on the part indicated in the drawing.



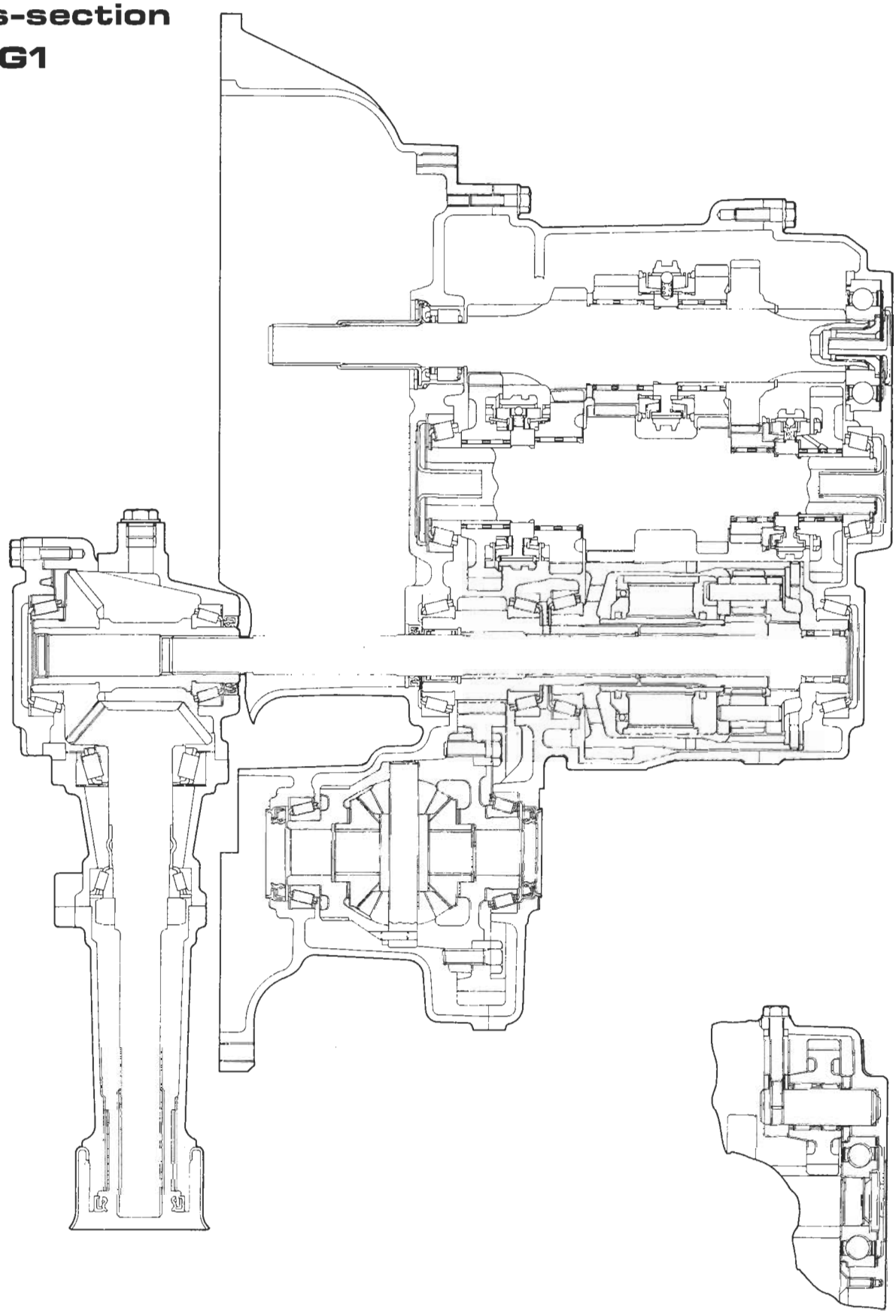
Assembly service point
◆A◆ Installation of O-ring

(1) Apply the specified brake fluid onto the O-ring, and securely install it onto the position of the clutch damper indicated in the illustration.

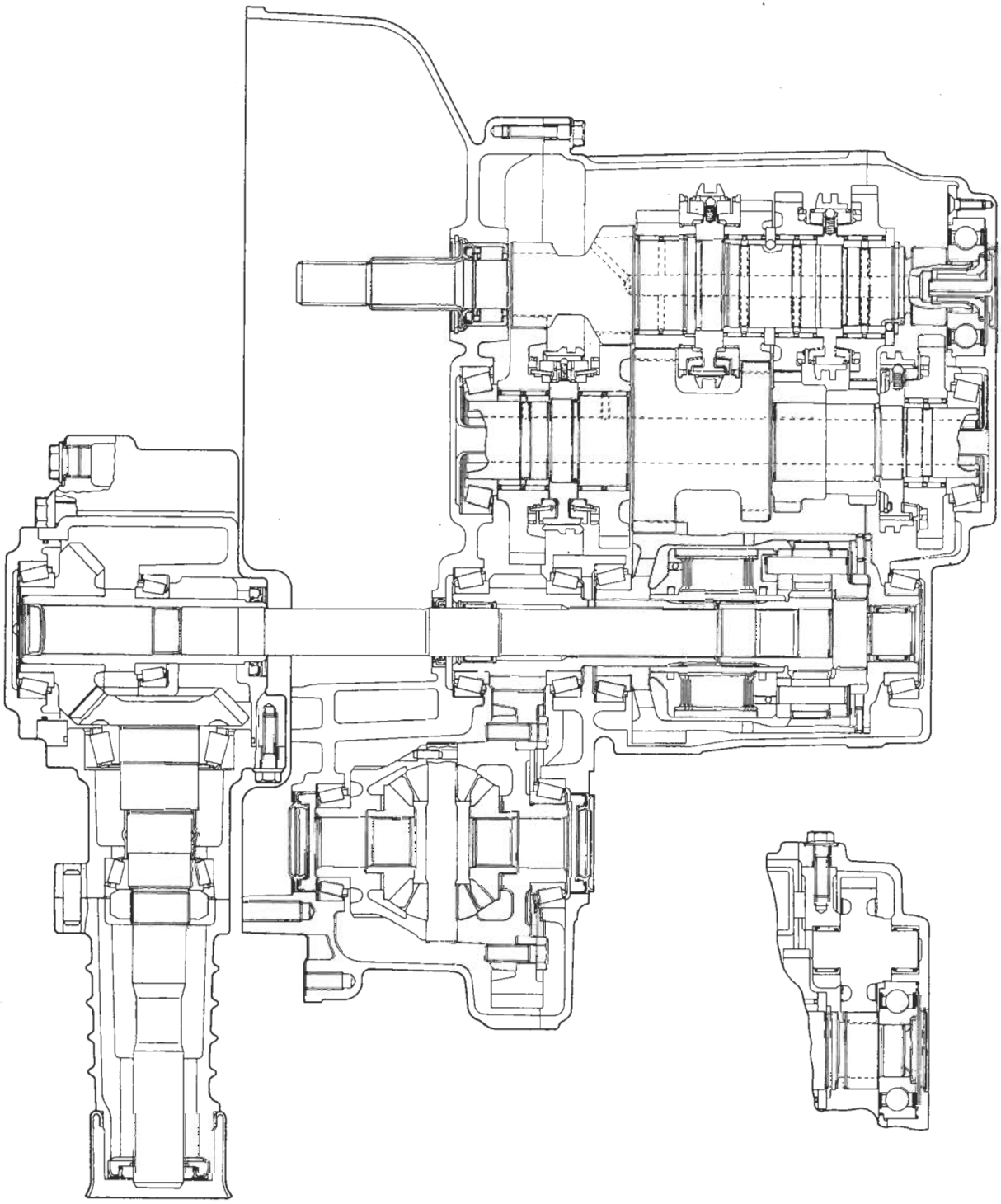
Specified brake fluid:
SAE J1703 (DOT3)

22 MANUAL TRANSMISSION

Cross-section W5MG1



Cross-section
W6MG1



Transmission types

1991 Model Year

Transaxle model	Ratio set	Speedometer gear ratio	Final Drive	Chassis	Engine type
W5MG1-0-FNBR	A	27/36	3.972	Z15A, Z16A	6G72-DOHC T/C

1992 Model Year

Transaxle model	Ratio set	Speedometer gear ratio	Final Drive	Chassis	Engine type
W5MG1-1-FNCR	A	27/36	3.972	Z15A, Z16A	6G72-DOHC T/C

1993 Model Year

Transaxle model	Ratio set	Speedometer gear ratio	Final Drive	Chassis	Engine type
W5MG1-2-FNCR	A	27/36	3.972	Z15A, Z16A	6G72-DOHC T/C

1994+ Model Year
Asian Market

Transaxle model	Ratio set	Speedometer gear ratio	Final Drive	Chassis	Engine type
W6MG1-0-GNCR	B	28/36	4.155	Z15A, Z16A	6G72-DOHC T/C

1994+ Model Year
North American Market

Transaxle model	Ratio set	Speedometer gear ratio	Final Drive	Chassis	Engine type
W6MG1-0-FNBR	B	28/36	3.869	Z15A, Z16A	6G72-DOHC T/C

Gear ratio sets

	A	B
1st Gear	3.071	3.266
2nd Gear	1.739	1.904
3rd Gear	1.103	1.241
4th Gear	0.823	0.918
5th Gear	0.659	0.733
6th Gear	NA	0.589
Reverse	3.076	3.153
Transfer Case	0.814	0.958

Maintenance Standards

Item	Standard Value in mm	Model
Input shaft bearing end play	0.02 - 0.05	——
Intermediate shaft preload	0.15 - 0.25	W5MG1
	0.20 - 0.30	W6MG1
Center differential preload	0.10 - 0.20	W5MG1
	0.15 - 0.20	W6MG1
Front output shaft preload	0.15 - 0.25	W5MG1
	0.10 - 0.15	W6MG1
Front differential preload	0.15 - 0.25	W5MG1
	0.15 - 0.20	W6MG1

Sealants

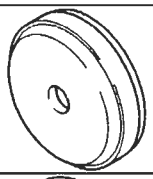
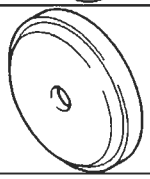
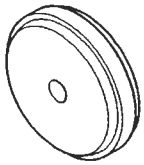
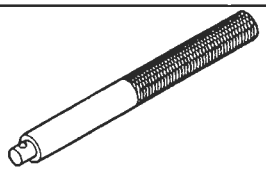
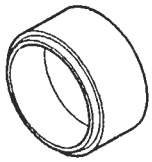
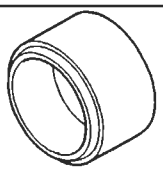
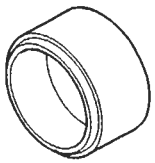
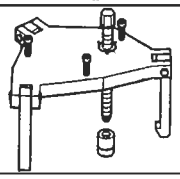
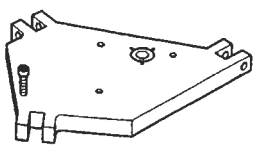
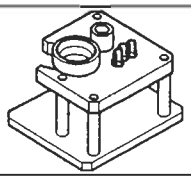
Item	Type
Input shaft lock bolt	Loc-tite #242
Rear cover to center case installation bolt	
Stopper plate installation bolt	
Center case to clutch housing installation bolt	
Shift shaft to clutch housing installation bolt	
Shift shaft guide bolt	
Select lever installation bolt	
Poppet cover installation bolt	
Reverse idler gear shaft bolt	
Reverse shift damper	
Mating surface of rear cover and center case	Loc-tite #17430 or Mitsubishi Geunine Sealant MD997740
Mating surface of center case and clutch housing	
Mating surface of clutch housing and shift shaft	
Mating surface of poppet cover and rear cover	

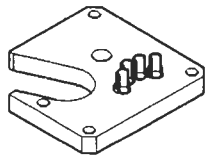
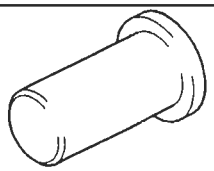
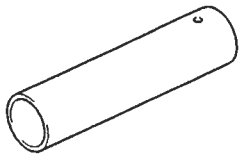
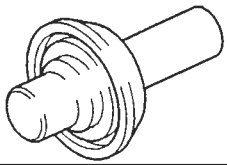
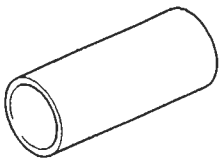
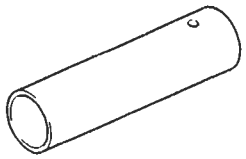
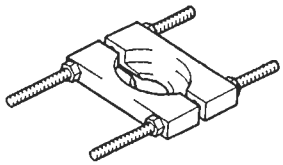
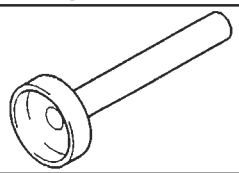
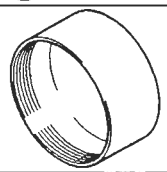
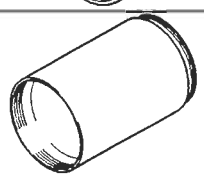
Lubricants

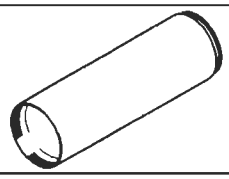
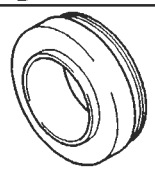
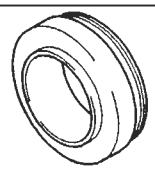
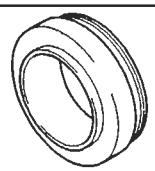
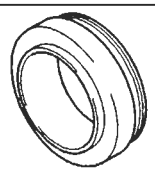
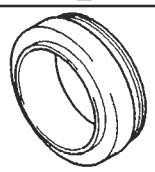
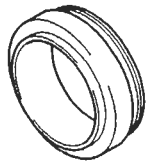
Item	Type
Spline section of center output shaft and mating sleeve of transfer case, lip section of all oil seals.	Molykote TA#1 or #2
Synchronizer friction surfaces and mating surfaces	API Classification GL-4 or higher Viscosity 75W-90 to 75W-85W

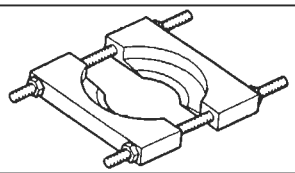
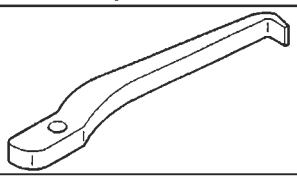
Name	Thickness in mm
Input shaft end bearing adjustment spacers	0.15 0.20 0.30 0.40 0.50
Intermediate shaft preload adjustment spacers	0.20 0.25 0.30 0.50
Center differential preload adjustment spacers	0.20 0.25 0.30 0.50
Front output shaft preload adjustment spacers	0.10 0.15 0.20 0.50 1.00
Front differential preload adjustment spacers	0.10 0.15 0.20 0.30 0.50

Item	Torque	Remark
Input shaft bearing retainer bolt	7 ft.lbs 10 Nm	_____
Reverse gear shaft bolt	18 ft.lbs 25 Nm	W5MG1
Reverse gear carrier bolt	18 ft.lbs 25 Nm	W6MG1
Input shaft lock bolt	70 ft.lbs 95 Nm	_____
Stopper plate bolt	7 ft.lbs 10 Nm	_____
Center case to clutch housing bolt	18 ft.lbs 25 Nm	_____
Center case to rear cover bolt	18 ft.lbs 25 Nm	_____
Shift shaft bolt	7 ft.lbs 10 Nm	_____
Shift shaft guide bolt	17 ft.lbs 23 Nm	W5MG1
Detent	22 ft.lbs 30 Nm	W6MG1
Guide bolt	15 ft.lbs 20 Nm	W6MG1
Oil tank bolt	5 ft.lbs 7 Nm	W6MG1
Reverse shift damper	24 ft.lbs 33 Nm	W6MG1
Select lever bolt	18 ft.lbs 25 Nm	_____
Poppet cover bolt	7 ft.lbs 10 Nm	_____
Reverse light switch	24 ft.lbs 32 Nm	_____
Speedometer gear bolt	3 ft.lbs 4 Nm	_____
Transfer case bolt	63 ft.lbs 86 Nm	_____
Transmission bracket mounting bolt	52 ft.lbs 70 Nm	_____
Shift cable bracket bolt	14 ft.lbs 19 Nm	_____
Oil fill plug	5.5 ft.lbs 7.5 Nm	_____

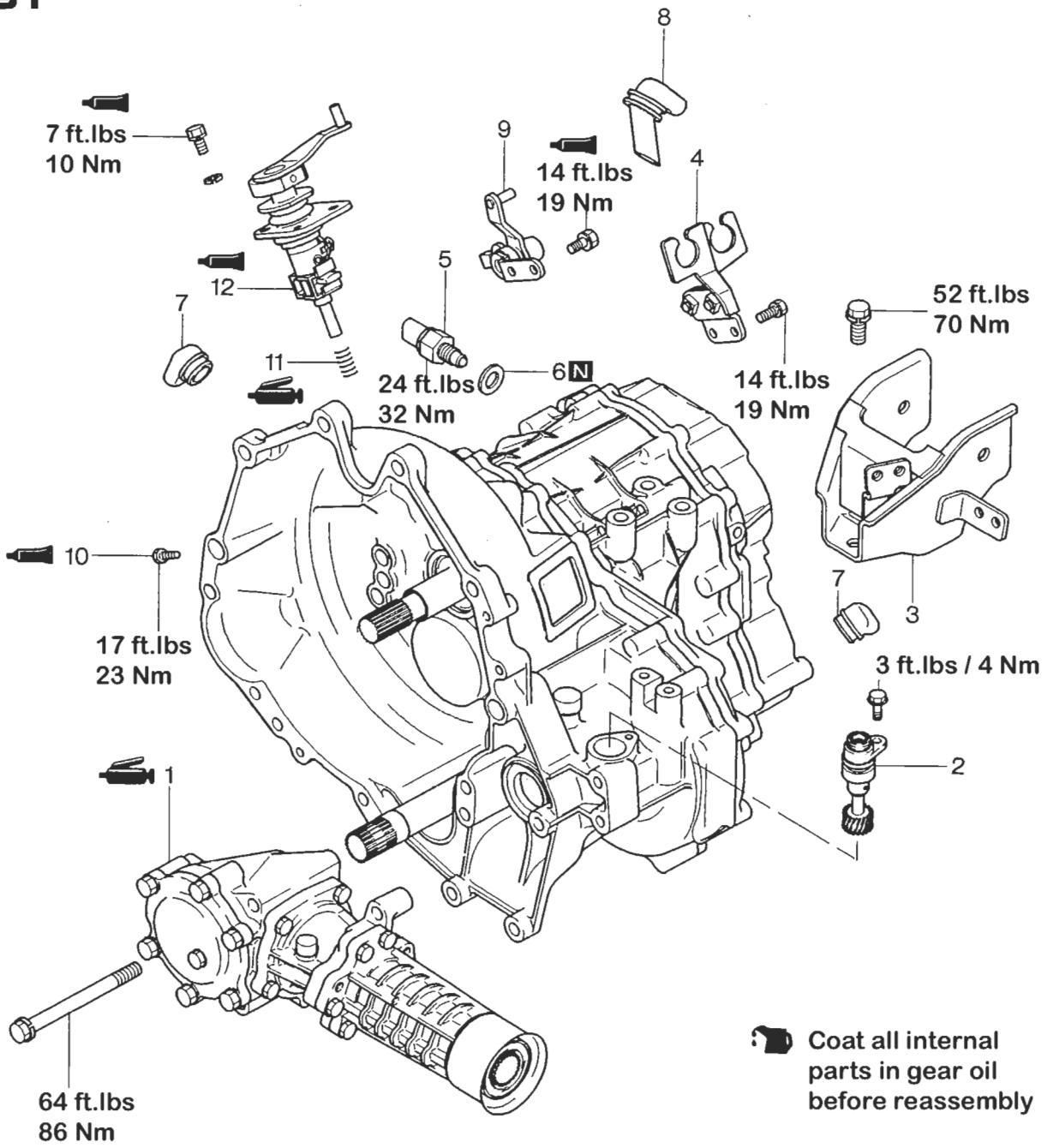
Tool	Number	Name	Usage
	**MB990934**	Installer adapter	Installation of outer bearing race
	**MB990936**	Installer adapter	Installation of outer bearing race
	**MB990037**	Installer adapter	Installation of outer bearing race
	**MB990938**	Handle	For use with installer adapters
	**MB991550**	Outer bearing race installer	Installation of outer bearing race
	**MB991551**	Outer bearing race installer	Installation of outer bearing race
	**MB991577**	Outer bearing race installer	Installation of outer bearing race
	**MB991578**	Rear cover puller ass'y (5 M/T)	Removal of rear cover (W5MG1, W6MG1)
	**MB991580**	Rear cover puller adapter (6 M/T)	Removal of rear cover (W6MG1)
	**MB991589**	Working base ass'y (5 M/T)	Removal of input shaft lock bolt and installation of rear cover (W5MG1, W6MG1)

Tool	Number	Name	Usage
	**MB991591**	Working base adapter set	Removal of input shaft lock bolt (W5MG1, W6MG1) Installation of rear cover (W5MG1, W6MG1)
	**MD998304**	Oil seal installer	Installation of transfer case tail housing oil seal
	**MD998320**	Oil seal installer	Installation of output shaft oil seal
	**MD998325**	Differential oil seal installer	Installation of axle shaft oil seal
	**MD998349**	Oil seal installer	Removal and installation of input shaft front bearing
	**MD998369**	Oil seal installer	Installation of needle bearings
	**MD998801**	Bearing remover	Removal of taper bearings
	**MD998803**	Differential oil seal installer	Installation of output shaft seal
	**MD998812**	Installer cap	Use with installer adapter
	**MD998813**	Installer - 100	Use with installer cap and adapter

Tool	Number	Name	Usage
	**MD998814**	Installer - 200	Use with installer cap and adapter
	**MD998820**	Installer adapter - 42	Installation of bearing sleeve and inner bearing race
	**MD998821**	Installer adapter - 44	Installation of 5-R synchronizer hub
	**MD998822**	Installer adapter - 46	Installation of bearing sleeve and inner bearing race
	**MD998823**	Installer adapter - 48	Installation of reverse synchronizer hub and inner bearing race
	**MD998824**	Installer adapter - 50	Installation of 3-4 synchronizer hub, bearing sleeve, 5th gear, and oil seal
	**MD998825**	Installer adapter - 52	Installation of bearing sleeve and inner bearing race
	**MD998826**	Installer adapter - 54	Installation of bearing sleeve, 5-6 synchronizer hub, 1-2 synchronizer hub
	**MD998827**	Installer adapter - 56	Installation of spacer ring and inner bearing race
	**MD998829**	Installer adapter - 60	Installation of 3-4 synchronizer ring

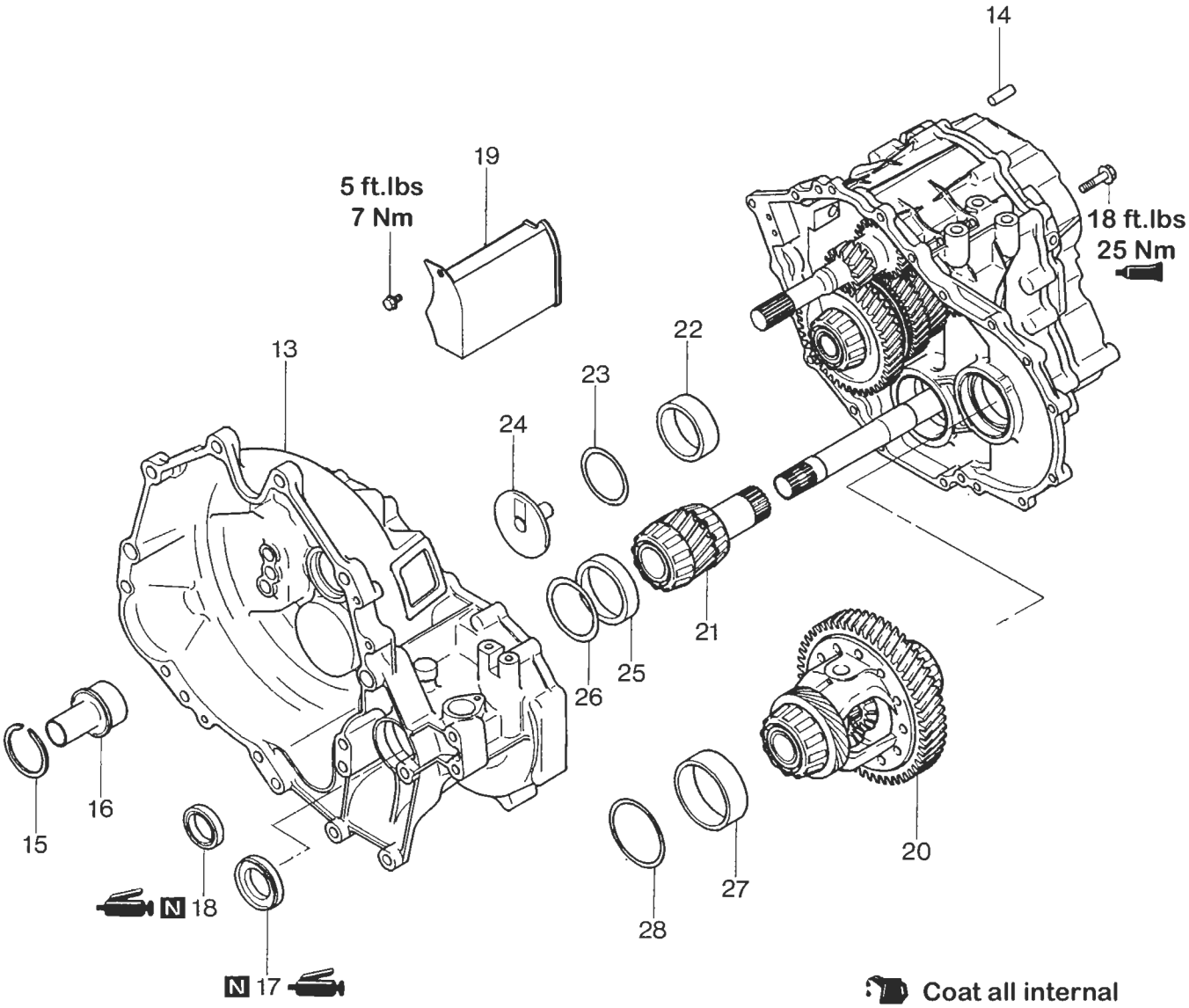
Tool	Number	Name	Usage
	**MD998917**	Bearing remover	Removal of taper bearings
	**MD999566**	Claw	Removal of outer bearing races

Disassembly / Reassembly W5MG1



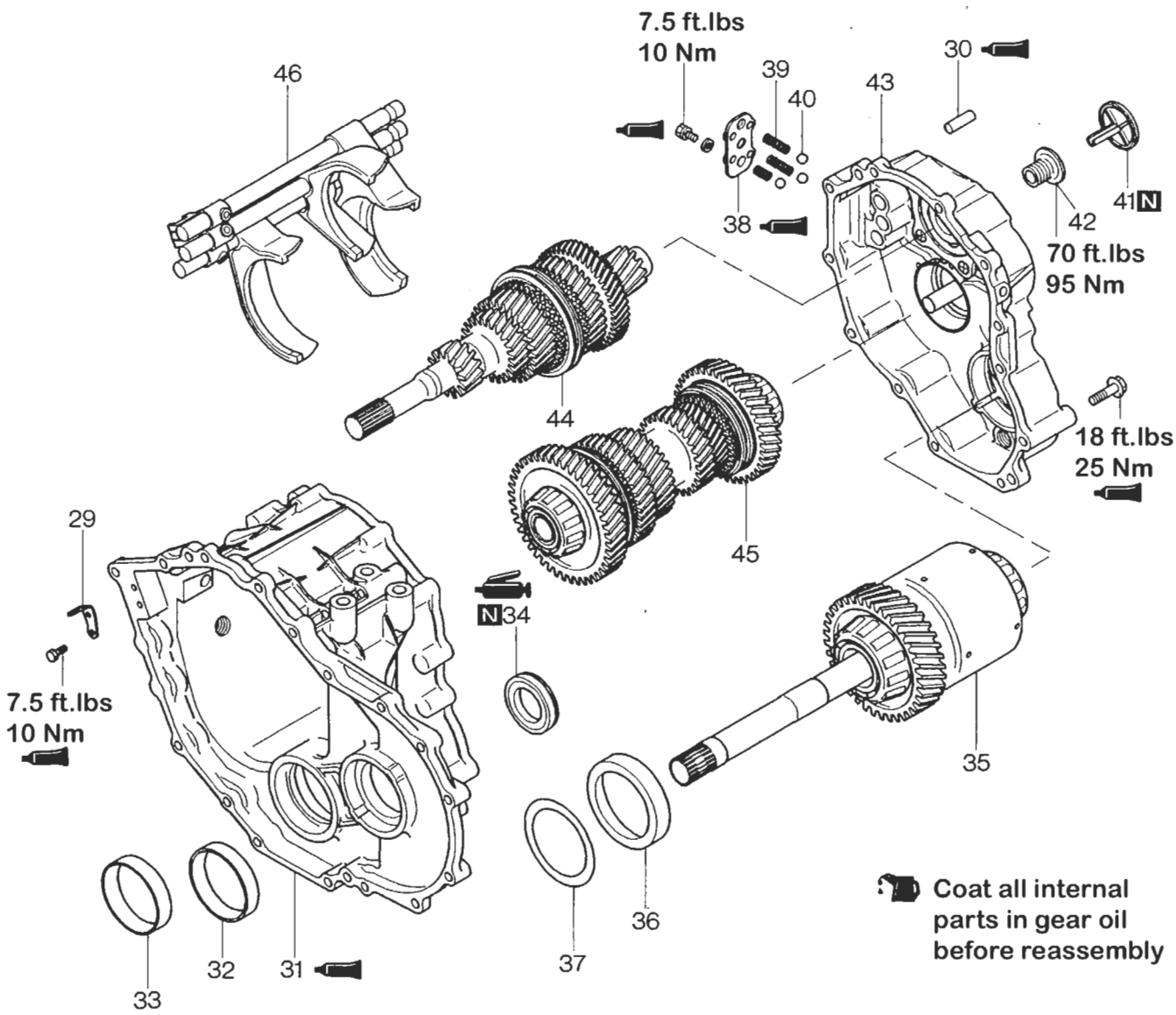
Disassembly Procedure

- ◆AA◆ 1. Transfer case
- 2. Speedometer gear
- 3. Transmission mount
- 4. Gearshift cable bracket
- 5. Reverse light switch
- 6. Gasket
- ◆Z◆ 7. Vent tube A
- ◆Z◆ 8. Vent tube B
- ◆Y◆ 9. Gear select lever
- ◆V◆ 10. Guide bolt
- 11. Spring
- ⇨A⇦ ◆T◆ 12. Shift shaft



Disassembly Procedure

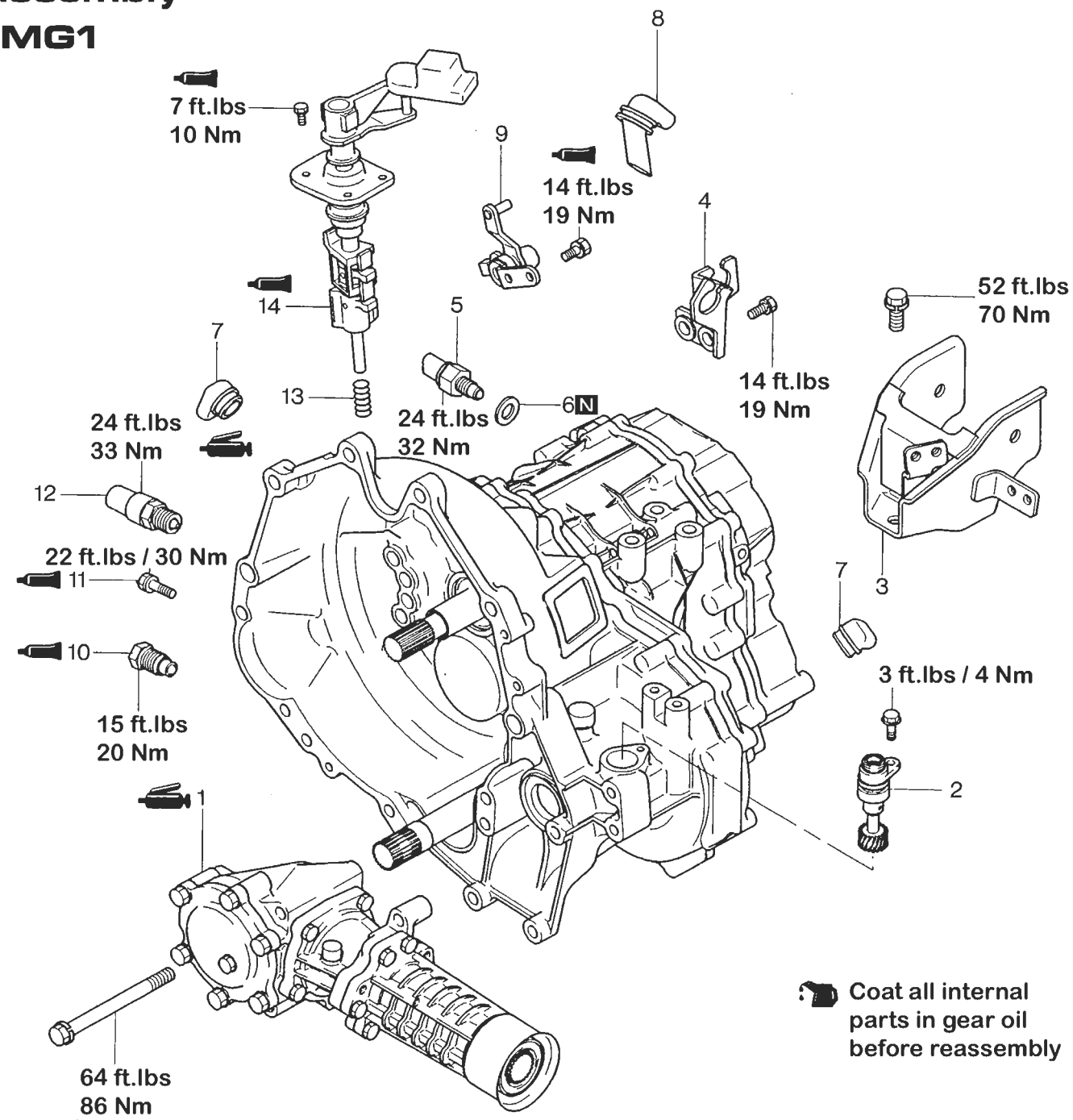
- ⇩S⇧ 13. Clutch housing
- 14. Dowel
- 15. Snap ring
- ⇦C⇨⇩R⇧ 16. Input shaft bearing
- ⇩Q⇧ 17. Oil seal
- ⇩P⇧ 18. Oil seal
- 19. Oil tank
- 20. Front differential
- 21. Front output shaft
- ⇦D⇨⇩O⇧ 22. Outer bearing race
- ⇩E⇧ 23. Spacer
- ⇩N⇧ 24. Oil guide
- ⇦D⇨⇩M⇧ 25. Outer bearing race
- ⇩E⇧ 26. Spacer
- ⇦D⇨⇩L⇧ 27. Outer bearing race
- ⇩E⇧ 28. Spacer



Disassembly Procedure

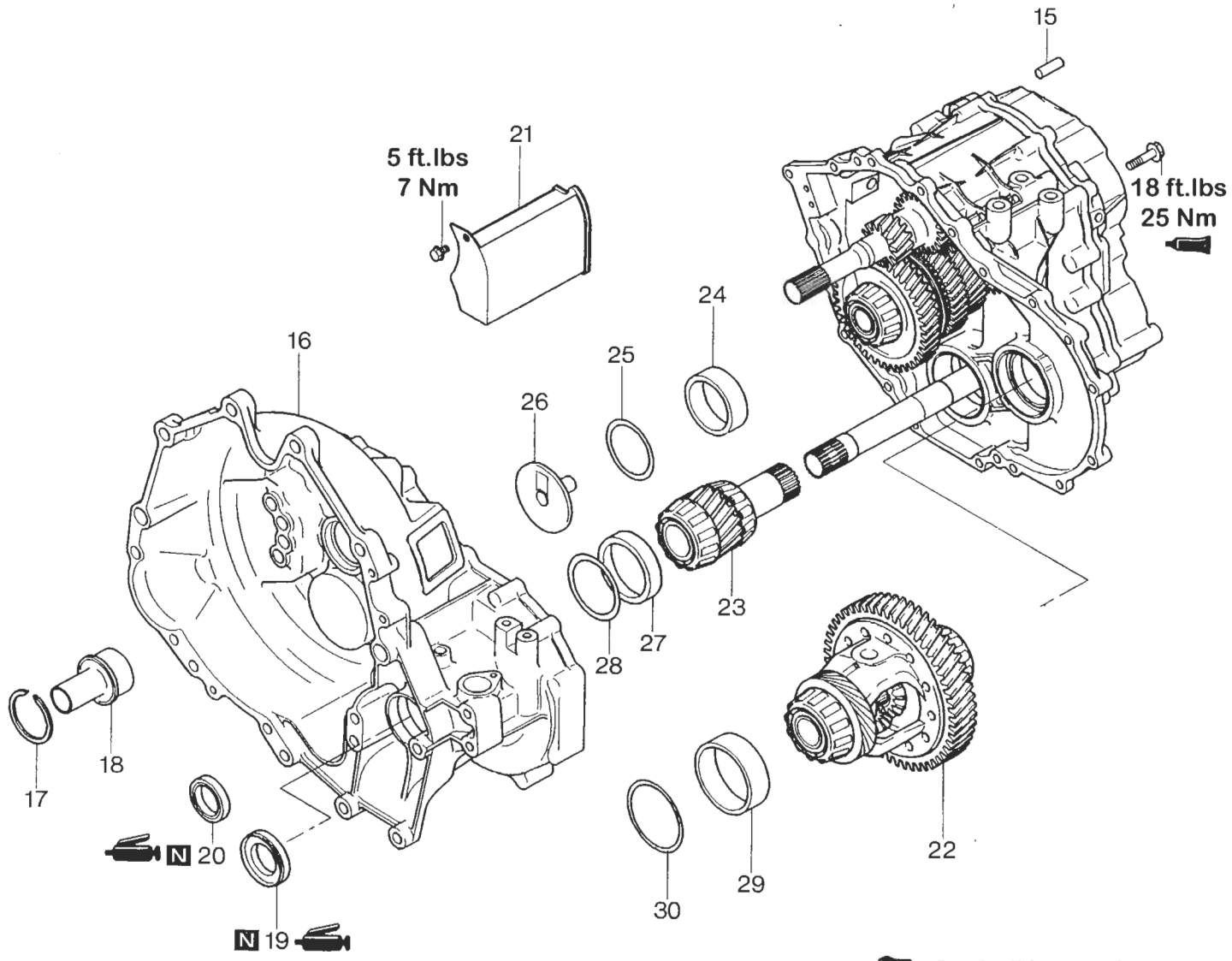
- ⬟K⬟ 29. Stopper plate
- ⬠E⬡ 30. Dowel
- ⬟J⬟ 31. Center case
- ⬟I⬟ 32. Outer bearing race
- ⬟H⬟ 33. Outer bearing race
- ⬟G⬟ 34. Oil seal
- 35. Center differential
- ⬟F⬟ 36. Outer bearing race
- ⬟E⬟ 37. Spacer
- ⬟D⬟ 38. Poppet cover
- 39. Spring
- 40. Ball
- ⬠F⬡⬟C⬟ 41. Real seal cap
- ⬠G⬡⬟B⬟ 42. Input shaft lock bolt
- ⬠H⬡⬟A⬟ 43. Rear cover
- 44. Input shaft
- 45. Intermediate shaft
- 46. Shift forks and rails

Disassembly/ Reassembly W6MG1



Disassembly procedure

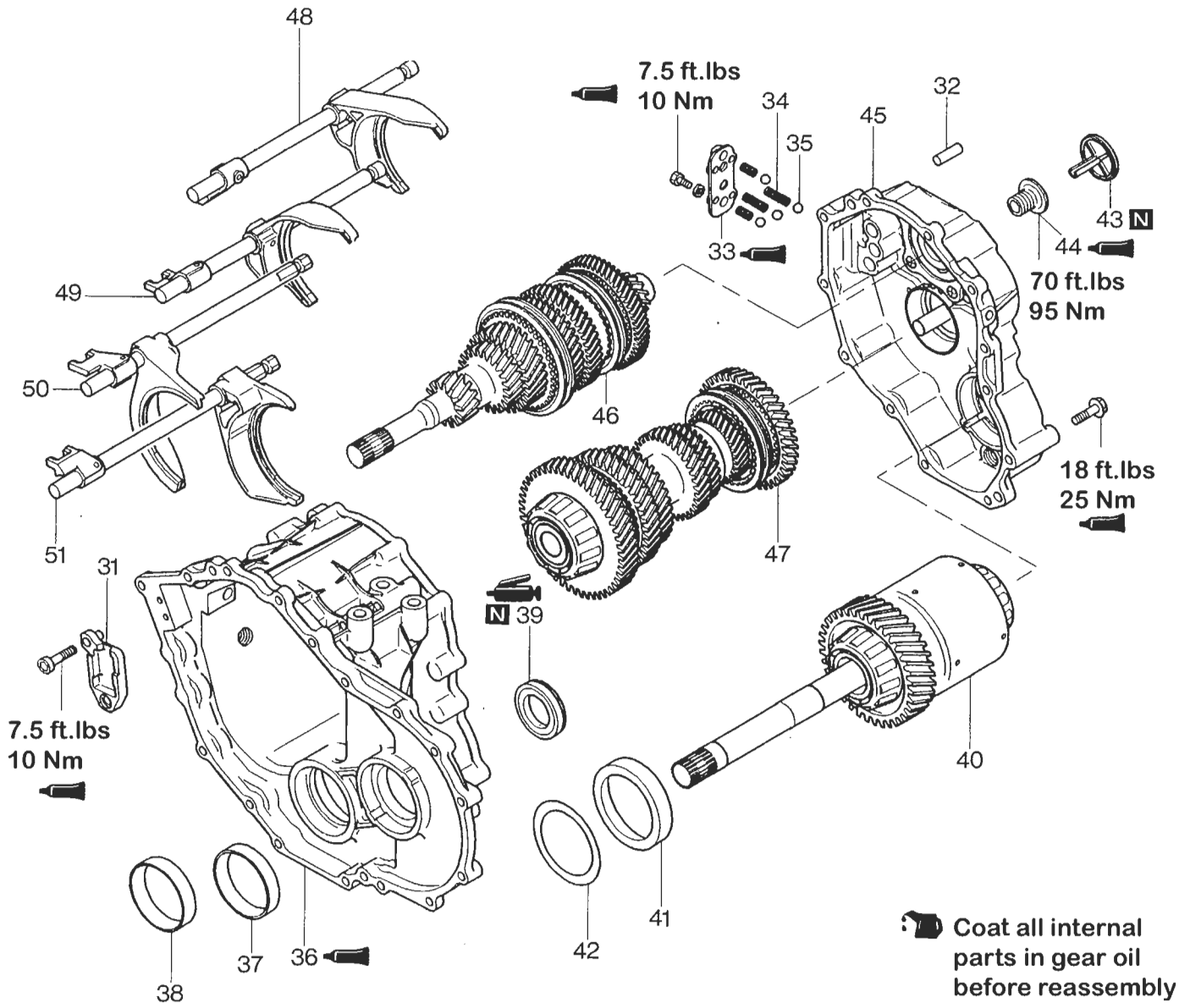
- ◆AA◆ 1. Transfer case
- 2. Speedometer gear
- 3. Transmission mount
- 4. Gearshift cable bracket
- 5. Reverse light switch
- 6. Gasket
- ◆Z◆ 7. Vent tube A
- ◆Z◆ 8. Vent tube B
- ◆Y◆ 9. Gear select lever
- ◆X◆ 10. Shift detent
- ◆W◆ 11. Guide bolt
- ◆U◆ 12. Reverse shift detent
- 13. Spring
- ○A○◆T◆ 14. Shift shaft



Coat all internal parts in gear oil before reassembly

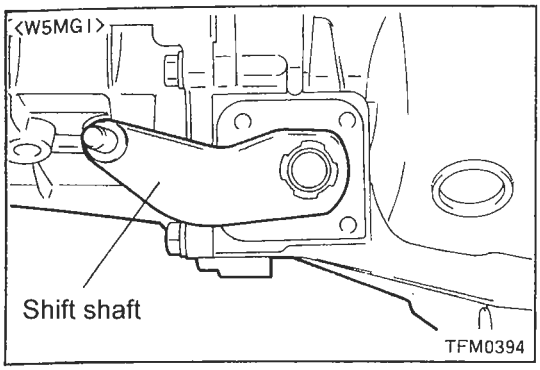
Disassembly procedure

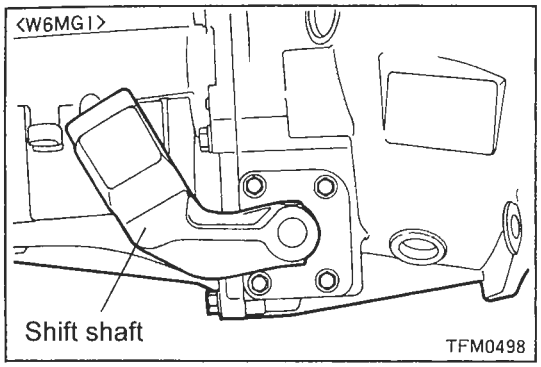
- ◇B◇ 15. Dowel
- ■S■ 16.Clutch housing
- 17. Snap ring
- ◇C◇■R■ 18. Input shaft bearing
- ■Q■ 19. Oil seal
- ■P■ 20. Oil seal
- 21. Oil tank
- 22. Front differential
- 23. Front output shaft
- ◇D◇■O■ 24. Outer bearing race
- ■E■ 25. Spacer
- ■N■ 26. Oil guide
- ◇D◇■M■ 27. Outer bearing race
- ■E■ 28. Spacer
- ◇D◇■L■ 29. Outer bearing race
- ■E■ 30. Spacer



Disassembly Procedure

- ⬢K⬢ 31. Stopper plate
- ⬡E⬡ 32. Dowel
- ⬢D⬢ 33. Poppet cover
- 34. Spring
- 35. Ball
- ⬢J⬢ 36. Center case
- ⬢I⬢ 37. Outer bearing race
- ⬢H⬢ 38. Outer bearing race
- ⬢G⬢ 39. Oil seal
- 40. Center differential
- ⬢F⬢ 41. Outer bearing race
- ⬢E⬢ 42. Spacer
- ⬡F⬡⬢C⬢ 43. Rear seal cap
- ⬡G⬡⬢B⬢ 44. Input shaft lock bolt
- ⬡H⬡⬢A⬢ 45. Rear cover
- 46. Input shaft
- 47. Intermediate shaft
- 48. 5-6 shift fork and rail
- 49. 3-4 shift fork and rail
- 50. 1-2 shift fork and rail
- 51. Reverse shift fork and rail

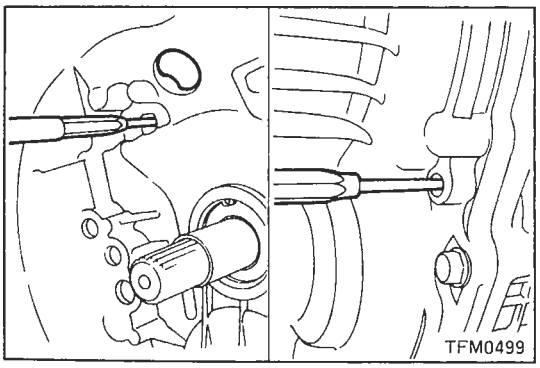




Disassembly service points

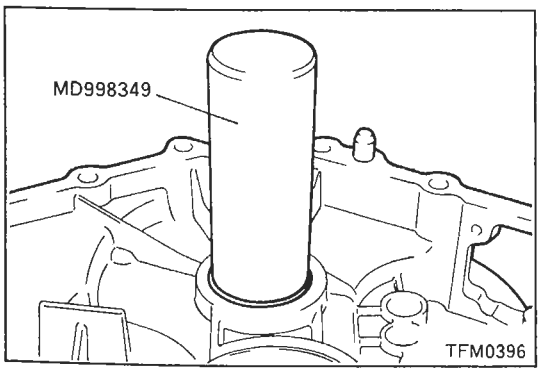
⇩A⇧ Removal of shift shaft

(1) Place the shift shaft in the neutral position and pull to remove

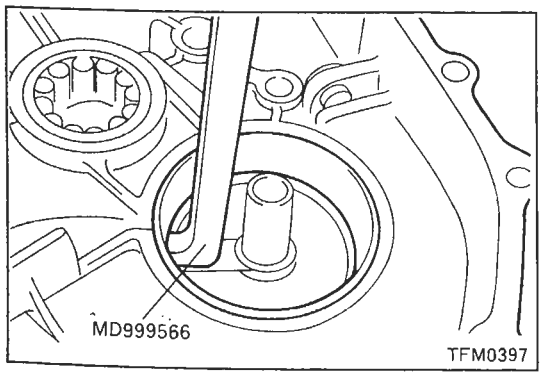


⇩B⇧ Removal of dowel pin

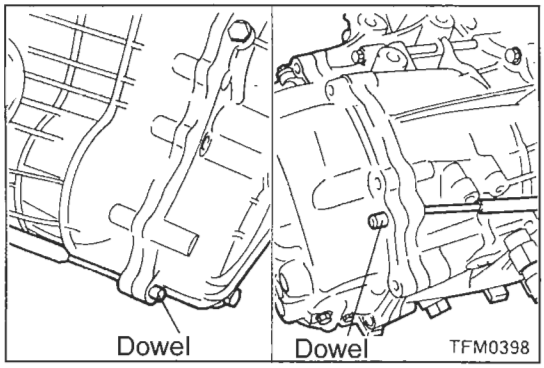
(1) The dowel pin is driven out in the direction illustrated



⇩C⇧ Removal of input shaft front bearing

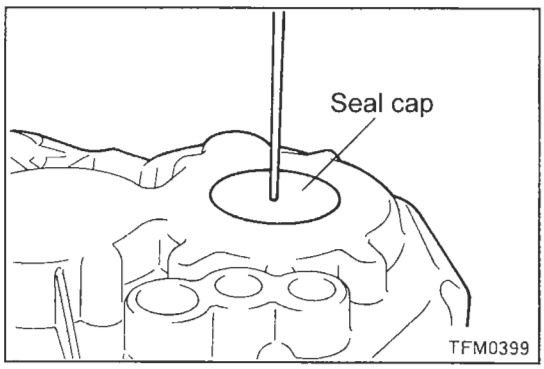


⇩D⇧ Removal of bearing outer race



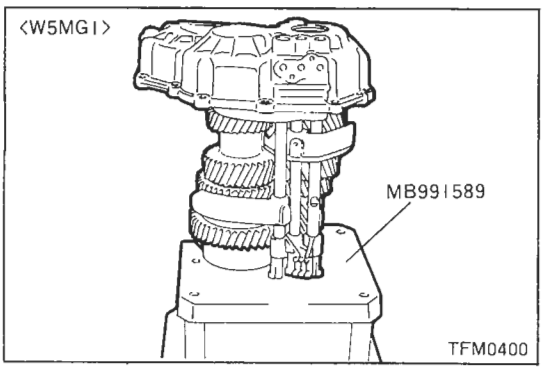
⇦E⇨ Removal of dowel pin

(1) The dowel pin is driven out in the direction illustrated



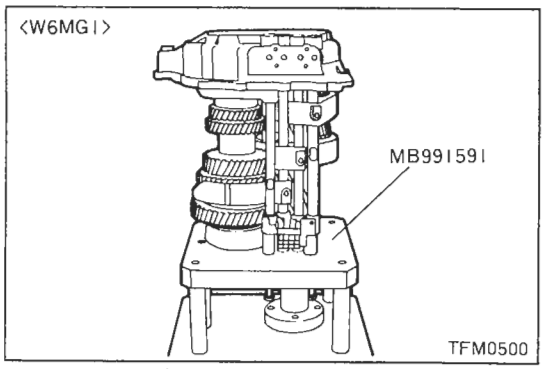
⇦F⇨ Removal of input shaft rear seal cap

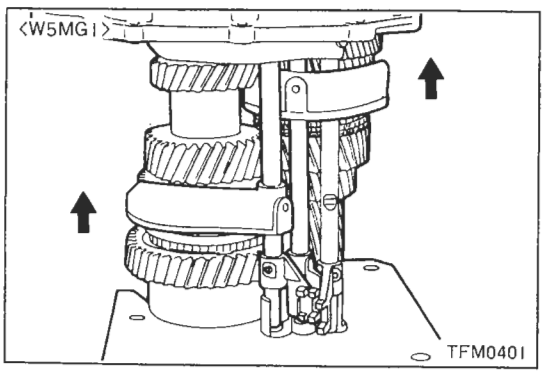
(1) Drive a nail or similar pointed object into seal cap, and pull to remove.



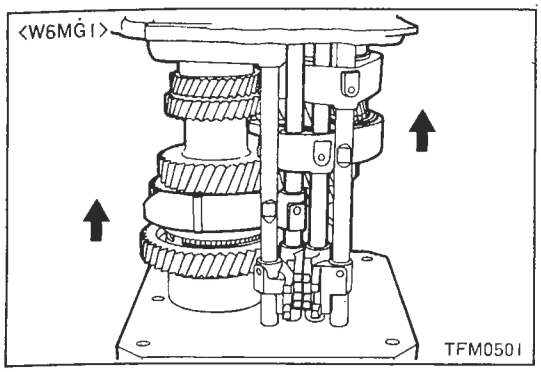
⇦G⇨ Removal of input shaft lock bolt

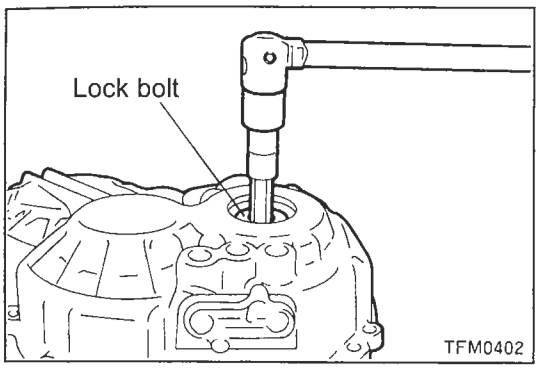
(1) Set the rear cover and shaft assembly into the special tool



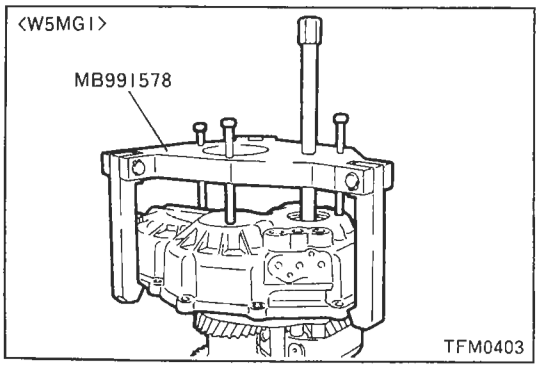


(2) Shift both forks in the direction shown in the illustration. This will lock the shafts so that the input shaft lock bolt can be removed.

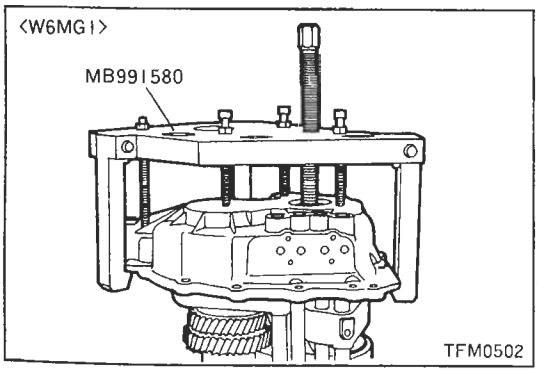


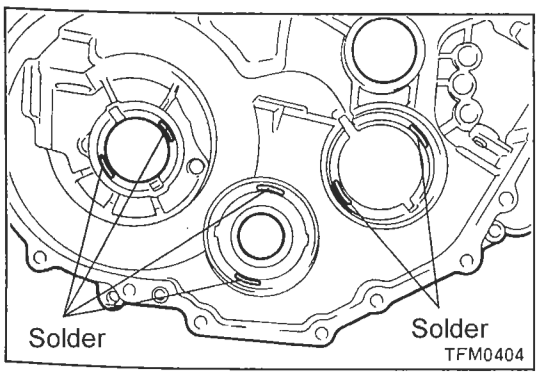


(3) Lock bolt is removed



⇔H⇔ Removal of rear cover

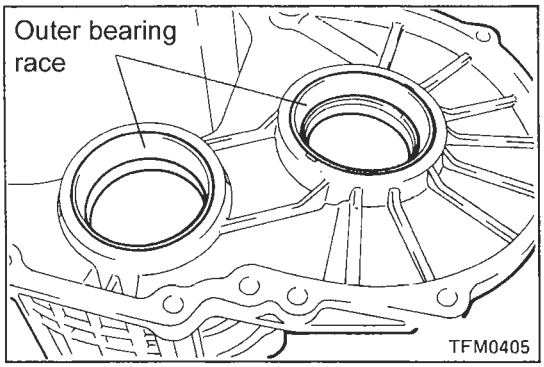




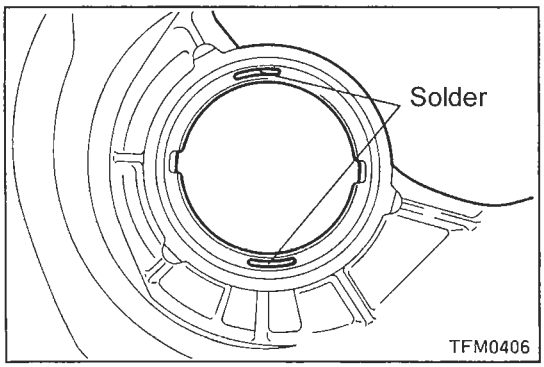
Adjustment before assembly

Selection of spacers for adjustment

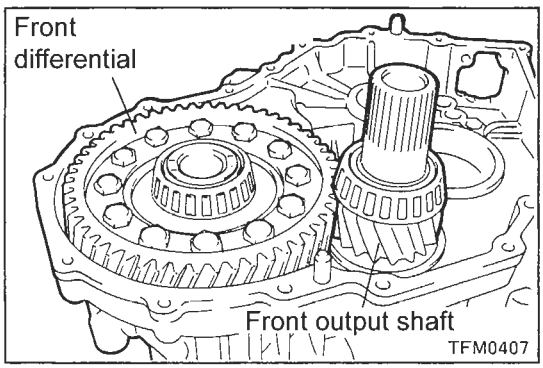
(1) Place solder (length approximately 10 mm and diameter approximately 1.6mm) into positions shown in illustration, then install outer bearing race.



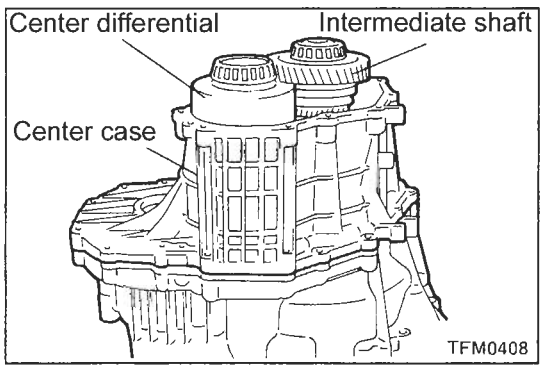
(2) Install outer bearing races into the transmission case in the positions shown in the illustration



(3) Place solder (length approximately 10 mm and diameter approximately 1.6mm) into positions shown in illustration, then install outer bearing race.



(4) The front output shaft and front differential are installed on the clutch housing.



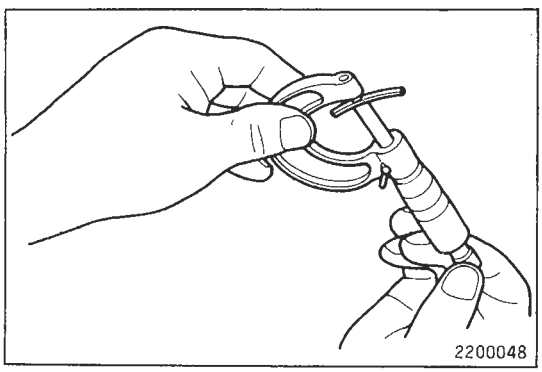
(5) The center differential, intermediate shaft and center case are installed at the same time.

(6)The rear cover is installed and the bolts are tightened to the specifed torque.

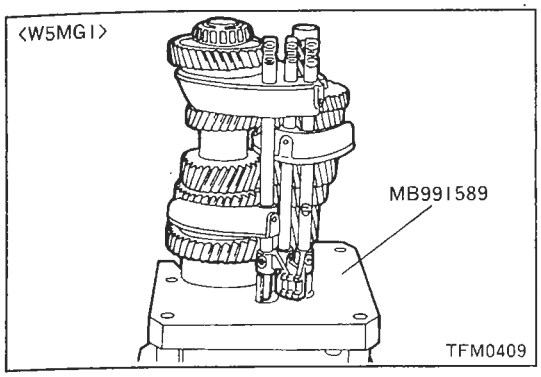
(7) Remove each outer race and remove the solder. Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard preload.

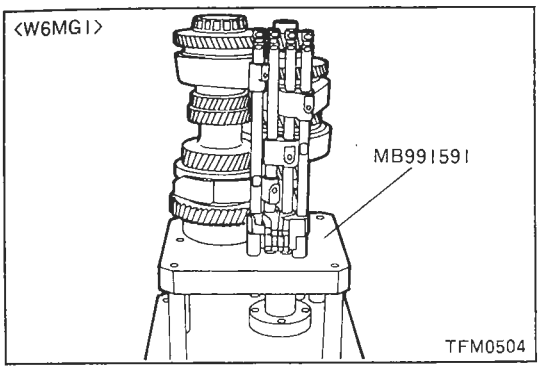
Standard preload values:

Intermediate shaft:	**0.15 mm - 0.25 mm (W5MG1)**
	0.20 mm - 0.30 mm (W6MG1)
Center differential:	**0.10 mm - 0.20 mm (W5MG1)**
	0.15 mm - 0.20 mm (W6MG1)
Front output shaft:	**0.15 mm - 0.25 mm (W5MG1)**
	0.10 mm - 0.15 mm (W6MG1)
Front differential:	**0.15 mm - 0.25 mm (W5MG1)**
	0.15 mm - 0.20 mm (W6MG1)



(8) If the solder is not collapsed in step 6, select a solder with a thicker diameter and start over at step 1

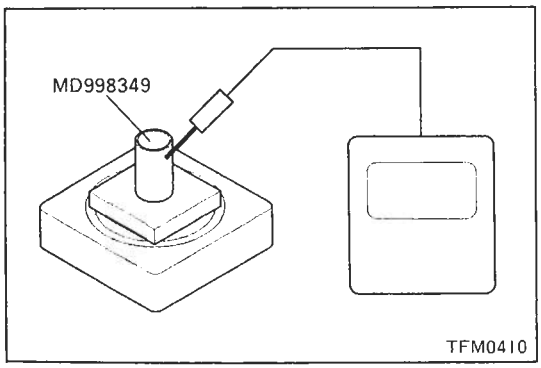




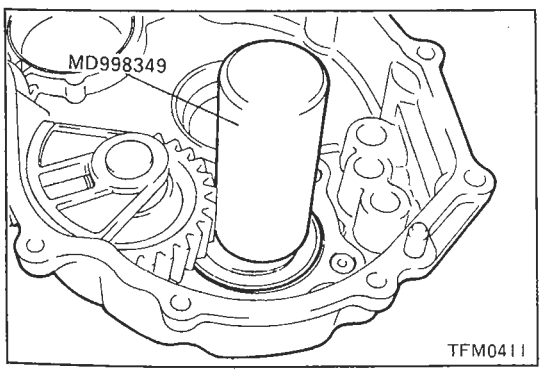
Service points for working base

◆A◆ Rear cover installation

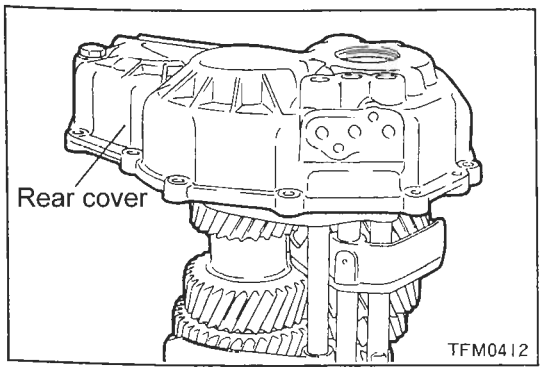
(1) Place the intermediate shaft, input shaft, shift forks and rails into the special tool.



(2) Using an electric heater or similar device, heat the special tool.
Heating temperature: 110 - 120°C (230 - 248°F)

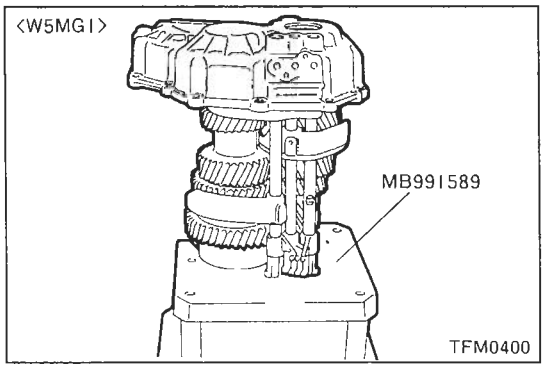


(3) The heated special tool is placed against the inner race section of the input shaft rear bearing in the rear cover for approximately 10 minutes.



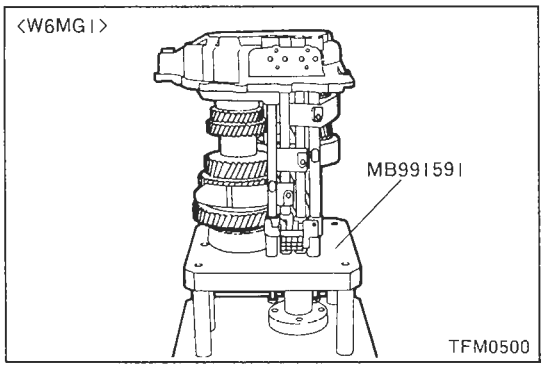
(4) The special tool is removed and the rear cover is installed.

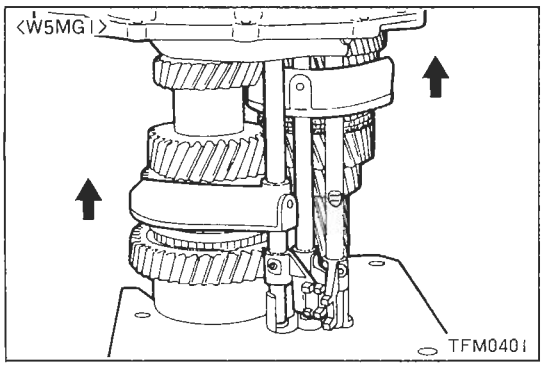
Note:
Do not touch the heated special tool with bare hands.



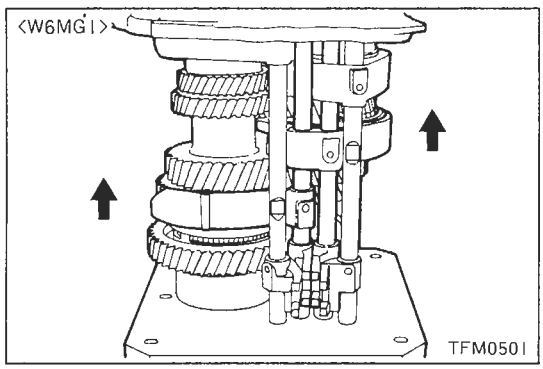
➧B➧ Installation of input shaft lock bolt

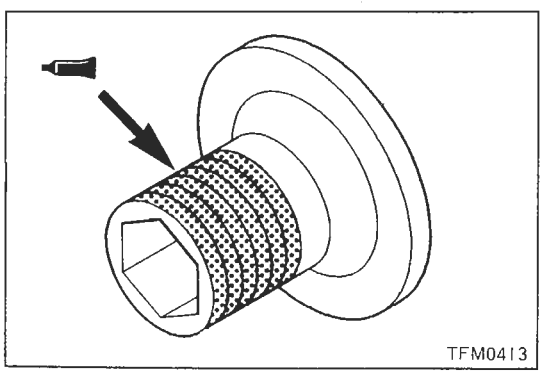
(1) The rear cover, input shaft and intermediate shaft are set into the special tool.





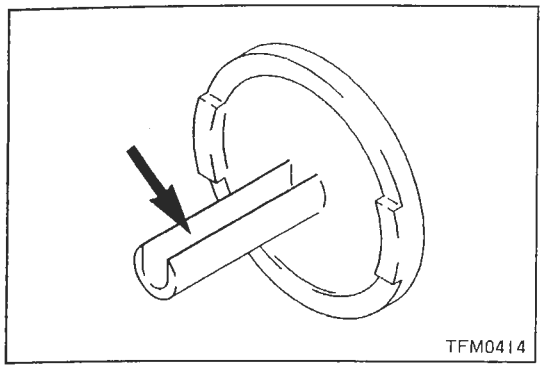
(2) Shift both forks in the direction shown in the illustration. This will lock the shafts so that the input shaft lock bolt can be installed.





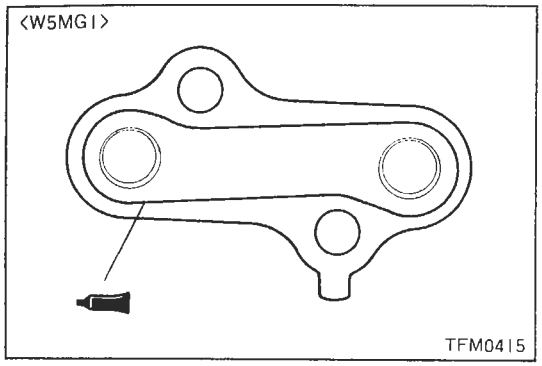
(3) Apply thread locking compound to the threads of the lock bolt and tighten to the specified torque.

Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



➧C➧ Installation of input shaft rear seal cap

(1) Install the seal cap with the groove facing upward. Tap the seal down flush with the rear cover.

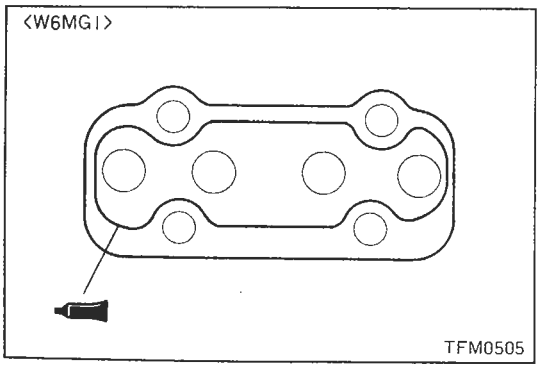


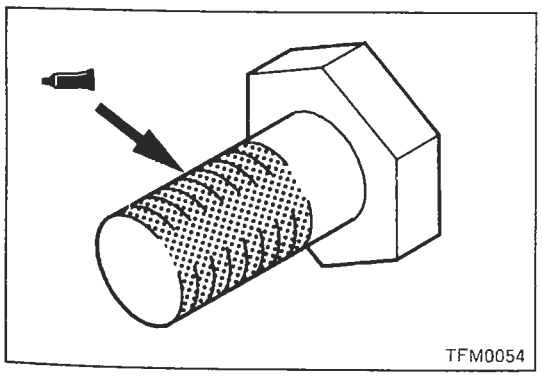
➧D➧ Installation of poppet cover

(1) Sealant is applied to the illustrated position on the poppet cover.

Note:
Brand: Mitsubishi Genuine Sealant, part number MD997740 or equivalent.

(2) Install the bolts in the poppet cover.



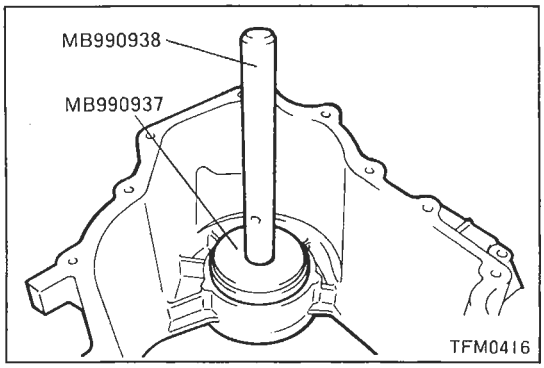


(3) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

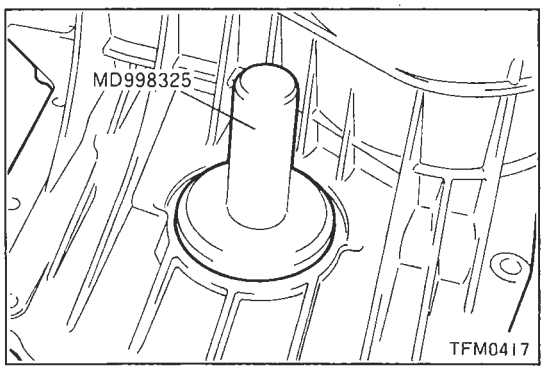
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent

➧E➧ Installation of spacer

(1) Select and install the spacers in accordance with the results obtained in the section "Adjustment before assembly"



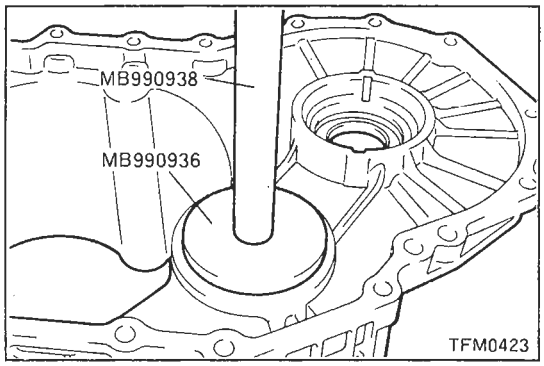
➧F➧ Installation of outer bearing race



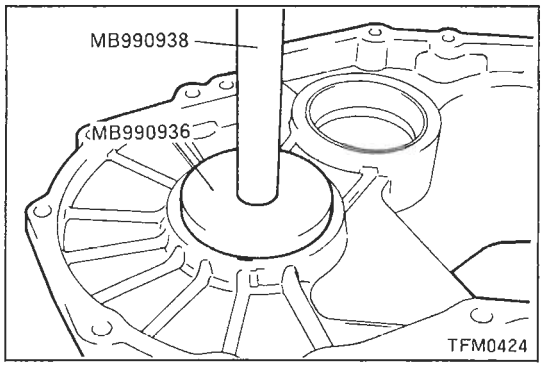
➧G➧ Installation of oil seal

(1) After installation of oil seal, fill the lip section with specified grease.

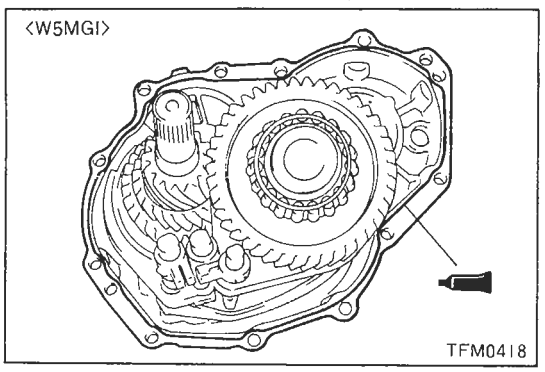
Specified grease:
Molykote TA #1 or #2



➧H➧ Installation of outer bearing race



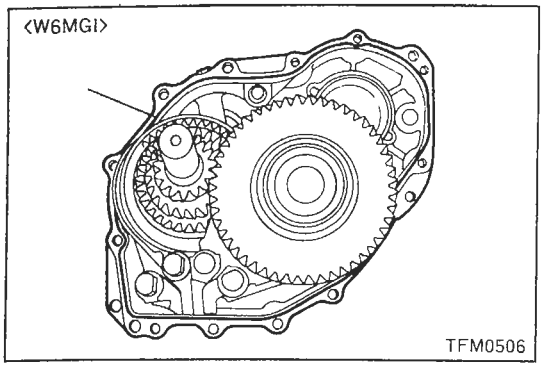
➧I➧ Installation of outer bearing race



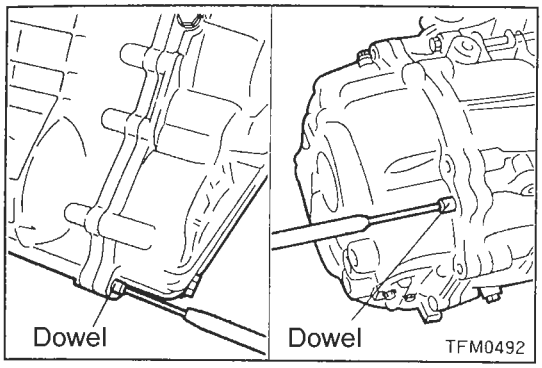
➧J➧ Installation of transmission case

(1) Apply sealant to the illustrated position on the rear cover.

Sealant
Brand: Loc-tite #17430 or Mitsubishi Genuine Sealant MD997740
Note:
Squeeze out sealant from tube uniformly without excess or discontinuity

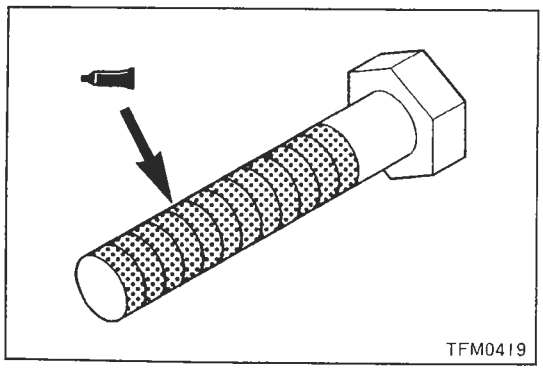


TFM0506



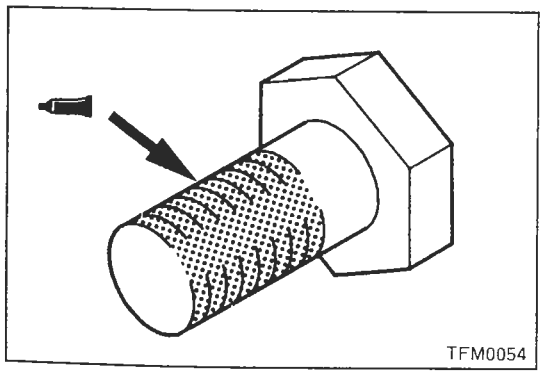
TFM0492

(3) The dowel pin is driven into place from the direction shown in the illustration.


TFM0419

(4) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent

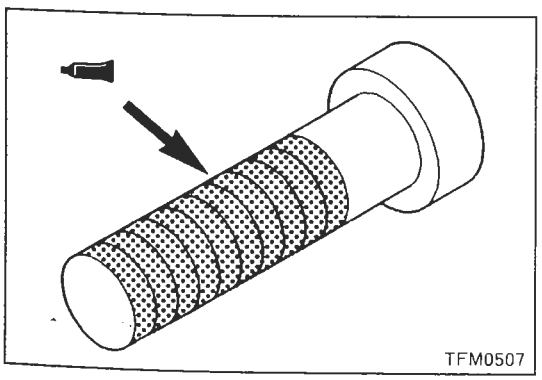

TFM0054

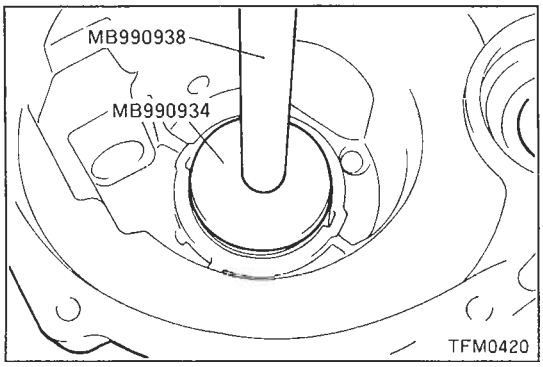
Installation of stopper plate

(1) Install the bolts into the stopper plate.

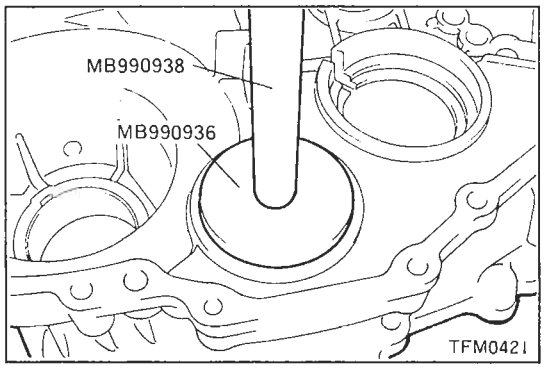
(2) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent

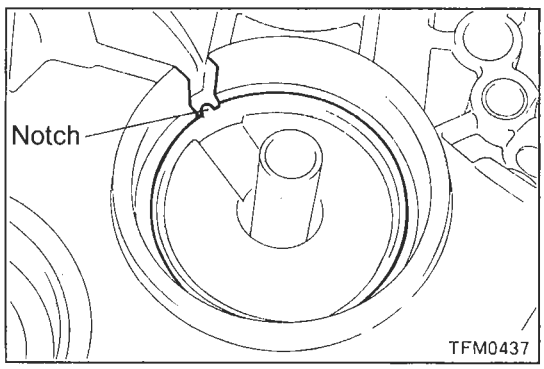

TFM0507



➧L➧ Installation of outer bearing race



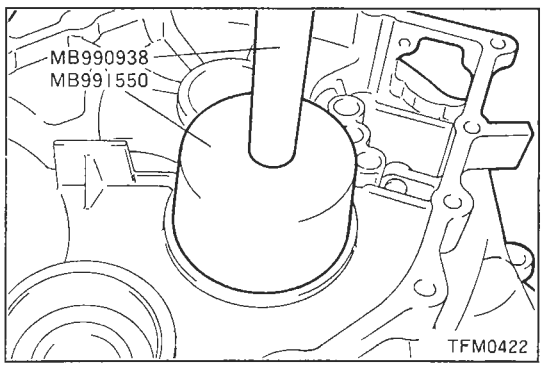
➧M➧ Installation of outer bearing race



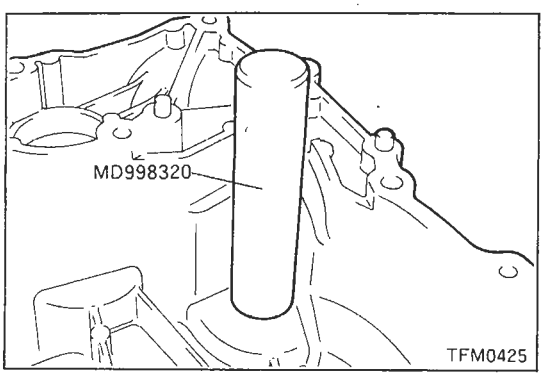
➧N➧ Installation of oil guide

(1) The notch in the oil guide is installed in the illustrated position.

Note:
If the oil guide is broken or damaged, replace it with a new one.



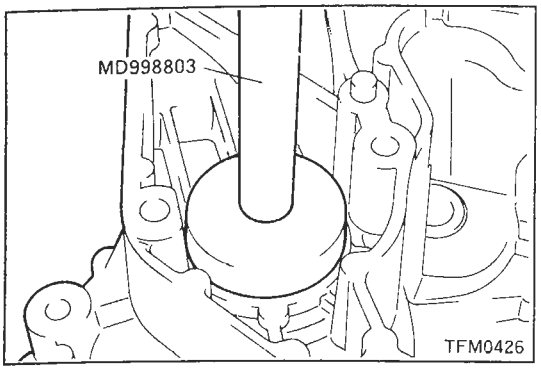
➧O➧ Installation of outer bearing race



➧P➧ Installation of oil seal

(1) After installation of oil seal, fill the lip section with specified grease.

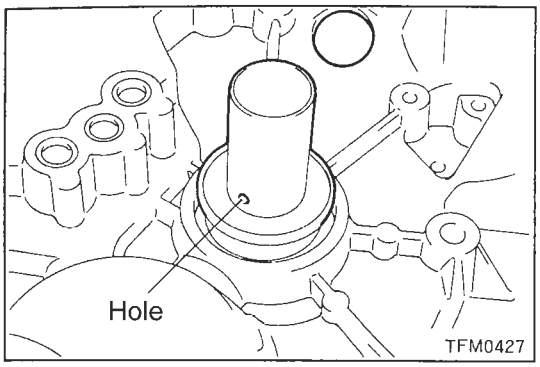
Specified grease:
Molykote TA #1 or #2



➧Q➧ Installation of oil seal

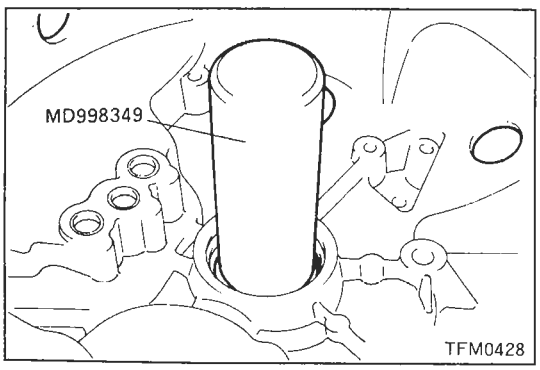
(1) After installation of oil seal, fill the lip section with specified grease.

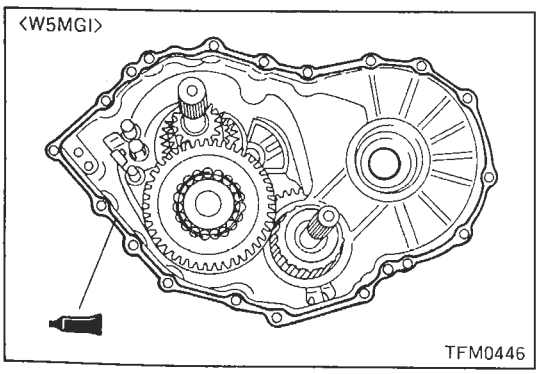
Specified grease:
Molykote TA #1 or #2



➧R➧ Installation of input shaft front bearing

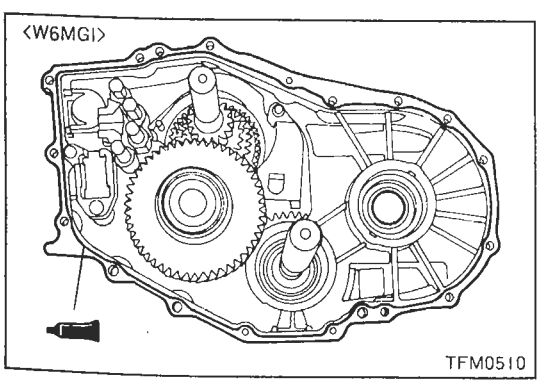
(1) Install the bearing with the hole facing downward





➧S➧ Installation of clutch housing

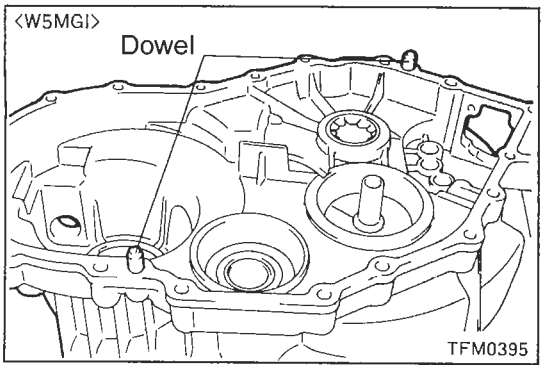
(1) Apply sealant to the illustrated position on the rear cover.
Sealant
Brand: Loc-tite #17430 or Mitsubishi Genuine Sealant MD997740
Note:
Squeeze out sealant from tube uniformly without excess or discontinuity



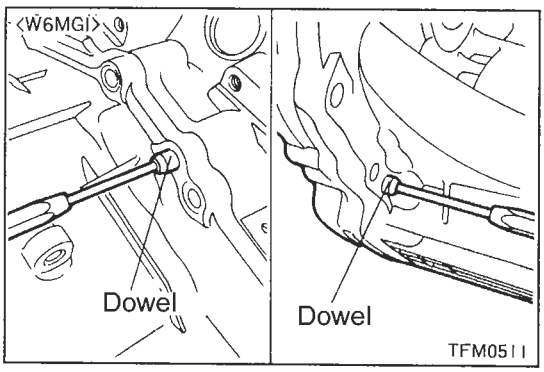
(2) Install the clutch housing.

Note:

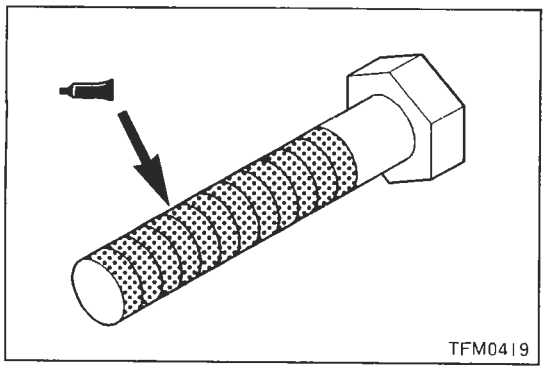
Do not scar the center shaft oil seal when installing the clutch housing.



(3) The dowel is driven down into the position illustrated. (W5MG1)

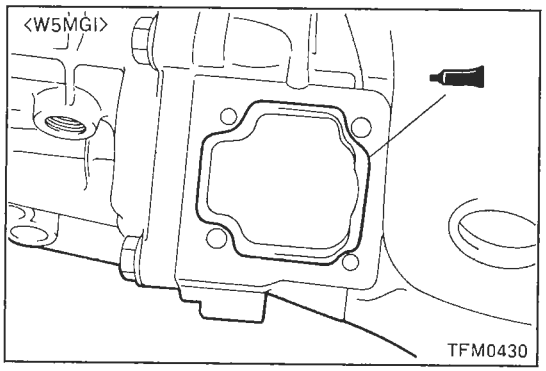


(4) The dowel is driven down into the position illustrated. (W6MG1)



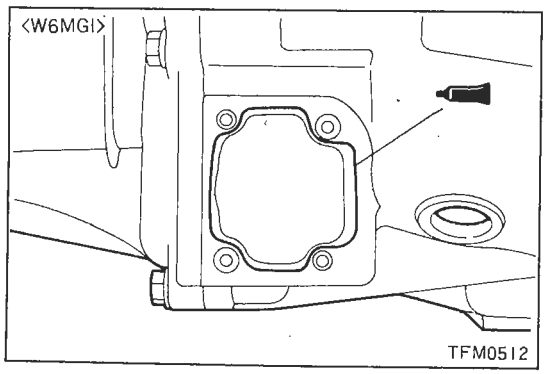
(5) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

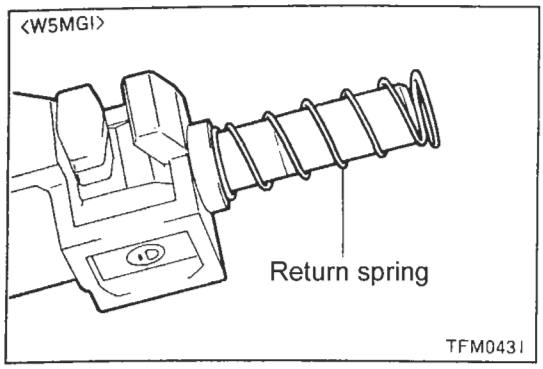
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



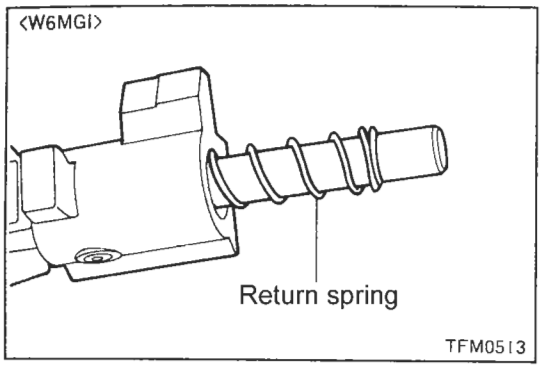
◆T◆ Installation of shift shaft

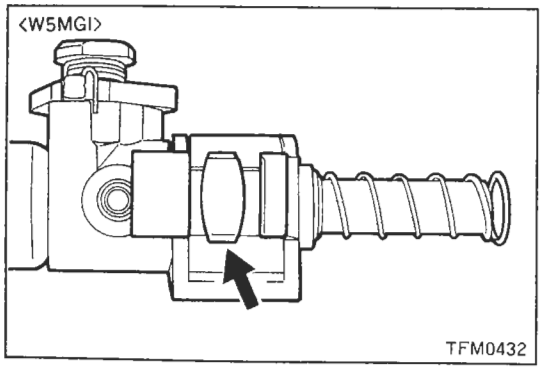
(1) Apply sealant to the illustrated position on the rear cover.
Sealant
Brand: Loc-tite #17430 or Mitsubishi Genuine Sealant MD997740
Note:
Squeeze out sealant from tube uniformly without excess or discontinuity



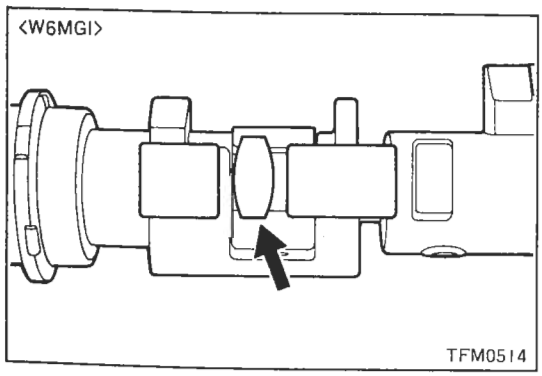


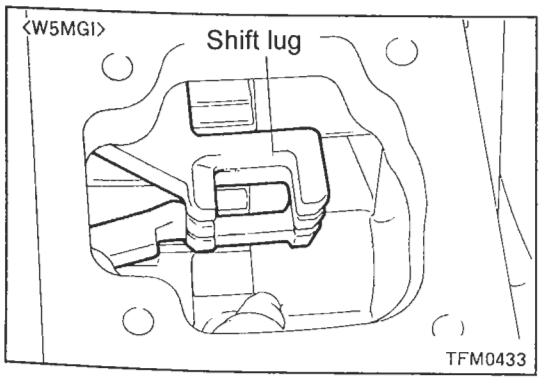
(2) Apply a coating of grease to the shift shaft to prevent the return spring from falling off during installation.



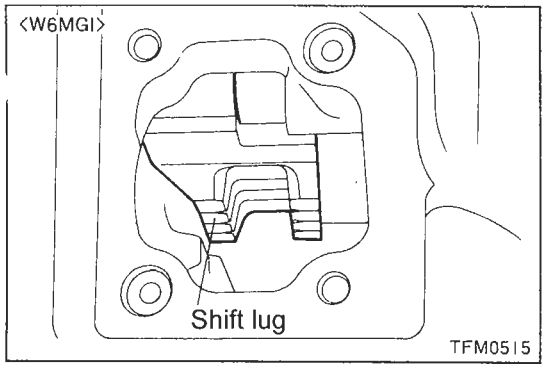


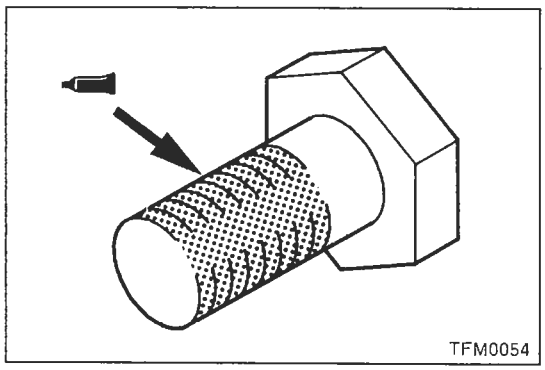
(3) The shift shaft must be kept in the position shown during installation.





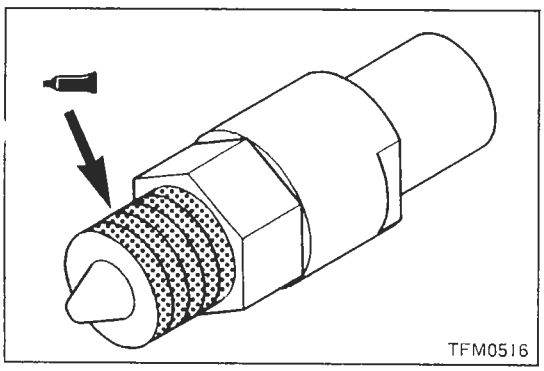
(4) While keeping the shift shaft in the position shown in Step 3, install the shaft into the shift rail lugs.





(5) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

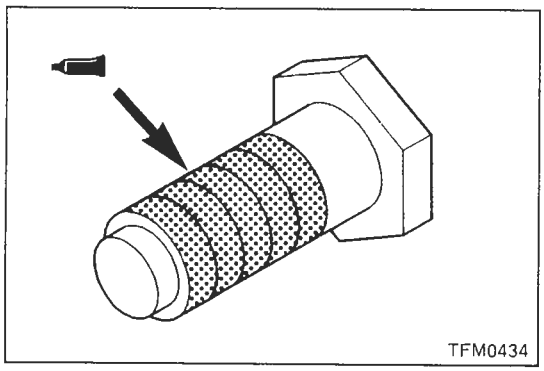
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



◆U◆ Installation of reverse shift detent

(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

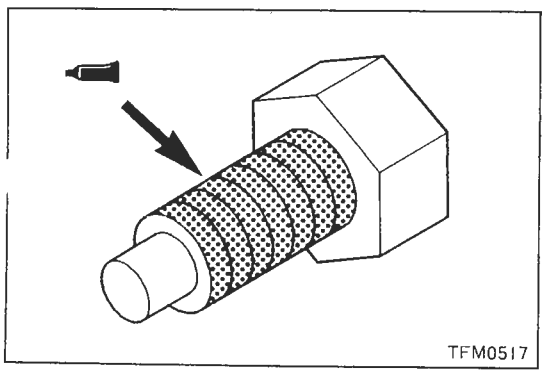
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



◆V◆ Installation of guide bolt

(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

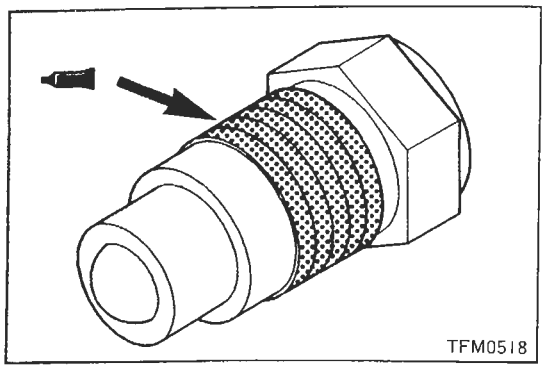
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



◆W◆ Installation of guide bolt

(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

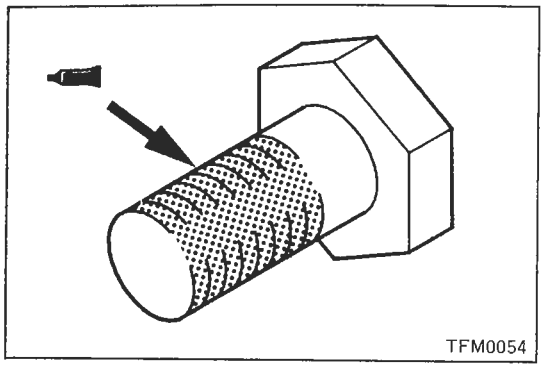
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



➧X➧ Installation of shift detent

(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

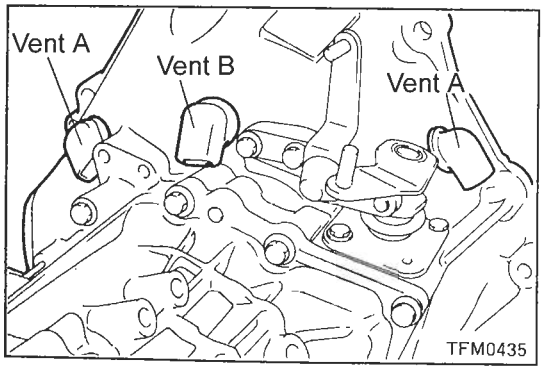
Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



➧Y➧ Installation of gear select lever

(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



➧Z➧ Installation of vents

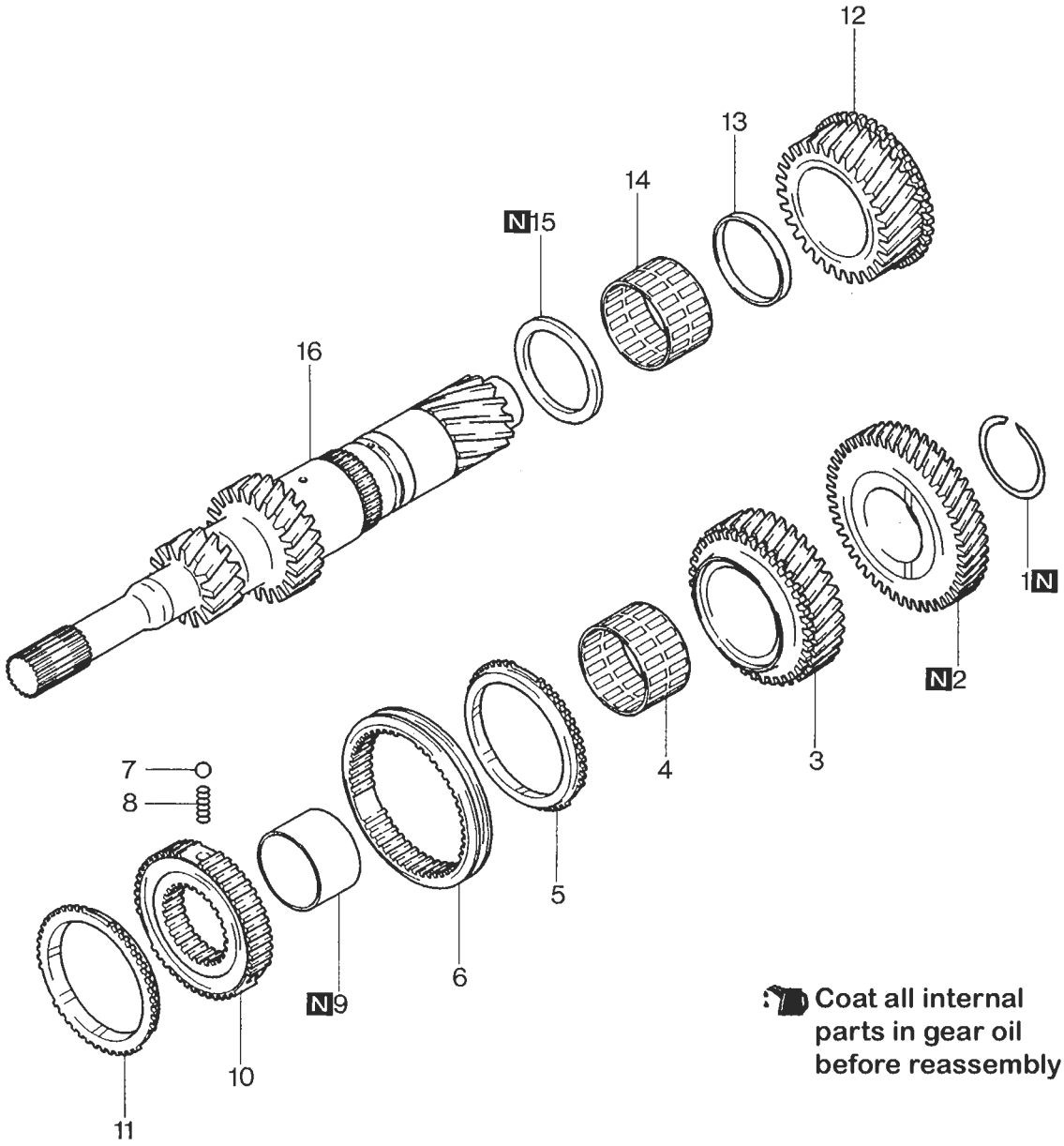
(1) Install the vent covers in the position shown in the installation.

➧AA➧ Installation of transfer case

(1) Apply specified grease to the splined sections of the center output shaft and the transfer case.

Specified grease:
Molykote TA #1 or #2

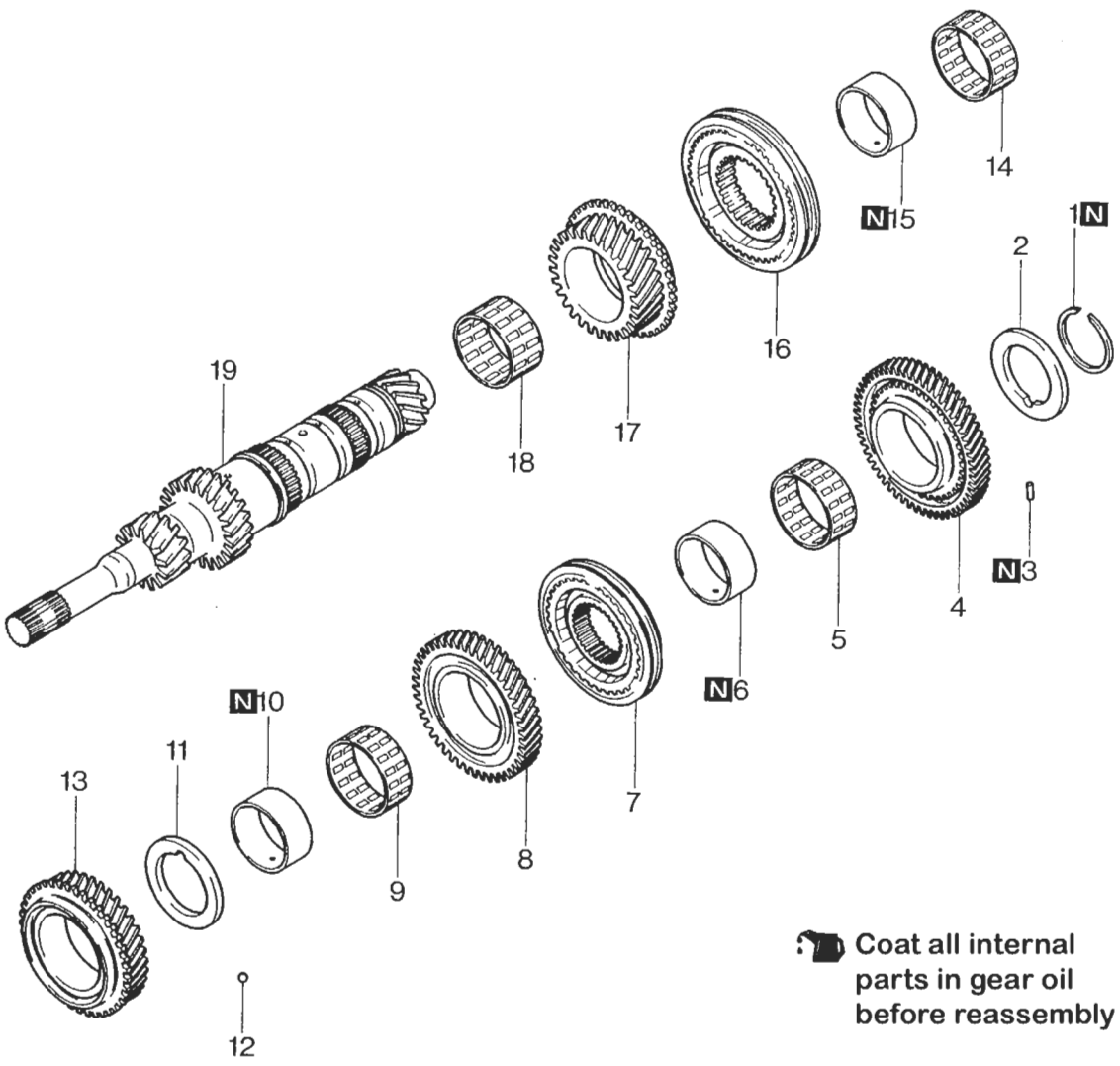
Disassembly/ Reassembly W5MG1



Disassembly Procedure

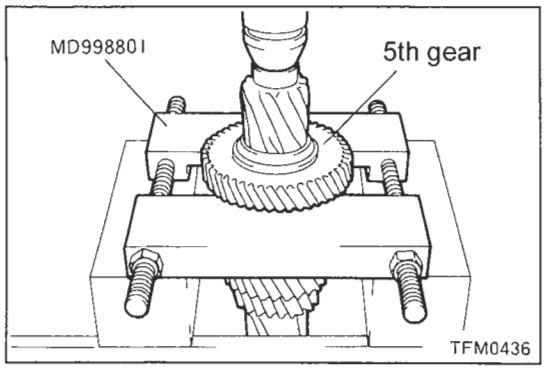
1. Snap ring
◇A◇ ◆K◆ 2. 5th gear
3. 4th gear
4. Needle bearing
◆H◆ 5. Synchronizer ring
◇B◇ ◆H◆ 6. Synchronizer sleeve
◆H◆ 7. Synchronizer ball
◆H◆ 8. Synchronizer spring
◇D◇ ◆D◆ 9. Bearing sleeve
◆B◆ 10. 3 - 4 Synchronizer hub
11. Synchronizer ring
12. 3rd gear
13. Bearing spacer
14. Needle bearing
◆A◆ 15. Spacer ring
16. Input shaft

Disassembly/ Reassembly W6MG1



Disassembly Procedure

1. Snap ring
◆L◆ 2. Spacer
3. Spring pin
4. 6th gear
5. Needle bearing
◇C◇◆J◆ 6. Bearing sleeve
◆I◆ 7. 5 - 6 Synchronizer hub
8. 5th gear
9. Needle bearing
◇E◇◆G◆ 10. Bearing sleeve
◆F◆ 11. Spacer
12. Steel ball
13. 4th gear
14. Needle bearing
◇F◇◆E◆ 15. Bearing sleeve
◆C◆ 16. 3 - 4 Synchronizer hub
17. 3rd gear
18. Needle bearing
19. Input shaft

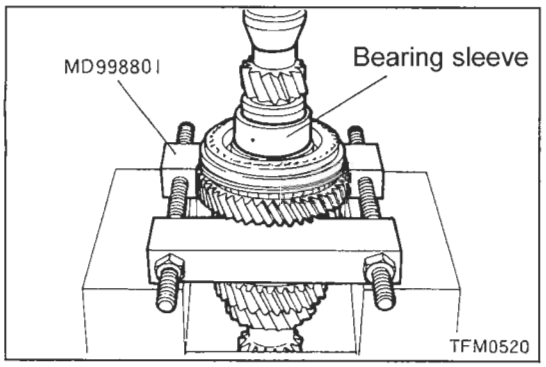


Disassembly service points

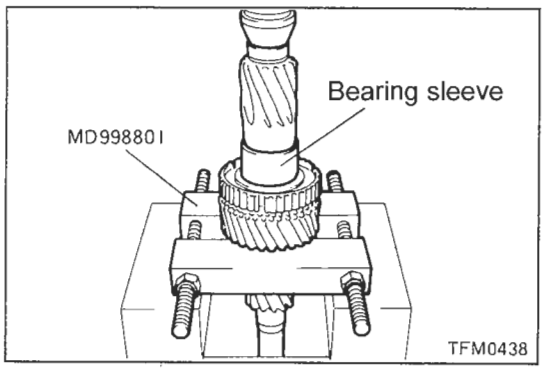
◇A◇ Removal of 5th gear

◇B◇ Removal of synchronizer sleeve

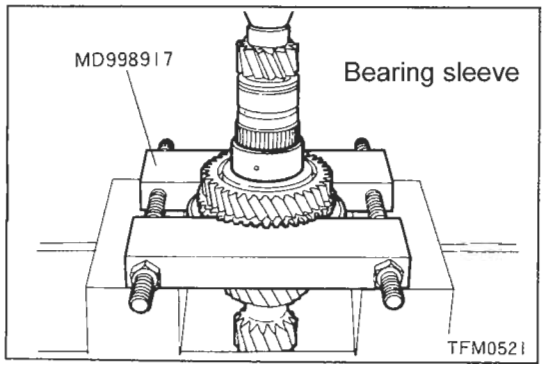
(1) Because there is a tendency for the synchronizer springs to pop out, cover the assembly with your hand during removal.



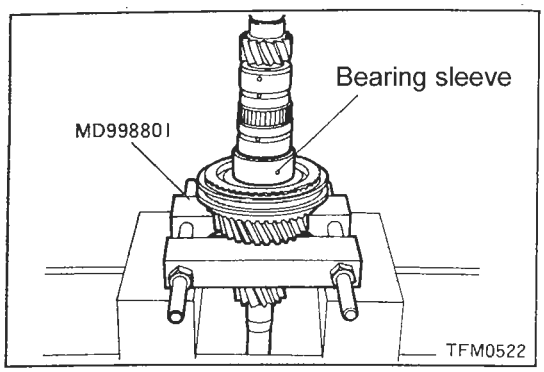
◇C◇ Removal of bearing sleeve

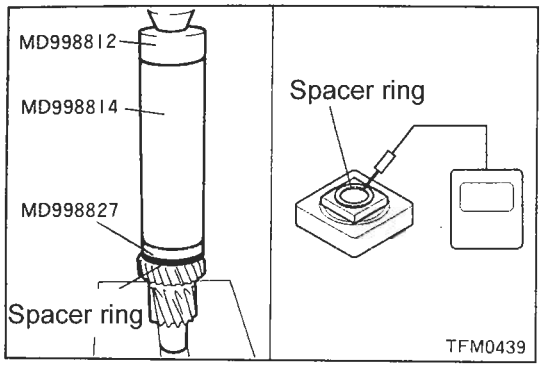


◇D◇ Removal of bearing sleeve



◇E◇ Removal of bearing sleeve





Assembly service points

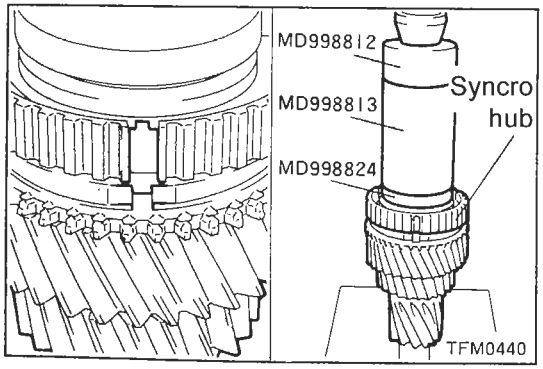
➧A➧ Installation of spacer ring

(1) Using an electric heater or similar device, heat the spacer ring.

Heating temperature: 110 - 120°C (230 - 248°F)

Note:

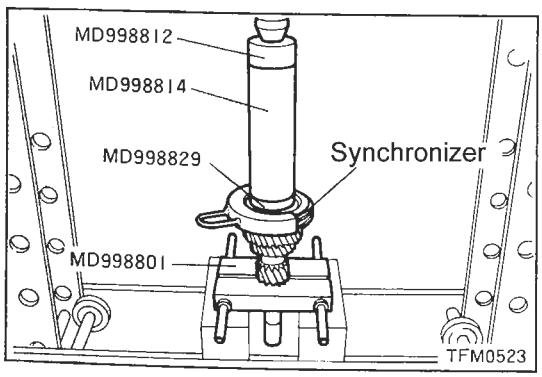
Try not to heat the part too much. Material will weaken under high temperature.



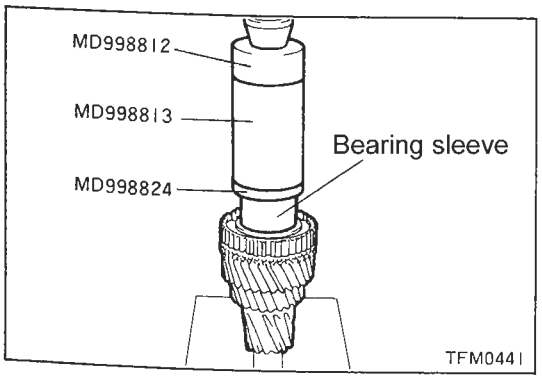
➧B➧ Installation of 3-4 synchronizer hub

Note:

Adjust the synchronizer ring and hub to the illustrated position.



➧C➧ Installation of 3-4 synchronizer



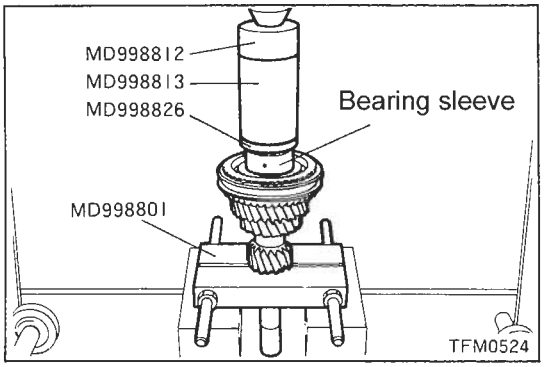
➧D➧ Installation of bearing sleeve

(1) Using an electric heater or similar device, heat the spacer ring.

Heating temperature: 110 - 120°C (230 - 248°F)

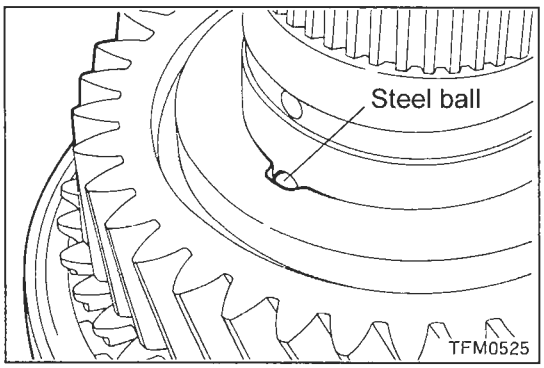
Note:

Try not to heat the part too much. Material will weaken under high temperature.



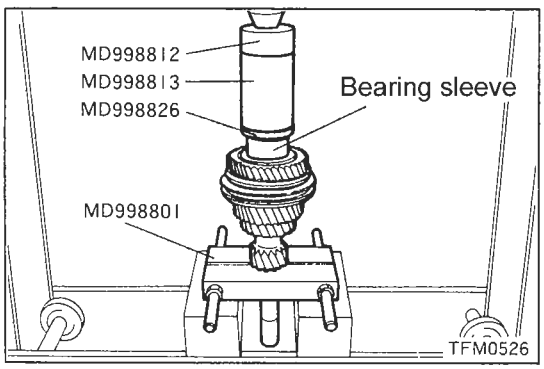
➧E➧ Installation of bearing sleeve

(1) Using an electric heater or similar device, heat the bearing sleeve.
Heating temperature: 110 - 120°C (230 - 248°F)
Note:
Try not to heat the part too much. Material will weaken under high temperature.



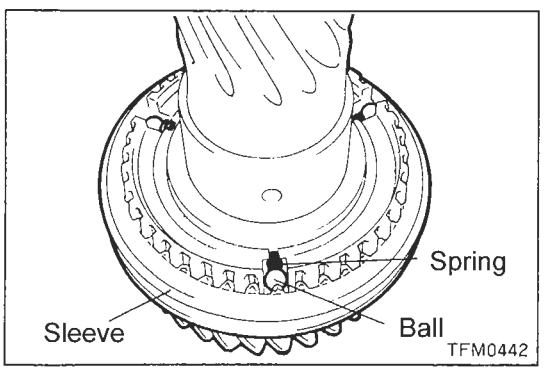
➧F➧ Installation of spacer

(1) Install the steel ball into the groove of the spacer.



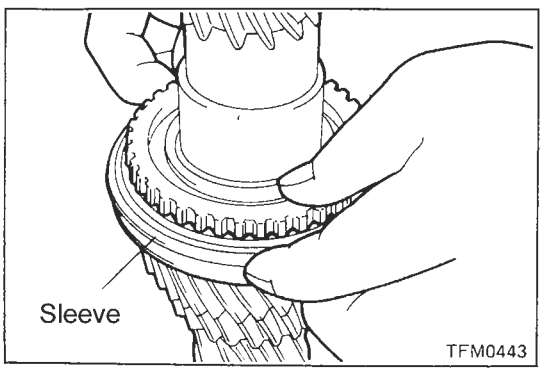
➧G➧ Installation of bearing sleeve

(1) Using an electric heater or similar device, heat the bearing sleeve.
Heating temperature: 110 - 120°C (230 - 248°F)
Note:
Try not to heat the part too much. Material will weaken under high temperature.



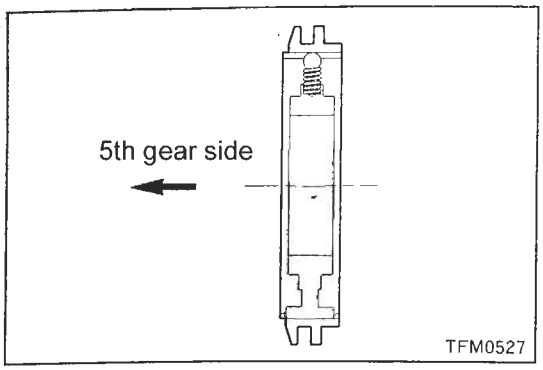
➧H➧ Installation of spring/ball/sleeve/ring

(1) Install the sleeve on the synchronizer hub and shift it towards the 3rd gear side.
(2) Install the synchronizer balls and springs (3 positions)

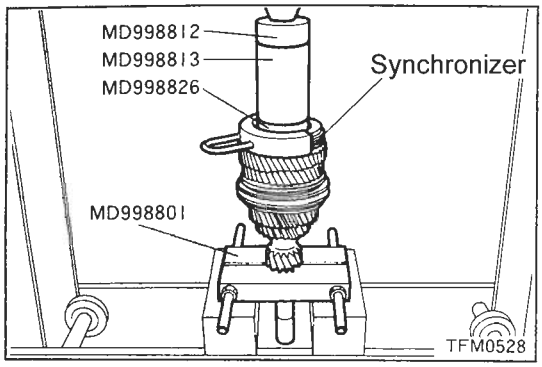


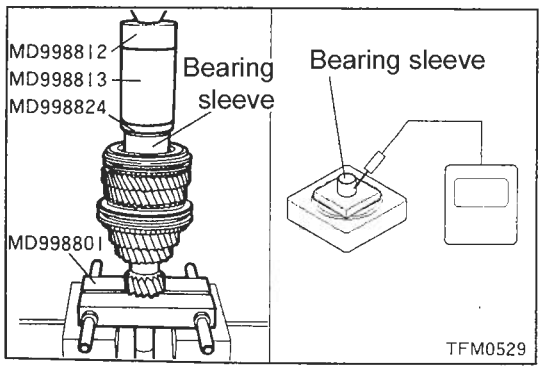
(3) Install the synchronizer ring
(4) While holding the synchronizer ring with a finger, move the sleeve to the 4th gear side.

Note:
When moving the sleeve to the 4th gear side, make certain the balls lock into the notch along the inside center of the sleeve.



◆I◆ Installation of 5th and 6th gear synchronizers





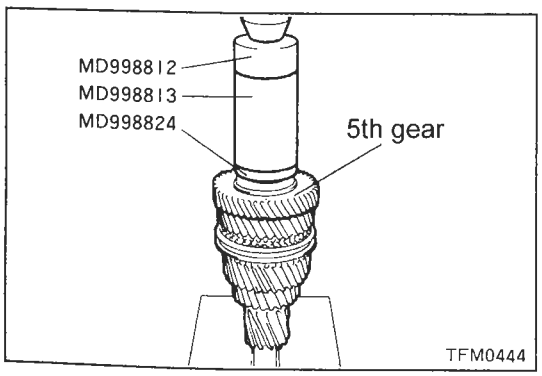
◆J◆ Installation of bearing sleeve

(1) Using an electric heater or similar device, heat the bearing sleeve.

Heating temperature: 110 - 120°C (230 - 248°F)

Note:

Try not to heat the part too much. Material will weaken under high temperature.



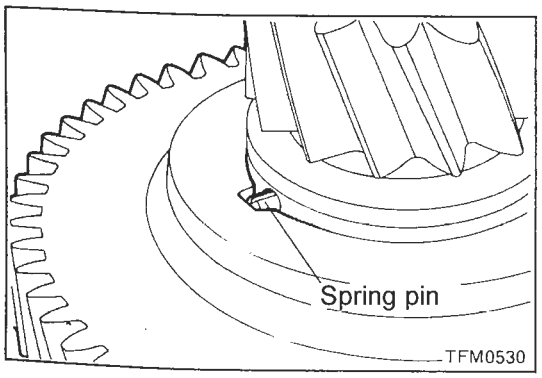
◆K◆ Installation of 5th gear

(1) Using an electric heater or similar device, heat the gear.

Heating temperature: 160 - 180°C (320 - 356°F)

Note:

Try not to heat the part too much. Material will weaken under high temperature.

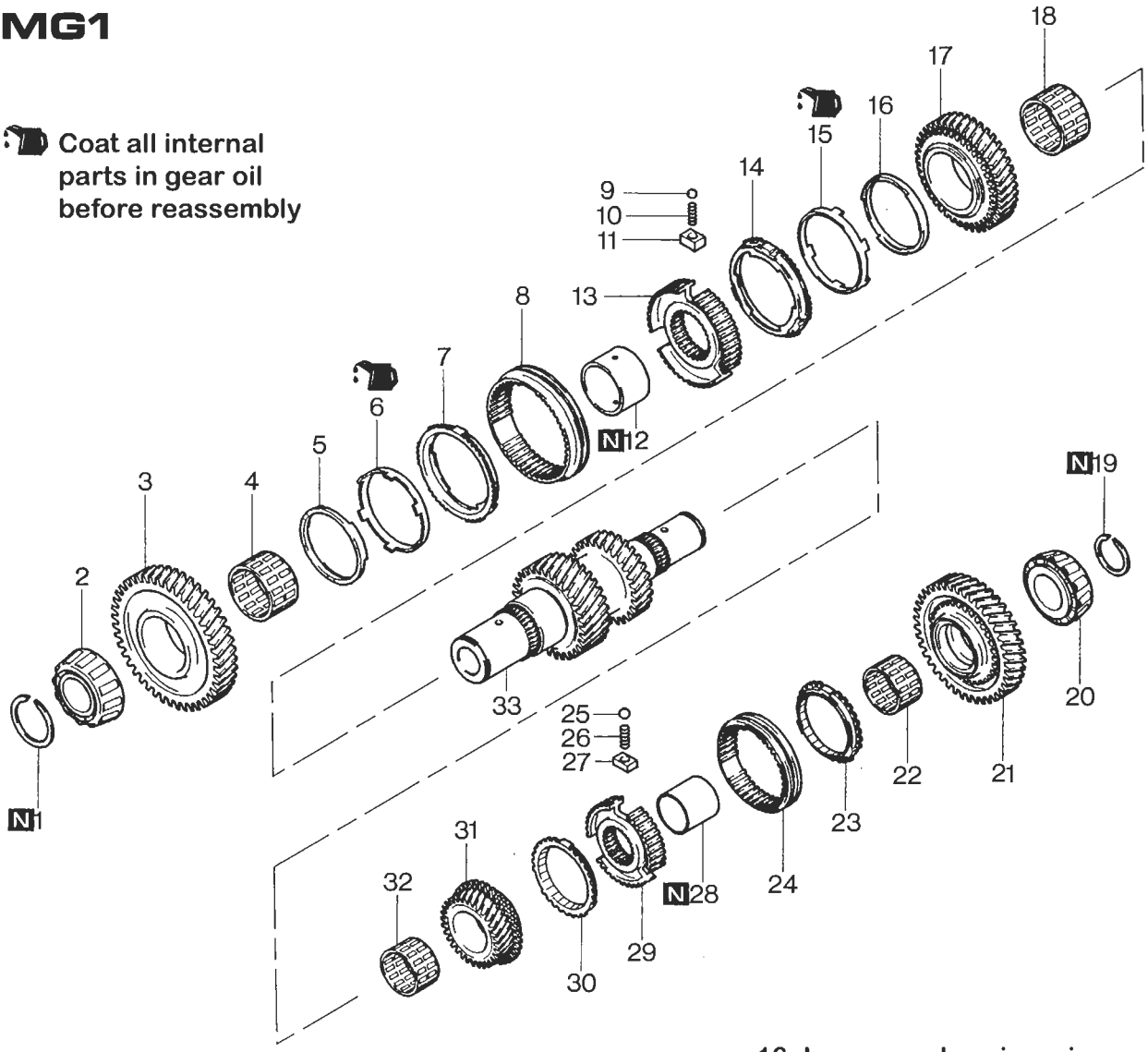


◆L◆ Installation of spacer

(1) Install the spring pin into the groove of the spacer.

Disassembly / Reassembly W5MG1

Coat all internal parts in gear oil before reassembly

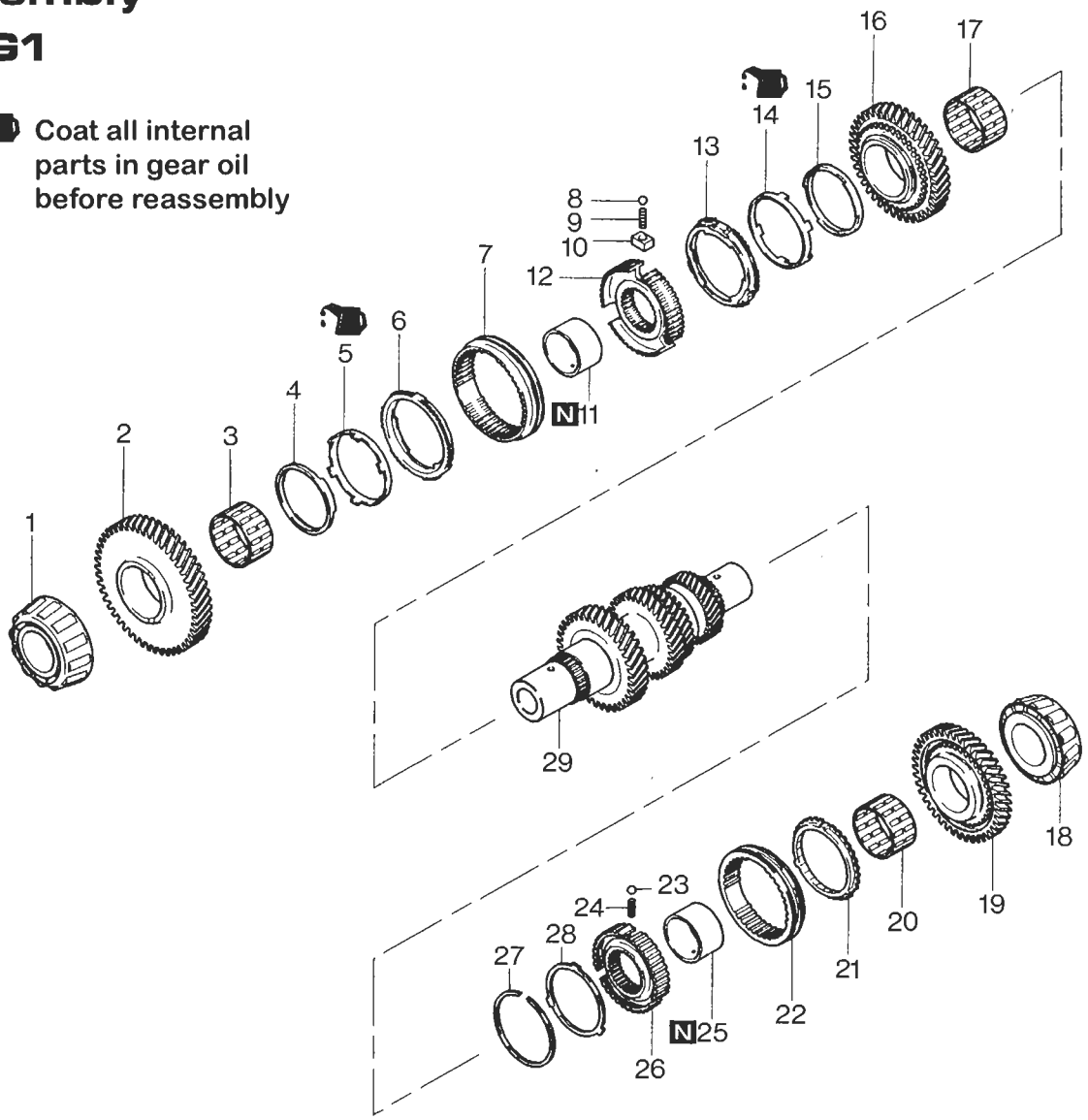


Disassembly Procedure

1. Snap ring
⬡A⬡ ⬢K⬢ 2. Inner bearing race
3. 1st gear
4. Needle bearing
5. Inner synchronizer ring
⬢G⬢ 6. Synchronizer friction ring
⬢J⬢ 7. Outer synchronizer ring
⬡B⬡ ⬢J⬢ 8. Synchronizer sleeve
⬢J⬢ 9. Synchronizer ball
⬢J⬢ 10. Synchronizer spring
⬢J⬢ 11. Synchronizer key
⬡C⬡ ⬢I⬢ 12. Bearing sleeve
⬢H⬢ 13. Synchronizer hub
14. Outer synchronizer ring
⬢G⬢ 15. Synchronizer friction ring
16. Inner synchronizer ring
17. 2nd gear
18. Needle bearing
19. Snap ring
⬡D⬡ ⬢F⬢ 20. Inner bearing race
21. Reverse gear
22. Needle bearing
⬢D⬢ 23. Synchronizer ring
⬡B⬡ ⬢D⬢ 24. Synchronizer sleeve
⬢D⬢ 25. Synchronizer ball
⬢D⬢ 26. Synchronizer spring
⬢D⬢ 27. Synchronizer key
⬡E⬡ ⬢C⬢ 28. Bearing sleeve
⬢A⬢ 29. Synchronizer hub
30. Synchronizer ring
31. 5th gear
32. Needle bearing
33. Intermediate shaft

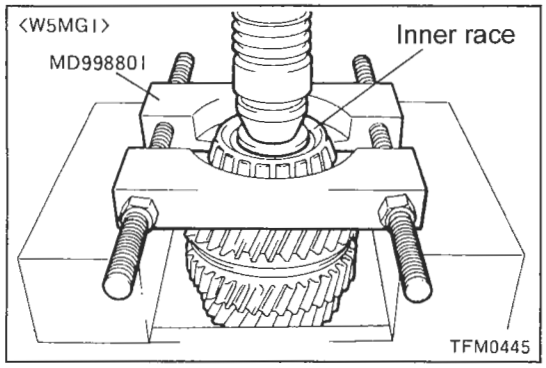
Disassembly/ Reassembly W6MG1

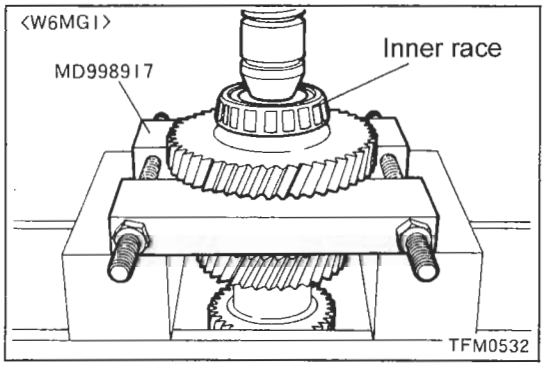
Coat all internal parts in gear oil before reassembly



Disassembly Procedure

- ⬡A⬡ ◗K◖ 1. Inner bearing race
- 2. 1st gear
- 3. Needle bearing
- 4. Inner synchronizer ring
- ◗G◖ 5. Synchronizer friction ring
- ◗J◖ 6. Outer synchronizer ring
- ⬡B⬡ ◗J◖ 7. Synchronizer sleeve
- ◗J◖ 8. Synchronizer ball
- ◗J◖ 9. Synchronizer spring
- ◗J◖ 10. Synchronizer key
- ⬡C⬡ ◗I◖ 11. Bearing sleeve
- ◗H◖ 12. Synchronizer hub
- 13. Outer synchronizer ring
- ◗G◖ 14. Synchronizer friction ring
- 15. Inner synchronizer ring
- 16. 2nd gear
- 17. Needle bearing
- ⬡D⬡ ◗F◖ 18. Inner bearing race
- 19. Reverse gear
- 20. Needle bearing
- ◗E◖ 21. Synchronizer ring
- ⬡B⬡ ◗E◖ 22. Synchronizer sleeve
- ◗E◖ 23. Synchronizer ball
- ◗E◖ 24. Synchronizer spring
- ⬡E⬡ ◗C◖ 25. Bearing sleeve
- ◗B◖ 26. Synchronizer hub
- 27. Snap ring
- 28. Stopper plate
- 29. Intermediate shaft



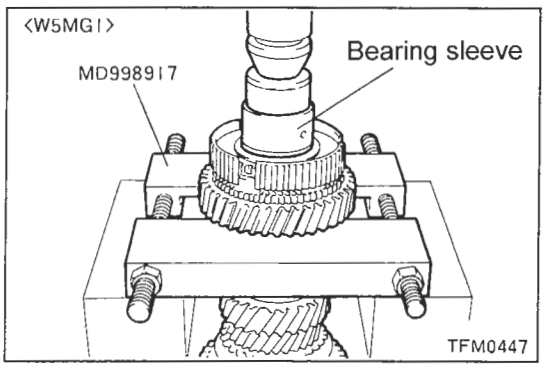


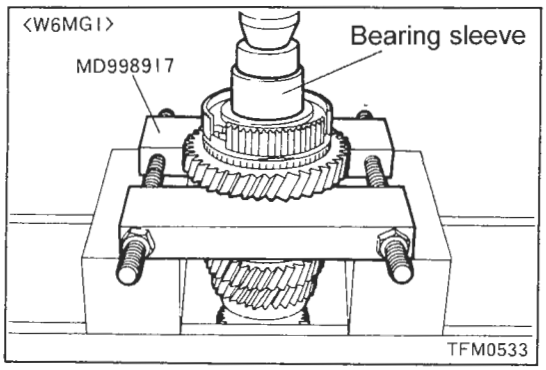
Disassembly service points

◇A◇ Removal of inner bearing race

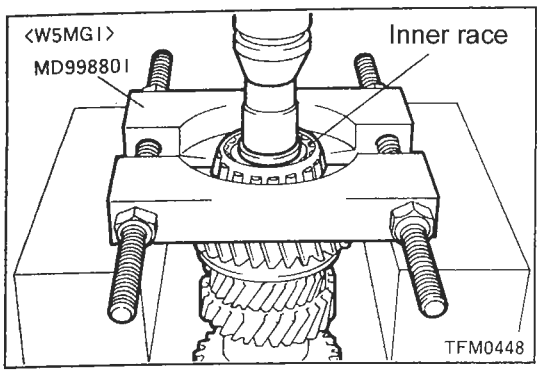
◇B◇ Removal of synchronizer sleeve

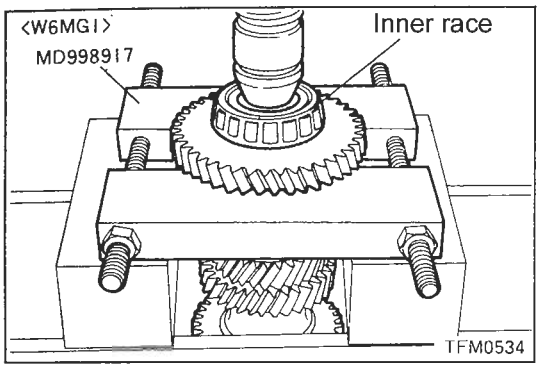
(1) Because there is a tendency for the synchronizer springs to pop out, cover the assembly with your hand during removal.



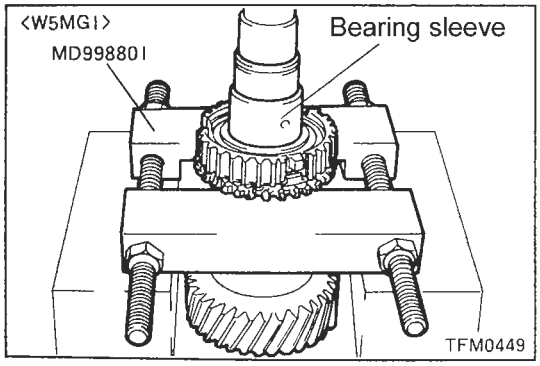


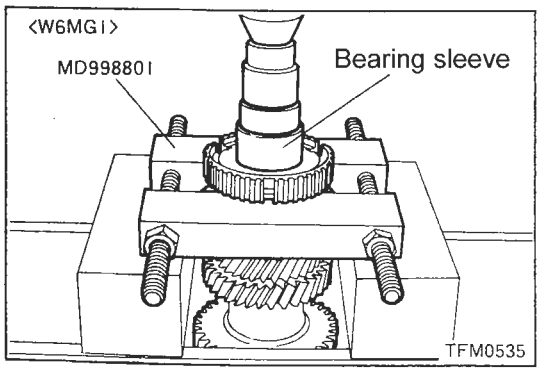
◇C◇ Removal of bearing sleeve



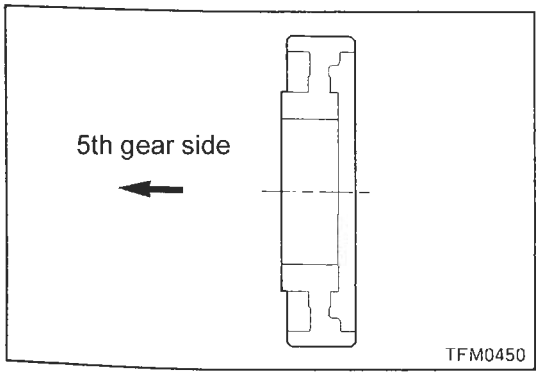


⇦D⇨ Removal of inner bearing race



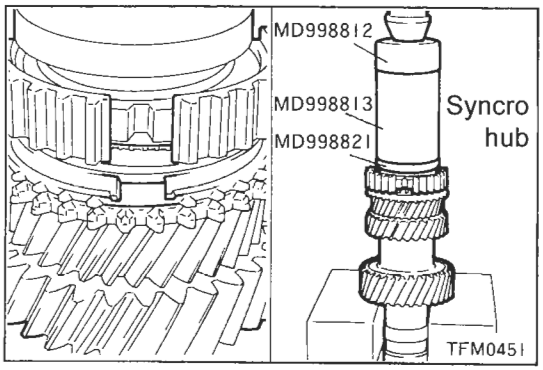


⇦E⇨ Removal of bearing sleeve

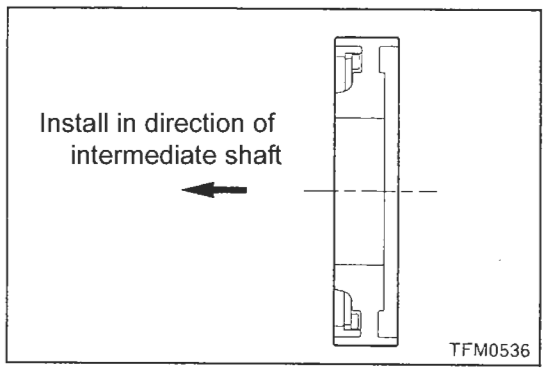


Assembly service points

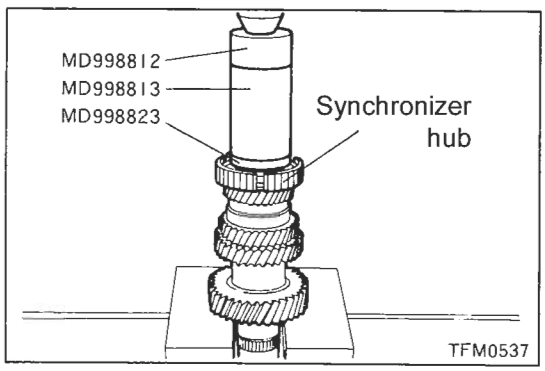
➧A⇦ Installation of 5-R synchronizer hub

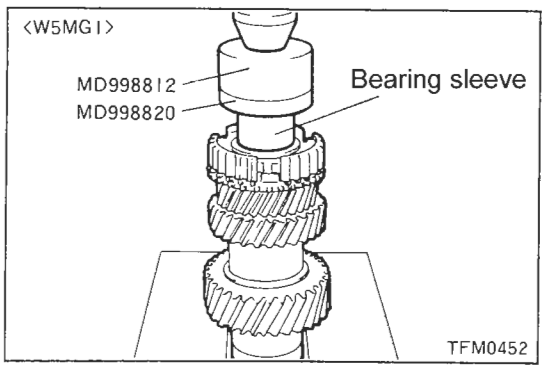


Note:
Adjust the synchronizer ring and hub to the illustrated position.



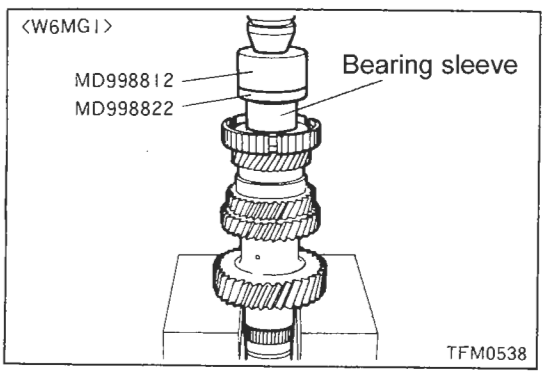
➧B➧ Installation of reverse synchronizer hub

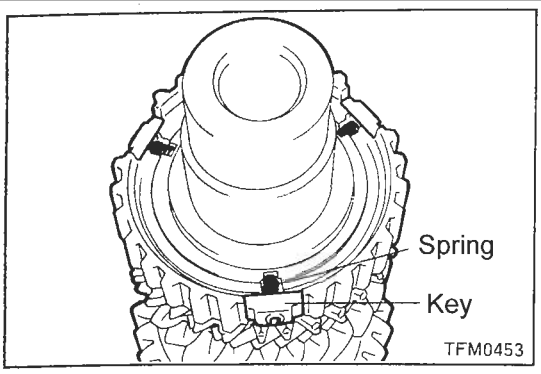




➧C➧ Installation of bearing sleeve

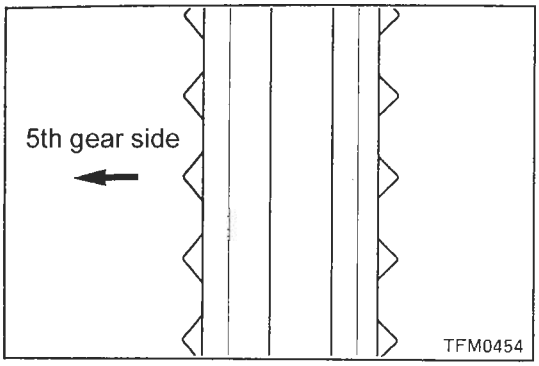
(1) Using an electric heater or similar device, heat the spacer ring.
Heating temperature: 110 - 120°C (230 - 248°F)
Note:
Try not to heat the part too much. Material will weaken under high temperature.



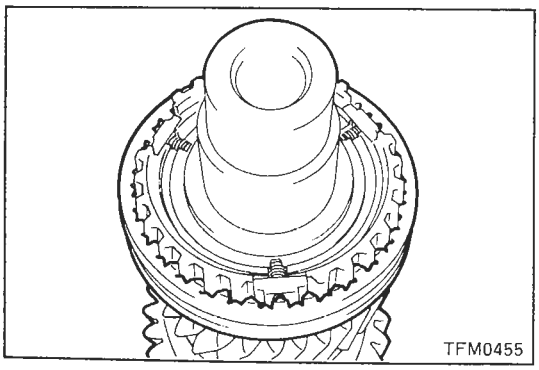


➧D➧ Installation of synchronizer key/ball /spring/sleeve/ring

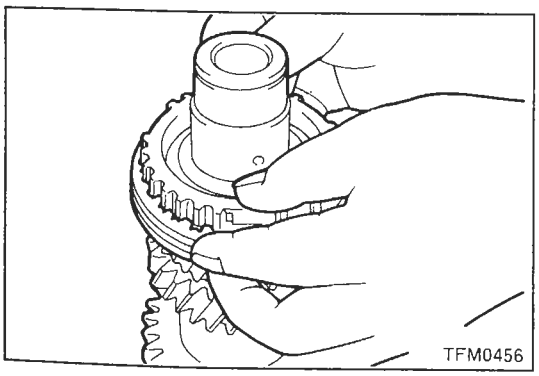
(1) Install the key and spring in the synchronizer hub. (3 positions)



(2) Verify the direction of the synchronizer sleeve during installation.

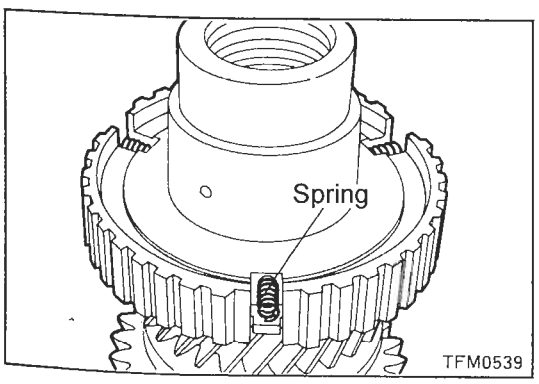


(3) Align the spines of the synchronizer sleeve with the grooves in the synchronizer hub.
(4) Shift the synchronizer sleeve to the 5th gear side
(5) Install the synchronizer balls (3 positions)



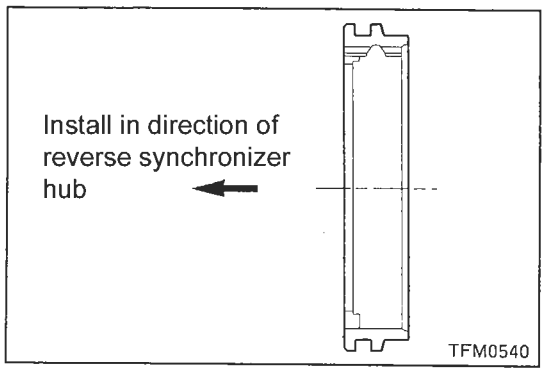
(6) Install the synchronizer ring
(7) While holding down the synchronizer ring, slide the sleeve to the reverse gear side.

Note:
When moving the sleeve to the reverse gear side, make sure the keys lock into the notch along the inside center of the sleeve.

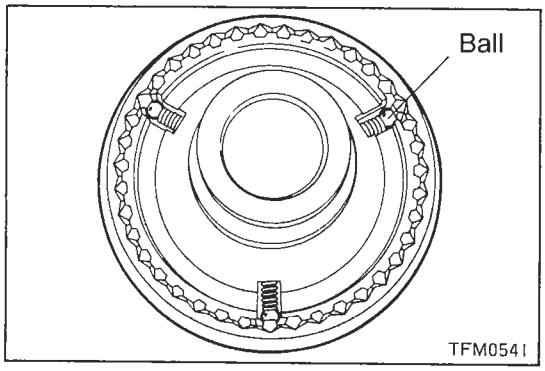


➧E➧ Installation of synchronizer key/ball /spring/sleeve/ring

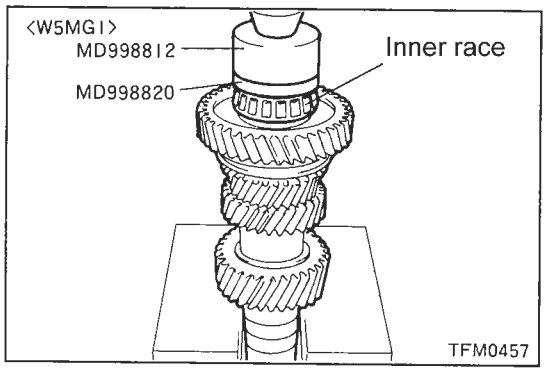
(1) Install the springs in the synchronizer hub (3 positions)



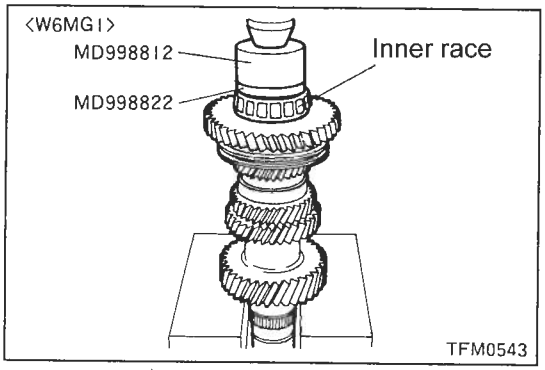
(2) Verify direction of synchronizer sleeve during installation.

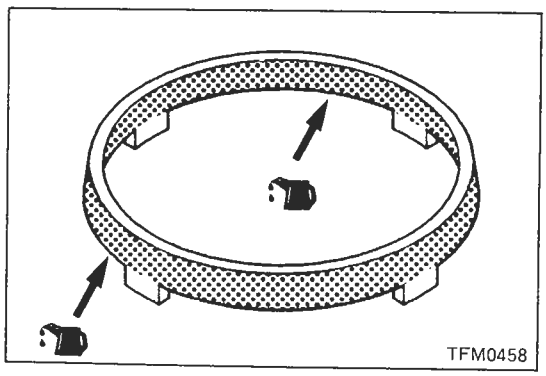


(3) Install the synchronizer balls (3 positions)



◆F◆ Installation of inner bearing race

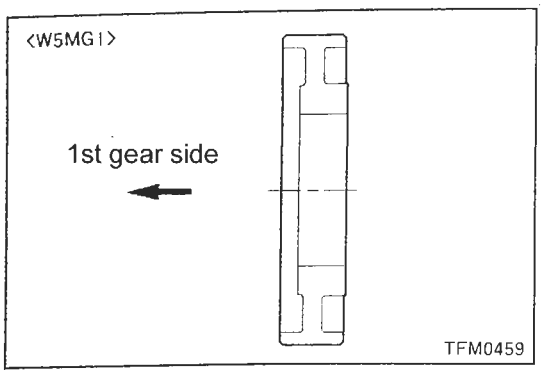




◆G◆ Installation of synchronizer friction ring

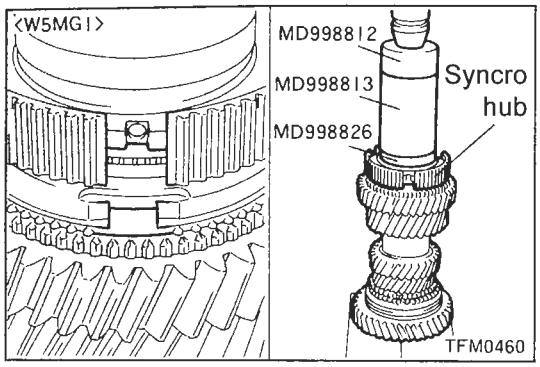
(1) Apply specified gear oil gear oil to the faces of the friction ring

Specified oil:
API GL-4 or higher, 75W-90 to 75W-85W

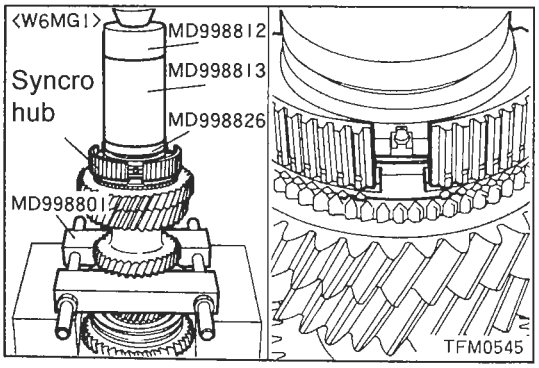


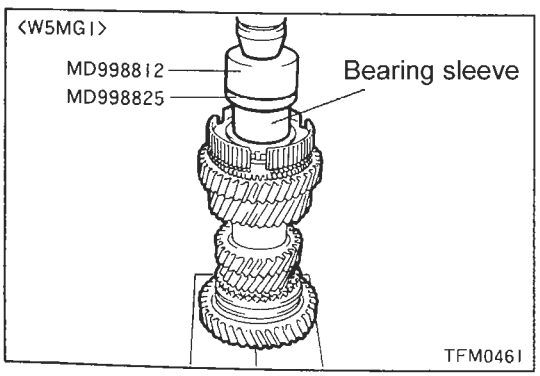
Installation of 1-2 synchronizer hub

Note:
Orientation of hub is the same for W6MG1



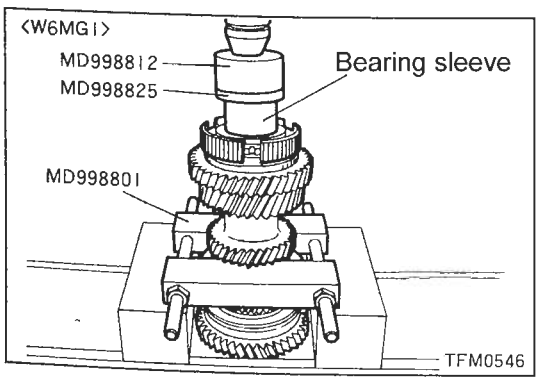
Note:
Adjust the synchronizer ring and hub to the illustrated position.

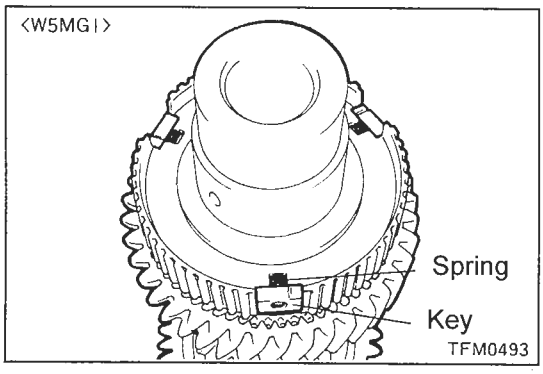




Installation of bearing sleeve

(1) Using an electric heater or similar device, heat the bearing sleeve.
Heating temperature: 110 - 120°C (230 - 248°F)
Note:
Try not to heat the part too much. Material will weaken under high temperature.

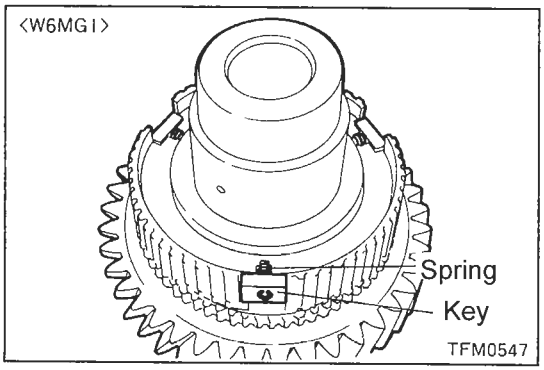


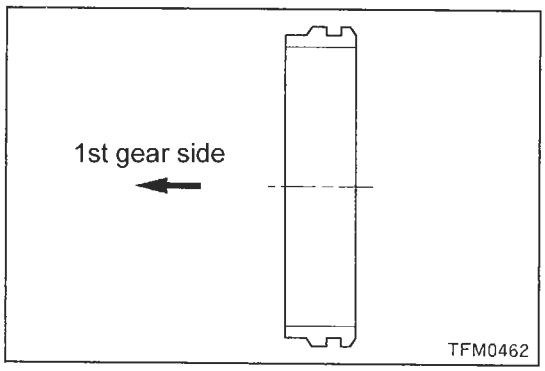


➧J➧ Installation of synchronizer ball/spring /sleeve/ring

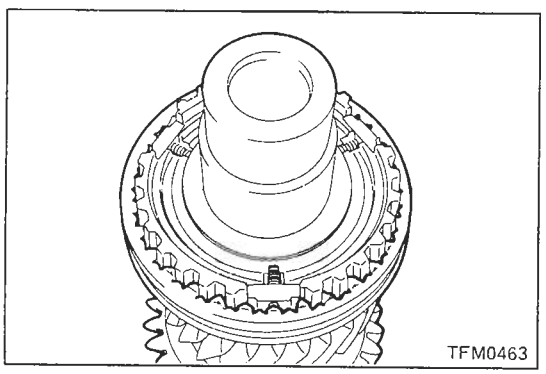
(1) Install the keys and springs in the synchronizer hub (3 positons)

Note:
Install keys with chamfer facing outside

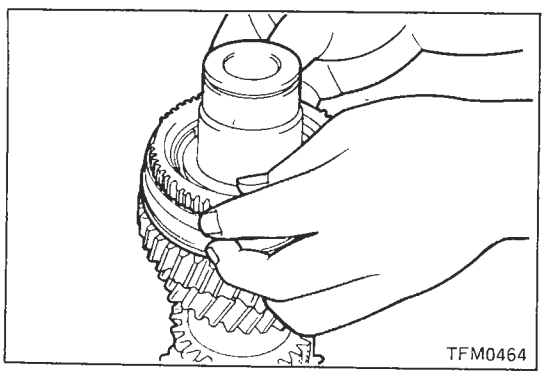




(2) Verify direction of synchronizer sleeve during installation.

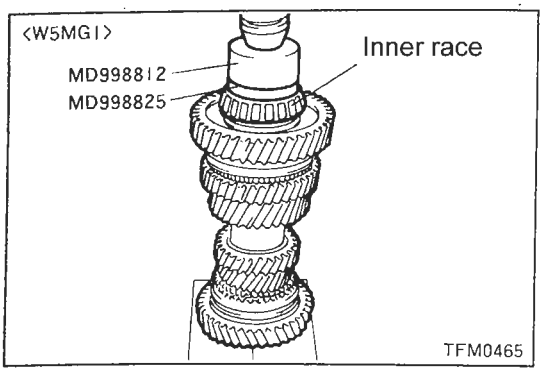


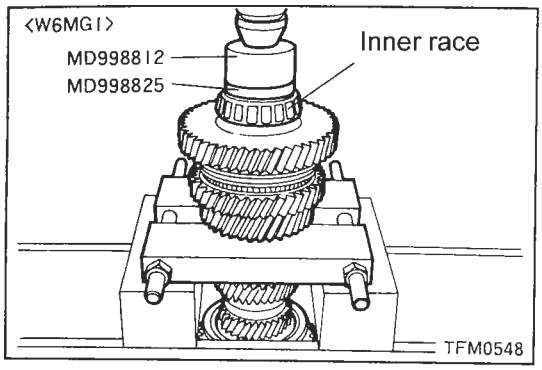
(3) Shift the synchronizer sleeve to the 2nd gear side
(4) Install the synchronizer balls (3 positions)



(5) The synchronizer ring is installed
(6)Hold down the synchronizer ring with a finger and slide the sleeve to the 1st gear side.

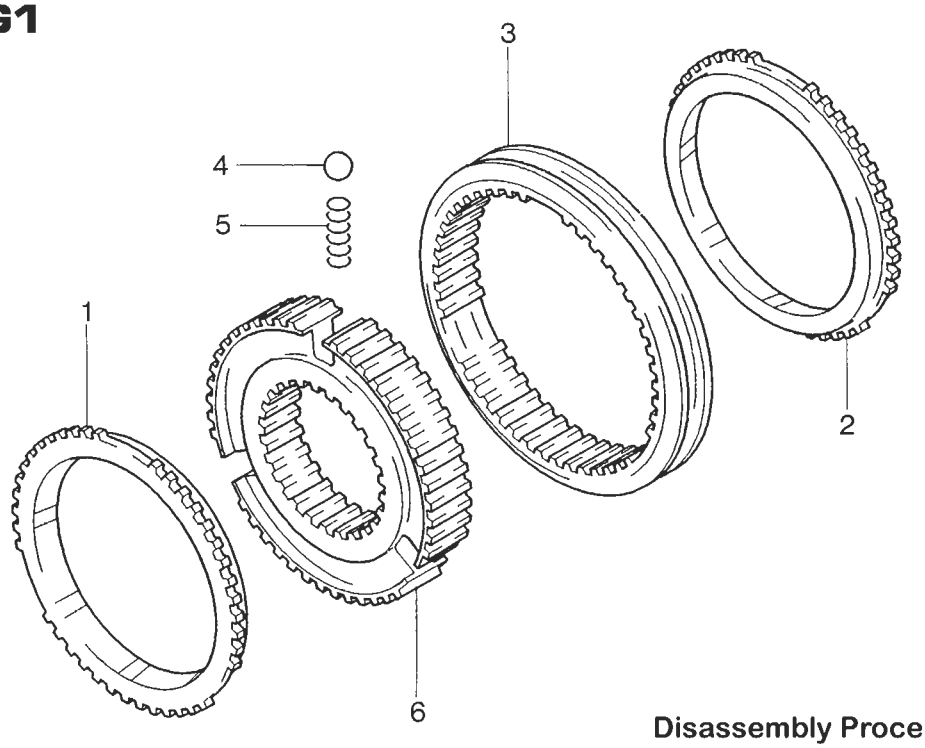
Note:
When moving the sleeve to the 1st gear side, make certain the keys lock into the notch along the inside center of the sleeve.





➡K⬅ Installation of inner bearing race

Disassembly/ Reassembly W6MG1



Coat all internal parts in gear oil before reassembly

Disassembly Procedure

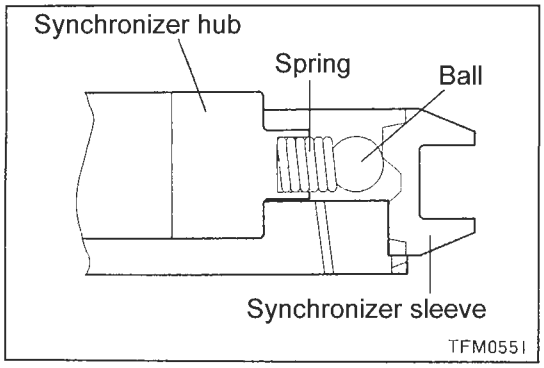
1. 3rd gear synchronizer ring
2. 4th gear synchronizer ring
3. ⬡A⬡ ⬢A⬢ Synchronizer sleeve
4. ⬢A⬢ Synchronizer ball
5. ⬢A⬢ Synchronizer spring
6. Synchronizer hub

TFM0549

Disassembly service points

⬡A⬡ Removal of synchronizer sleeve

(1) Because there is a tendency for the synchronizer springs to pop out, cover the assembly with your hand during removal.

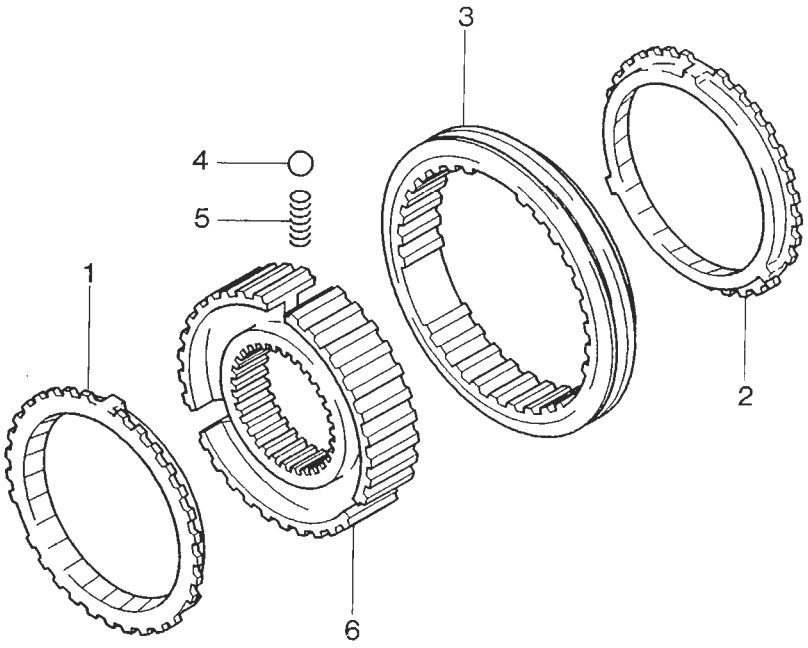


Assembly service points

⬢A⬢ Installation of synchronizer spring /ball/sleeve

(1) Install the 4th gear synchronizer ring and sleeve on the synchronizer hub
(2) Install the synchronizer springs and balls (3 positions)

Disassembly/ Reassembly W6MG1



Coat all internal parts in gear oil before reassembly

Disassembly Procedure

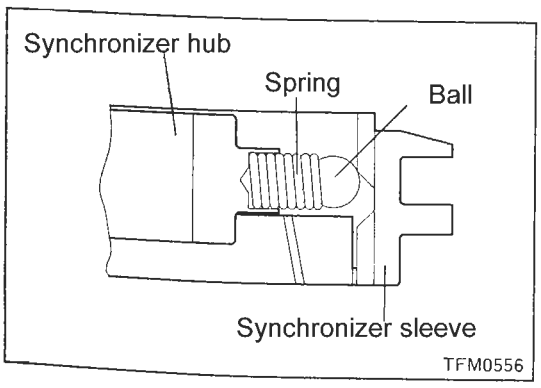
1. 5th gear synchronizer ring
2. 6th gear synchronizer ring
⇩A⇩ ⇧A⇧ 3. Synchronizer sleeve
⇧A⇧ 4. Synchronizer ball
⇧A⇧ 5. Synchronizer spring
6. Synchronizer hub

TFM0549

Disassembly service points

⇩A⇩ Removal of synchronizer sleeve

(1) Because there is a tendency for the synchronizer springs to pop out, cover the assembly with your hand during removal.

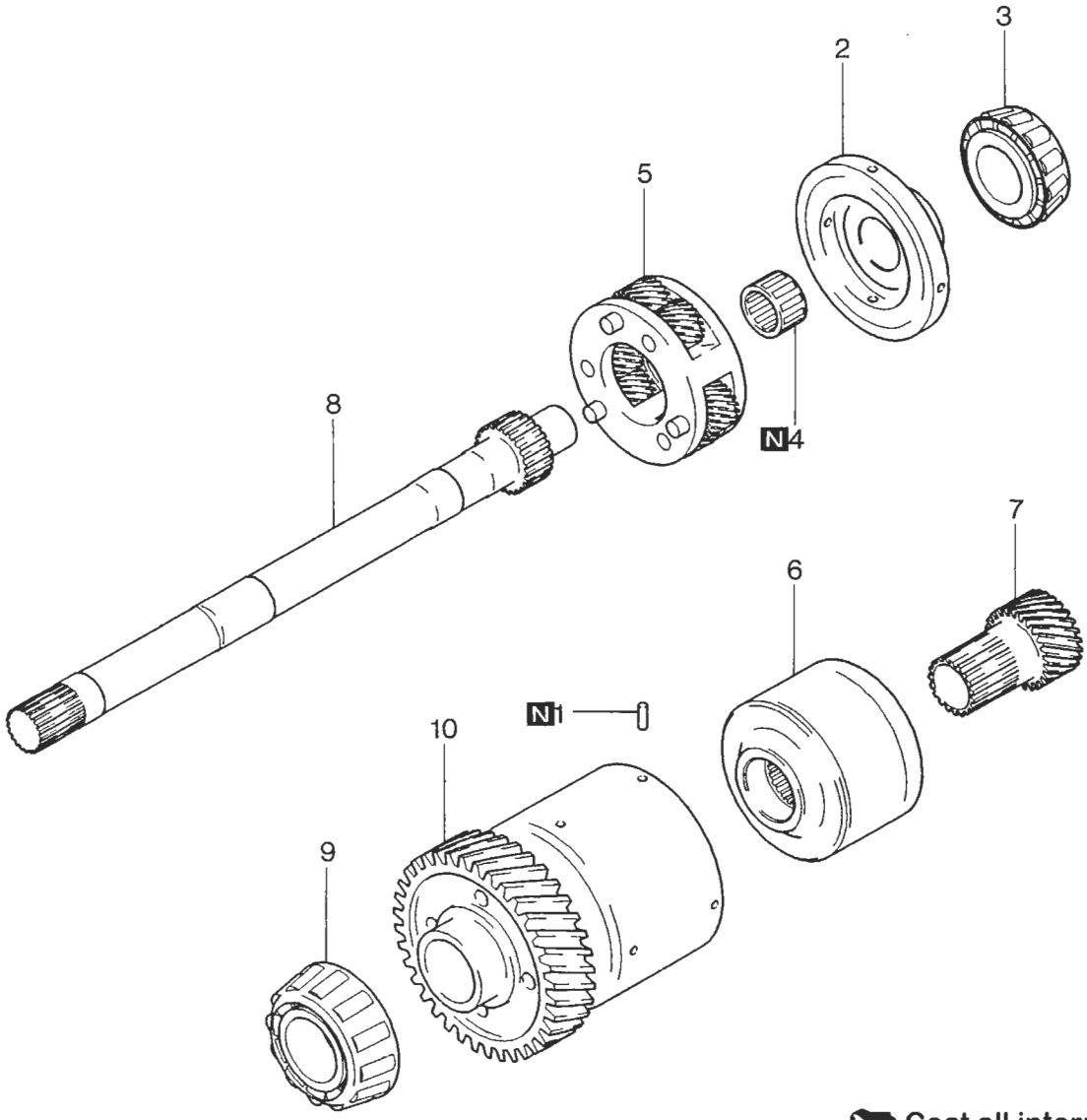


Assembly service points

⇧A⇧ Installation of synchronizer spring /ball/sleeve

(1) Install the 6th gear synchronizer ring and sleeve on the synchronizer hub
(2) Install the synchronizer springs and balls (3 positions)

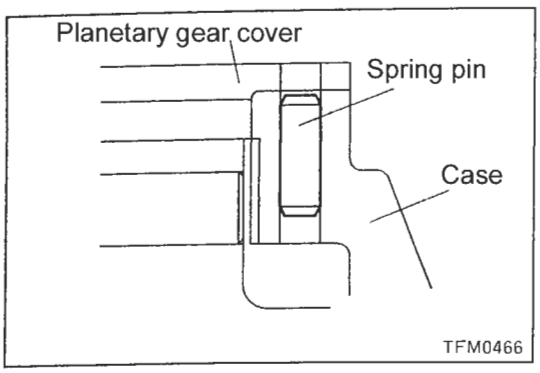
Disassembly / Reassembly



Coat all internal parts in gear oil before reassembly

Disassembly Procedure

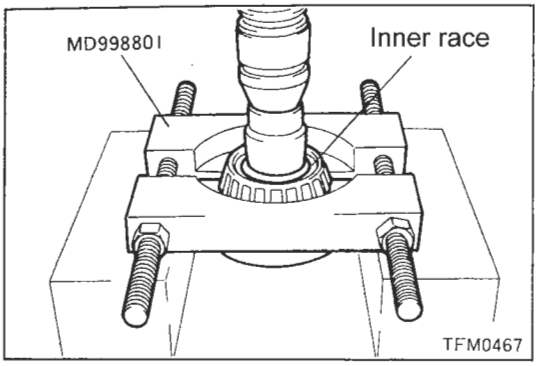
- ◆E◆ 1. Dowel
- ◇A◇◆D◆ 2. End cover
- ◇B◇◆C◆ 3. Inner bearing race
- ◇C◇◆B◆ 4. Needle bearing
- 5. Planetary gear set
- 6. Viscous coupling
- 7. Sun gear
- 8. Center output shaft
- ◇D◇◆A◆ 9. Inner bearing race
- 10. Center differential case



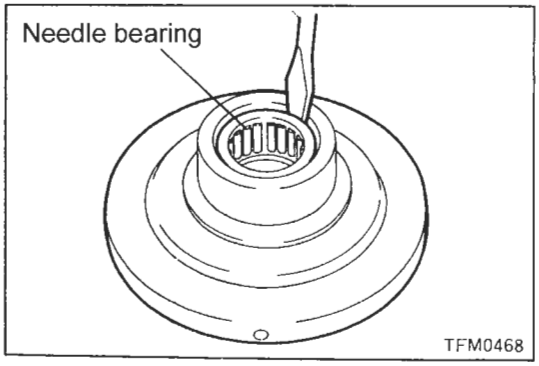
Disassembly service points

⇩A⇩ Removal of planetary gear cover

(1) Drive the spring pin down into the illustrated position.

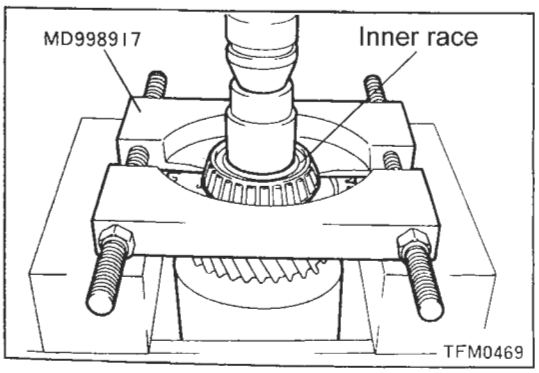


⇩B⇩ Removal of inner bearing race

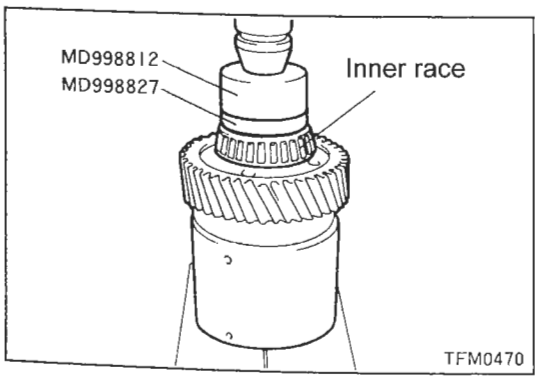


⇩C⇩ Removal of needle bearing

(1) Using a screwdriver or similar tool, remove the needle bearing.

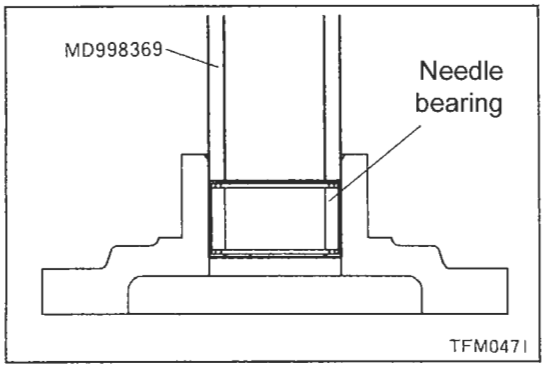


⇩D⇩ Removal of inner bearing race



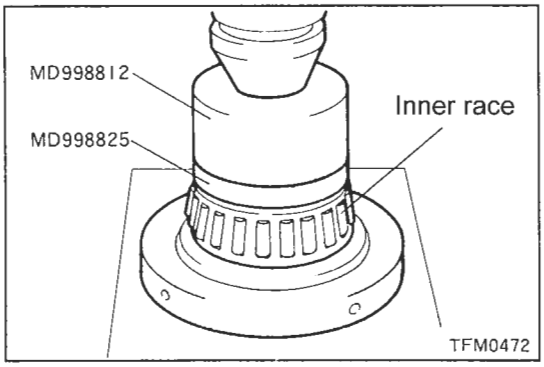
Assembly service points

⇧A⇧ Installation of inner bearing race

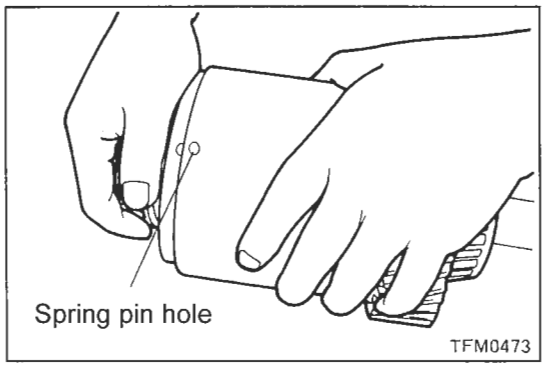


➧B➧ Installation of needle bearing

(1) Press the needle bearing into the illustrated position.

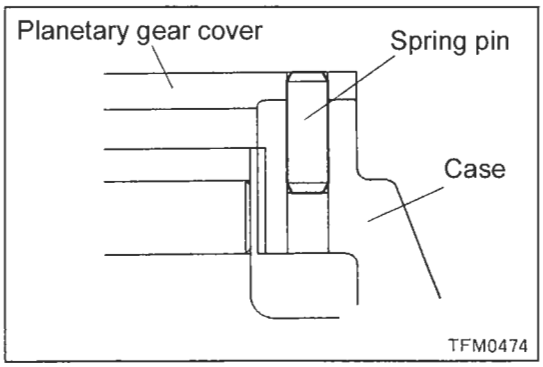


➧C➧ Installation of inner bearing race



➧D➧ Installation of inner bearing race

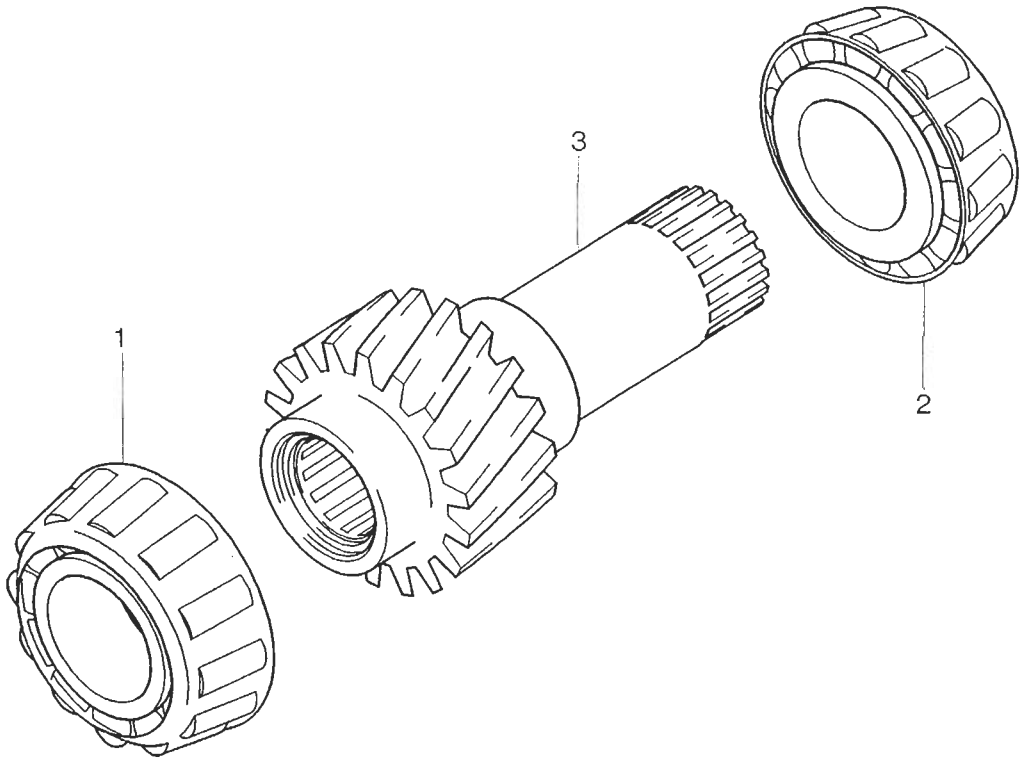
(1) Align the spring pin holes of the cover and differential case using a plastic hammer.



➧E➧ Installation of spring pin

(1) Drive the spring pins down flush with the surface of the differential case.

Disassembly/ Reassembly

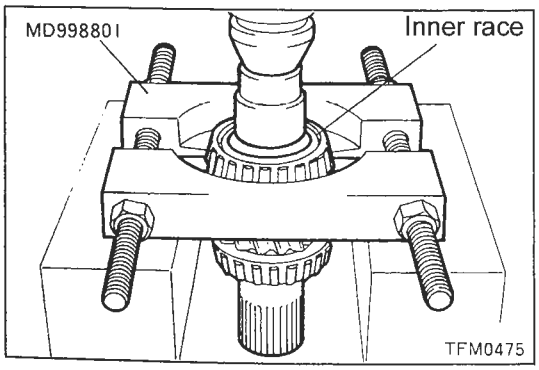


Disassembly Procedure

- ⇩A⇧⇩B⇧ 1. Inner bearing race
- ⇩A⇧⇩A⇧ 2. Inner bearing race
- 3. Output shaft

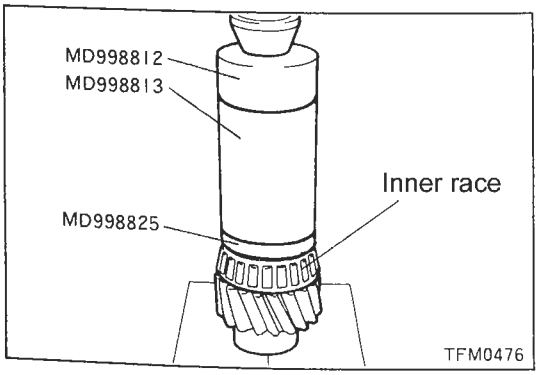
Coat all internal parts in gear oil before reassembly

TFM0388



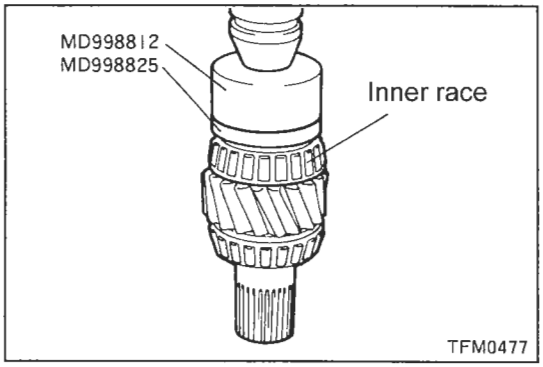
Disassembly service points

⇩A⇧ **Removal of inner bearing race**



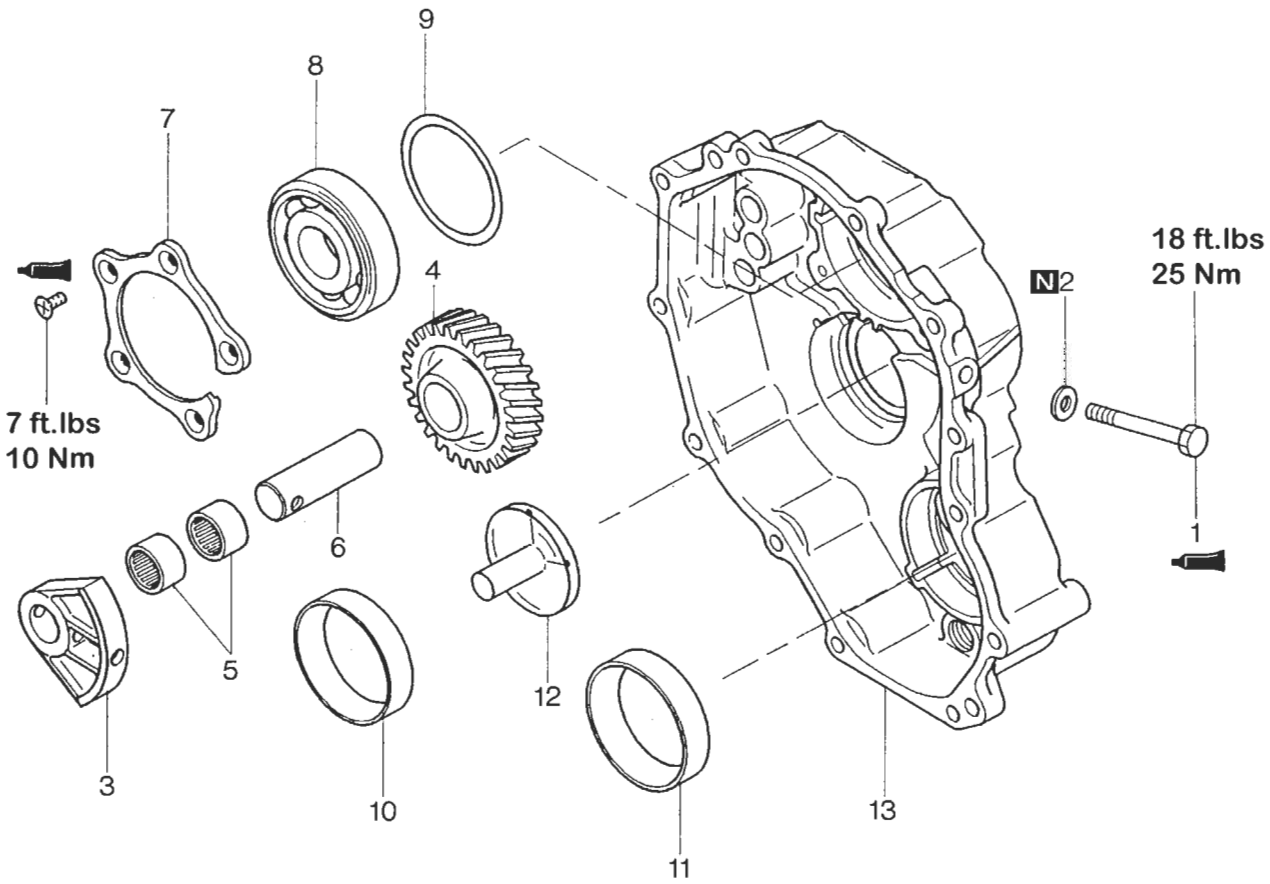
Assembly service points

⇩A⇧ **Installation of inner bearing race**



➧B➧ Installation of inner bearing race

Disassembly/ Reassembly W5MG1

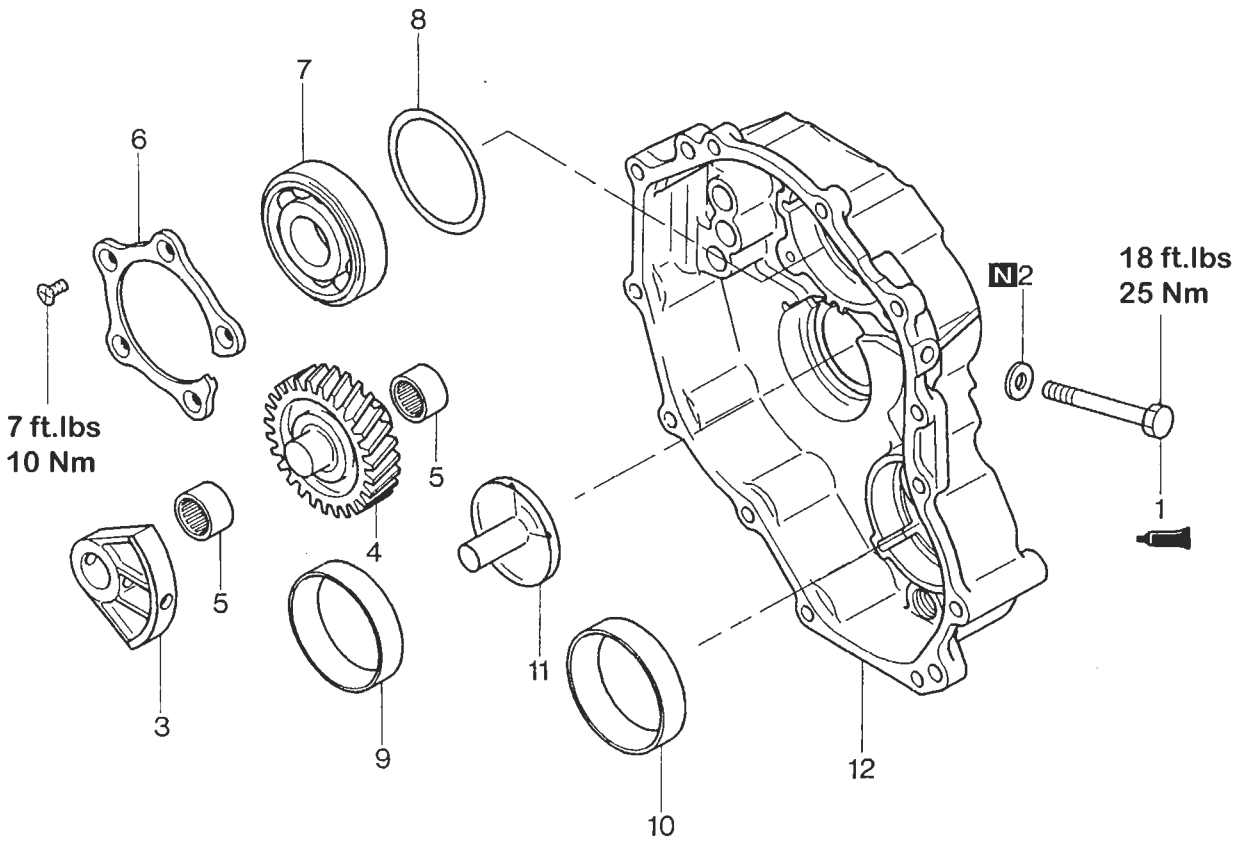


Coat all internal parts in gear oil before reassembly

Disassembly Procedure

- ◗G◖ 1. Reverse shaft carrier bolt
- 2. Washer
- 3. Reverse shaft carrier
- 4. Reverse gear
- 5. Needle bearings
- ◗F◖ 6. Reverse gear shaft
- ◗E◖ 7. Input shaft bearing retainer
- 8. Input shaft bearing
- ◗D◖ 9. Spacer
- ◇A◇◗C◖ 10. Outer bearing race
- ◇B◇◗B◖ 11. Outer bearing race
- ◗A◖ 12. Oil guide
- 13. Rear cover

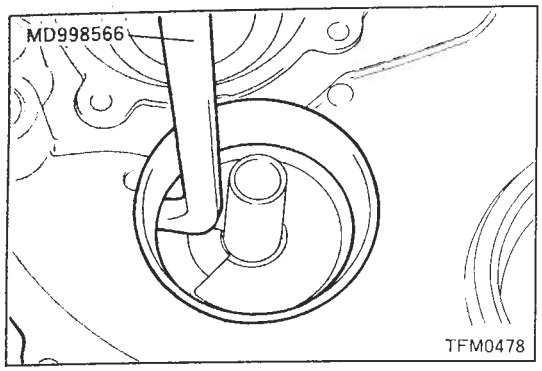
Disassembly/ Reassembly W6MG1



Coat all internal parts in gear oil before reassembly

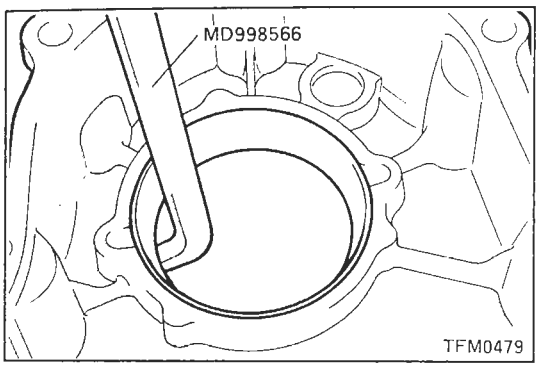
Disassembly Procedure

- ➧G➧ 1. Reverse shaft carrier bolt
- 2. Washer
- 3. Reverse shaft carrier
- 4. Reverse gear
- 5. Needle bearings
- ➧E➧ 6. Input shaft bearing retainer
- 7. Input shaft bearing
- ➧D➧ 8. Spacer
- ⇦A⇨➧C➧ 9. Outer bearing race
- ⇦B⇨➧B➧ 10. Outer bearing race
- ➧A➧ 11. Oil guide
- 12. Rear cover

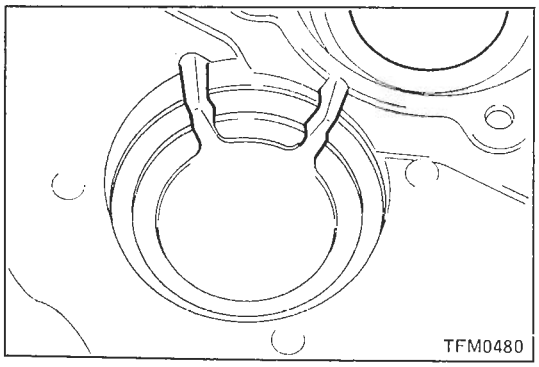


Disassembly service points

⇦A⇨ Removal of outer bearing race



⇦B⇨ Removal of outer bearing race

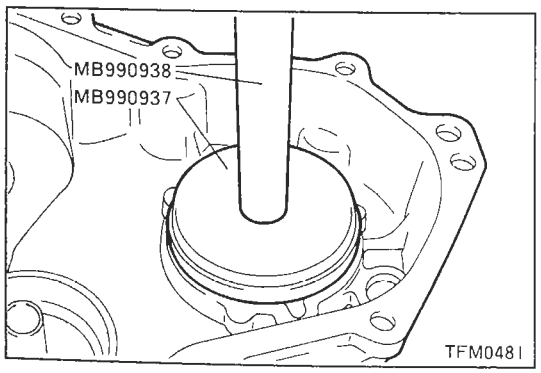


Assembly service points

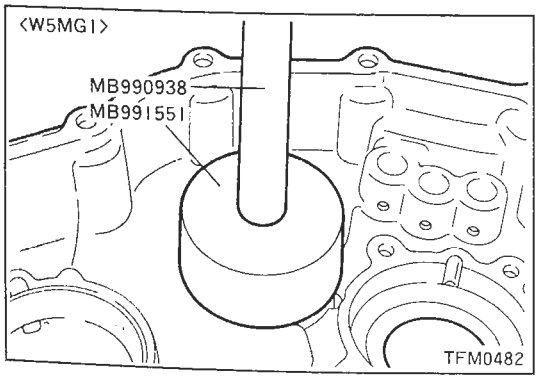
➡A⬅ Installation of oil guide

(1) When installing the oil guide, align the channels of the guide with the notches in the rear cover.

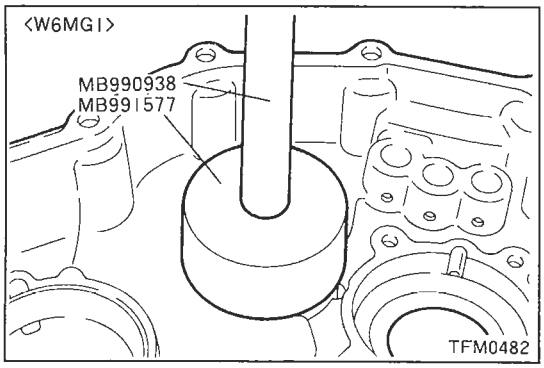
Note:
If the oil guide is damaged or broken, replace it with a new one.

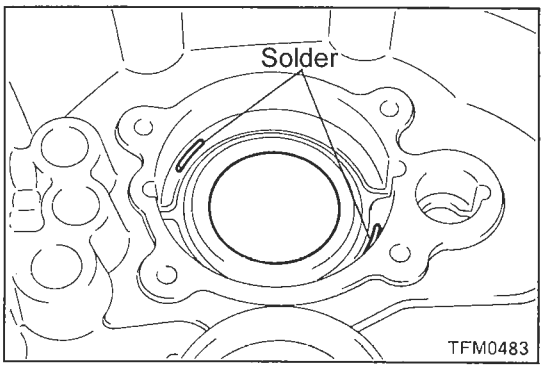


➡B⬅ Installation of outer bearing race



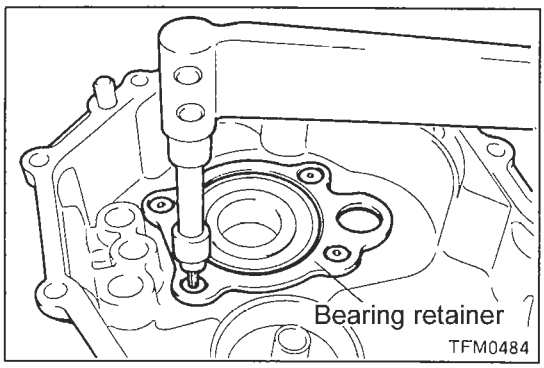
➡C⬅ Installation of outer bearing race



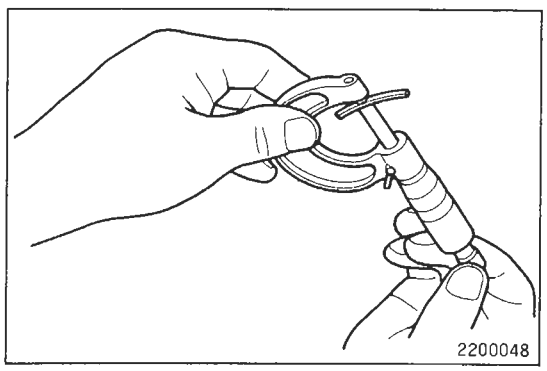


◗D◖ Installation of spacer

(1) Place solder (length approximately 10 mm and diameter approximately 1.6mm) into positions shown in illustration, then install outer bearing race.



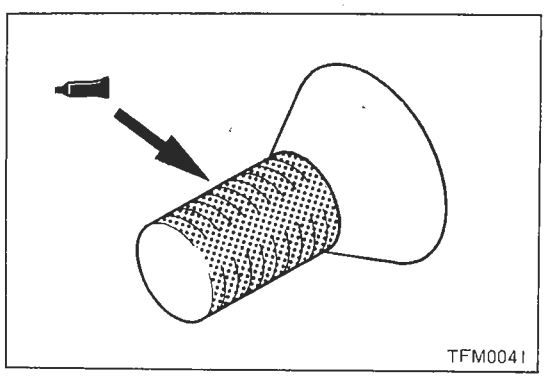
(2) Install the input shaft bearing retainer bolts and tighten to the specified torque.



(3) Remove the bearing and the solder. Measure the thickness of the crushed solder with a micrometer and select and install a spacer of thickness that gives standard preload.

End Play: 0.02 mm - 0.05 mm

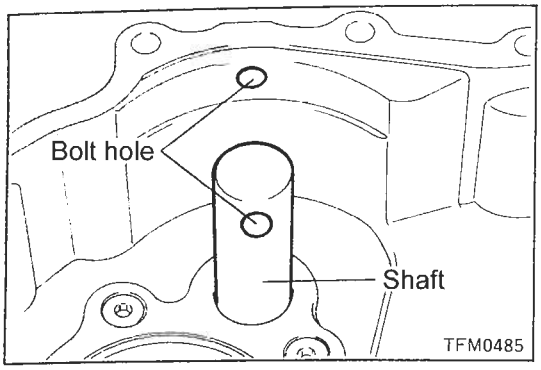
(4) If the solder is not collapsed in step 2, select a solder with a thicker diameter and start over at step 1.



◗E◖ Installation of input shaft bearing retainer

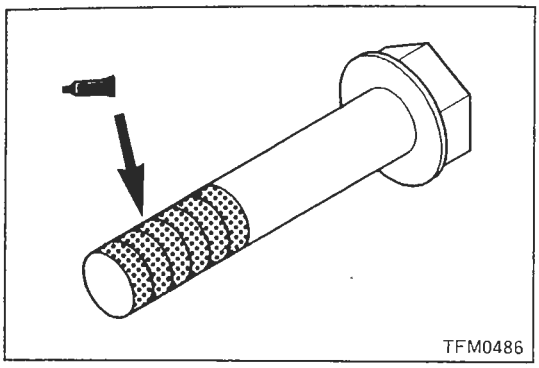
(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent



➧F➧ Installation of reverse gear idler shaft

(1) Align the bolt holes as shown in order to install the idler shaft bolt.

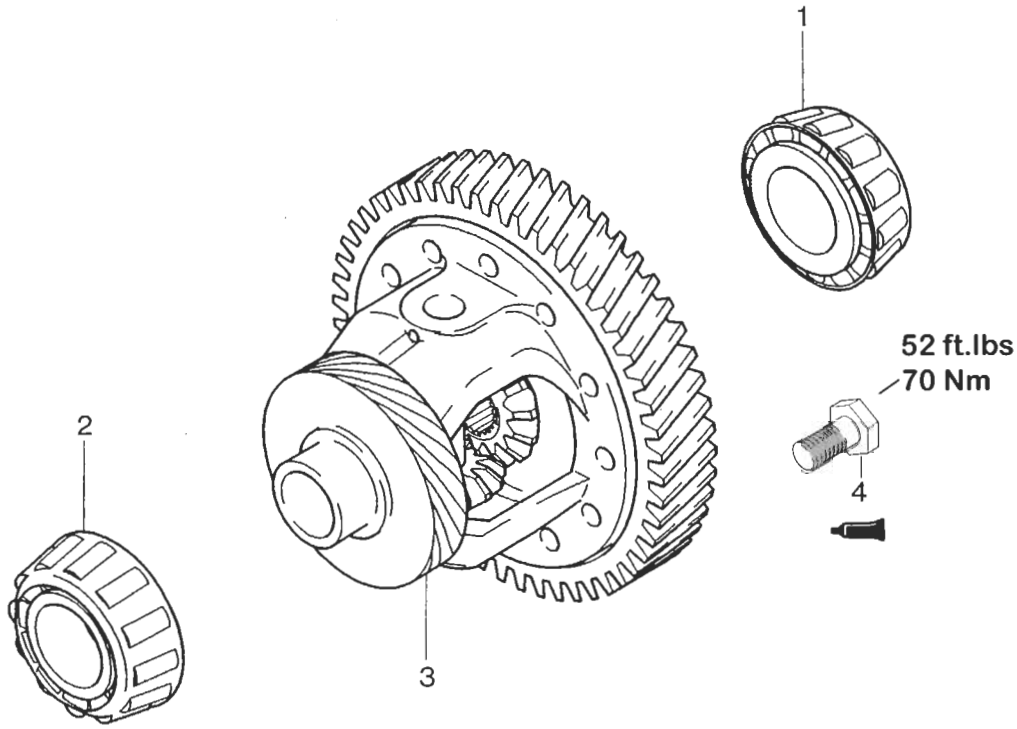


➧G➧ Installation of reverse gear shaft bolt <W5MG1> / Reverse gear carrier bolt <W6MG1>

(1) Apply thread locking compound to the threads of the bolt and tighten to the specified torque.

Note:
Brand: Loc-tite #242, 3M Threadlocker #4170, or equivalent

Disassembly/ Reassembly

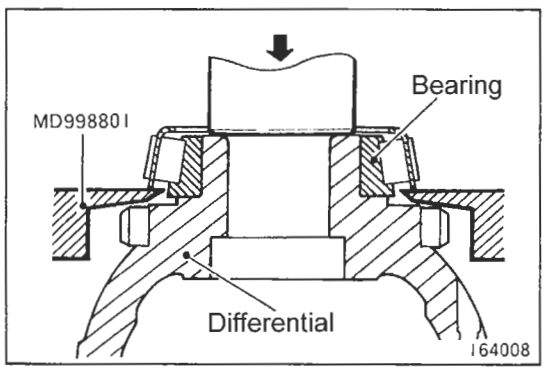


Disassembly Procedure

- ⬡A⬡ ➧B➧ 1. Inner bearing race
- ⬡A⬡ ➧A➧ 2. Inner bearing race
- 3. Differential
- 4. Ring gear bolt

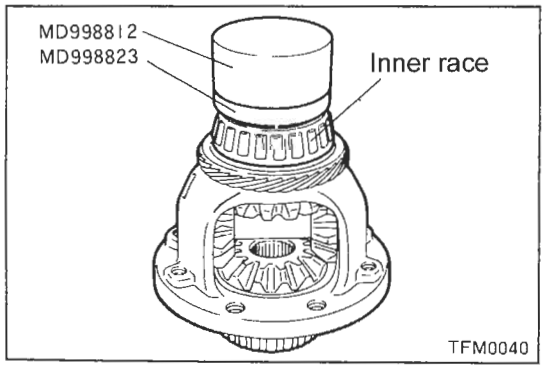
Coat all internal parts in gear oil before reassembly

TFM0393



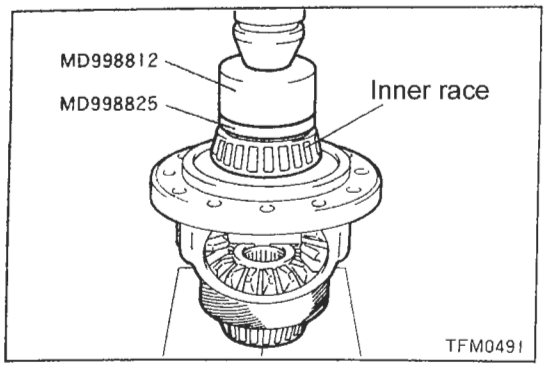
Disassembly service point

⬡A⬡ Removal of inner bearing race



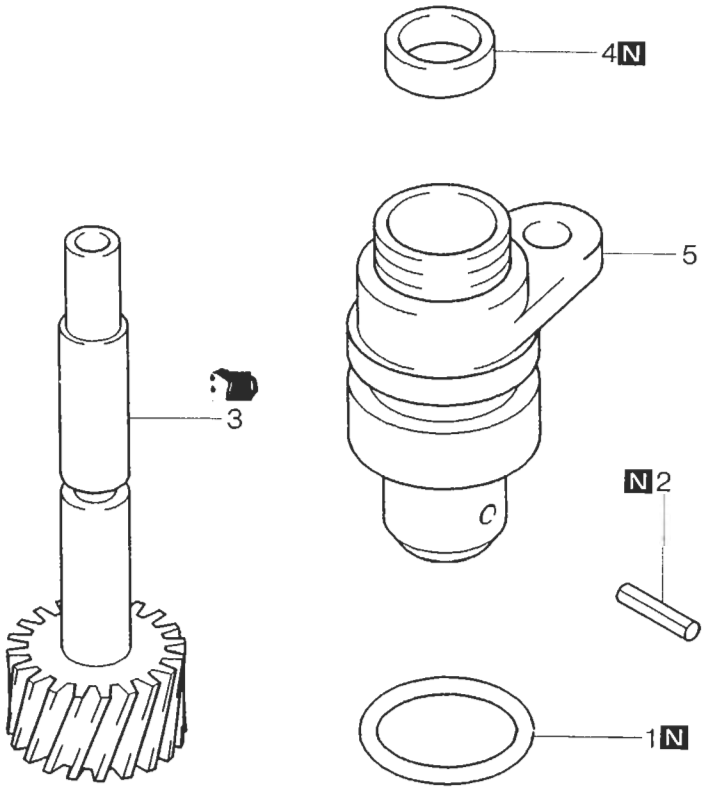
Assembly service point

➧A➧ Installation of inner bearing race



➧B➧ Installation of inner bearing race

Disassembly/ Reassembly

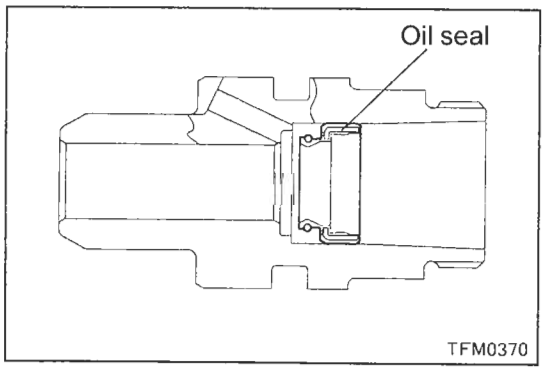


Coat all internal parts in gear oil before reassembly

Disassembly Procedure

1. O-Ring
2. Spring pin
3. Speedometer driven gear
4. Oil seal
5. Sleeve

TFM0391



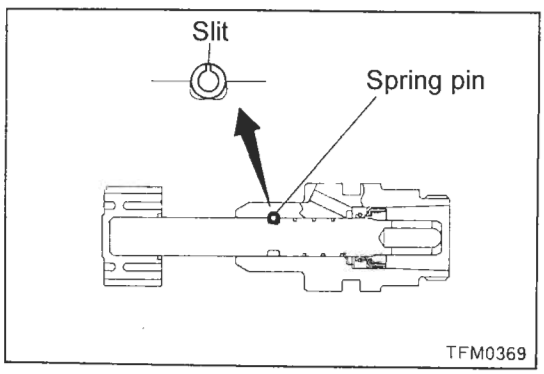
Assembly service points

A Installation of oil seal

(1) Press the oil seal into position as illustrated.

B Installation of speedometer driven gear

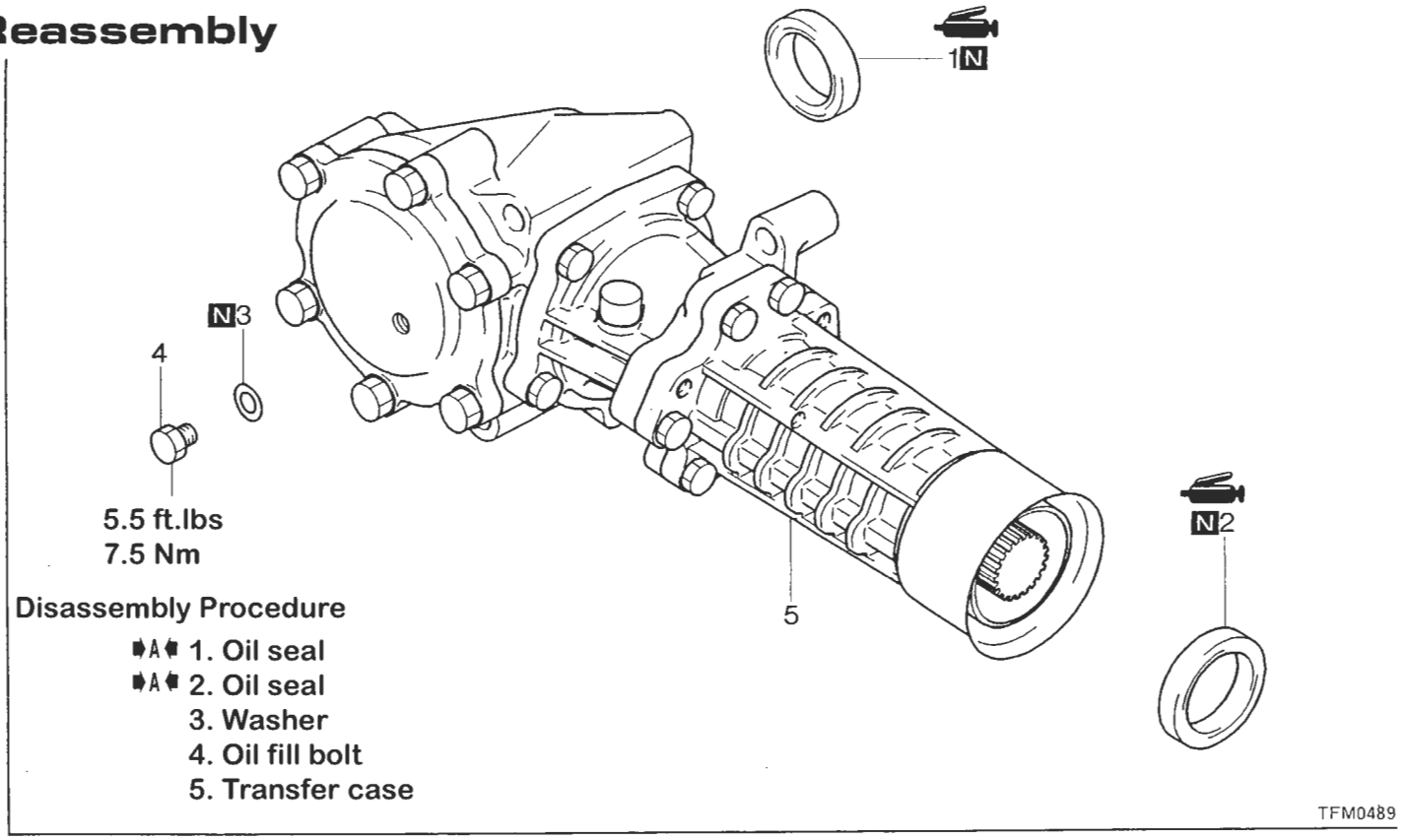
(1) Apply gear oil to the shaft of the driven gear during installation.



C Installation of spring pin

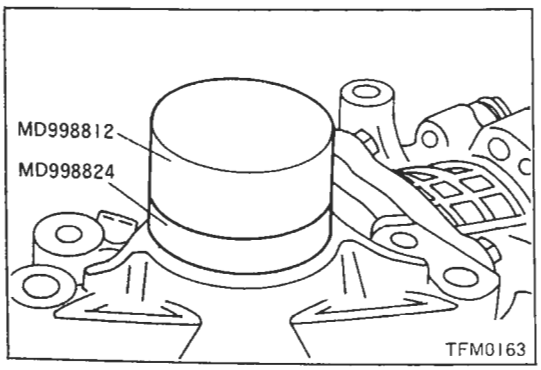
(1) Install the spring pin with the slit facing away from the shaft of the driven gear.

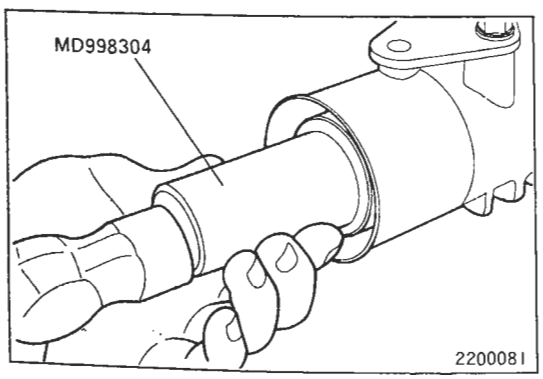
Disassembly/ Reassembly



Disassembly Procedure

- ⇗A⇖ 1. Oil seal
- ⇗A⇖ 2. Oil seal
- 3. Washer
- 4. Oil fill bolt
- 5. Transfer case





Assembly service points

⇗A⇖ Installation of oil seal

(1) After installation of oil seal, fill the lip section with specified grease.

Specified grease:
Molykote TA #1 or #2