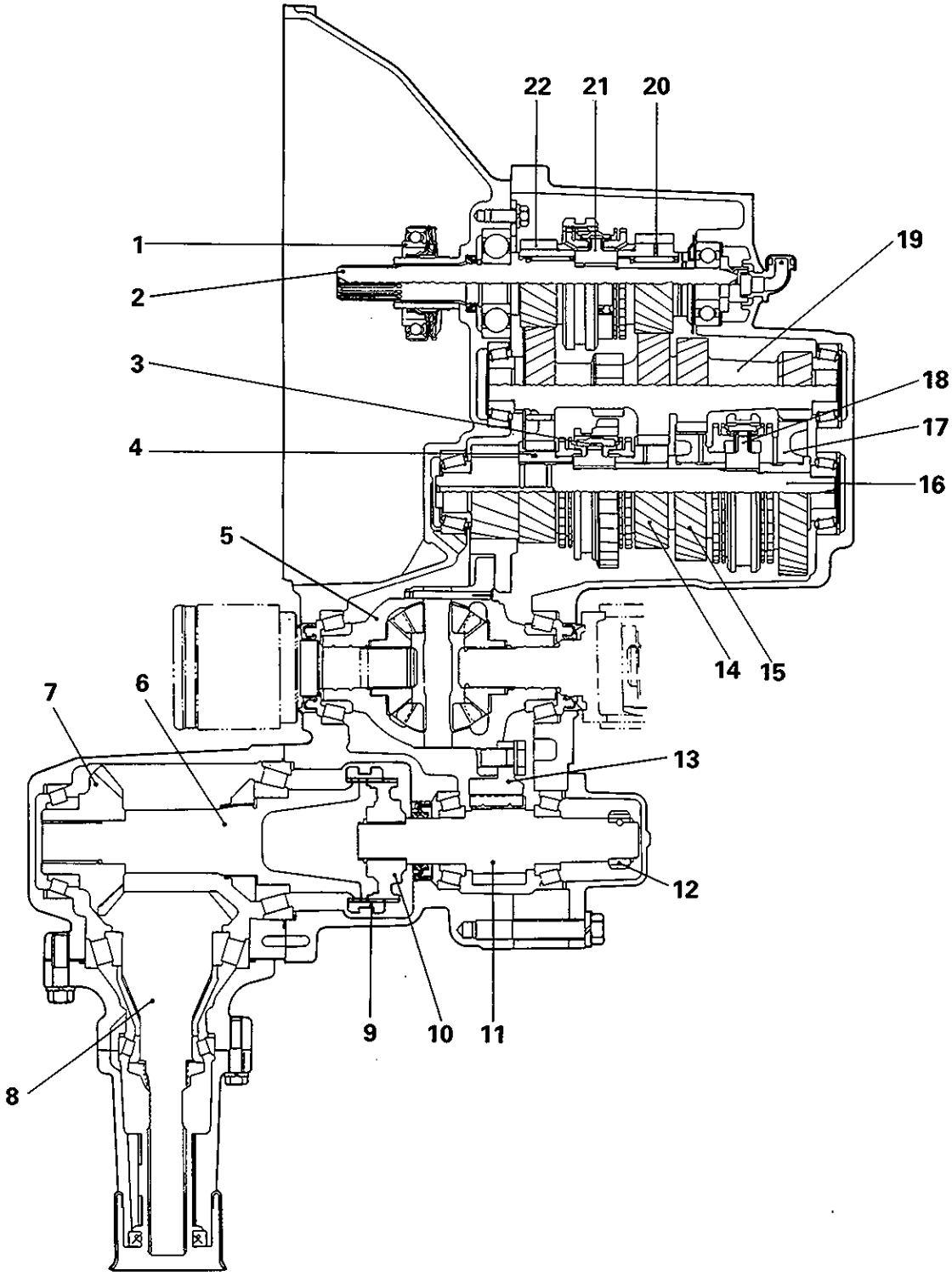
MANUAL TRANSMISSION

MODEL KM182

CONTENTS

Added

GENERAL INFORMATION



1. Clutch release bearing
2. Input shaft
3. 3rd – 4th synchronizer
4. 4th speed gear
5. Differential
6. Rear output clutch shaft
7. Drive bevel gear
8. Driven bevel gear
9. Clutch sleeve
10. Clutch hub
11. Rear output pinion
12. Speedometer drive gear
13. Differential drive gear
14. 3rd speed gear
15. 2nd speed gear
16. Output shaft
17. 1st speed gear
18. 1st – 2nd synchronizer
19. Intermediate gear
20. Input high gear
21. High – low synchronizer
22. Input low gear

TFM0164

NOTES

1. SPECIFICATIONS

GENERAL SPECIFICATIONS

	Specifications
Model	KM182
Type	Manual, 5-speed, 4-wheel drive
Gear ratio	
First	4.967
Second	2.628
Third	1.549
Fourth	1.166
Fifth	0.896
Reverse	4.699
Front differential	
Final reduction ratio	3.714
Transfer	
Final reduction ratio	1.304
Speedometer gear ratio (Drive/Driven)	7/20

SERVICE SPECIFICATIONS

mm (in.)

	Standard	Remarks
Input shaft front bearing end play	0 – 0.12 (0 – 0.047)	Adjust with snap ring
Backlash between differential side gear and pinion	0.025 – 0.150 (0.0001 – 0.0059)	Adjust with spacer
Reverse idler gear setting height	45.56 ± 0.8 (1.7937 ± 0.031)	
Differential case preload	0.20 – 0.25 (0.0079 – 0.0098)	Adjust with spacer
Intermediate gear end play	0 – 0.05 (0 – 0.0019)	Adjust with spacer
Output shaft preload	0.20 – 0.25 (0.0079 – 0.0098)	Adjust with spacer
Rear output pinion preload	0.15 – 0.20 (0.0059 – 0.0078)	Adjust with spacer
Rear output clutch shaft preload	0.15 – 0.20 (0.0059 – 0.0078)	Adjust with spacer
Clutch hub end play	0.01 – 0.11 (0.0004 – 0.0043)	Adjust with snap ring
Shift lug end play	0.1 – 0.5 (0.004 – 0.020)	Adjust with spacer

ADJUSTMENT SNAP RINGS AND SPACERS

Part name	Thickness mm (in.)	Identification symbol	Part No.
Snap ring (For adjustment of input shaft front bearing end play)	2.24 (0.0882)	None	MD706537
	2.31 (0.0909)	Blue	MD706538
	2.38 (0.0937)	Brown	MD706539
Spacer (For adjustment of intermediate gear and output shaft end play)	1.84 (0.0724)	84	MD706580
	1.87 (0.0736)	87	MD706581
	1.90 (0.0748)	90	MD706582
	1.93 (0.0760)	93	MD706583
	1.96 (0.0772)	96	MD706584
	1.99 (0.0783)	99	MD706585
	2.02 (0.0795)	02	MD706586
	2.05 (0.0807)	05	MD706587
	2.08 (0.0819)	08	MD706588
	2.11 (0.0831)	11	MD706589
	2.14 (0.0843)	14	MD706590
	2.17 (0.0854)	17	MD706591
	2.20 (0.0866)	20	MD706592
	2.23 (0.0878)	23	MD706593
	2.26 (0.0890)	26	MD706594
	2.29 (0.0902)	29	MD706595
	2.32 (0.0913)	32	MD706596
	2.35 (0.0925)	35	MD706597
	2.38 (0.0937)	38	MD706598
	2.41 (0.0949)	41	MD706599
	2.44 (0.0961)	44	MD706600
	2.47 (0.0972)	47	MD706601
	2.50 (0.0984)	50	MD706602
	2.53 (0.0996)	53	MD706603
	2.56 (0.1008)	56	MD706604
	2.59 (0.1020)	59	MD706605
	2.62 (0.1031)	62	MD706606
	2.65 (0.1043)	65	MD706607
	2.68 (0.1055)	68	MD706608
Spacer (For adjustment of differential case preload)	1.55 (0.0610)	T	MD710464
	1.58 (0.0622)	B	MD706571
	1.61 (0.0634)	U	MD710465
	1.64 (0.0646)	V	MD710466
	1.67 (0.0657)	A	MD706570
	1.70 (0.0669)	W	MD710467
	1.73 (0.0681)	X	MD710468
	1.76 (0.0693)	F	MD706575
	1.79 (0.0705)	Y	MD710469
	1.82 (0.0717)	Z	MD710470
	1.85 (0.0728)	H	MD700272

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer (For adjustment of differential case preload)	1.88 (0.0740)	AA	MD710471
	1.91 (0.0752)	BB	MD715955
	1.94 (0.0764)	CC	MD715956
	1.97 (0.0776)	DD	MD715957
	2.00 (0.0787)	EE	MD715958
	2.03 (0.0799)	FF	MD715959
	2.06 (0.0811)	GG	MD715960
Spacer (For adjustment of differential pinion backlash)	0.75 – 0.82 (0.0295 – 0.0323)	–	MA180860
	0.83 – 0.92 (0.0327 – 0.0362)	–	MA180861
	0.93 – 1.00 (0.0366 – 0.0394)	–	MA180862
	1.01 – 1.08 (0.0398 – 0.0425)	–	MA180875
	1.09 – 1.16 (0.0429 – 0.0457)	–	MA180876
Snap ring (For adjustment of rear output clutch hub end play)	1.89 (0.0744)	None	MD710720
	1.95 (0.0767)	Blue	MD710721
	2.01 (0.0791)	Brown	MD710722
Spacer (For adjustment of rear output clutch shaft preload)	1.80 (0.0708)	80	MD714566
	1.83 (0.0720)	83	MD714567
	1.86 (0.0732)	86	MD714568
	1.89 (0.0744)	89	MD714569
	1.92 (0.0755)	92	MD714570
	1.95 (0.0767)	95	MD714571
	1.98 (0.0779)	98	MD714572
	2.01 (0.0791)	01	MD714573
	2.04 (0.0803)	04	MD714574
	2.07 (0.0814)	07	MD714575
	2.10 (0.0826)	10	MD714576
	2.13 (0.0838)	13	MD714577
	2.16 (0.0850)	16	MD714578
	2.19 (0.0862)	19	MD714579
	2.22 (0.0874)	22	MD714580
	2.25 (0.0885)	25	MD714581
	2.28 (0.0897)	28	MD714582
	2.31 (0.0909)	31	MD714583
	2.34 (0.0921)	34	MD714584
	2.37 (0.0933)	37	MD714585
	2.40 (0.0944)	40	MD714586
	2.43 (0.0956)	43	MD714587
	2.46 (0.0968)	46	MD714588
	2.49 (0.0980)	49	MD714589
	2.52 (0.0992)	52	MD714590

Added

Part name	Thickness mm (in.)	Identification symbol	Part No.
Spacer ..... (For adjustment of rear output pinion preload)	1.73 (0.0681)	73	MD712341
	1.76 (0.0693)	76	MD712342
	1.79 (0.0705)	79	MD712343
	1.82 (0.0717)	82	MD712344
	1.85 (0.0728)	85	MD712345
	1.88 (0.0740)	88	MD720296
	1.91 (0.0752)	91	MD720297
	1.94 (0.0764)	94	MD720298
	1.97 (0.0776)	97	MD720299
	2.00 (0.0787)	00	MD720300
	2.03 (0.0799)	03	MD720301
	2.06 (0.0811)	06	MD720302
	2.09 (0.0823)	09	MD720303
	2.12 (0.0835)	12	MD720304
	2.15 (0.0846)	15	MD720305
	2.18 (0.0858)	18	MD720306
	2.21 (0.0870)	21	MD720307
	2.24 (0.0882)	24	MD720308
Spacer ..... (For adjustment of shift lug end play)	0.6 (0.023)	G	MD716551
	0.9 (0.035)	F	MD716552
	1.2 (0.047)	E	MD716553
	1.5 (0.059)	D	MD716554
	1.8 (0.071)	C	MD716555
	2.1 (0.083)	B	MD716556
	2.4 (0.094)	A	MD716557
	2.7 (0.106)	–	MD716558

TORQUE SPECIFICATIONS

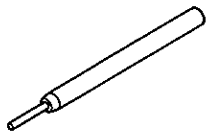
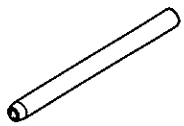
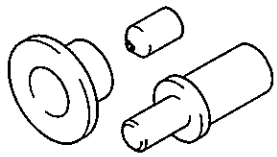
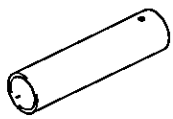
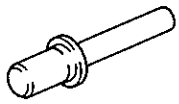
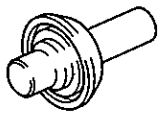
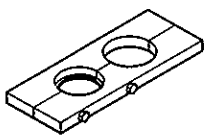
	Torque		
	Nm	kgm	ft.lbs.
Oil filler plug	33	3.3	24
Drain plug	33	3.3	24
Transfer mounting bolts	58	5.8	42
Extension housing bolts	19	1.9	14
Rear output pinion cover bolts	58	5.8	42
Speedometer driven gear mounting bolt	4	0.4	3
Upper cover bolts	9	0.9	0.7
Plug (on upper cover)	19	1.9	14
Select actuator bolts	58	5.8	42
Transmission mounting bracket bolts	58	5.8	42
Clutch cable bracket bolts	19	1.9	14
Transmission case bolts	39	3.9	29
Reverse shift lever bolts	19	1.9	14
Back-up light switch	30	3	22
Restrict ball locknut	33	3.3	24
Bearing retainer bolts	19	1.9	14
Poppet plugs	30	3	22
Input shaft locknut	150	15	109
Differential drive gear bolts	135	13.5	98
Select switch bolt	11	1.1	8
Plug (control shaft end)	33	3.3	24

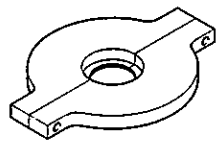
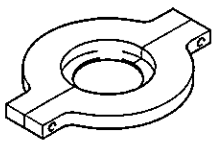
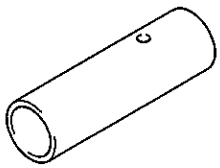
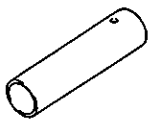
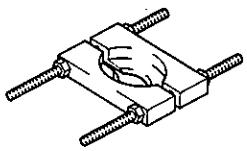
SEALANTS AND ADHESIVES

Items	Specified lubricant
Transmission case - clutch housing mating surfaces	Mitsubishi Genuine Sealant Part No. MD997740 or equivalent
Differential drive gear bolts	3M STUD Locking No. 4170 or equivalent
Air breather	3M SUPER WEATHERSTRIP No. 8001 or equivalent
Restrict ball assembly	3M silicone sealant No. 8660 or equivalent
Upper cover gasket	3M SUPER WEATHERSTRIP No. 8001 or equivalent
Transfer assembly and extension housing contact surface	Mitsubishi Genuine Sealant Part No. MD997740 or equivalent
Transmission case and rear output pinion cover contact surface	Mitsubishi Genuine Sealant Part No. MD997740 or equivalent
Clutch housing and transfer case contact surface	Mitsubishi Genuine Sealant Part No. MD997740 or equivalent

NOTES

2. SPECIAL TOOLS

Tool	Number	Name	Use
	MD998019	Lock pin extractor	Removal of spring pin and lock pin
	MD998245	Lock pin installer	Installation of spring pin and lock pin
	MD998252	Oil seal installer	For tapping in the rear output pinion oil seal
	MD998320	Bearing installer	Press-fit of input shaft bearing and input shaft gear
	MD998321	Oil seal installer	Installation of input shaft front oil seal
	MD998325	Differential oil seal installer	Installation of differential oil seal
	MD998327	Plate, removing	Removal of input shaft front bearing and output shaft gears

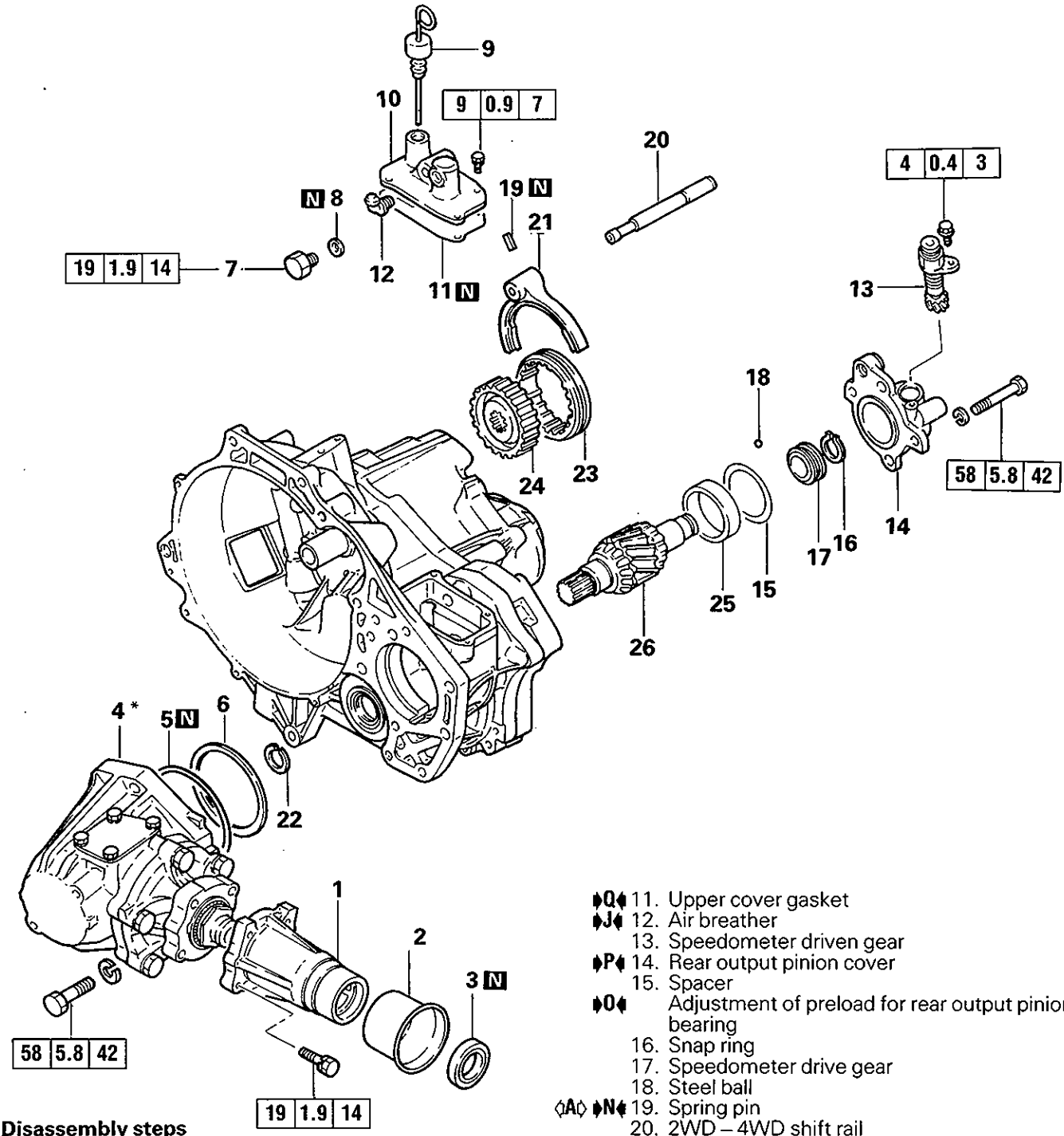
Tool	Number	Name	Use
	MD998354	Puller, taper bearing	Removal of intermediate shaft bearings and output shaft rear bearing
	MD998355	Puller, gear	Removal of output shaft gears
	MD998368	Bearing installer	Installation of input rear bearing, synchronizer, intermediate gear bearings and output shaft rear bearing
	MD998369	Bearing installer	Installation of input shaft front bearing, synchronizer, intermediate gear bearings and output shaft rear bearing
	MD998801	Bearing remover	Removal of differential taper bearings
	MD998812	Installer cap	Use the MD998813, MD998816, MD998819
	MD998813	Installer – 100	Use the MD998812, MD998816

Tool	Number	Name	Use
	MD998816	Installer Adapter (30)	Installation of input shaft gear sleeve and bearing
	MD998819	Installer Adapter (40)	Installation of differential case bearing

NOTES

3. TRANSMISSION

DISASSEMBLY AND REASSEMBLY



Disassembly steps

- ◆T◆ 1. Extension housing
- 2. Dust seal guard
- 3. Rear oil seal
- ◆S◆ 4. Transfer*
- 5. O-ring
- 6. Spacer
- ◆R◆ Adjustment of preload for rear output clutch shaft bearing
- 7. Plug
- 8. Gasket
- 9. Level gauge
- 10. Upper cover
- ◆Q◆ 11. Upper cover gasket
- ◆J◆ 12. Air breather
- 13. Speedometer driven gear
- ◆P◆ 14. Rear output pinion cover
- 15. Spacer
- ◆O◆ Adjustment of preload for rear output pinion bearing
- 16. Snap ring
- 17. Speedometer drive gear
- 18. Steel ball
- ◇A◇ ◆N◆ 19. Spring pin
- 20. 2WD – 4WD shift rail
- 21. 2WD – 4WD shift fork
- 22. Snap ring
- 23. Clutch sleeve
- 24. Clutch hub
- 25. Bearing outer race
- 26. Rear output pinion

NOTE
*: Do not disassemble as adjustment is impossible when assembled.

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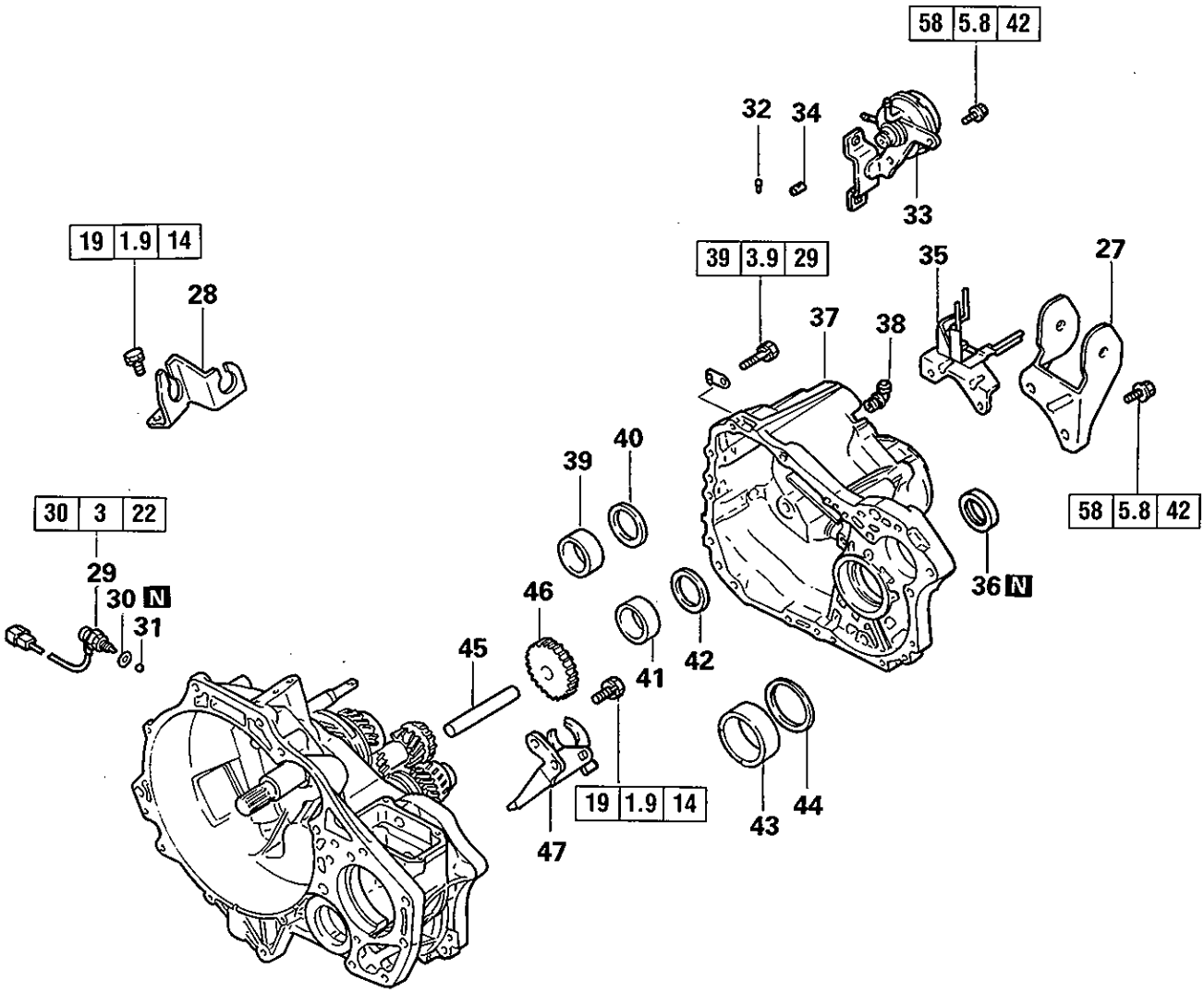
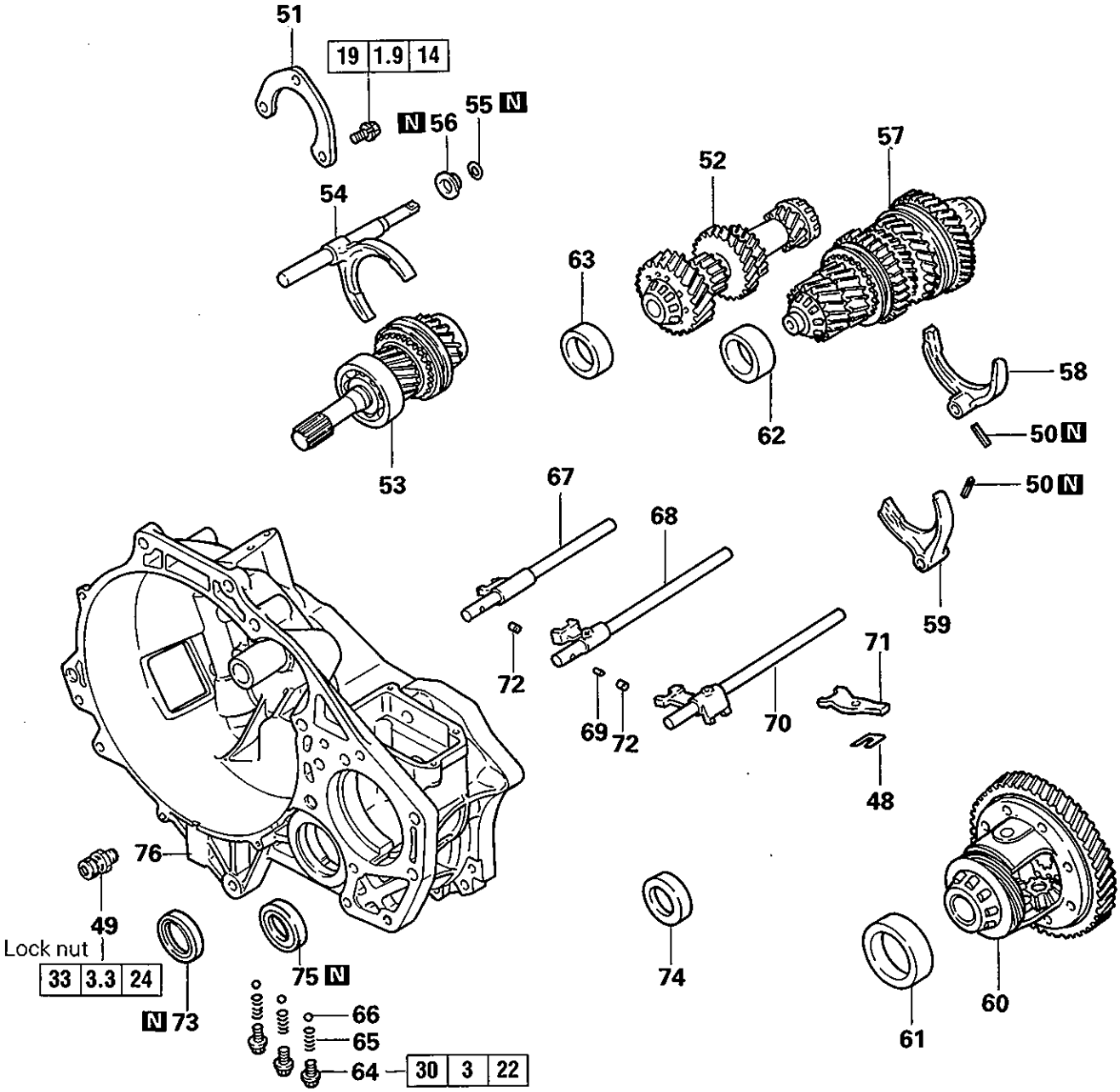


Disassembly steps

27. Transmission mounting bracket
28. Clutch cable bracket
29. Back-up light switch
30. Gasket
31. Steel ball
◆M◆32. Pin
◇B◇ ◆M◆33. Select actuator
◆M◆34. Collar
35. Clutch tube bracket
◆L◆ 36. Oil seal
◆K◆ 37. Transmission case
◆J◆ 38. Air breather
39. Outer race
40. Spacer
41. Outer race
42. Spacer
43. Outer race
44. Spacer
◆I◆ Adjustment of bearing end play and preload
◆H◆ Measurement of reverse idler gear setting height
45. Reverse idler shaft
46. Reverse idler gear
47. Reverse shift lever

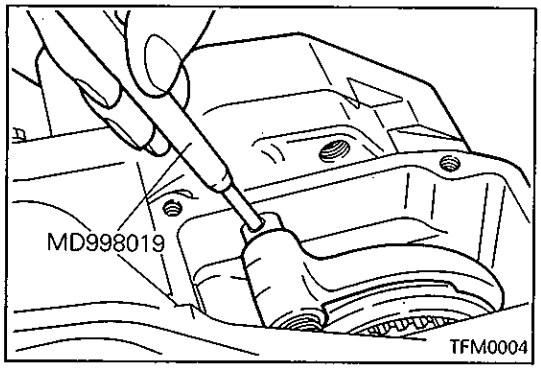
1820002



Disassembly steps

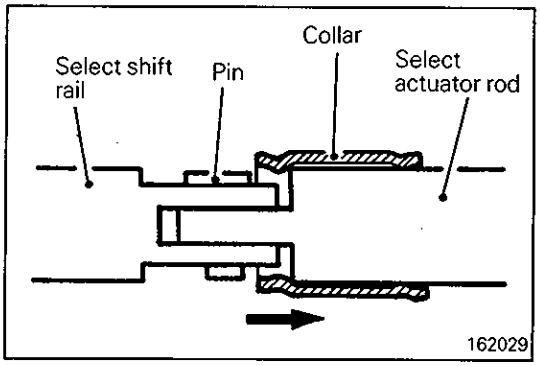
- ◆G◆ 48. Select spacer
- ◆F◆ 49. Restrict ball
- ◇C◇ ◆E◆ 50. Spring pin
- 51. Bearing retainer
- ◆D◆ 52. Intermediate gear
- 53. Input shaft assembly
- 54. Select shift fork
- 55. Seat
- 56. O-ring
- 57. Output shaft
- 58. 1st – 2nd speed shift fork
- 59. 3rd – 4th speed shift fork
- 60. Differential
- 61. Outer race
- 62. Outer race
- 63. Outer race
- 64. Poppet plug
- ◆C◆ 65. Poppet spring
- 66. Steel ball
- 67. Reverse shift rail
- 68. 1st – 2nd speed shift rail
- 69. Interlock plunger B
- 70. 3rd – 4th speed shift rail
- 71. 5th speed shift lug
- 72. Interlock plunger A
- ◆B◆ 73. Oil seal
- 74. Outer race
- ◆A◆ 75. Rear output pinion oil seal
- 76. Clutch housing

1820003



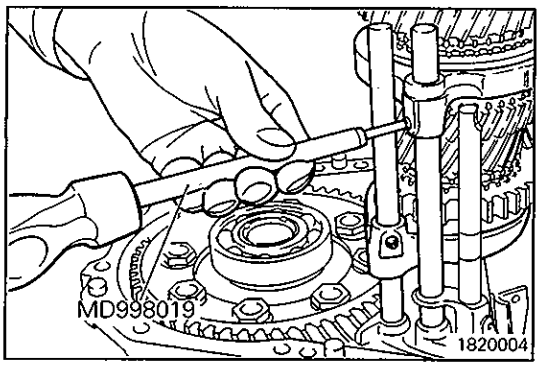
SERVICE POINTS OF DISASSEMBLY

◇A◇ REMOVAL OF SPRING PIN FOR 2WD – 4WD SHIFT FORK

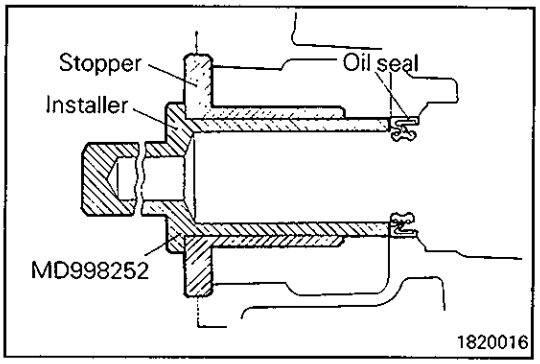


◇B◇ REMOVAL OF ACTUATOR

(1) Pull select actuator and slide collar toward select actuator.
(2) Remove pin and actuator.

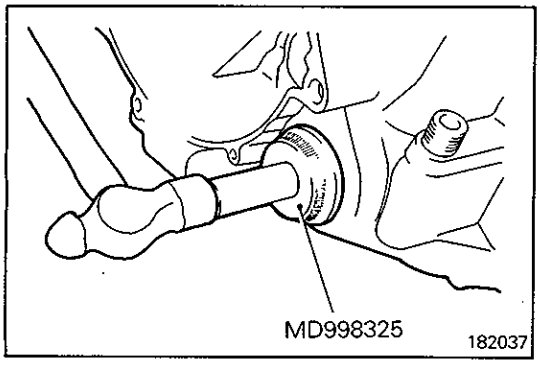


◇C◇ REMOVAL OF SPRING PIN FOR SHIFT FORKS

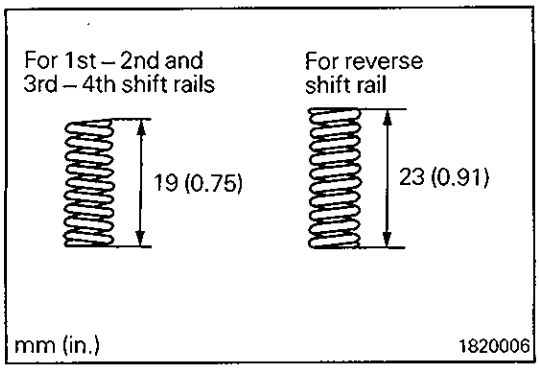


SERVICE POINTS OF REASSEMBLY

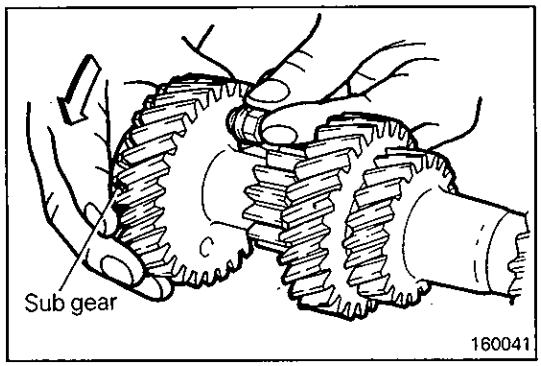
◆A◆ INSTALLATION OF THE REAR OUTPUT PINION OIL SEAL



◆B◆ INSTALLATION OF DRIVE SHAFT OIL SEAL



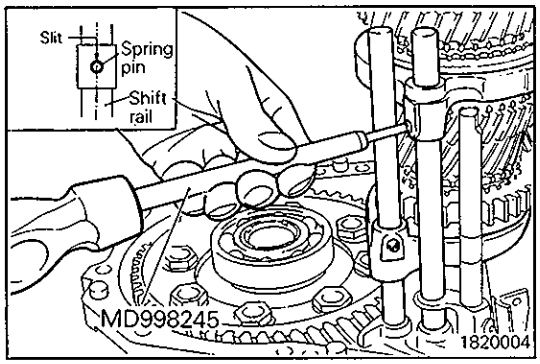
◆C◆ IDENTIFICATION OF POPPET SPRINGS



◆D◆ INSTALLATION OF INTERMEDIATE GEAR

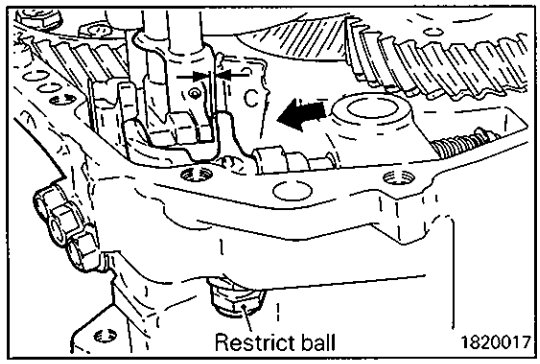
Before installation of the intermediate gear, set the sub gear as follows:

(1) Turn sub gear toward arrow to align its hole with intermediate gear hole.
(2) Insert round bar [8 mm dia. (0.32 in.) and 35 mm long (1.38 in.)] or equivalent bolt.



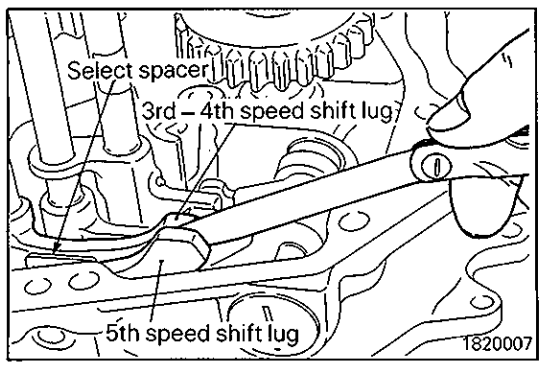
◆E◆ INSTALLATION OF SPRING PIN FOR SHIFT FORKS

(1) Do not reuse the spring pin.



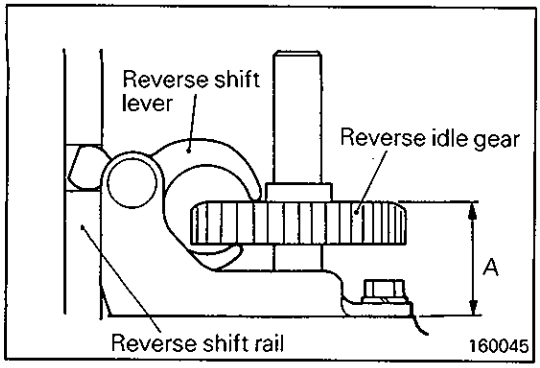
◆F◆ ADJUSTMENT OF RESTRICT BALL

(1) Apply specified sealant on threads of restrict ball.
Specified sealant:
3M silicone sealant No. 8660 or equivalent
(2) Screw restrict ball in clutch housing.
(3) With control shaft pushed in direction of arrow, make adjustment with restrict ball until clearance "C" between control finger and reverse shift lug is as specified below.
Standard value: 0.5 – 1.0 mm (0.020 – 0.039 in.)
(4) Tighten lock nut securely while holding restrict ball.



◆G◆ INSTALLATION OF SELECT SPACER

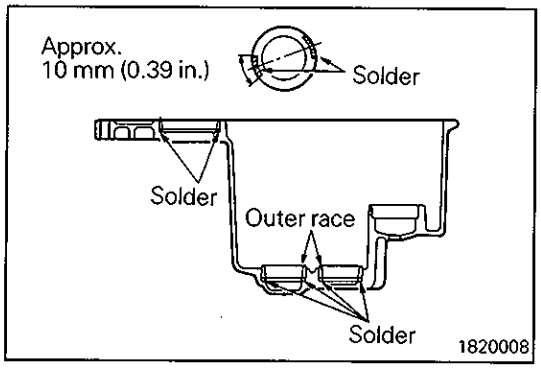
(1) Measure gap between 3rd-4th speed shift lug and 5th-speed shift lug.
Adjust with select spacer until gap is at standard value.
Standard value: 0.1 – 0.5 mm (0.004 – 0.020 in.)



◆H◆ MEASUREMENT OF REVERSE IDLER GEAR SETTING HEIGHT

(1) Set the reverse shift rail in neutral position.
(2) Measure the reverse idler gear setting height "A".

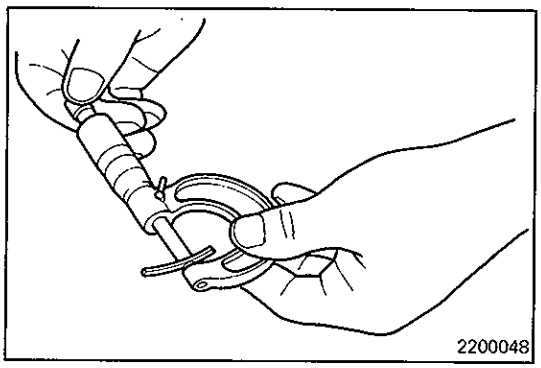
Standard value:
45.56 ± 0.8 mm (1.7937 ± 0.031 in.)

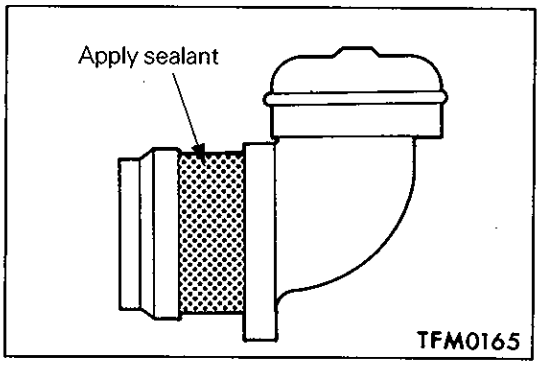


◆I◆ ADJUSTMENT OF BEARING END PLAY AND PRELOAD

(1) Place solder in each outer race hole of transmission case as illustrated.
(2) Install each outer race into holes of case.
(3) Install the transmission case on clutch housing and tighten bolts to specified torque.
(4) Remove transaxle case.
(5) Remove each outer race from case, and take out flattened solder.
(6) Measure flattened solder thickness with micrometer. Select a spacer of the proper thickness that will give the specified end play or preload.

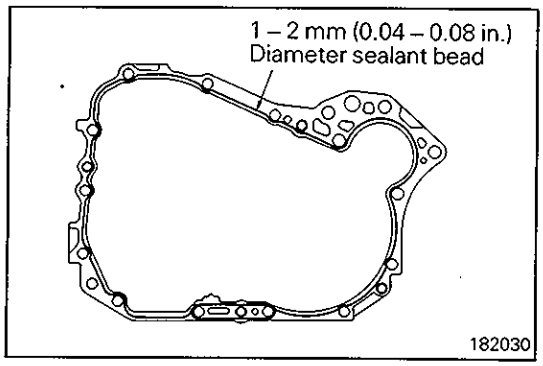
Standard value:
Intermediate gear end play:
0 – 0.05 mm (0 – 0.002 in.)
Output shaft preload:
0.20 – 0.25 mm (0.008 – 0.010 in.)
Differential case preload:
0.20 – 0.25 mm (0.008 – 0.010 in.)





◆J◆ APPLICATION OF SEALANT TO AIR BREATHER

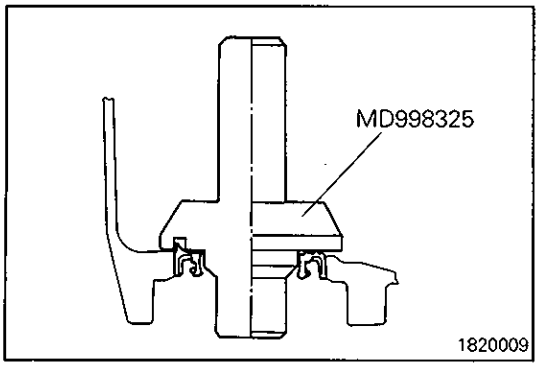
Specified sealant:
3M Super Weatherstrip No. 8001 or equivalent



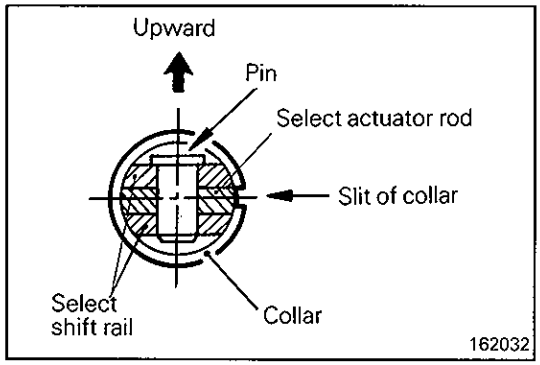
◆K◆ APPLICATION OF SEALANT TO TRANSAXLE CASE

Specified sealant:
Mitsubishi Genuine Sealant part No. MD997740 or equivalent.

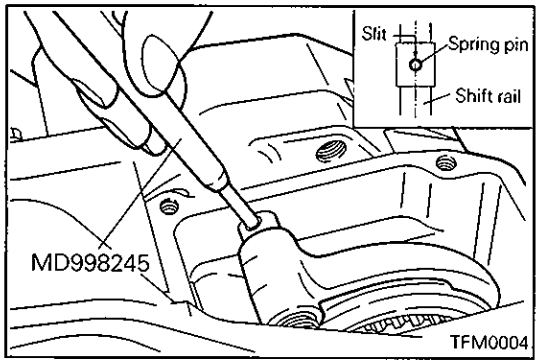
Added



◆L◆ INSTALLATION OF DRIVE SHAFT OIL SEAL

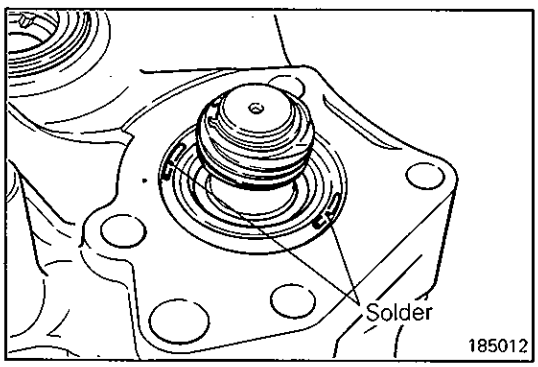


◆M◆ INSTALLATION OF SELECT ACTUATOR



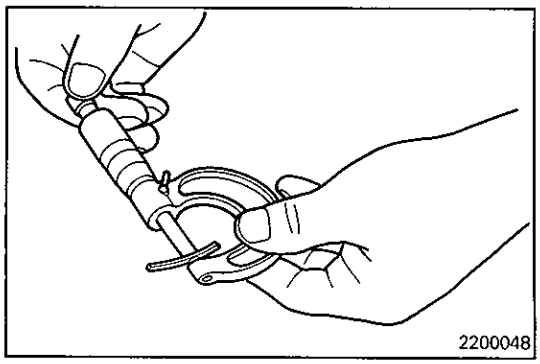
◆N◆ INSTALLATION OF SPRING PIN FOR 2WD – 4WD SHIFT FORK

Caution
- **Do not reuse spring pin.**



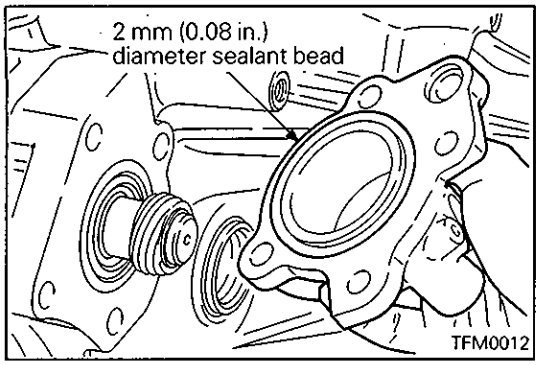
◆O◆ ADJUSTMENT OF PRELOAD FOR REAR OUTPUT PINION BEARING

(1) Place solder on outer race as illustrated.
(2) Install pinion cover. Tighten bolts to specified torque.
(3) Remove pinion cover and remove flattened solder.



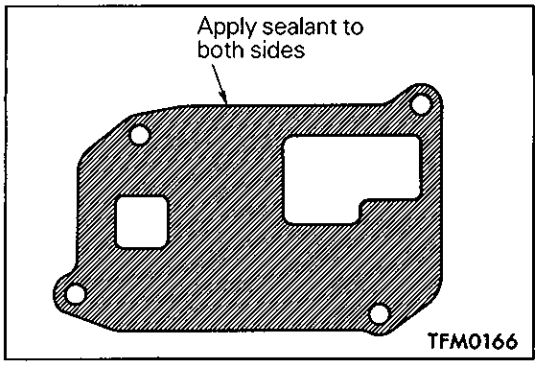
(4) Measure flattened solder thickness with micrometer. Select a spacer of the proper thickness that will give the specified preload.

Standard value:
0.15 – 0.20 mm (0.0059 – 0.0078 in.)



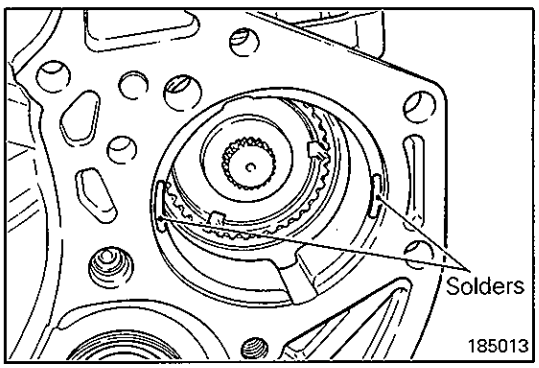
◆P◆ APPLICATION OF SEALANT TO REAR OUTPUT PINION COVER

Specified sealant:
Mitsubishi Genuine Sealant
Part No. MD997740 or equivalent



◆Q◆ APPLICAITON OF SEALANT TO UPPER COVER GASKET

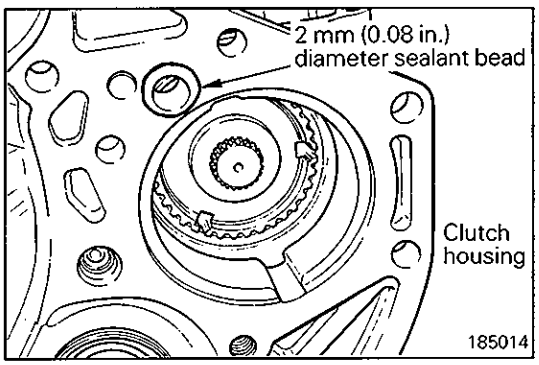
Specified sealant:
3M Super Weatherstrip No. 8001 or equivalent



◆R◆ ADJUSTMENT OF PRELOAD FOR REAR OUTPUT CLUTCH SHAFT BEARING

(1) Place solder as illustrated.
(2) Install transfer and tighten bolts to specified torque.
(3) Remove transfer and remove flattened solder.
(4) Measure flattened solder thickness with micrometer. Select a spacer of the proper thickness that will give the specified preload.

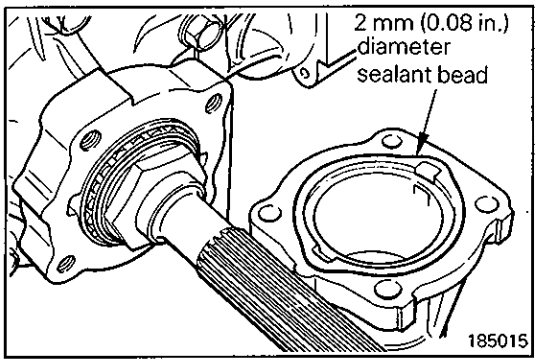
Standard value:
0.15 – 0.20 mm (0.0059 – 0.0078 in.)



◆S◆ INSTALLATION OF TRANSFER

(1) Before installing transfer, apply specified sealant around 2WD – 4WD shift rail hole on clutch housing.

Specified sealant:
Mitsubishi Genuine Sealant
Part No. MD997740 or equivalent



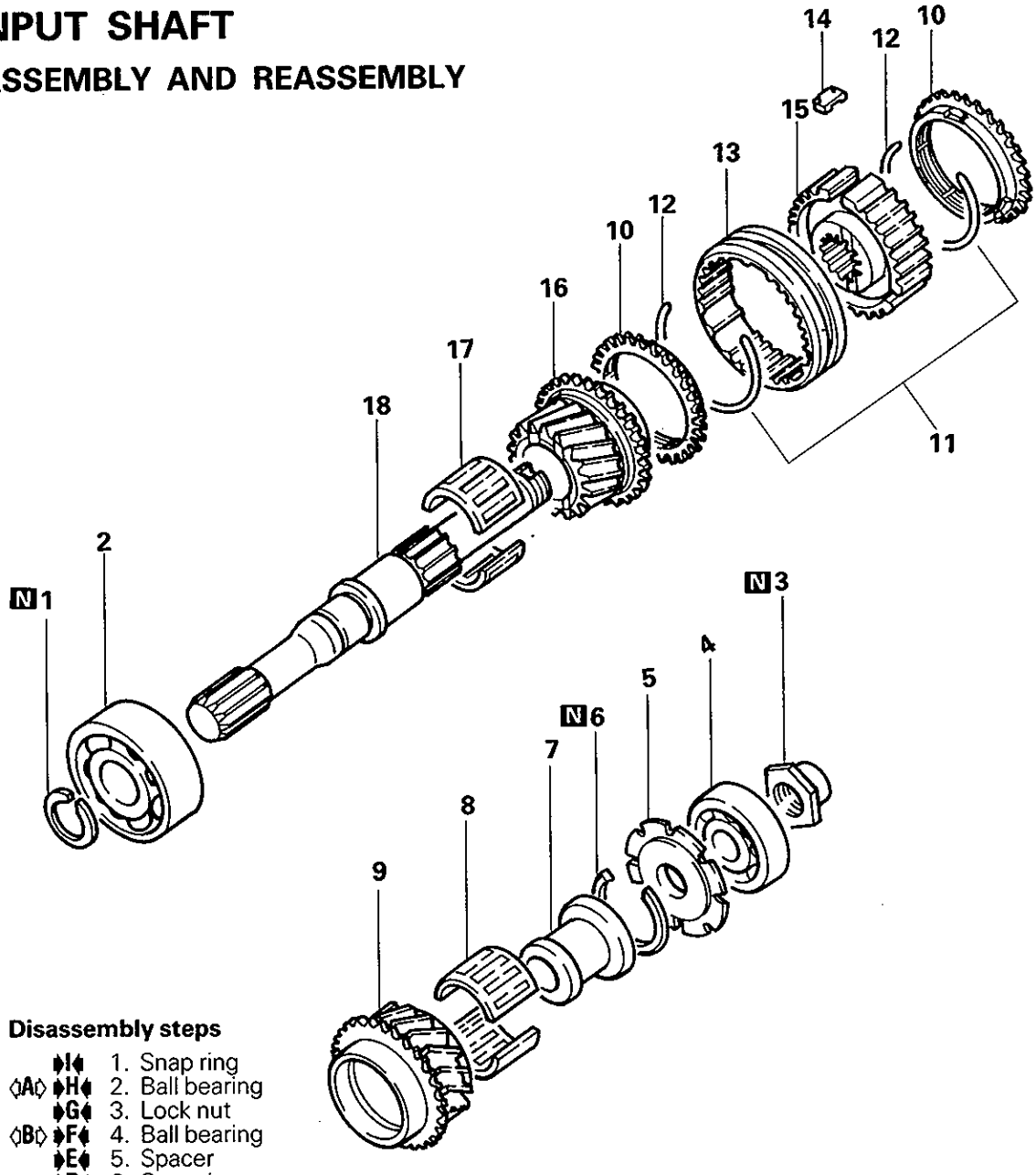
◆T◆ APPLICAITON OF SEALANT TO EXTENSION HOUSING

Specified sealant:
Mitsubishi Genuine Sealant
Part No. MD997740 or equivalent

Added

4. INPUT SHAFT

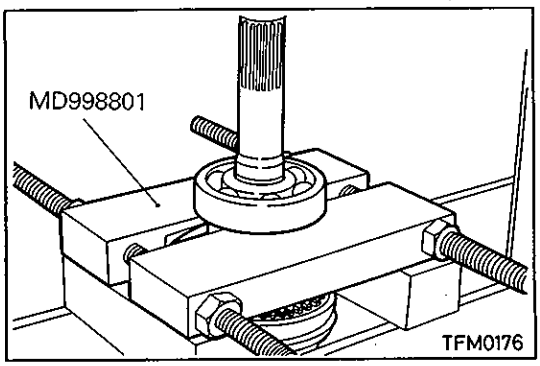
DISASSEMBLY AND REASSEMBLY



Disassembly steps

- ◆I◆ 1. Snap ring
- ◇A◇ ◆H◆ 2. Ball bearing
- ◆G◆ 3. Lock nut
- ◇B◇ ◆F◆ 4. Ball bearing
- ◆E◆ 5. Spacer
- ◆D◆ 6. Snap ring
- ◇C◇ ◆C◆ 7. Gear sleeve
- 8. Needle bearing
- 9. Input high gear
- 10. Synchronizer ring
- ◇D◇ ◆B◆ 11. H-L Synchronizer
- ◇D◇ ◆A◆ 12. Synchronizer spring
- 13. Synchronizer sleeve
- 14. Synchronizer key
- 15. Synchronizer hub
- 16. Input low gear
- 17. Needle bearing
- 18. Input shaft

TFM0167

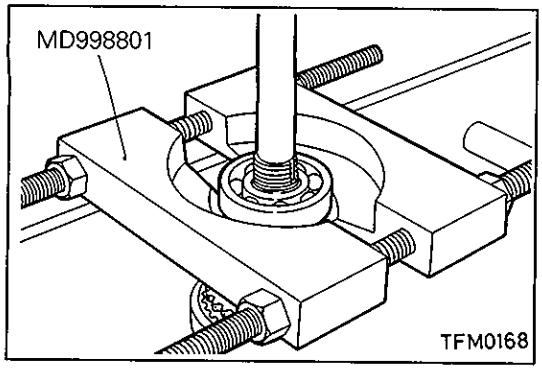


SERVICE POINTS OF DISASSEMBLY

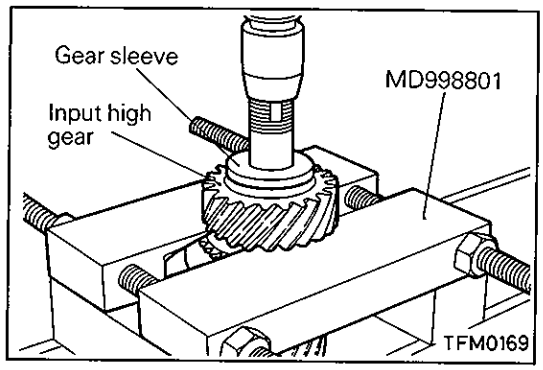
◇A◇ REMOVAL OF BALL BEARING

(1) Special Tool MD998327 may be used in place of Special Tool MD998801.

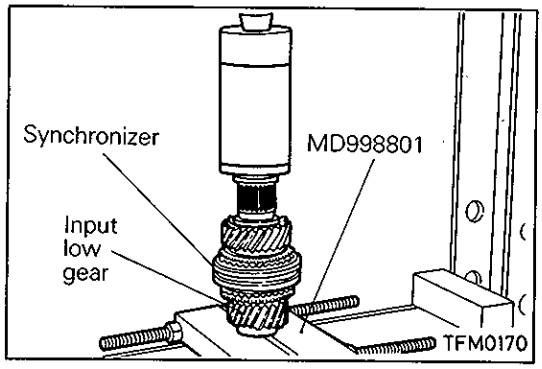
Added



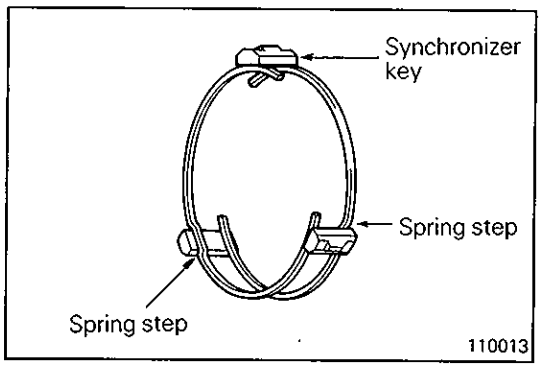
◇B◇ REMOVAL OF BALL BEARING



◇C◇ REMOVAL OF GEAR SLEEVE



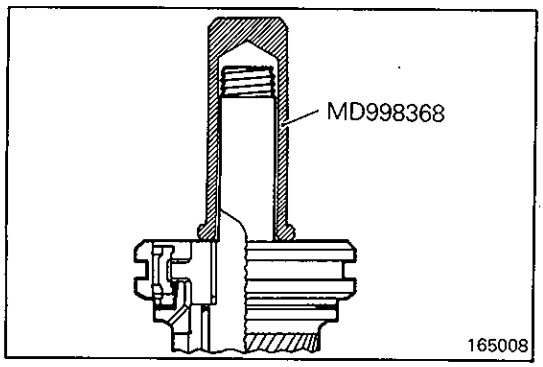
◇D◇ REMOVAL OF H-L SYNCHRONIZER



SERVICE POINTS OF REASSEMBLY

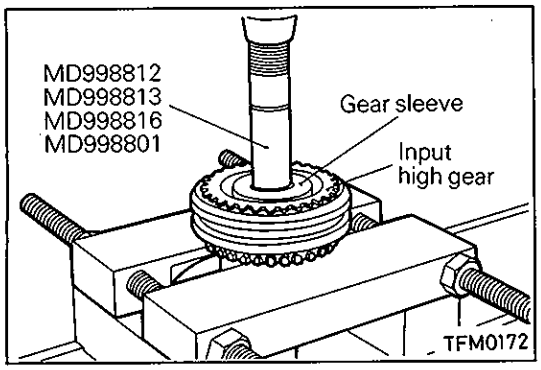
◆A◆ INSTALLATION OF SYNCHRONIZER SPRINGS

(1) Stagger the two synchronizer springs and place them so that the spring steps are on different synchronizer keys.

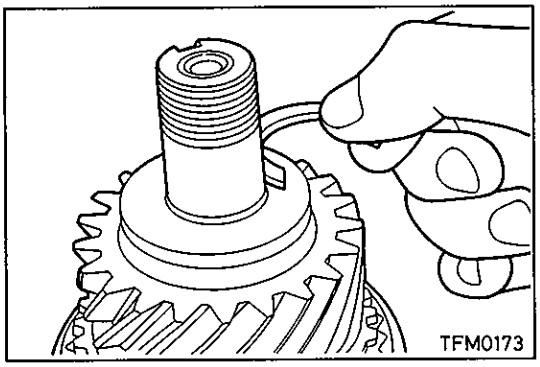


◆B◆ INSTALLATION OF H-L SYNCHRONIZER

Added

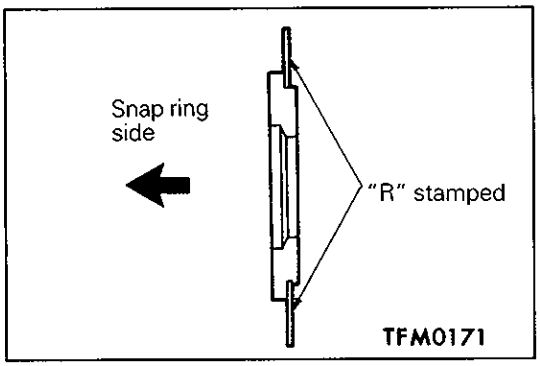


◗C◖ INSTALLATION OF SNAP RING

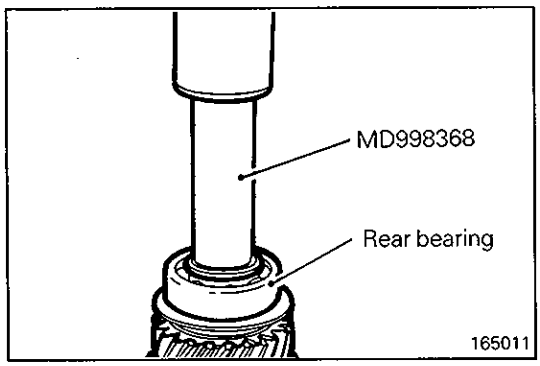


◗D◖ INSTALLATION OF SNAP RING

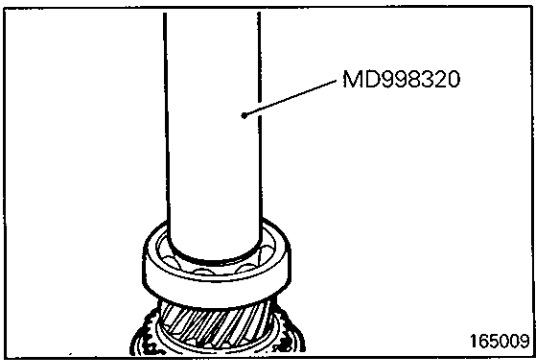
(1) Select and install the thickest snap ring that fits the snap ring groove.



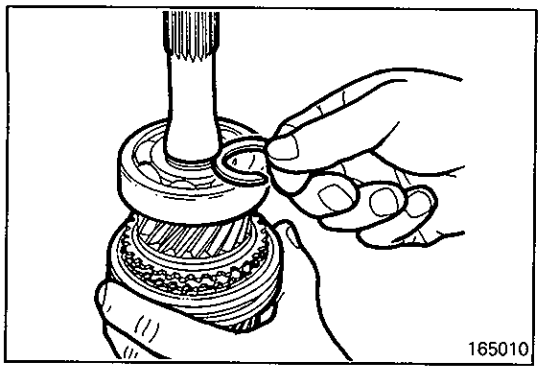
◗E◖ INSTALLATION OF SPACER ASSEMBLY



◗F◖ INSTALLATION OF BALL BEARING



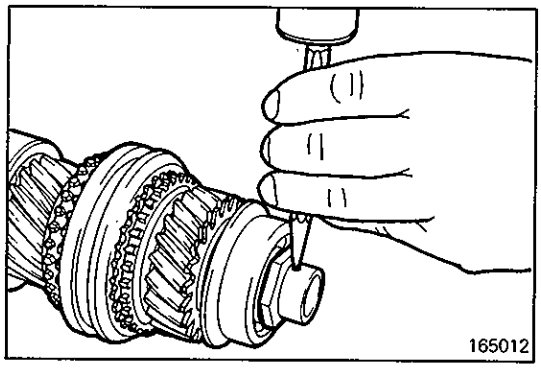
◗H◖ INSTALLATION OF BALL BEARING



◆C◆ INSTALLATION OF GEAR SLEEVE

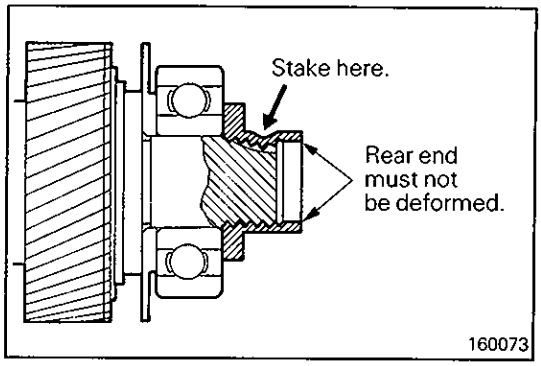
(1) Select and install the thickest snap ring that fits the snap ring groove.

NOTE
Do not damage input shaft oil seal contact surface.



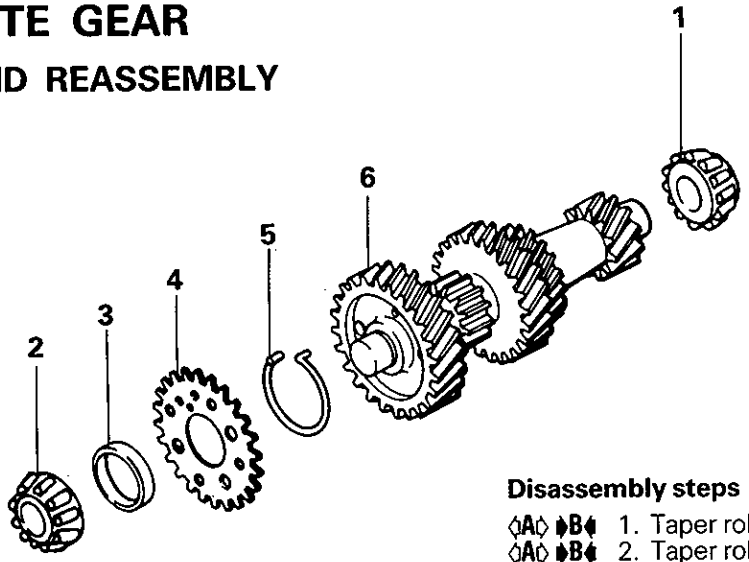
◆G◆ INSTALLATION OF LOCK NUT

(1) Tighten lock nut to specified torque.
(2) Stake as illustrated to lock.



5. INTERMEDIATE GEAR

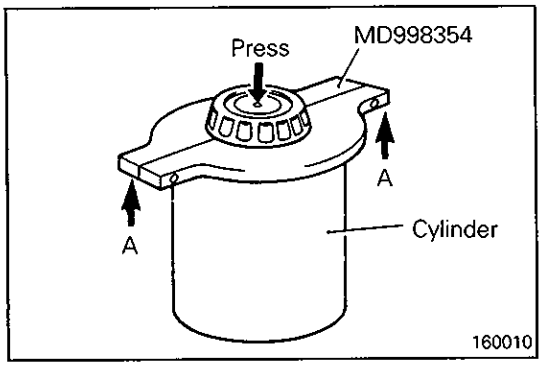
DISASSEMBLY AND REASSEMBLY



Disassembly steps

◇A◇ ◆B◆ 1. Taper roller bearing
◇A◇ ◆B◆ 2. Taper roller bearing
3. Spacer
◆A◆ 4. Sub gear
◆A◆ 5. Spring
6. Intermediate gear

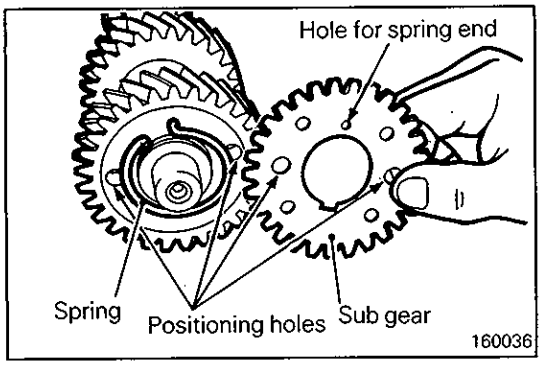
TFM0174



SERVICE POINTS OF DISASSEMBLY

◇A◇ REMOVAL OF TAPER ROLLER BEARING

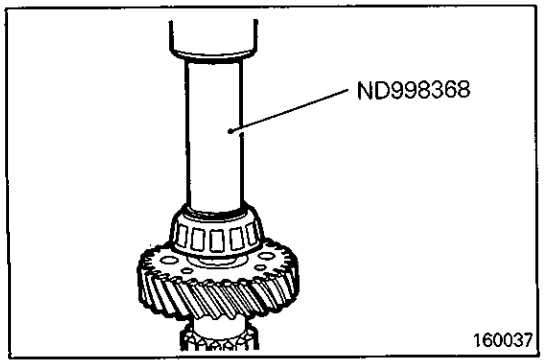
(1) If no appropriate cylinder is available, support arrow A sides with press base.
(2) Special Tool MD998801 may be used in place of special Tool MD998354.



SERVICE POINTS OF REASSEMBLY

◆A◆ INSTALLATION OF SPRING AND SUB GEAR

(1) Install sub gear spring to intermediate shaft gear with longer leg fitted in 4 mm (0.16 in.) diameter hole in gear. Two larger [8 mm (0.31 in.) dia.] holes are for positioning at gear installation.
(2) Install sub gear. This sub gear has seven small holes: the smallest [4 mm (0.16 in.) dia.] hole is for spring end.

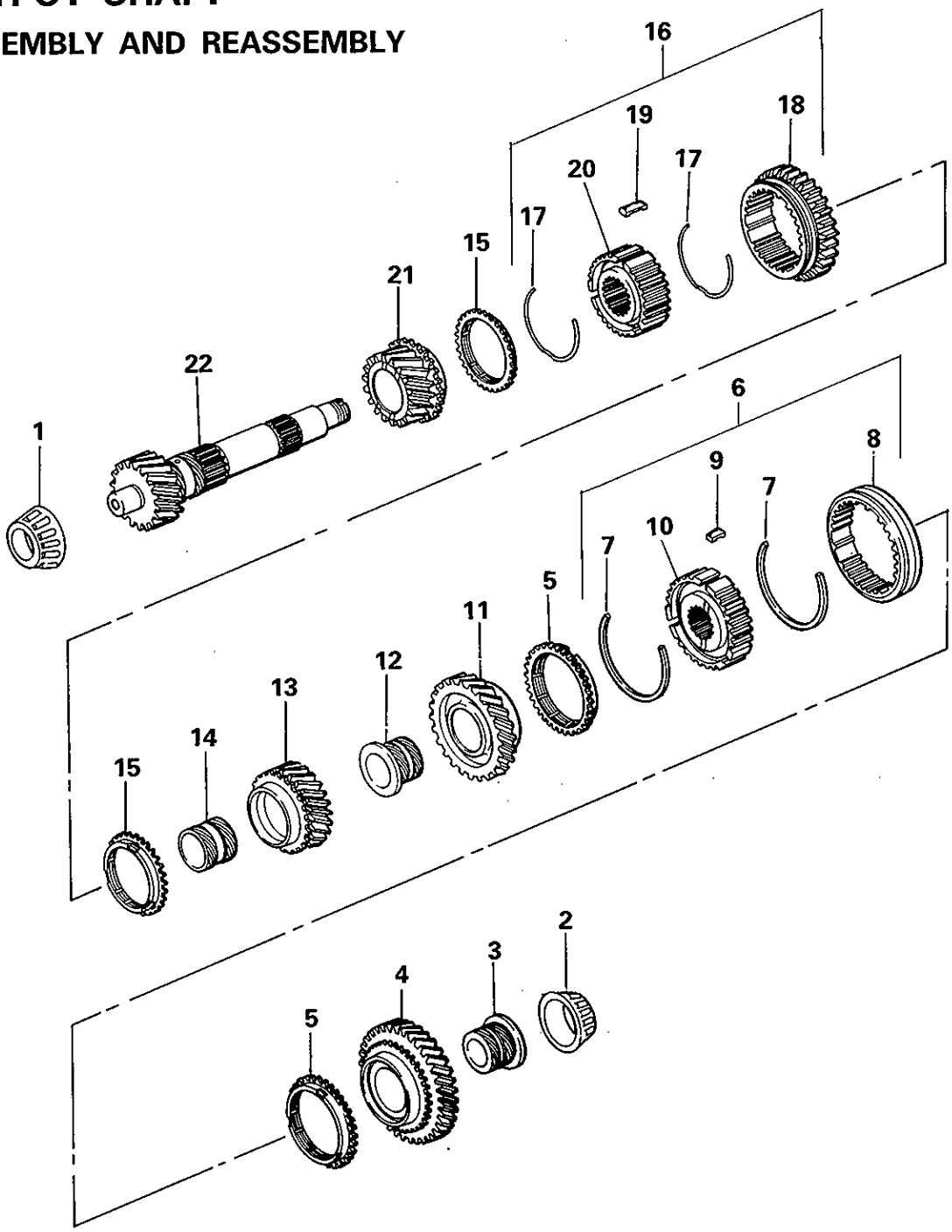


◆B◆ INSTALLATION OF TAPER ROLLER BEARING

NOTES

6. OUTPUT SHAFT

DISASSEMBLY AND REASSEMBLY

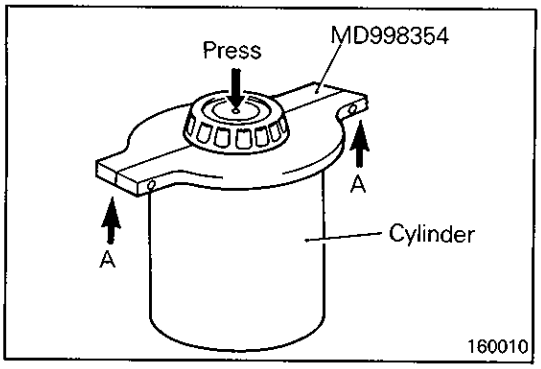


Disassembly steps

◇A◇ ◆F◆ 1. Taper roller bearing
◇A◇ ◆F◆ 2. Taper roller bearing
◇B◇ ◆E◆ 3. Gear sleeve
4. 1st speed gear
5. Synchronizer ring
◆D◆ 6. 1st – 2nd synchronizer
◆A◆ 7. Synchronizer spring
8. Synchronizer sleeve
9. Synchronizer key
10 Synchronizer hub
11. 2nd speed gear
◇C◇ ◆C◆ 12. Gear sleeve
13. 3rd speed gear
◇D◇ ◆C◆ 14. Gear sleeve
15. Synchronizer ring
◆B◆ 16. 3rd – 4th Synchronizer
◆A◆ 17. Synchronizer spring
18. Synchronizer sleeve
19. Synchronizer key
20. Synchronizer hub
21. 4th speed gear
22. Output shaft

160011

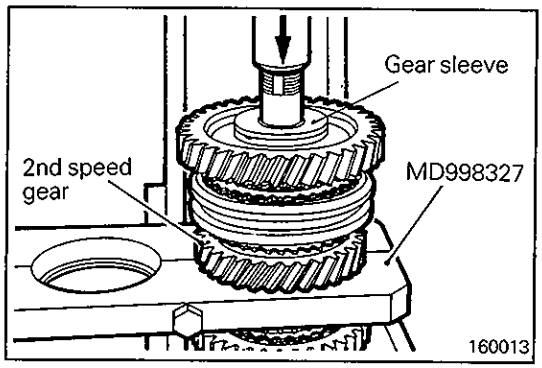
Added



SERVICE POINTS OF DISASSEMBLY

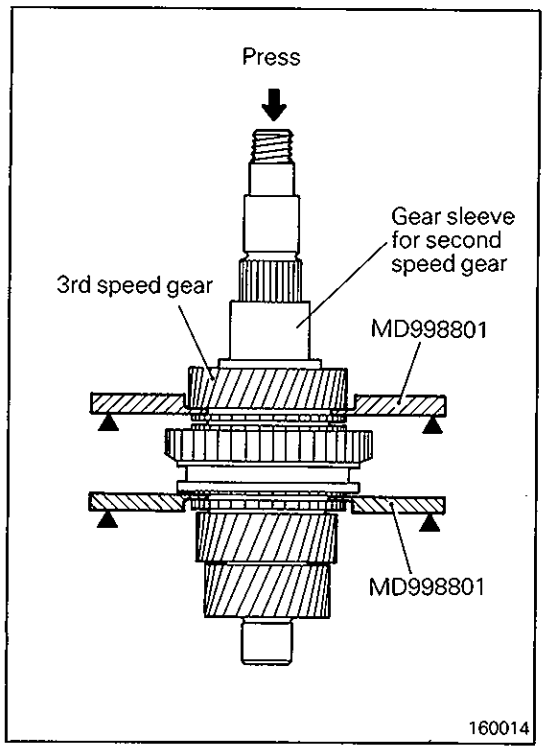
◇A◇ REMOVAL OF TAPER ROLLER BEARING

(1) If no appropriate cylinder is available, support arrow A sides with press base.
(2) Special Tool MD998801 may be used in place of Special Tool MD998354.



◇B◇ REMOVAL OF GEAR SLEEVE FOR FIRST SPEED GEAR

(1) Special Tool MD998801 may be used in place of Special Tool MD998327.

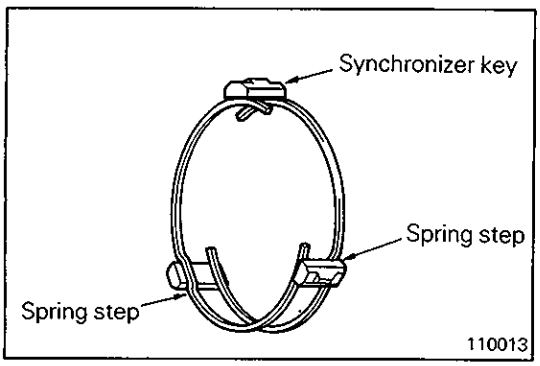


◇C◇ REMOVAL OF GEAR SLEEVE FOR SECOND SPEED GEAR

(1) Special Tool MD998355 may be used in place of Special Tool MD998801.

◇D◇ REMOVAL OF GEAR SLEEVE FOR THIRD SPEED GEAR

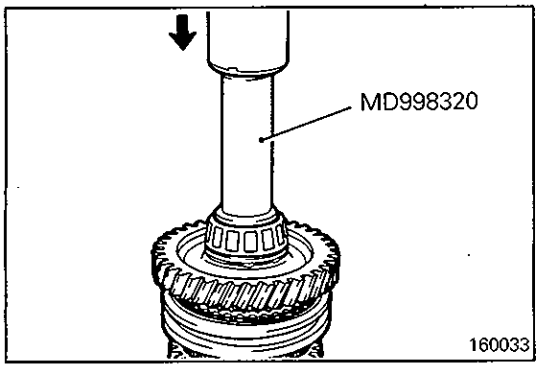
(1) Special Tool MD998355 may be used in place of Special Tool MD998801.



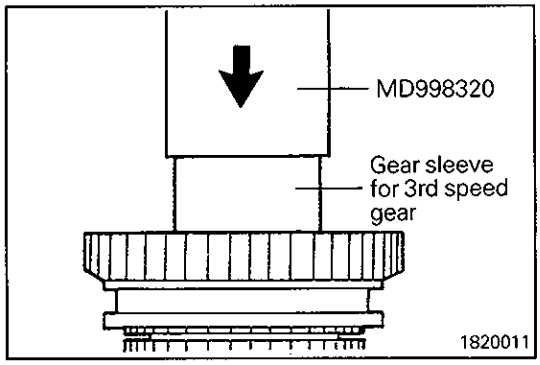
SERVICE POINTS OF REASSEMBLY

◆A◆ INSTALLATION OF SYNCHRONIZER SPRINGS

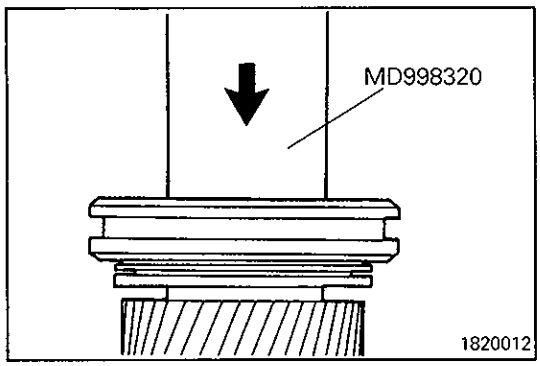
(1) Stagger the two synchronizer springs and place them so that the spring steps are on different synchronizer keys.



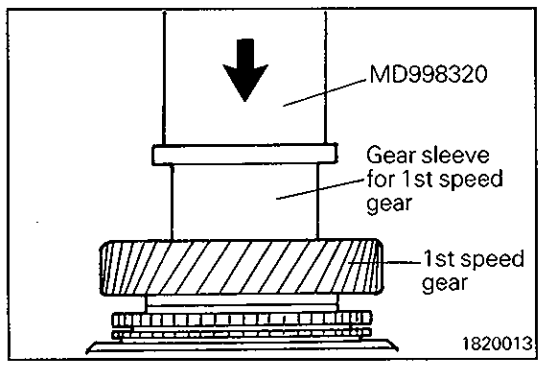
◆B◆ INSTALLATION OF 3RD – 4TH SYNCHRONIZER



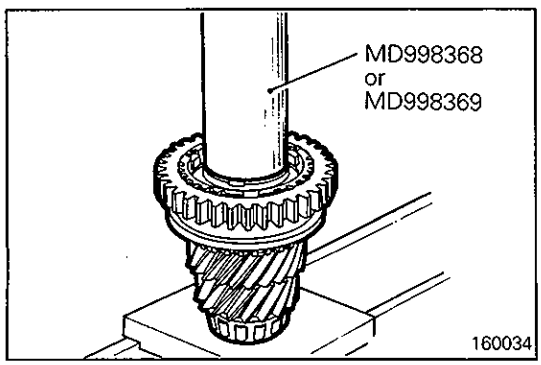
◆C◆ INSTALLATION OF GEAR SLEEVES FOR 3RD AND 2ND SPEED GEAR



◆D◆ INSTALLATION OF 1ST – 2ND SYNCHRONIZER



◆E◆ INSTALLATION OF GEAR SLEEVE FOR FIRST SPEED GEAR



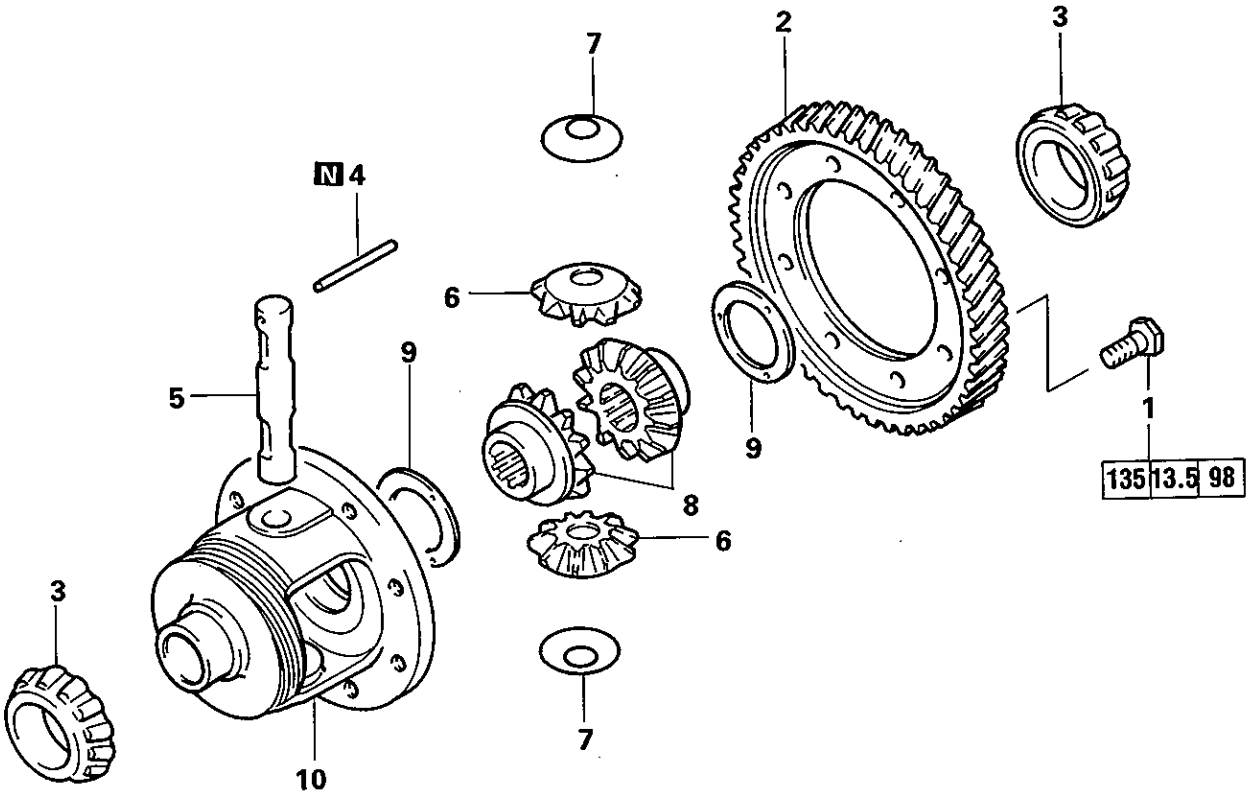
◆F◆ INSTALLATION OF TAPER ROLLER BEARING

Added

NOTES

7. DIFFERENTIAL

DISASSEMBLY AND REASSEMBLY



Disassembly steps

- ◆D◆ 1. Bolt
- 2. Differential drive gear
- ◇A◇ ◆C◆ 3. Taper roller bearing
- ◆B◆ 4. Lock pin
- ◆A◆ Adjustment of pinion gear backlash
- 5. Pinion shaft
- 6. Pinion
- 7. Washer
- 8. Side gear
- 9. Spacer
- 10. Differential case

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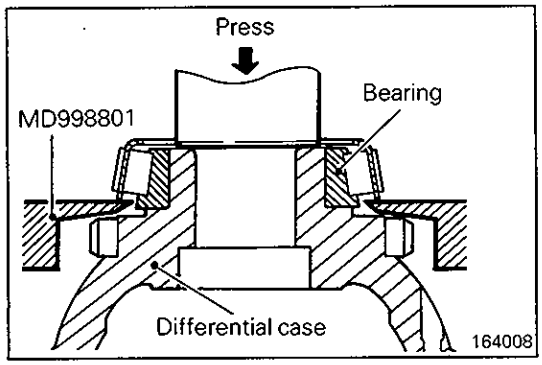
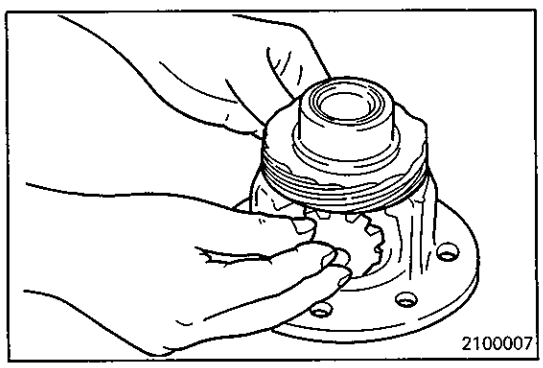


SERVICE POINT OF DISASSEMBLY

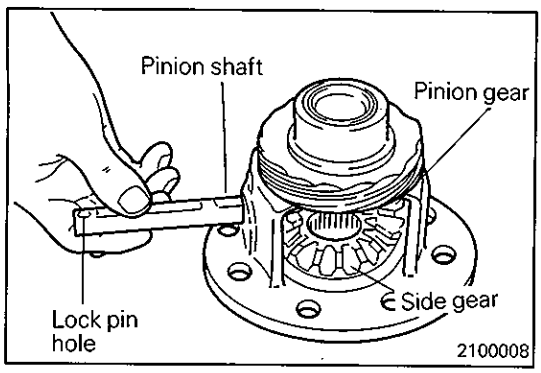
◇A◇ REMOVAL OF TAPER ROLLER BEARING



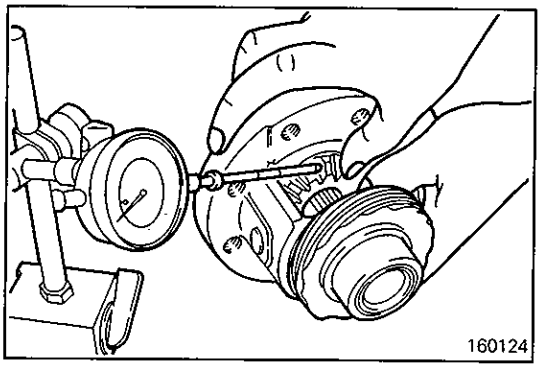
SERVICE POINTS OF REASSEMBLY

◆A◆ ADJUSTMENT OF SIDE GEAR BACKLASH

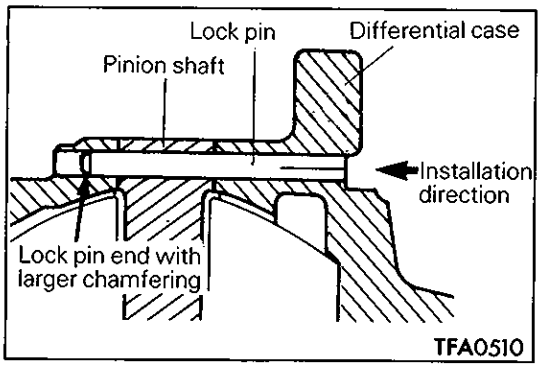
(1) Install the spacer on the back of the side gear and then install the gear in the differential case.
When installing a new side gear, use a spacer of medium thickness [0.93 – 1.00 mm (0.366 – 0.394 in.)].



(2) Set the washer on the back of each pinion and insert the two pinions to specified position while engaging them with the side gears and turning them.
(3) Insert the pinion shaft.

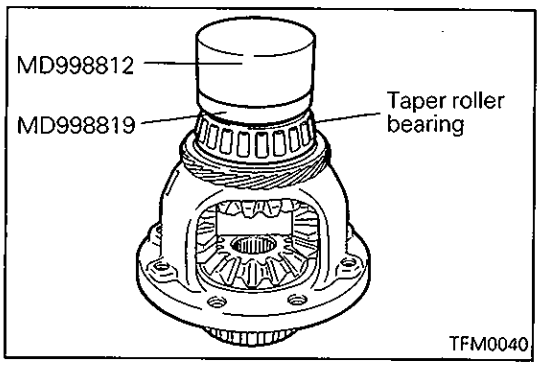


(4) Measure the backlash between the side gears and pinions. Adjust for same backlash of both side gears.
Standard value:
0.025 – 0.150 mm (0.001 – 0.006 in.)
(5) If the backlash is out of specification, disassemble again and using correct spacer, reassemble and adjust.

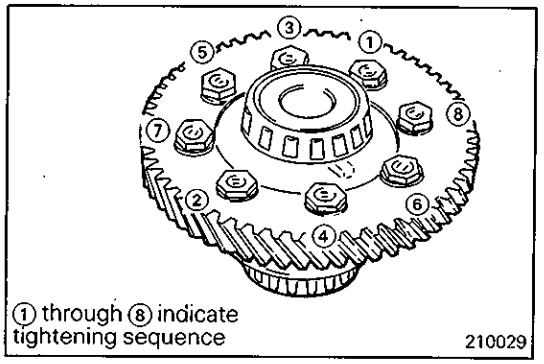


◆B◆ INSTALLATION OF LOCK PIN

Caution
- **Do not reuse the lock pin.**



◆C◆ INSTALLATION OF TAPER ROLLER BEARINGS

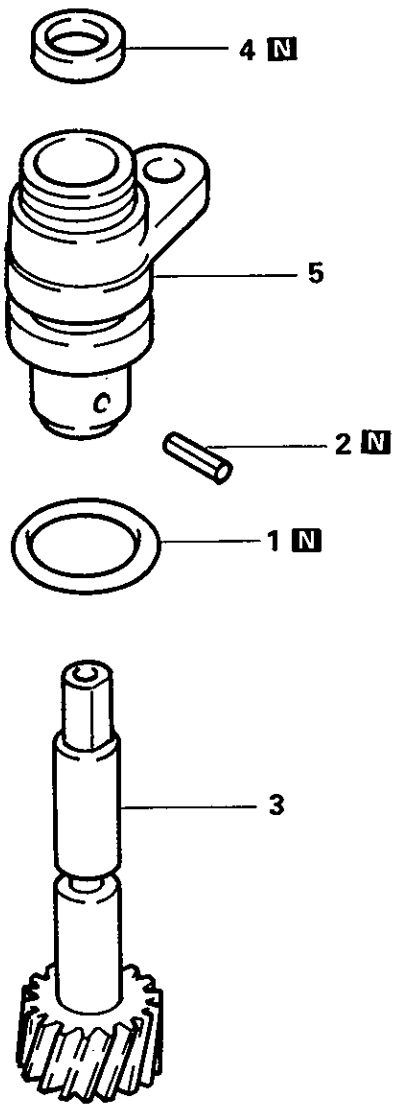


◆D◆ INSTALLATION OF BOLTS

(1) Apply specified sealant to the entire threads of the bolts and quickly tighten in the order shown to specified torque. If a bolt is reused, remove old sealant from the threads.
Specified sealant:
3M Stud Locking No. 4170 or equivalent

8. SPEEDOMETER DRIVEN GEAR

DISASSEMBLY AND REASSEMBLY



Disassembly steps

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

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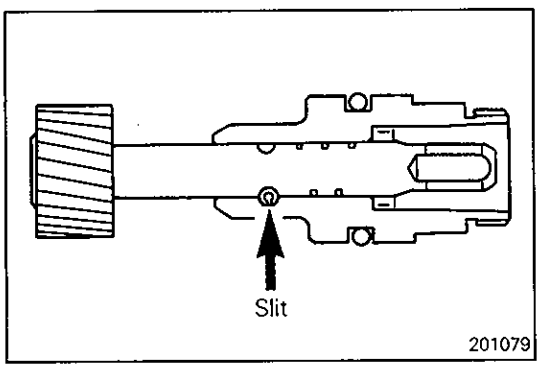

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SERVICE POINT OF REASSEMBLY

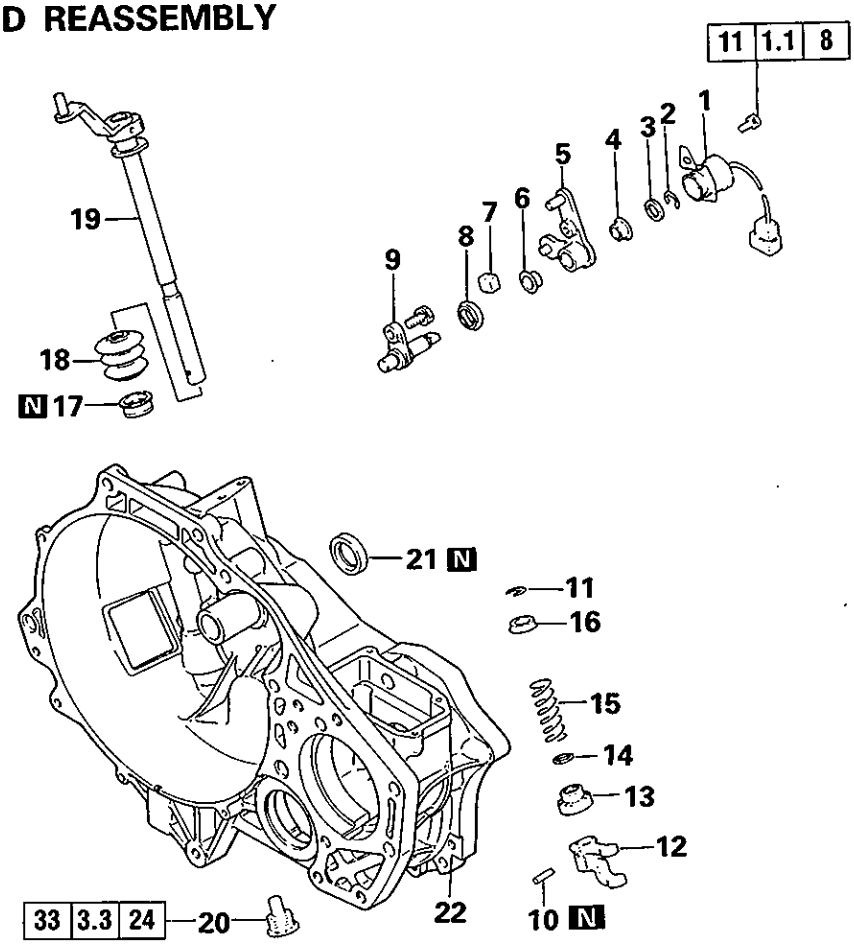
◆A◆ INSTALLATION OF SPRING PIN

(1) Install the spring pin in such a way that its slit does not face the gear shaft.

NOTES

9. CLUTCH HOUSING

DISASSEMBLY AND REASSEMBLY



Disassembly steps

1. Select switch
2. Snap ring
3. Washer
4. Bushing
5. Select lever
6. Bushing
7. Select lever shoe
8. Dust cover
9. Select lever shaft
◇A◇ ◆C◆ 10. Lock pin
11. Snap ring
12. Control finger
13. Neutral return spring assembly
14. Washer
15. Restrict spring
16. Spring retainer
◆B◆ 17. Oil seal
18. Boot
19. Control shaft
20. Plug
◆A◆ 21. Oil seal
22. Clutch housing

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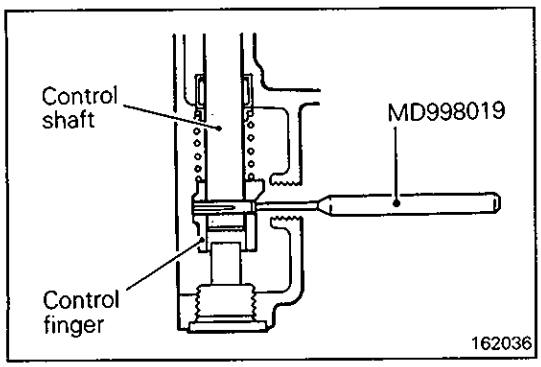
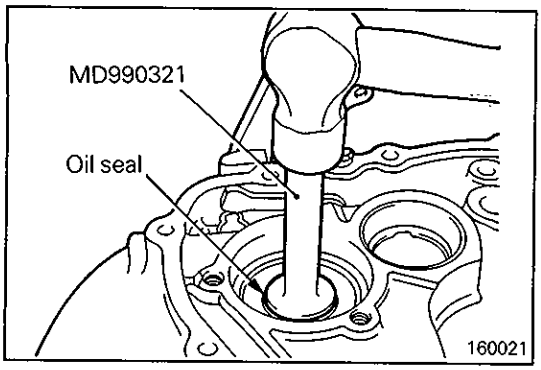


SERVICE POINT OF DISASSEMBLY

◇A◇ REMOVAL OF LOCK PIN

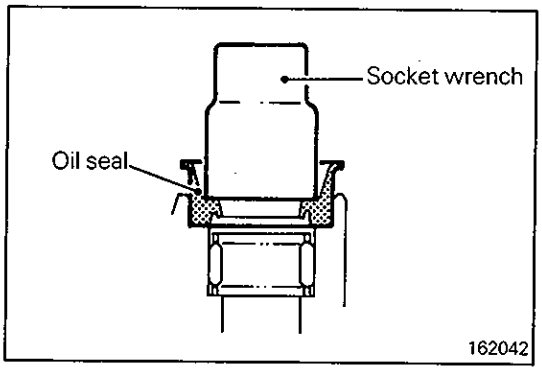
Added



SERVICE POINTS OF REASSEMBLY

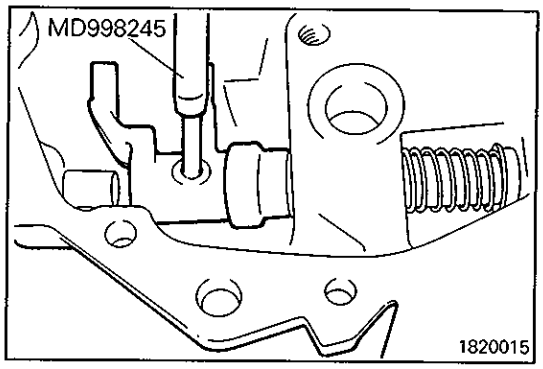
◆A◆ INSTALLATION OF OIL SEAL

(1) With special tool, install oil seal.



◆B◆ INSTALLATION OF OIL SEAL

(1) With socket wrench install oil seal.



◆C◆ INSTALLATION OF LOCK PIN

Caution

- **Do not reuse lock pin.**