

SHOP MANUAL

HONDA
L3(4WD)

**MANUAL TRANSMISSION
MAINTENANCE AND REPAIR**

INTRODUCTION

How to Use This Manual

This manual contains information regarding repair procedures for the L3 (4WD) type of Manual Transmission. For information regarding installation and removal of the transmission, and the shift mechanism, please consult the Chassis maintenance and repair manual for the vehicle concerned.

This manual is divided into 3 sections. The first page of each section is numbered with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents.

Each section includes:

1. A table of contents, or an exploded view index showing:
 - Parts disassembly sequence.
 - Bolt torques and thread sizes.
 - Page references to descriptions in text.
2. Disassembly/assembly procedures and tools.
3. Inspection.
4. Repair.
5. Adjustments.

General Information

Transmission Overhaul

Differential

Special Information

⚠WARNING Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

CAUTION: Detailed descriptions of *standard* workshop procedures, safety principles and service operations are not included. Please note that this manual does contain warnings and cautions against some specific service methods which could cause **PERSONAL INJURY**, or could damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda Motor, might be done, or of the possible hazardous consequences of each conceivable way, nor could Honda Motor investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda Motor, *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

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Service Publication Office



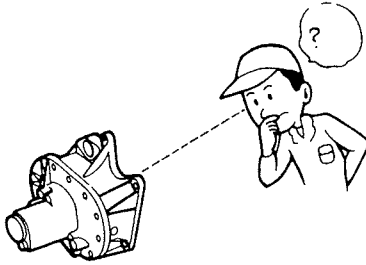
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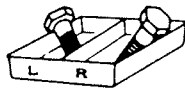
General Information

Preparation of Work

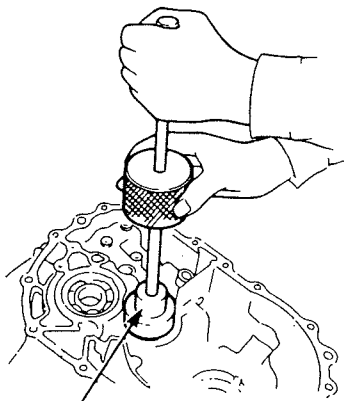
1. Work safely and give your work your undivided attention. Exchange signals as frequently as possible when a work involves two or more workers.
2. Prior to removing or disassembling parts, they must be inspected carefully to isolate the cause for which the service is called for. Observe all safety notes and precautions and follow the proper procedures as described in this manual.



- Mark or place all removed parts in order in a parts rack so they can be placed back to their original places or parts from which they were removed or with which they were mated.
- Check each part for distortion, cracks, scratches, or other damages whenever it is removed.

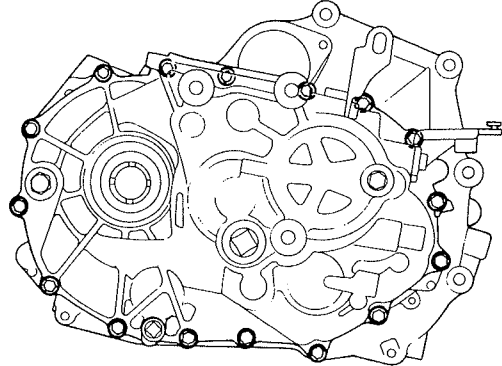


3. Use special tool when use of such a tool is specified, or you may damage the parts or get injured.

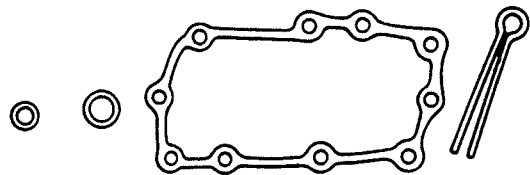


SPECIAL TOOL

4. Parts must be assembled with the proper looseness or tightness according to the maintenance standards established.
5. When tightening bolts or nuts, begin on center or large diameter bolts and tighten them in crisscross pattern in two or more steps if necessary.

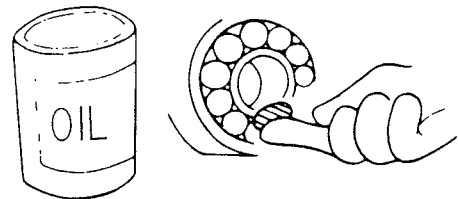


6. Use new O-rings and cotter pins whenever reassembling.



NOTE: This transmission uses no gaskets between the major housings: use Honda Genuine Liquid Sealant (Three Bond® 1216). Assemble the housings within 20 minutes after applying the sealant and allow it to cure for at least 30 minutes after assembly before filling it with oil.

7. Use genuine HONDA parts and lubricants or those equivalent. When parts are to be reused, they must be inspected carefully to make sure they are not damaged or deteriorated and in good usable condition.
8. Coat or fill parts with specified grease. Clean all removed parts in or with solvent upon disassembly.



Symbol Marks

The following symbols stand for:



: Apply engine oil.



: Apply grease.

Transmission Overhaul

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Service Specifications

Unit: mm (in.)

PART	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT	
Transmission oil	Capacity ℓ (U.S. qt., Imp. qt)	2.4 (2.5, 2.1) at assembly 2.3 (2.4, 2.0) at oil change		
Mainshaft	End play	0.08 – 0.15 (0.003 – 0.006)	Adjust with a shim.	
	Diameter of needle bearing contact area	27.987 – 28.000 (1.1018 – 1.1024)	27.93 (1.100)	
	Diameter of 3rd gear contact area	34.984 – 35.000 (1.3773 – 1.3780)	34.93 (1.375)	
	Diameter of 63/28C ball bearing contact area	27.977 – 27.990 (1.1015 – 1.1020)	27.92 (1.099)	
	Diameter of 6306/25 ball bearing contact area	24.987 – 25.000 (0.9837 – 0.9843)	24.93 (0.981)	
	Runout	0.02 (0.001) max.	0.05 (0.002)	
Mainshaft 3rd gear	I.D.	40.009 – 40.025 (1.5752 – 1.5758)	40.07 (1.578)	
	End play	0.06 – 0.21 (0.002 – 0.008)	0.3 (0.01)	
	Thickness	32.42 – 32.47 (1.276 – 1.278)	32.3 (1.27)	
Mainshaft 4th gear	I.D.	40.009 – 40.025 (1.5752 – 1.5758)	40.07 (1.578)	
	End play	0.06 – 0.21 (0.002 – 0.008)	0.3 (0.01)	
	Thickness	30.92 – 30.97 (1.217 – 1.219)	30.8 (1.21)	
Mainshaft 5th gear	I.D.	40.009 – 40.025 (1.5752 – 1.5758)	40.07 (1.578)	
	End play	0.06 – 0.21 (0.002 – 0.008)	0.3 (0.01)	
	Thickness	30.42 – 30.47 (1.198 – 1.200)	30.3 (1.19)	
Countershaft	End play	0.05 – 0.30 (0.002 – 0.012)	0.5 (0.02)	
	Diameter of needle bearing contact area	29.000 – 29.015 (1.1417 – 1.1423)	28.94 (1.139)	
	Diameter of ball bearing contact area	24.987 – 25.000 (0.9837 – 0.9843)	24.93 (0.981)	
	Diameter of super-low 3 gear contact area	30.464 – 30.480 (1.1994 – 1.2000)	30.41 (1.197)	
	Runout	0.02 (0.001) max.	0.05 (0.002)	
Countershaft low gear	I.D.	50.009 – 50.025 (1.9689 – 1.9695)	50.07 (1.971)	
	End play	0.03 – 0.08 (0.001 – 0.003)	0.18 (0.007) (Adjust with a shim)	
	Thickness	32.95 – 33.00 (1.297 – 1.299)	32.83 (1.293)	
Countershaft 2nd gear	I.D.	50.009 – 50.025 (1.989 – 1.9695)	50.07 (1.971)	
	End play	0.03 – 0.10 (0.001 – 0.004)	0.18 (0.007) (Adjust with collar)	
	Thickness	32.92 – 32.97 (1.296 – 1.298)	32.8 (1.29)	
Mainshaft 4th gear & 5th gear distance collar	I.D.	28.002 – 28.012 (1.1024 – 1.1028)	28.06 (1.105)	
	O.D.	34.989 – 35.000 (1.3775 – 1.3780)	34.93 (1.375)	
	Length	26.03 – 26.08 (1.025 – 1.027)	26.01 (1.024)	
Countershaft 2nd gear distance collar	I.D.	36.48 – 36.49 (1.436 – 1.437)	36.54 (1.439)	
	O.D.	43.989 – 44.000 (1.7318 – 1.7323)	43.93 (1.730)	
	Length	28.96 – 29.40 (1.140 – 1.157)	Select with 5 type collar.	
Reverse idle gear	I.D.	20.016 – 20.043 (0.7880 – 0.7890)	20.08 (0.791)	
	Gear to shaft clearance	0.036 – 0.084 (0.0014 – 0.0033)	0.14 (0.006)	
Super-low 1 shaft	Distance of needle bearing contact area	23.984 – 23.993 (0.9443 – 0.9446)	23.93 (0.942)	
Super-low 1 gear	I.D.	30.000 – 30.013 (1.1811 – 1.1816)	29.94 (1.179)	
	Thickness	62.95 – 63.00 (2.478 – 2.480)	62.83 (2.474)	
Super-low 2 shaft	Diameter of needle bearing contact area	22.987 – 23.000 (0.9050 – 0.9055)	22.93 (0.903)	
	End play	0.07 – 0.20 (0.003 – 0.008)	Adjust with a shim.	
	Diameter of ball bearing contact area	27.987 – 28.000 (1.1018 – 1.1024)	27.93 (1.100)	
		62/28 6204U	19.987 – 20.000 (0.7869 – 0.7874)	19.93 (0.785)
	Runout	0.02 (0.001) max.	0.05 (0.002)	

PART	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Super-low 2 gear	I.D. End play Thickness	37.009 – 37.025 (1.4570 – 1.4577) 0.03 – 0.16 (0.001 – 0.006) 34.42 – 34.47 (1.355 – 1.357)	37.07 (1.459) 0.24 (0.009) 34.3 (1.35)
Super-low 3 gear	Diameter of needle bearing contact area Width of needle bearing contact area	43.984 – 44.000 (1.7318 – 1.7323) 31.03 – 31.08 (1.222 – 1.224)	43.93 (1.730) 31.01 (1.221)
Super-low 2 gear distance collar	I.D. O.D. Width	23.000 – 23.013 (0.9055 – 0.9060) 31.989 – 32.000 (1.2594 – 1.2598) 31.00 – 31.03 (1.220 – 1.222)	23.06 (0.908) 31.93 (1.257) 30.98 (1.220)
Transfer shaft	Diameter of needle bearing contact area Diameter of taper bearing contact area Width of transfer driven bevel gear contact area Diameter of drive bevel gear contact area Runout	27.987 – 28.000 (1.1018 – 1.1024) 16.989 – 17.000 (0.6689 – 0.6693) 45.01 – 45.05 (1.772 – 1.774) 35.002 – 35.018 (1.3780 – 1.3787) 0.02 (0.001) max.	27.93 (1.100) 16.93 (0.667) 45.17 (1.778) 34.95 (1.376) 0.05 (0.002)
Transfer driven gear	I.D. Diameter of needle bearing contact area End play Thickness	34.009 – 34.025 (1.3389 – 1.3396) 54.000 – 54.015 (2.1260 – 2.1266) 0.04 – 0.13 (0.002 – 0.005) 44.92 – 44.97 (1.690 – 1.770)	34.07 (1.341) 53.94 (2.124) 0.21 (0.008) 44.8 (1.76)
Transfer drive bevel gear	I.D. Diameter of taper bearing contact area	25.000 – 25.021 (0.9843 – 0.9851) 35.002 – 35.018 (1.3780 – 1.3787)	25.06 (0.987) 34.95 (1.376)
Transfer driven bevel gear	Backlash Diameter of taper bearing contact area 32007 320/28	0.10 – 0.15 (0.004 – 0.006) 35.002 – 35.018 (1.3780 – 1.3787) 27.987 – 28.000 (1.1018 – 1.1024)	Adjust with a shim. 34.95 (1.376) 27.93 (1.100)
Blocking ring	Ring-to-gear clearance	0.85 – 1.10 (0.033 – 0.043)	0.4 (0.02)
1st/2nd shift fork & 3rd/4th shift fork	Synchronizer sleeve groove width Shift fork-to-synchronizer sleeve clearance Thrust Radial Fork shaft-to-shift fork clearance	7.95 – 8.05 (0.313 – 0.317) 0.45 – 0.65 (0.018 – 0.026) 0.05 – 0.45 (0.002 – 0.018) 0.040 – 0.138 (0.0016 – 0.0054)	– 1.0 (0.04) 0.8 (0.03) –
5th shift fork	Synchronizer sleeve groove width Shift fork-to-synchronizer sleeve clearance Thrust Radial Fork shaft-to-shift fork clearance 5th/Reverse shift fork shaft 1st/2nd shift fork shaft	5.75 – 5.85 (0.226 – 0.230) 0.25 – 0.45 (0.010 – 0.018) 0.05 – 0.45 (0.002 – 0.018) 0.005 – 0.070 (0.0002 – 0.0028) 0.440 – 0.670 (0.0173 – 0.0264)	– 0.8 (0.03) 0.8 (0.03) – –
Reverse shift fork	Claw thickness Shift fork-to-reverse idle gear clearance L-groove width Shift fork-to-5th/Reverse shift piece clearance	13.0 – 13.3 (0.51 – 0.52) 0.5 – 1.1 (0.02 – 0.04) 7.05 – 7.25 (0.278 – 0.285) 0.05 – 0.35 (0.002 – 0.014)	– 1.8 (0.07) – 0.5 (0.02)
Shift arm A	Diameter of shift piece contact area Shift arm-to-shift piece clearance I.D. Shift arm-to-shaft clearance	12.9 – 13.0 (0.508 – 0.512) 0.2 – 0.5 (0.01 – 0.02) 16.000 – 16.068 (0.6299 – 0.6326) 0.011 – 0.092 (0.0004 – 0.0036)	– 0.7 (0.03) – –

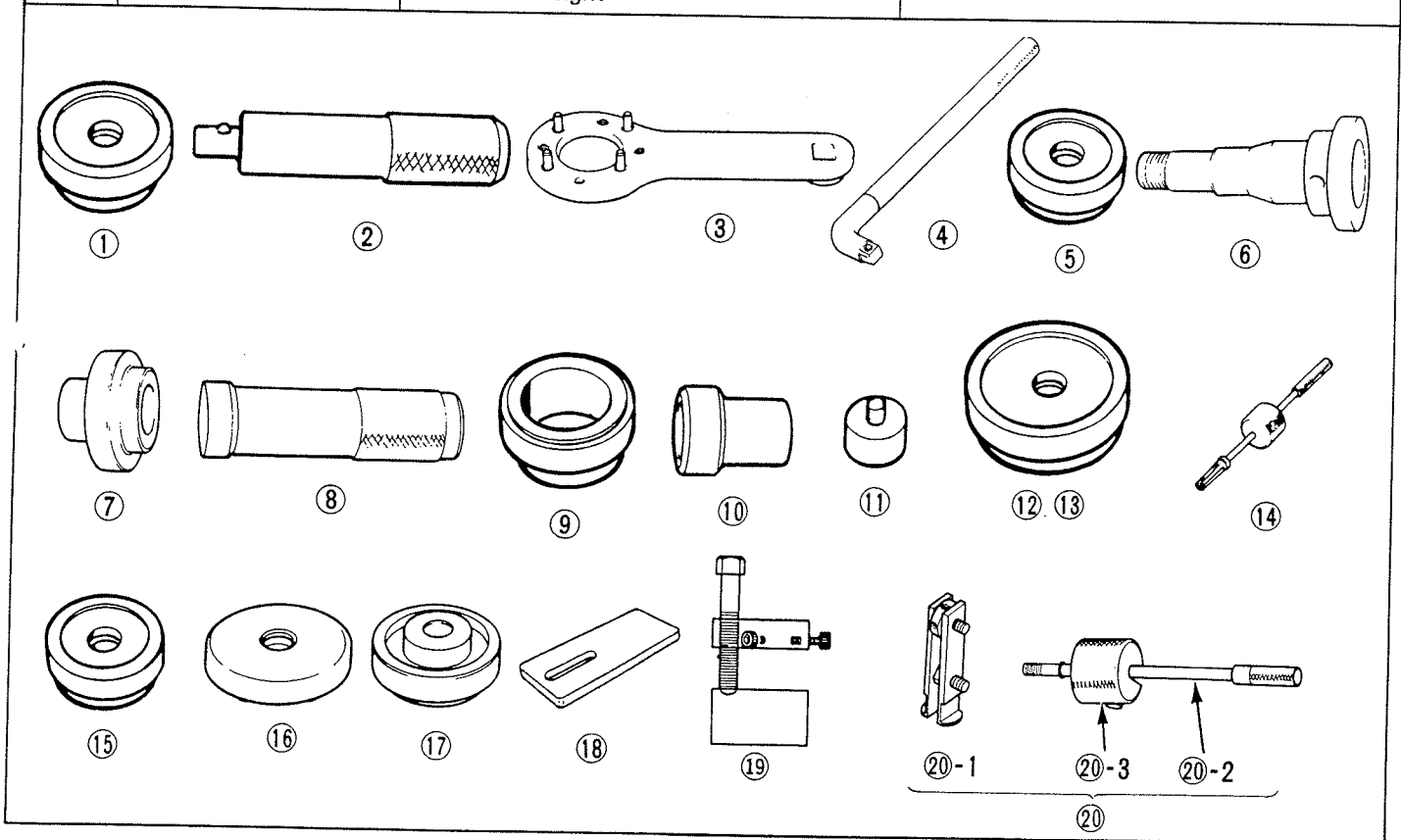
Service Specifications

Unit: mm (in)

PART	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Shift arm	Diameter of shift arm A contact area	11.9 – 12.0 (0.469 – 0.472)	—
	Shift arm-to-shift arm A clearance	0.05 – 0.25 (0.002 – 0.010)	0.5 (0.02)
Select arm	Diameter of shift arm A contact area	7.95 – 8.00 (0.313 – 0.315)	—
	Select arm-to-shift arm A clearance	0.10 – 0.25 (0.004 – 0.010)	0.5 (0.02)
Super-low shift fork	Synchronizer sleeve groove width	5.75 – 5.85 (0.226 – 0.230)	—
	Shift fork-to-synchronizer sleeve clearance	Thrust	0.25 – 0.45 (0.010 – 0.018)
		Radial	0.05 – 0.45 (0.002 – 0.018)
Super-low shift piece A	Shift piece-to-fork shaft clearance	0.040 – 0.138 (0.0016 – 0.0054)	—
	Diameter of super-low shift lever contact area	10.1 – 10.2 (0.398 – 0.402)	—
	Shift piece-to-super-low shift lever clearance	0.1 – 0.3 (0.004 – 0.012)	—
Super-low shift piece B	Diameter of super-low shift lever contact area	7.9 – 8.0 (0.311 – 0.315)	—
	Shift piece-to-super-low shift lever clearance	0.05 – 0.25 (0.002 – 0.010)	0.5 (0.02)
Disengagement fork	Sleeve groove width	8.45 – 8.55 (0.333 – 0.337)	—
	Fork-to-sleeve clearance	Thrust	0.45 – 0.65 (0.018 – 0.026)
		Radial	0.2 – 1.1 (0.01 – 0.04)

Special Tools

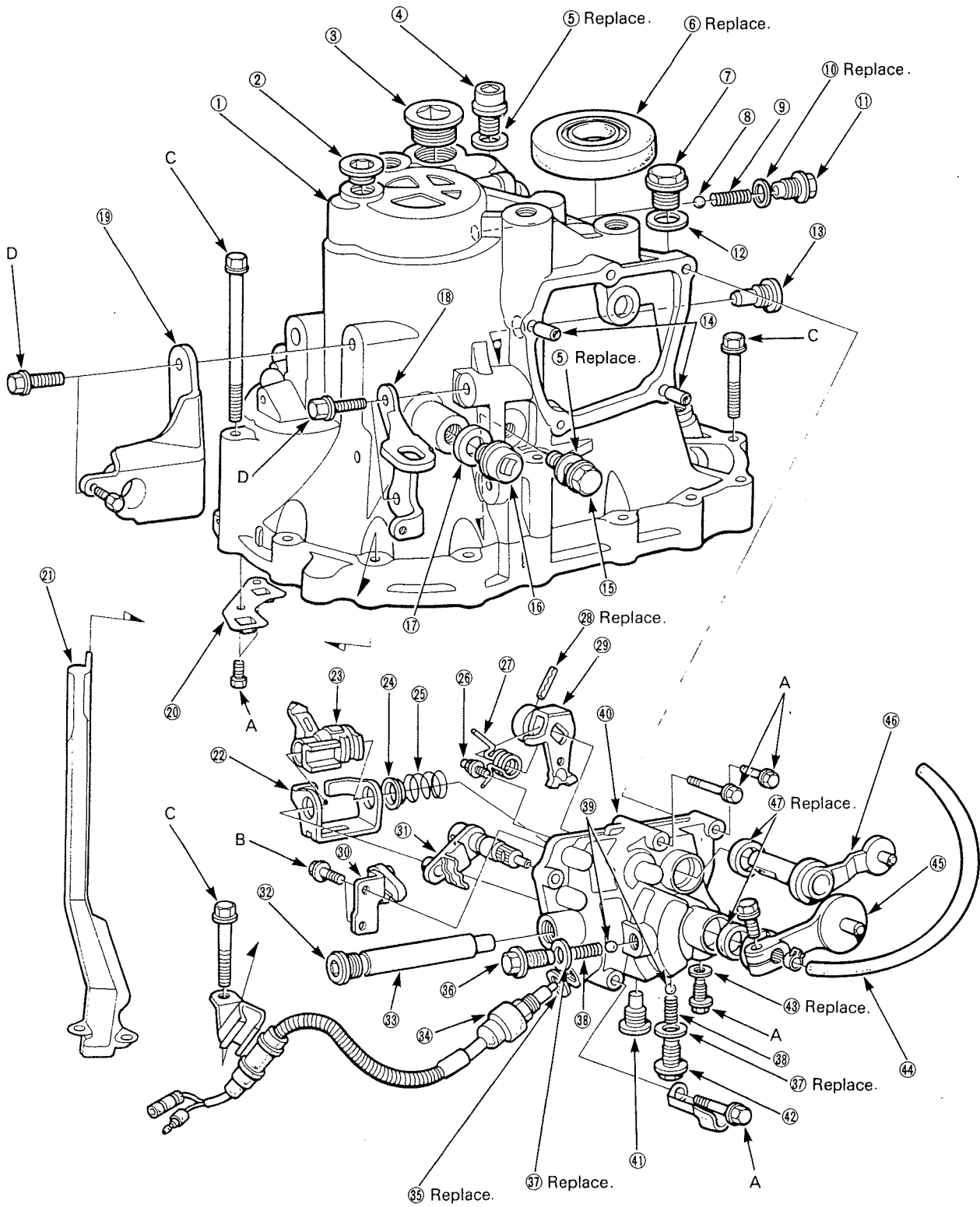
No.	Tool Number	Description	Remarks
①	07746—0010500	Attachment, 62x68mm	07949—6110000 may also be used.
②	07749—0010000	Driver	
③	07926—SD90000	Companion Flange Holder	
④	07907—6010300	Socket Wrench Handle	
⑤	07746—0010400	Attachment, 52x55mm	
⑥	07JAJ—PH80200	Driven Gear Dummy Shaft	
⑦	07JAJ—PH80100	Drive Gear Gauge	
⑧	07746—0030100	Driver C	
⑨	07746—0030400	Attachment, 35mm	
⑩	07948—SC20200	Oil Seal Driver	
⑪	07960—1870100	Spring Compressor Attachment	
⑫	07746—0010200	Attachment, 37x40mm	
⑬	07746—0010600	Attachment, 72x75mm	
⑭	07936—8890101	Bearing Remover Set	
⑮	07746—0010300	Attachment, 42x47mm	
⑯	07947—6110500	Oil Seal Driver Attachment	
⑰	07947—SD90100	Oil Seal Driver Attachment	
⑱	07979—PJ40000	Magnet Base Stand	
⑲	07GAJ—PG20101	Mainshaft Clearance Inspection Tool	
⑳	07JAC—PH80000	Adjustable Bearing Remover Set	
⑳-1	07JAC—PH80100	Bearing Remover Attachment	
⑳-2	07JAC—PH80200	Remover Handle	
⑳-3	07741—0010201	Remover Weight	



Illustrated Index

NOTE:

- Clean all parts thoroughly in solvent and dry with compressed air.
- Lubricate all parts with oil before reassembly.

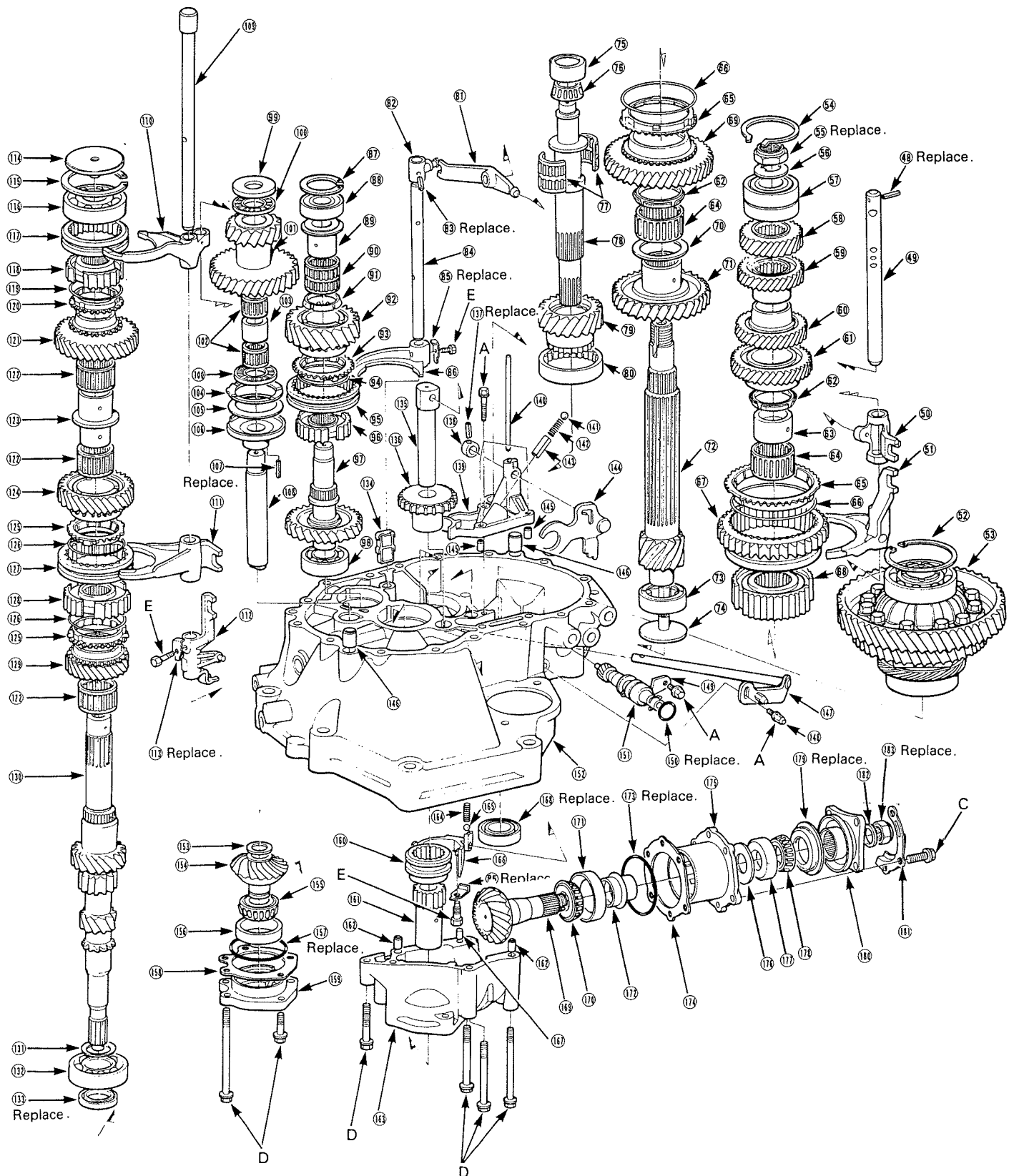


TORQUE VALUES

A: 6mm Bolt	12 N·m (1.2 kg-m, 9 lb-ft)
B: 6mm Special Bolt	15 N·m (1.5 kg-m, 11 lb-ft)
C: 8mm Bolt	26 N·m (2.6 kg-m, 19 lb-ft)
D: 10mm Bolt	45 N·m (4.5 kg-m, 33 lb-ft)

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> ① TRANSMISSION HOUSING
Removal, page 2-29
Installation, page 2-52 ② 18 mm SEALING BOLT
35 N·m (3.5 kg-m, 25 lb-ft) ③ 32 mm SEALING BOLT
70 N·m (7.0 kg-m, 51 lb-ft) ④ 14 mm DRAIN PLUG
40 N·m (4.0 kg-m, 29 lb-ft) ⑤ SEALING WASHER ⑥ DIFFERENTIAL OIL SEAL
Removal, page 2-34
Installation, page 2-53 ⑦ OIL FILLER BOLT
45 N·m (4.5 kg-m, 33 lb-ft)
DETENT BALL ⑧ SPRING ⑩ SEALING WASHER ⑪ DETENT SCREW
22 N·m (2.2 kg-m, 16 lb-ft) ⑫ SEALING WASHER | <ul style="list-style-type: none"> ⑬ SUPER-LOW SHIFT LEVER BOLT
40 N·m (4.0 kg-m, 29 lb-ft) ⑭ DOWEL PIN ⑮ REVERSE IDLER SHAFT BOLT
55 N·m (5.5 kg-m, 40 lb-ft) ⑯ BOLT
40 N·m (4.0 kg-m, 29 lb-ft) ⑰ WASHER ⑱ TRANSMISSION HANGER ⑲ CLUTCH CABLE BRACKET ⑳ OIL COLLECT PLATE ㉑ OIL GUTTER PLATE ㉒ INTERLOCK ㉓ SHIFT ARM A ㉔ SUPER-LOW SELECT RETAINER ㉕ SUPER-LOW RETURN SPRING ㉖ SELECT RETURN PIN ㉗ SELECT RETURN SPRING ㉘ SPRING PIN 5.0 mm ㉙ SELECT ARM ㉚ REVERSE LOCK CAM ㉛ SHIFT ARM | <ul style="list-style-type: none"> ㉜ 18 mm PLUG ㉝ SHIFT ARM SHAFT ㉞ BACK-UP LIGHT SWITCH
25 N·m (2.5 kg-m, 18 lb-ft) ㉟ SEALING WASHER ㊱ DETENT SCREW
22 N·m (2.2 kg-m, 16 lb-ft) ㊲ SEALING WASHER ㊳ SPRING ㊴ DETENT BALLS ㊵ SHIFT ARM COVER ㊶ INTERLOCK BOLT
40 N·m (4.0 kg-m, 29 lb-ft) ㊷ DETENT SCREW
22 N·m (2.2 kg-m, 16 lb-ft) ㊸ SEALING WASHER ㊹ BLEATHAR TUBE ㊺ SHIFT LEVER ㊻ SELECT LEVER ㊼ OIL SEALS |
|--|--|---|

Illustrated Index



NOTE: Remove and clean the magnet ⑬ whenever the transmission is disassembled.

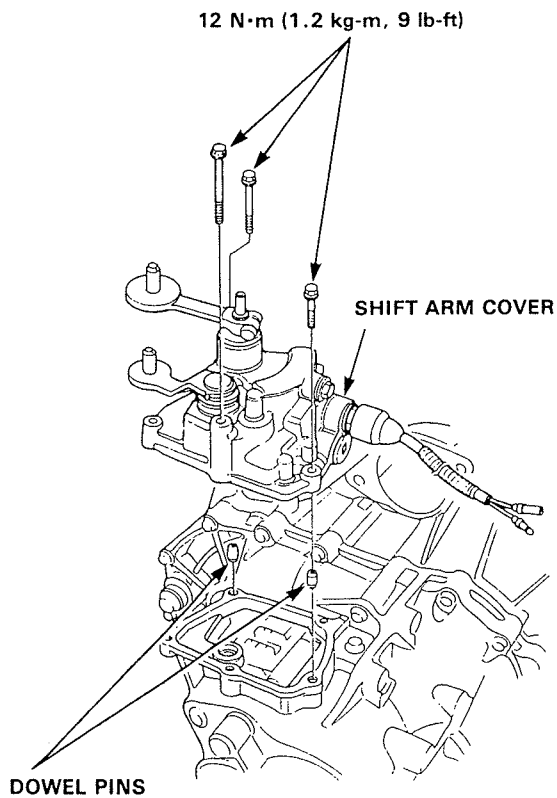
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C: 8mm Bolt	26 N·m (2.6 kg-m, 19 lb-ft)
D: 10mm Bolt	45 N·m (4.5 kg-m, 33 lb-ft)
E: 6mm Special bolt B	17 N·m (1.7 kg-m, 12 lb-ft)

- ④ SPRING PIN
- ⑤ 1st/2nd SHIFT FORK SHAFT
- ⑥ SUPER-LOW SHIFT PIECE
- ⑦ 1st/2nd SHIFT FORK
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- ⑩ SNAP RING
- ⑪ LOCKNUT
110 → 0 → 110 N·m (11.0 → 0 → 11.0 kg-m, 80 → 0 → 80 lb-ft)
- ⑫ SPRING WASHER
- ⑬ BALL BEARING
- ⑭ 5th GEAR
- ⑮ 4th GEAR
- ⑯ 3rd GEAR
- ⑰ 2nd GEAR
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- ⑲ DISTANCE COLLAR
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- ㉚ OIL GUIDE PLATE
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- ㉜ TAPER ROLLER BEARING INNER
- ㉝ NEEDLE BEARING
- ㉞ TRANSFER SHAFT
- ㉟ TRANSFER DRIVEN GEAR
- ㊱ NEEDLE BEARING
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- ㊶ LOCK WASHER
- ㊷ SUPER-LOW SHIFT FORK
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- ㊺ DISTANCE COLLAR
- ㊻ NEEDLE BEARING
- ㊼ FRICTION DAMPER
- ㊽ SUPER-LOW 2 GEAR
- ㊾ SYNCHRO RING
- ㊿ SYNCHRO SPRING
- ① SYNCHRO SLEEVE
- ② SYNCHRO HUB
- ③ SUPER-LOW 2 SHAFT
- ④ BALL BEARING
- ⑤ THRUST WASHER
- ⑥ THRUST NEEDLE BEARING
- ⑦ SUPER-LOW 1 GEAR
- ⑧ NEEDLE BEARING
- ⑨ DISTANCE COLLAR
- ⑩ THRUST WASHER
- ⑪ SPRING WASHER
- ⑫ DISTANCE COLLAR
- ⑬ SPRING PIN
- ⑭ SUPER-LOW 1 SHAFT
- ⑮ 5th/REVERSE SHIFT FORK SHAFT
- ⑯ 5th SHIFT FORK
- ⑰ 3rd/4th SHIFT FORK
- ⑱ 5th/REVERSE SHIFT PIECE
- ㉑ LOCK WASHER
- ㉒ OIL GUIDE PLATE
- ㉓ THRUST SHIM
Selection, page 2-45
- ㉔ BALL BEARING
- ㉕ SYNCHRO SLEEVE
- ㉖ SYNCHRO HUB
- ㉗ SYNCHRO SPRING
- ㉘ SYNCHRO RING
- ㉙ 5th GEAR
- ㉚ NEEDLE BEARING
- ㉛ SPACER COLLAR
- ㉜ 4th GEAR
- ㉝ SYNCHRO RING
- ㉞ SYNCHRO SPRING
- ㉟ SYNCHRO SLEEVE
- ① SYNCHRO HUB
- ② 3rd GEAR
- ③ MAINSHAFT
Inspection, page 2-40
- ④ SPRING WASHER
- ⑤ BALL BEARING
- ⑥ OIL SEAL
- ⑦ MAGNET
- ⑧ REVERSE IDLER SHAFT
- ⑨ REVERSE IDLER GEAR
- ⑩ SPRING PIN
- ⑪ LOCK COLLAR
- ⑫ REVERSE SHIFT HOLDER
- ⑬ SUPER-LOW SHIFT PIECE BAR
- ⑭ DETENT BALL
- ⑮ BALL SPRING
- ⑯ SPRING COLLAR
- ⑰ REVERSE SHIFT FORK
- ⑱ DOWEL PIN
- ⑲ DOWEL PIN
- ⑳ DISENGAGEMENT LEVER
- ㉑ STOPPER BOLT
- ㉒ LOCK PLATE
- ㉓ O-RING
- ㉔ SPEEDOMETER GEAR
- ㉕ CLUTCH HOUSING
- ㉖ THRUST SHIM
Selection, page 2-20
- ㉗ TRANSFER DRIVE GEAR
- ㉘ TAPER ROLLER BEARING INNER
- ㉙ BEARING OUTER RACE
- ㉚ O-RING
- ㉛ TRANSFER THRUST SHIM
Selection, page 2-19
- ㉜ TRANSFER L. SIDE COVER
- ㉝ DISENGAGEMENT SLEEVE
- ㉞ TRANSFER DISTANCE COLLAR
- ㉟ DOWEL PIN A
- ① TRANSFER CASE
- ② SPRING
- ③ DETENT BALL
- ④ DISENGAGEMENT FORK
- ⑤ DOWEL PIN B
- ⑥ OIL SEAL
- ⑦ TRANSFER DRIVEN GEAR
- ⑧ TAPER ROLLER BEARING INNER
- ⑨ BEARING OUTER RACE
- ⑩ TRANSFER SPACER
- ⑪ O-RING
- ⑫ DRIVEN GEAR THRUST SHIM
Selection, page 2-18
- ⑬ TRANSFER REAR COVER
- ⑭ THRUST WASHER
- ⑮ BEARING OUTER RACE
- ⑯ TAPER ROLLER BEARING INNER
- ⑰ OIL SEAL
- ⑱ COMPANION FLANGE
- ㉑ TRANSFER DUST COVER
- ㉒ SPRING WASHER
- ㉓ LOCKNUT
120 N·m (12 kg-m, 87 lb-ft)

Shift Arm Cover

Replacement

1. Remove the mounting bolts and shift arm cover.

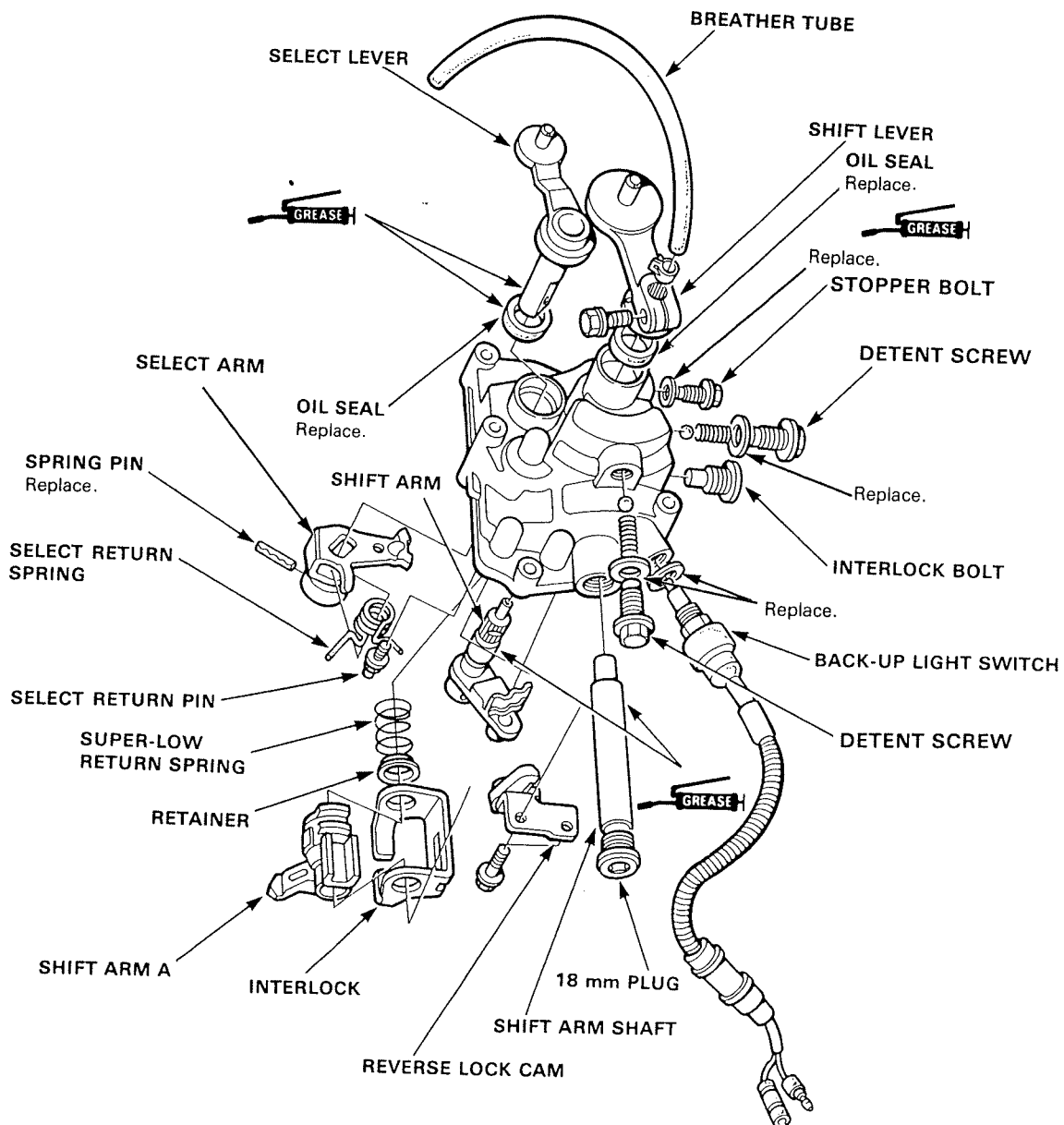


2. Apply sealant to the shift arm cover mating surface of the transmission case.

NOTE: This transmission uses no gaskets between the shift arm cover and transmission case: use Honda Genuine Liquid Sealant (Three Bond® 1216). Assemble the housing within 20 minutes after applying the sealant and allow it to cure at least 30 minutes after assembly before filling it with oil.

Disassembly

1. Remove the breather tube and back-up light switch.
2. Remove the reverse lock cam, detent screws, washers, springs and detent ball from the shift arm cover.
3. Remove the interlock bolt.
4. Remove the 18 mm plug, shift arm, shift arm shaft, interlock, shift arm A, retainer and super-low return spring.
5. Remove the spring pin, select arm, select return spring and select lever.
6. Remove the shift lever bolt and shift lever.
7. Remove the stopper bolt, washer and shift arm.
8. Remove the oil seals.
9. Remove the select return pin.



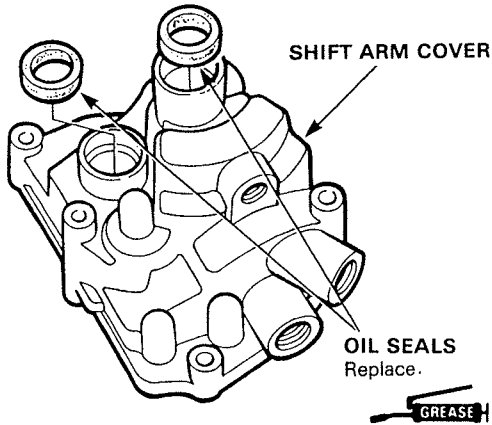
Shift Arm Cover

Reassembly

NOTE:

- Lubricate all parts with oil before reassembly.
- Lubricate all moving and sliding surfaces with grease.

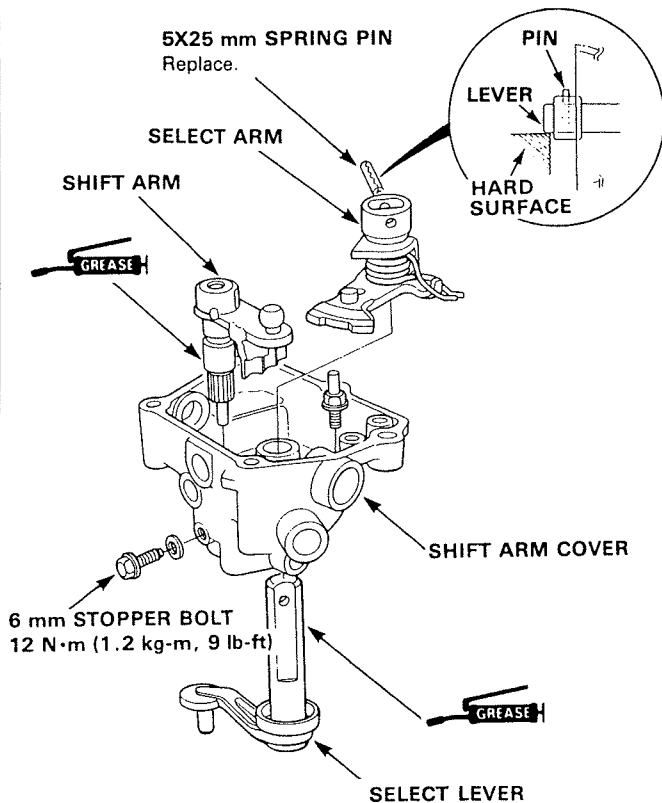
1. Install new oil seals in the shift arm cover.



2. Fit the select lever through the shift arm cover, then install the select arm and the 5 x 2.5 mm spring pin.

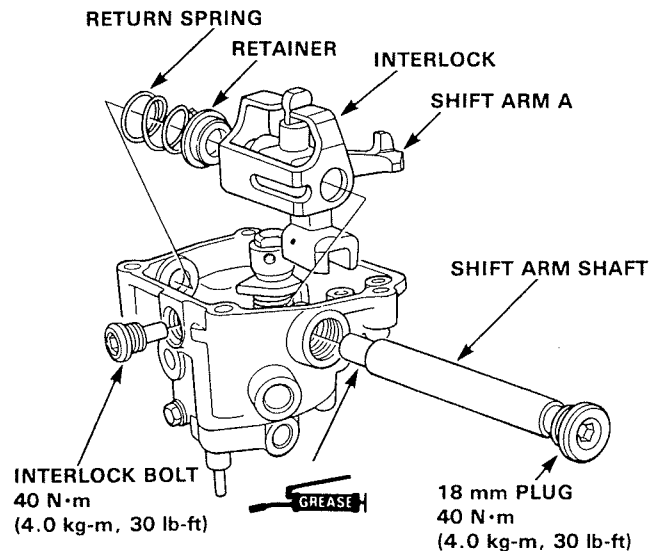
NOTE: Rest the end of the lever on a hard surface as shown when driving in the spring pin.

3. Install the shift arm with the 6 x 16 mm stopper bolt.

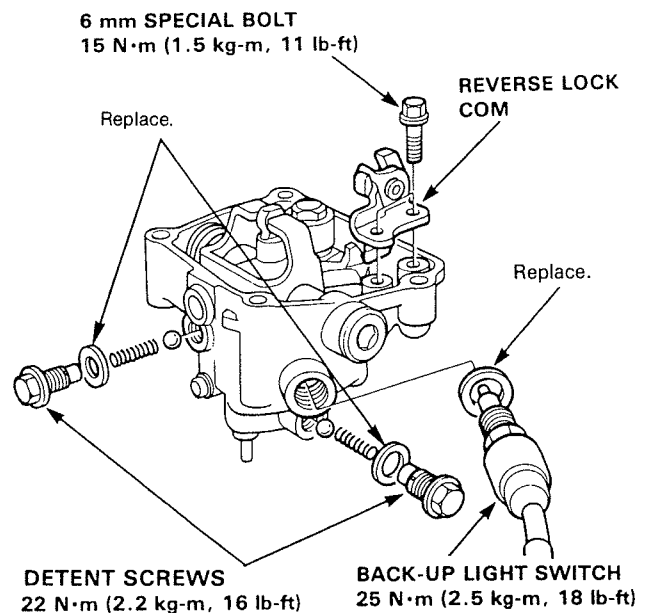


4. Assemble the interlock unit with the shift arm A, retainer and spring, then install them in the shift arm cover.
5. Install the shift arm shaft through the cover into shift arm A.
6. Fit the interlock bolt through the shift arm cover; align the bolt with the groove in the interlock unit, then install the 18 mm plug.

NOTE: Seal the threads of the interlock bolt and 18mm plug with Honda Genuine Liquid Sealant (Three Bond® 1216).

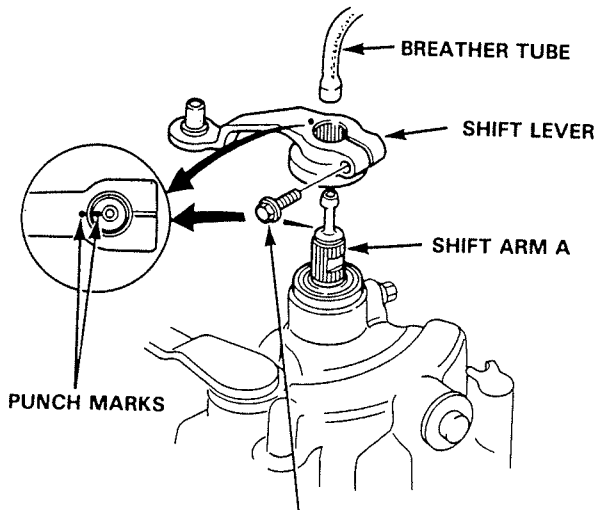


7. Install the reverse lock cam on the shift arm cover.
8. Install the detent screws and back-up light switch on the cover.



Transfer Inspection

9. Install the shift lever onto the shift arm A.
NOTE: Align the punch mark on the shift lever with the one on shift arm A.

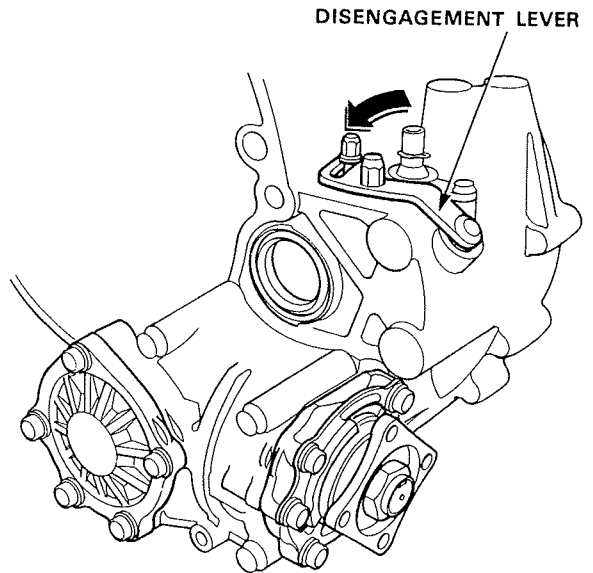


15 N·m (1.5 kg·m, 11 lb·ft)

10. Install the breather tube on the shift arm A.

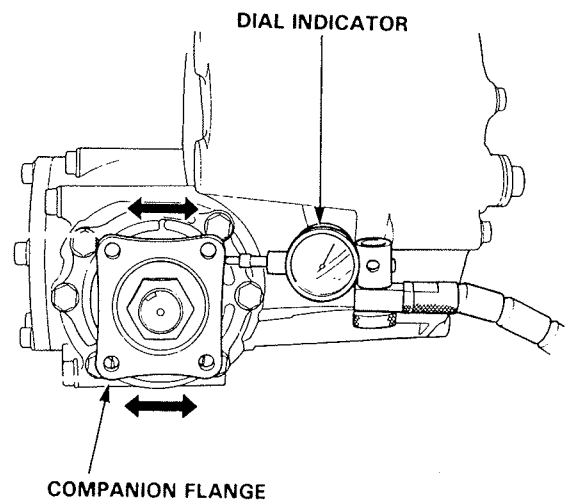
Driven Gear Backlash

1. Set the disengagement lever in 2WD.



2. Using a dial indicator, measure the backlash twice: once at the top of the companion flange, then rotate the companion flange 180° and measure it in the same way.

Standard: 0.10 ~ 0.15 mm (0.004 ~ 0.006 in.)

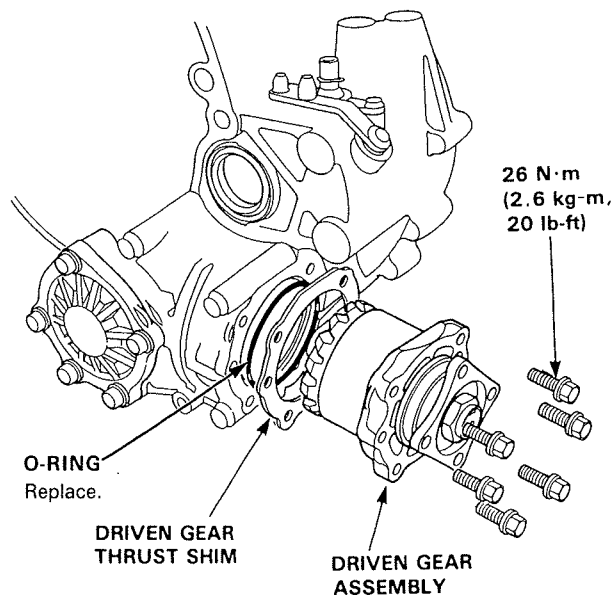


3. If the backlash is outside the specifications, adjust as per instructions described on page 2-18.

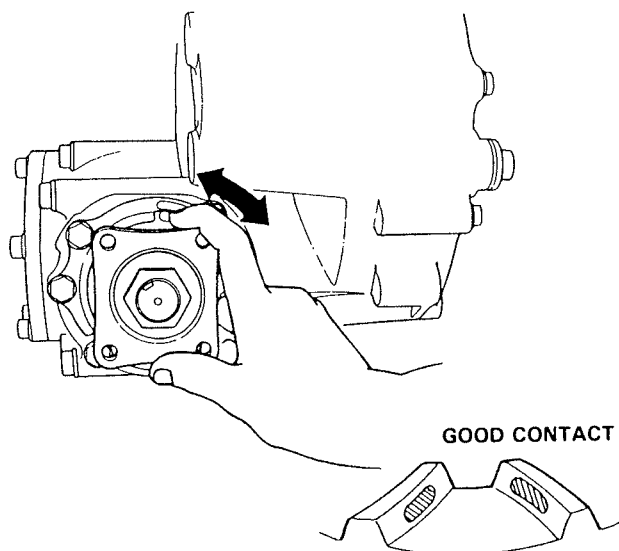
Transfer Inspection

Gear Tooth Contact

1. Place the disengagement lever in 2WD.
2. Remove the transfer driven gear assembly from the clutch housing.



3. Apply Prussian Blue to the driven gear teeth evenly, and re-install it.
4. Torque the gear holder mounting bolts.
5. Turn the companion flange, then note tooth impression on the drive gear at more than three teeth.

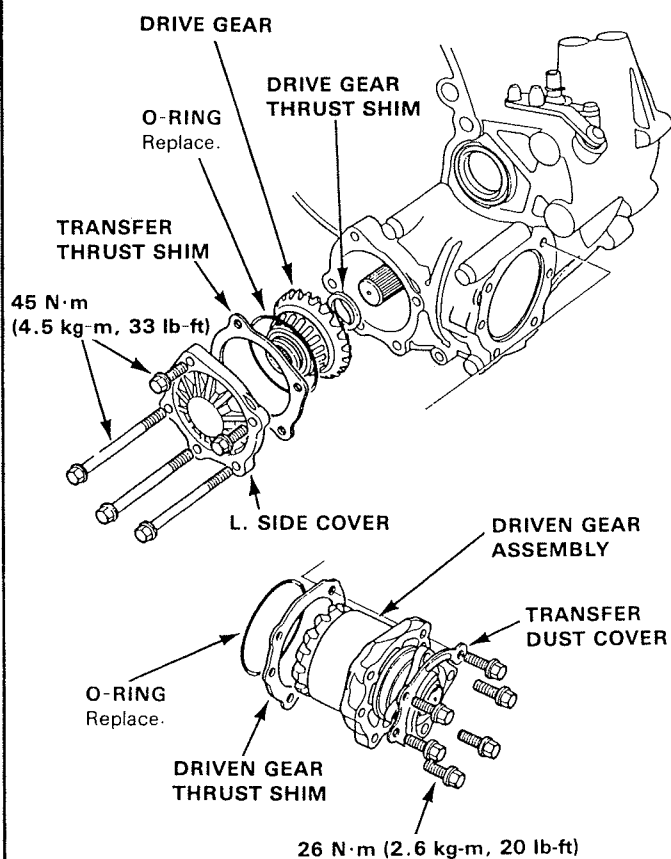


6. If the pattern is too high or too low, correct as per instructions described on page 2-26.
7. If the tooth contact is correct, reassemble the drive gear assembly using new O-ring.

Transfer

Drive Gear/Driven Gear Assembly Removal

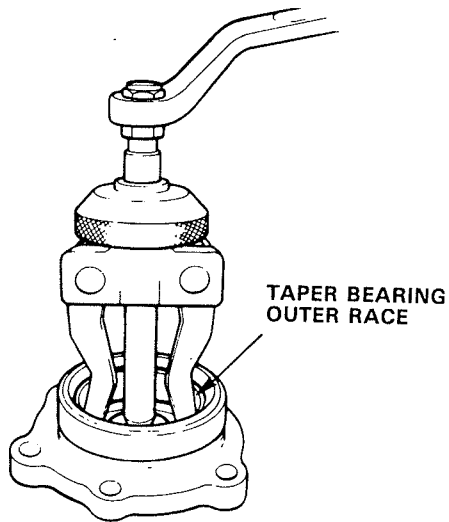
1. Set the disengagement lever in 2WD.
2. Remove the five L.side cover mounting bolts.
3. Remove the L.side cover, transfer thrust shim and O-ring.
4. Remove the drive gear and drive gear thrust shim.
5. Remove the six bolts and transfer dust cover.
6. Remove the driven gear assembly, driven gear thrust shim and O-ring.



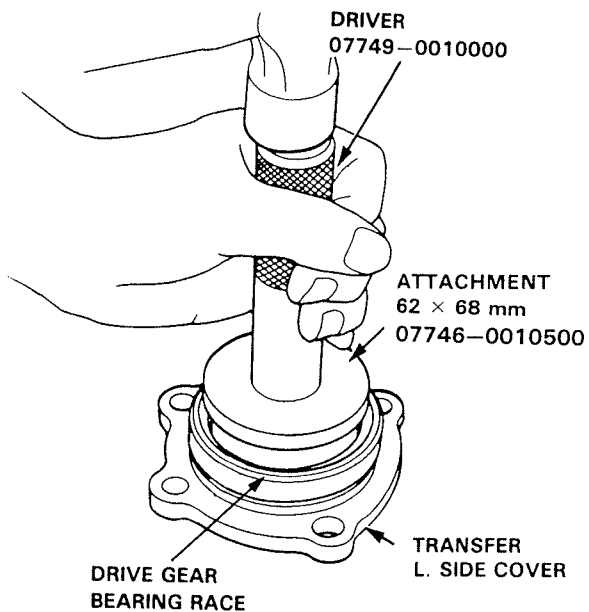
L. Side Cover Race Replacement

NOTE The outer race should be replaced with the bearing as a set.

1. Remove the drive gear bearing race with a bearing puller as shown.

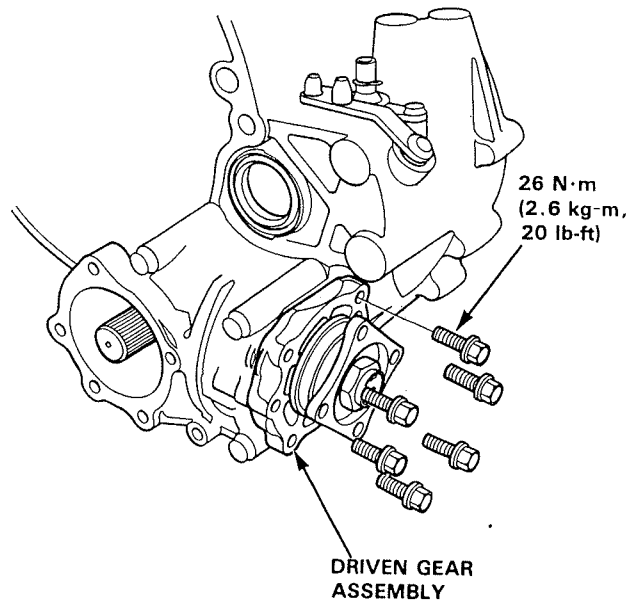


2. Install the new race with the special tools shown.

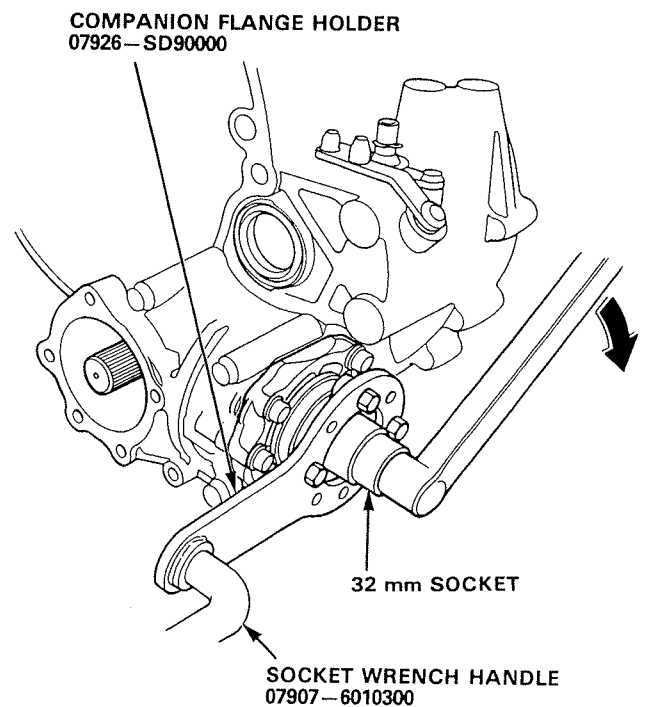


Transfer Driven Gear Disassembly

1. Slide the driven gear assembly into the clutch housing and secure with the six bolts.



2. Hold the companion flange with the flange holder and remove the lock nut with a 32 mm socket.

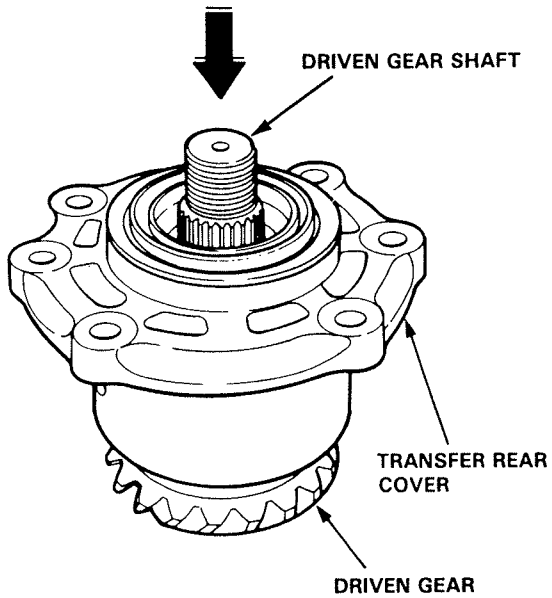


3. Remove the companion flange holder.
4. Remove the driven gear holder assembly. (cont'd)

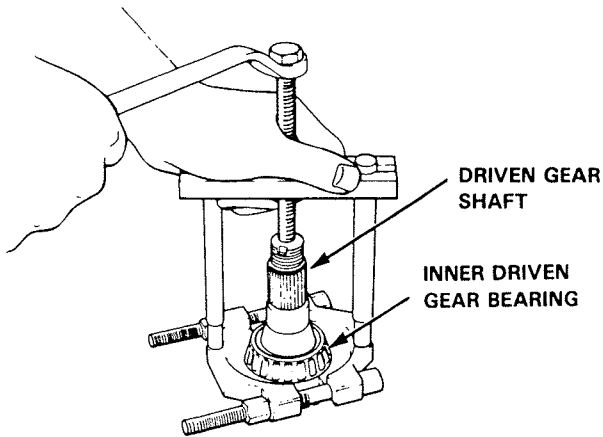
Transfer

Transfer Driven Gear Disassembly (cont'd)

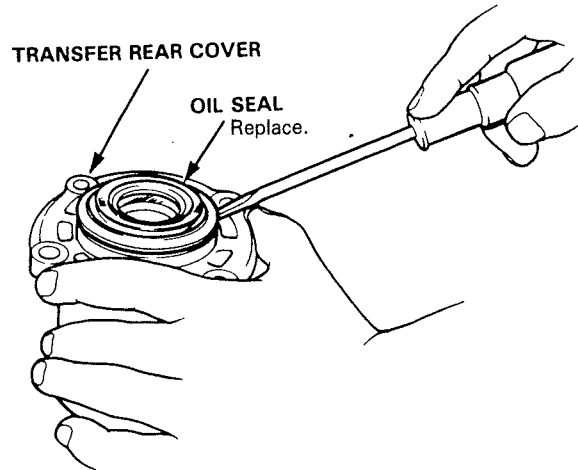
5. Remove the companion flange from the driven gear shaft.
6. Remove the driven gear from the transfer rear cover by tapping the driven gear shaft.



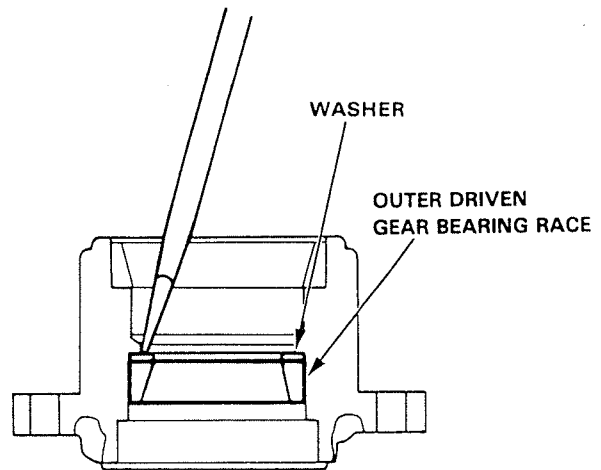
7. Remove the inner driven gear bearing from the driven gear shaft.



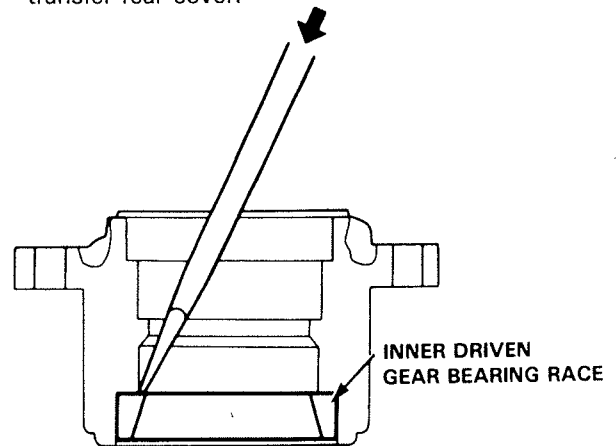
8. Pry the oil seal off the transfer rear cover.



9. Remove the washer and outer driven gear bearing race from the transfer rear cover.



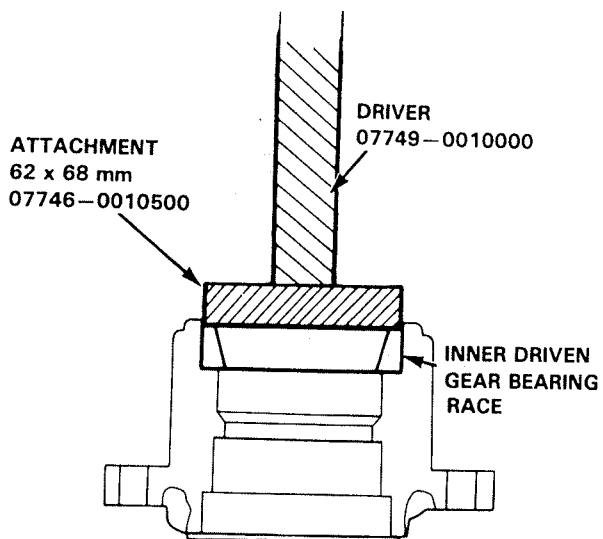
10. Remove the inner driven gear bearing race from the transfer rear cover.



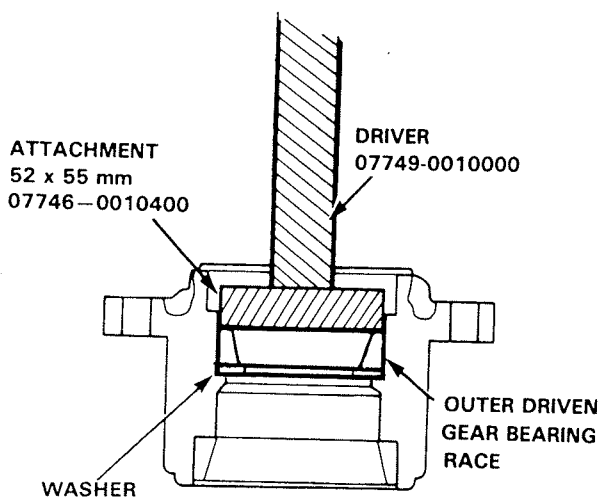
Driven Gear Pre-load Adjustment

NOTE: Clean all tools and parts thoroughly in solvent and dry with compressed air.

1. Press the inner driven gear bearing race into the transfer rear cover with the tools shown.

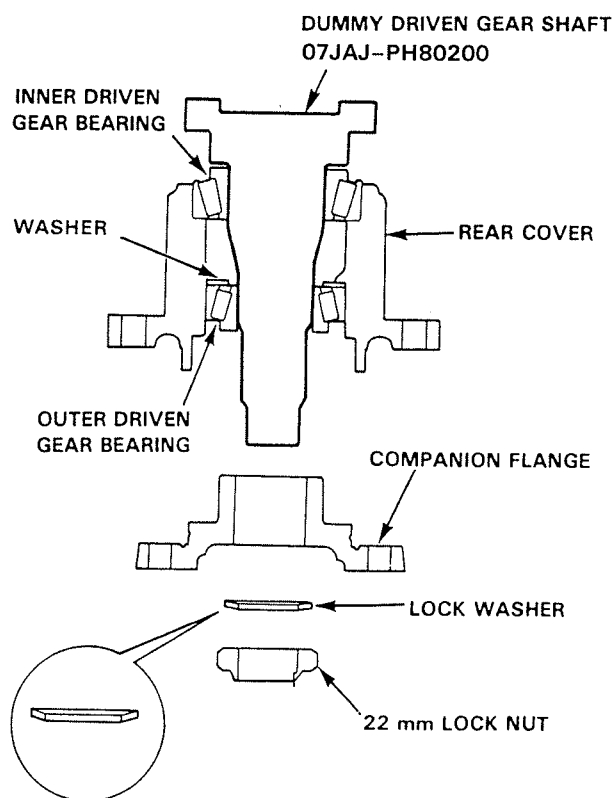


2. Install the washer in the transfer rear cover. Press the outer driven gear bearing race into the transfer rear cover with the tools shown.



3. Coat the races with clean oil.

4. Slide the inner driven gear bearing onto the Dummy Driven Gear Shaft then install the Dummy Shaft in the rear cover.



5. Slide the outer driven gear bearing on the Dummy Driven Gear Shaft.
6. Install the companion flange, lock washer and 22 mm lock nut on the dummy shaft.

NOTE:

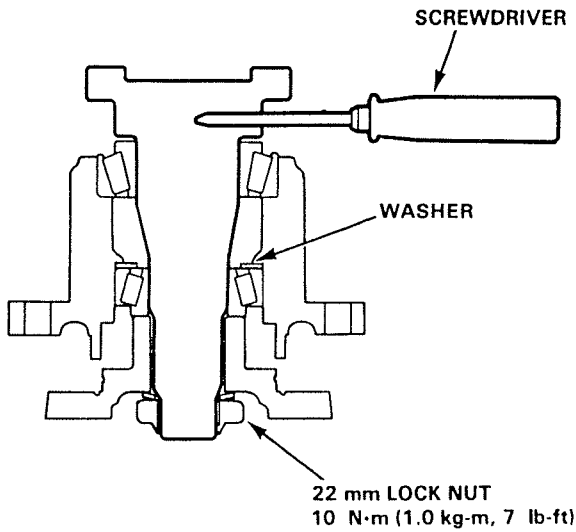
- Use a new 22 mm lock nut.
- Do not install the oil seal.
- Install the lock washer with the dished side toward the rear cover.

(cont'd)

Transfer

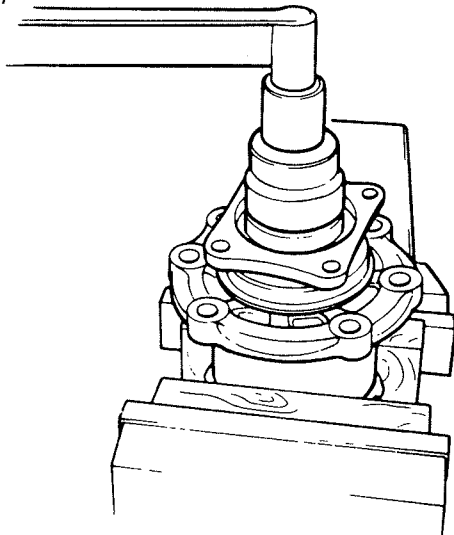
Driven Gear Pre-load Adjustment (cont'd)

7. Hold the dummy shaft by inserting the end of a screwdriver into the hole in the shaft, then torque the 22 mm lock nut to about 10 N·m (1.0 kg-m, 7 lb-ft).



8. Turn the companion flange several times to assure normal bearing contact.
9. Measure preload using a torque wrench.

Standard: 0.5–0.8 N·m (5.0–8.0 kg-cm, 4.3–6.9 lb-in)

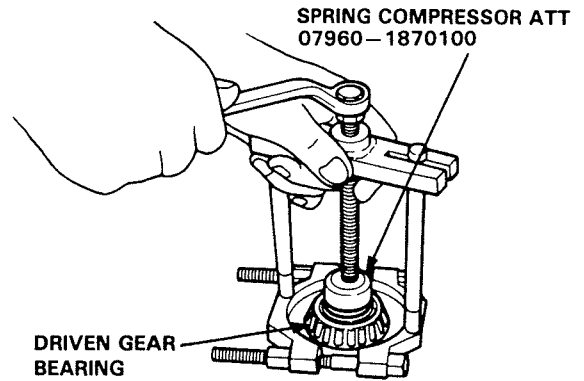


10. If the preload is outside the above limits, re-adjust by turning the lock nut.

NOTE: Do not overtighten the lock nut.

Thrust Shim Selection

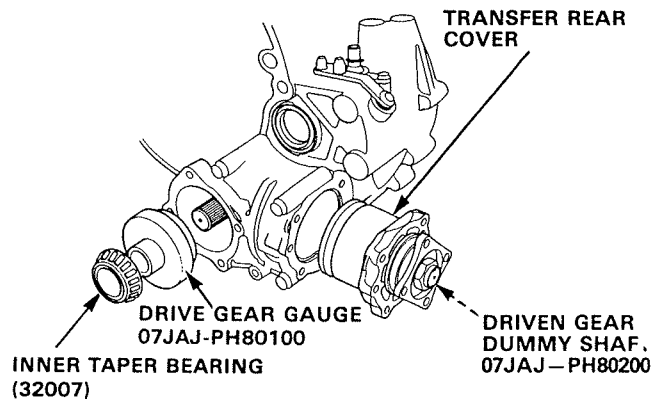
1. Insert the dummy shaft/driven gear assembly into the transfer housing.
2. Remove the drive gear bearing with a bearing puller.



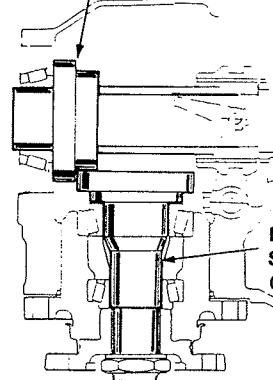
3. Lubricate the drive gear bearing with clean oil, then install it on the Drive Gear Gauge. Slide the bearing and gauge onto the transfer shaft.

NOTE:

- Do not install the drive gear thrust washer.
- Pull the dummy shaft/driven gear assembly out slightly to allow the drive gear gauge to seat.

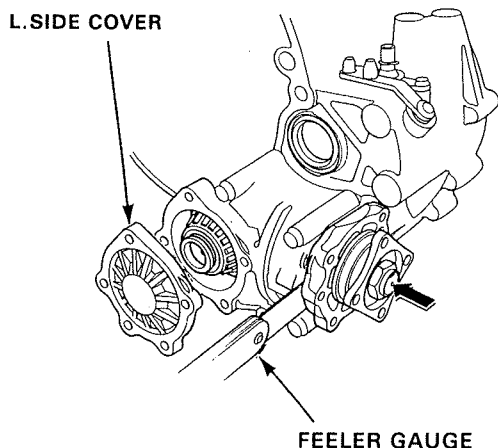


DRIVE GEAR GAUGE
07973-SD90500



4. Install L. side cover without the bolts.
5. To determine driven gear thrust shim thickness, rotate the companion flange several times to seat the bearings, measure the clearance between the transfer rear cover and transfer case at several locations with a feeler gauge, then record the average.

NOTE: The clearance should be taken while pressing the dummy shaft all the way in.



6. The correct shim thickness is determined by recording the average clearance between the transfer rear cover and the transfer case, then adding to subtracting the machining tolerance, which is etched in to the driven gear.

NOTE: The plus (+) or minus (-) number given as machining tolerance represents hundredths of a millimeter.

Example:

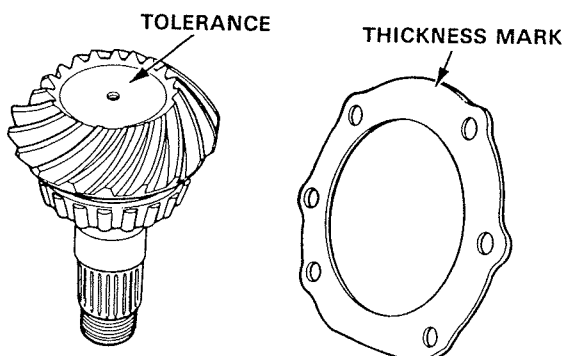
- Clearance measured in Step 5: 1.08 mm
- Machining tolerance etched in the driven gear: (+2)

Corrected shim thickness:
 $1.08 + 0.02 \text{ mm} = 1.10 \text{ mm}$

Example:

- Clearance measured in Step 5: 1.08 mm
- Machining tolerance etched in the driven gear: (-3)

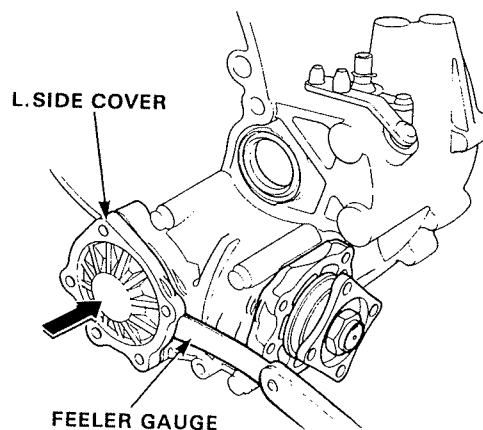
Corrected driven gear thrust shim thickness:
 $1.08 - 0.03 \text{ mm} = 1.05 \text{ mm}$



Part No.	Thickness
29481-PH8-000	0.5 mm (0.020 in.)
29482-PH8-000	0.85 mm (0.033 in.)
29483-PH8-000	0.90 mm (0.035 in.)
29484-PH8-000	0.95 mm (0.037 in.)
29485-PH8-000	1.00 mm (0.039 in.)
29486-PH8-000	1.05 mm (0.041 in.)
29487-PH8-000	1.10 mm (0.043 in.)
29488-PH8-000	1.15 mm (0.045 in.)
29489-PH8-000	1.20 mm (0.047 in.)
29491-PH8-000	1.25 mm (0.049 in.)
29492-PH8-000	1.30 mm (0.051 in.)

7. To determine the L. side cover thrust shim thickness measure the clearance between the transfer L. side cover and transfer case at several locations with a feeler gauge, and record the average.

NOTE: The clearance should be measured while pressing the L. side cover all the way against the transfer case.



8. The correct shim thickness is determined by recording the clearance between the transfer case and the L. side cover, then adding or subtracting the machining tolerance, which is etched into the drive gear.

Example:

- Clearance measured in Step 7: 1.04 mm
- Machining tolerance etched on drive gear: (+2)

Corrected shim thickness:
 $1.04 + 0.02 \text{ mm} = 1.06 \text{ mm}$

Example:

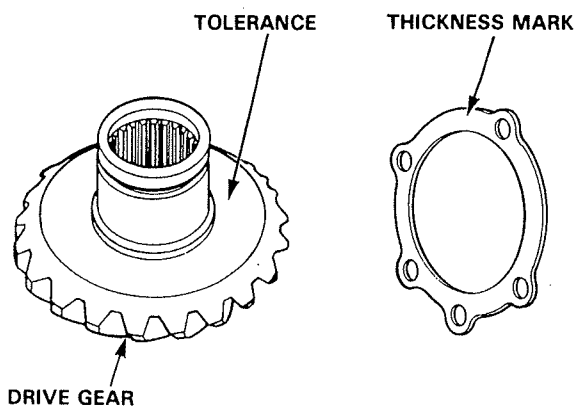
- Clearance measured in Step 7: 1.04 mm
- Machining tolerance etched on drive gear: (-1)

Corrected shim thickness:
 $1.04 - 0.01 \text{ mm} = 1.03 \text{ mm}$

(cont'd)

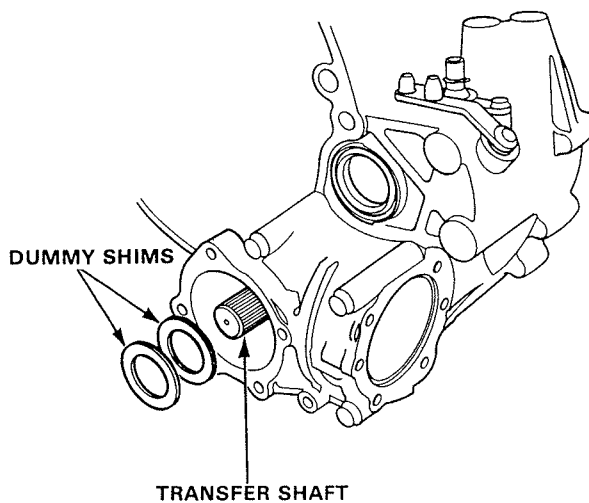
Transfer

Thrust Shim Selection (cont'd)

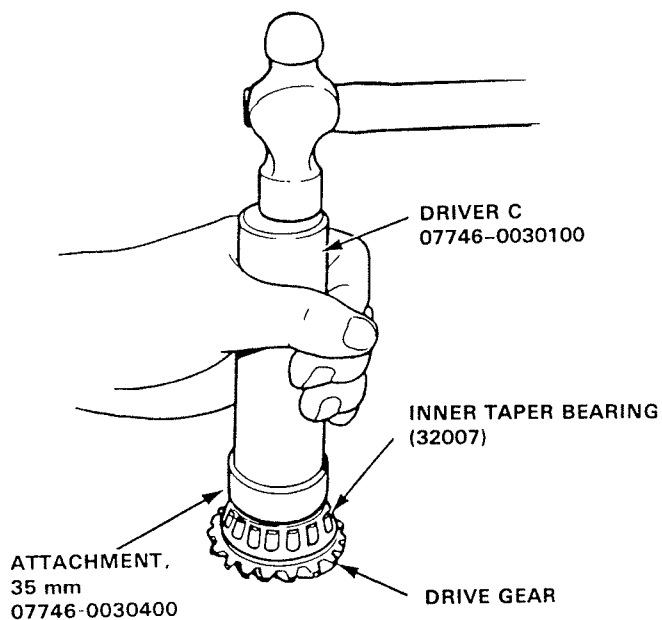


Part No.	Thickness
29461-PH8-000	0.30 mm (0.012 in.)
29462-PH8-000	1.00 mm (0.039 in.)
29463-PH8-000	1.03 mm (0.041 in.)
29464-PH8-000	1.06 mm (0.042 in.)
29465-PH8-000	1.09 mm (0.043 in.)
29466-PH8-000	1.12 mm (0.044 in.)
29467-PH8-000	1.15 mm (0.045 in.)
29468-PH8-000	1.18 mm (0.046 in.)
29469-PH8-000	1.21 mm (0.048 in.)
29471-PH8-000	1.24 mm (0.049 in.)
29472-PH8-000	1.27 mm (0.050 in.)
29473-PH8-000	1.30 mm (0.051 in.)
29474-PH8-000	1.33 mm (0.052 in.)

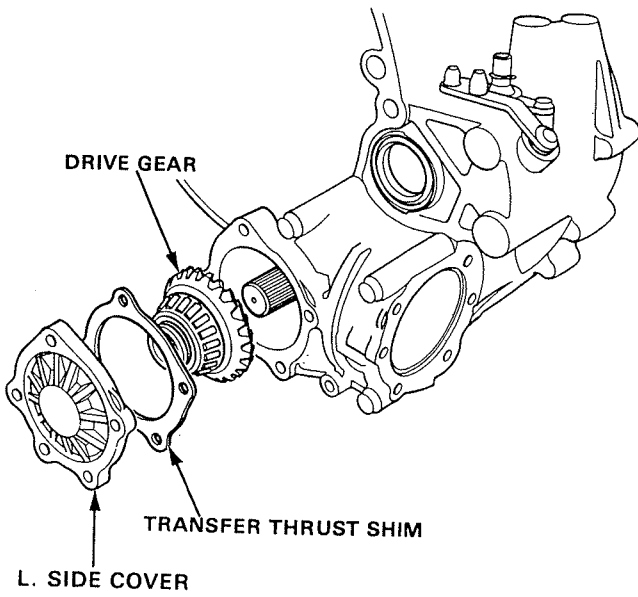
- Install two 1.75 mm "dummy" shims (P/N 29415-PH8-000) on the transfer shaft.



- Press the drive gear bearing on the drive gear.

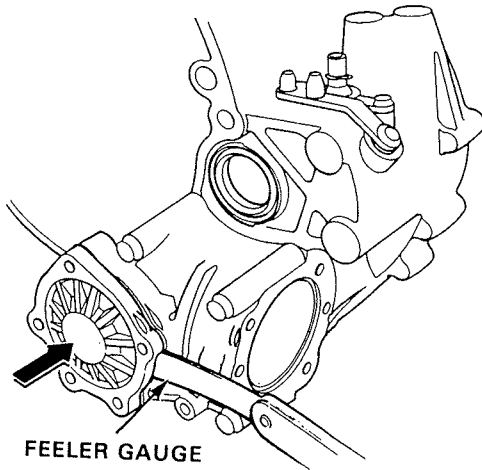


11. Slide the drive gear onto the transfer shaft.



12. Place the shim selected in Step 7 on the L. side cover, and install the cover on the transfer case.

13. Rotate the companion flange several times to seat the bearings, measure the clearance between the L. side cover and transfer case at several locations while pushing against the left side cover, and record the average.



14. Subtract the clearance measured in step 13 from 3.5 mm to obtain the correct shim thickness.

Example:

- Clearance measured in Step 13:
1.57 mm
- Thickness of dummy shims:
3.5 mm

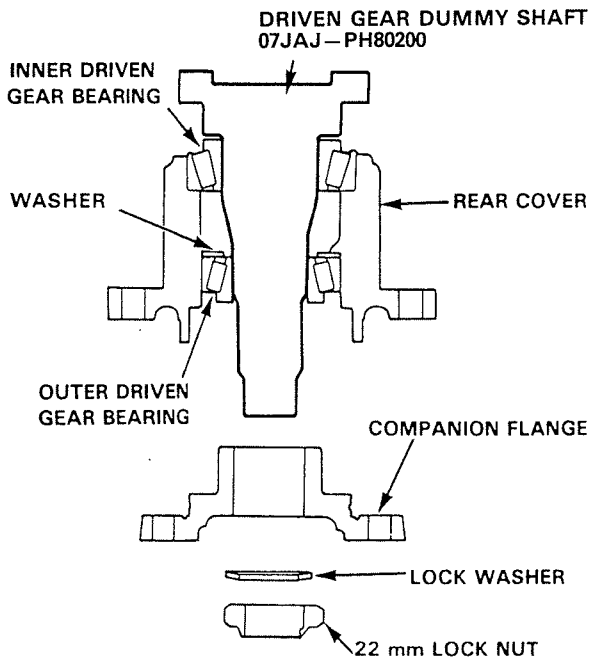
Corrected drive gear thrust shim:
3.5-1.57 mm
Thickness: 1.93 mm

Part No.	Thickness
29411-PH8-000	0.48 mm (0.019 in.)
29412-PH8-000	1.57 mm (0.062 in.)
29413-PH8-000	1.63 mm (0.064 in.)
29414-PH8-000	1.69 mm (0.067 in.)
29415-PH8-000	1.75 mm (0.069 in.)
29416-PH8-000	1.81 mm (0.071 in.)
29417-PH8-000	1.87 mm (0.074 in.)
29418-PH8-000	1.93 mm (0.076 in.)
29419-PH8-000	1.99 mm (0.078 in.)

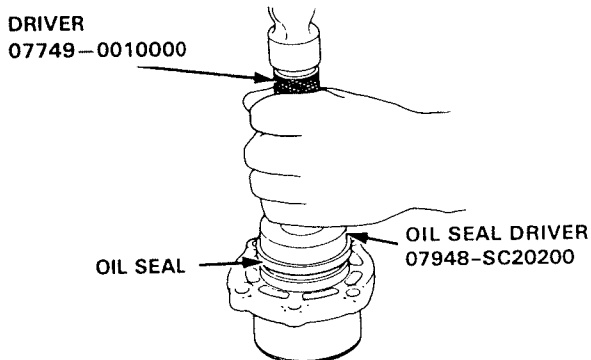
Transfer

Driven Gear Reassembly

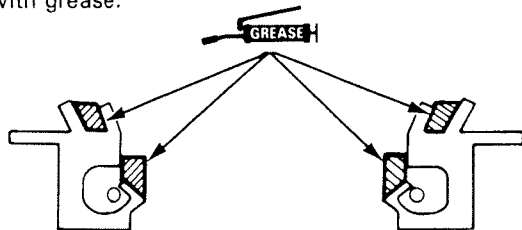
1. Remove the driven gear dummy shaft from the transfer rear cover.



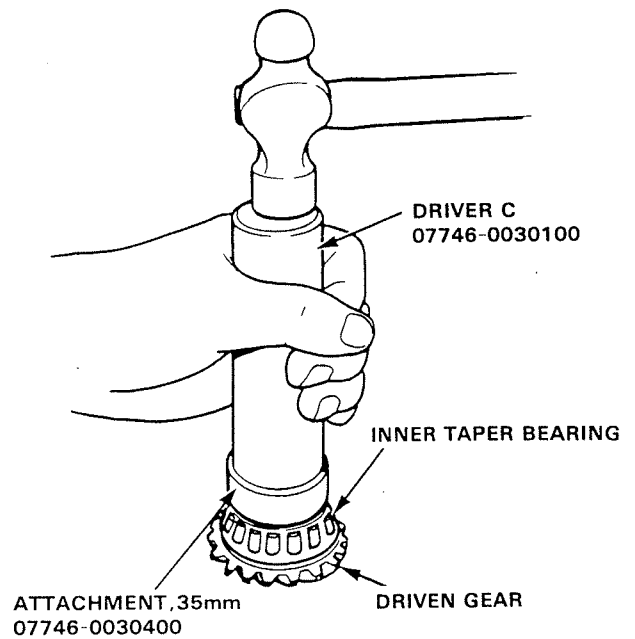
2. Press the oil seal in to the transfer rear cover.



3. Coat the main and side sealing lips of the oil seal with grease.



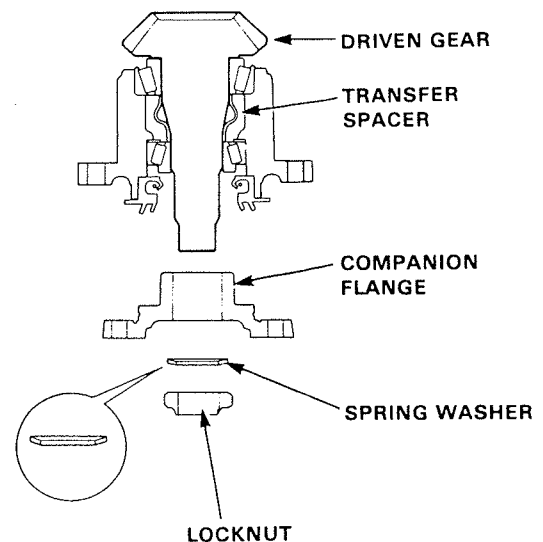
4. Press the inner driven gear bearing on the drive gear.



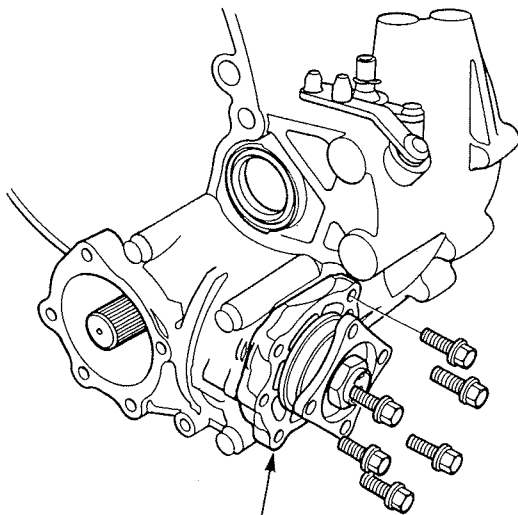
5. Install the following parts in the transfer rear cover:

- Drive gear.
- Transfer spacer (new spacer)
- Companion flange
- Spring washer
- 22 mm lock nut

NOTE: Install the spring washer with the dished side toward the companion flange.



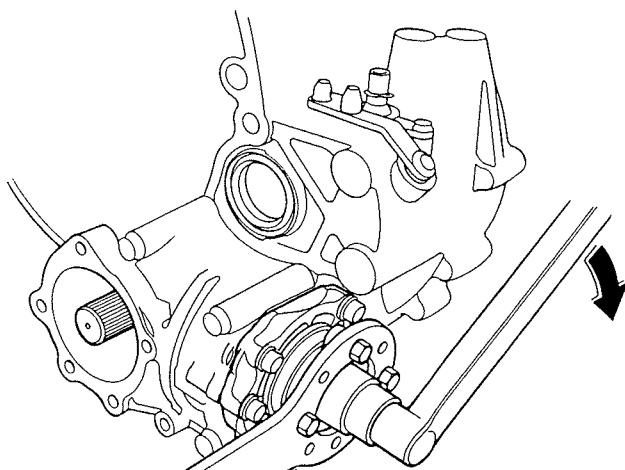
- Temporarily install the driven gear assembly and mounting bolts in the transfer case.



DRIVEN GEAR ASSEMBLY

- Tighten the lock nut to the specified torque.

Torque: 120 N·m (12 kg-m, 87 lb-ft)



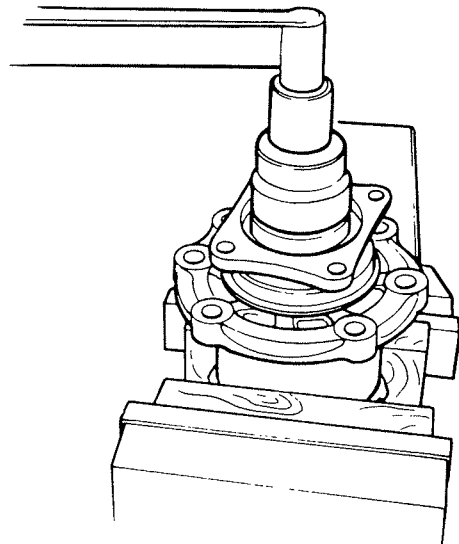
FLANGE HOLDER
07926-SD90000

SOCKET WRENCH HANDLE
07907-6010300

- Remove the driven gear assembly from the transfer case, and measure the preload.

NOTE: Before measuring the preload, rotate the companion flange several times to assure normal bearing contact.

**Preload: 0.8 – 1.1 N·m
(8.0 – 11.0 kg-cm, 7.0 – 9.5 lb-in)**



NOTE: If the preload exceeds 1.1 N·m (11.0 kg-cm, 9.5 lb-in), replace the transfer spacer with a new one and readjust. Do not try to adjust the preload by loosening the locknut.

- If the preload is less than 0.8 N·m (8 kg-cm, 7.0 lb-in), adjust by turning the lock nut in a little at a time.

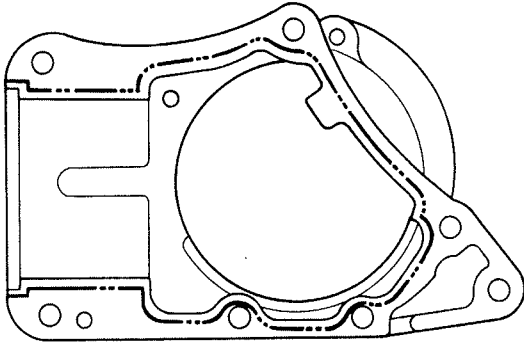
NOTE: Replace the transfer spacer with a new one if the preload is still outside the above limits when the lock nut is tightened to 230 N·m (23 kg-m, 166 lb-ft)

Transfer

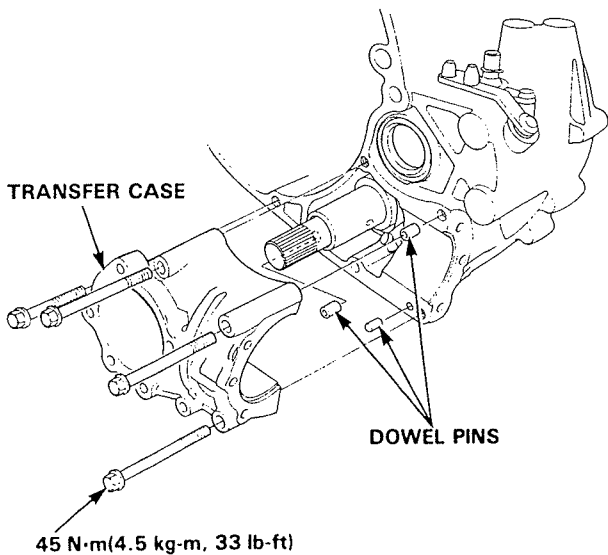
Driven/Drive Gear Reassembly

1. Apply sealant to the clutch case mating surface of the transfer case.

NOTE: This transmission uses no gaskets between the major housings; use Honda Genuine Liquid Sealant (Three Bond® 1216). Assemble the housings within 20 minutes after applying the sealant and allow it to cure for at least 30 minutes after assembly before filling it with oil.

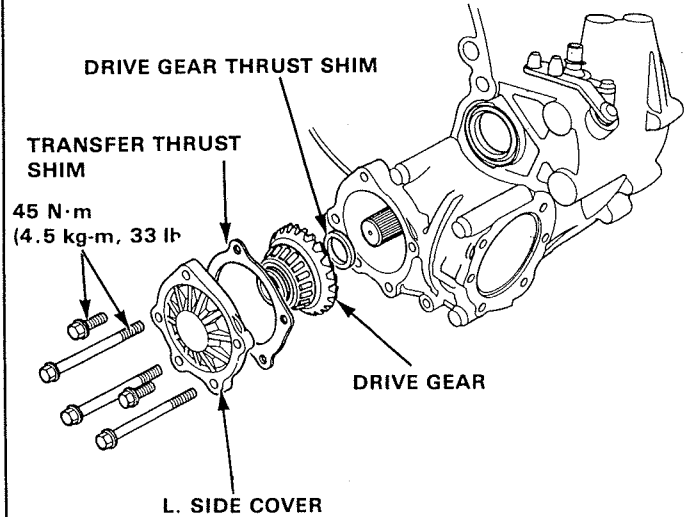


2. Install the transfer case on the clutch case.



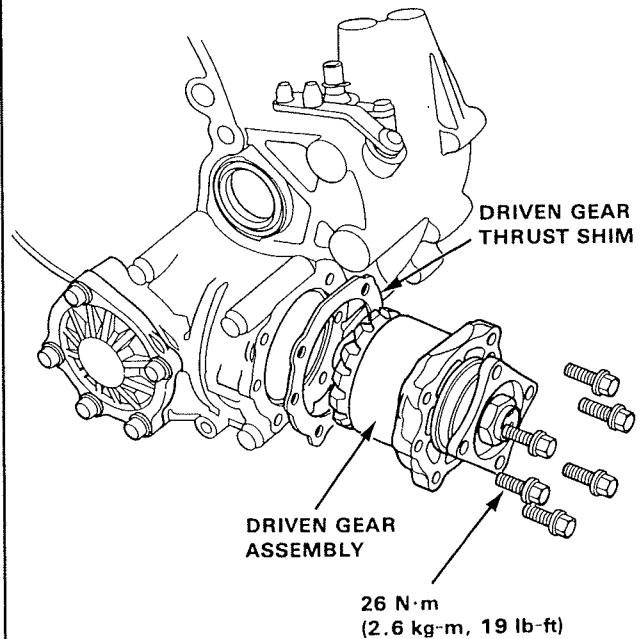
3. Install the following parts in and on the transfer case and shaft:

- transfer thrust shim.
- drive gear (coat with clean oil).
- drive gear thrust shim.
- L side cover and bolts.



4. Install the following parts:

- driven gear thrust shim.
- driven gear assembly and bolts.

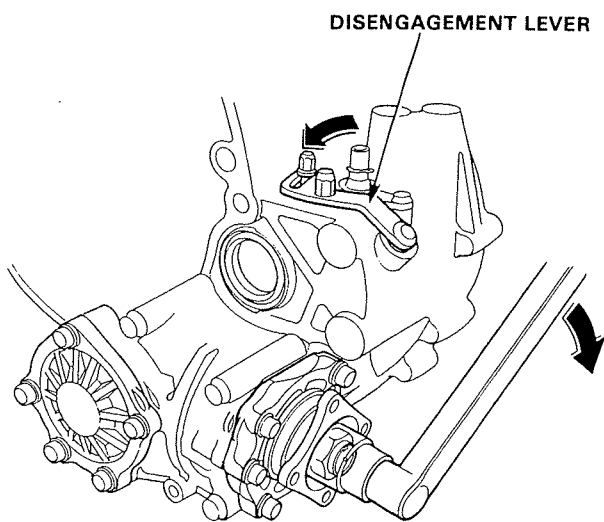


5. Measure the total bearing preload:
 - Rotate the companion flange several times to assure normal bearing contact.
 - Set the disengagement lever in 2WD.
 - Measure the preload with a torque wrench.

The total bearing preload should be 0.7–1.0 N·m (7.0–10.0 kg-cm, 6.1–8.75 lb-in) greater than the preload on the driven gear assembly alone (see page 2-23, step 8).

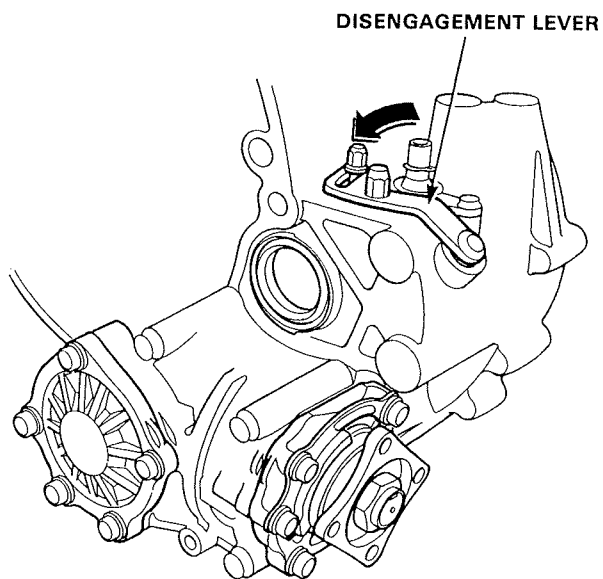
Example:

If the preload of the driven gear assembly alone was 0.9 N·m (9.0 kg-cm, 7.9 lb-in), the total bearing preload should be between 1.6 N·m (16.0 kg-cm, 14 lb-in) and 1.9 N·m (19 kg-cm, 16 lb-in).



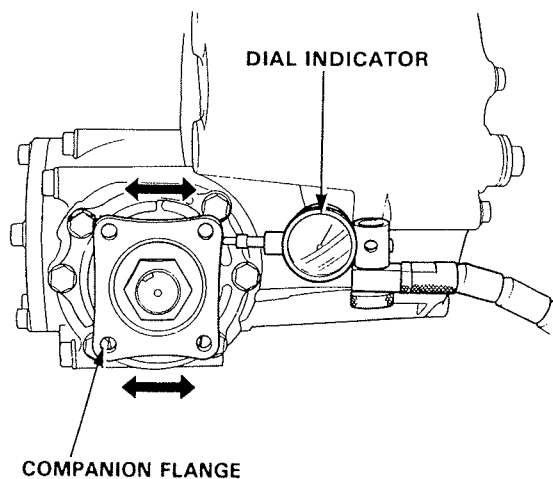
6. If the preload is outside of the specifications, adjust it by replacing the transfer thrust shim.
 - If the total bearing preload is less than the specification, reduce the size of the transfer thrust shim.
 - If the total bearing preload is more than the specification, increase the size of the transfer thrust shim.

7. After the bearing preload has been adjusted properly, measure the gear backlash.
 - Place the disengagement lever in 2WD.



- Using a dial indicator, measure the backlash at the top of the companion flange, then rotate the companion flange 180° and measure again.

Backlash: 0.10-0.15 mm (0.004-0.006 in.)

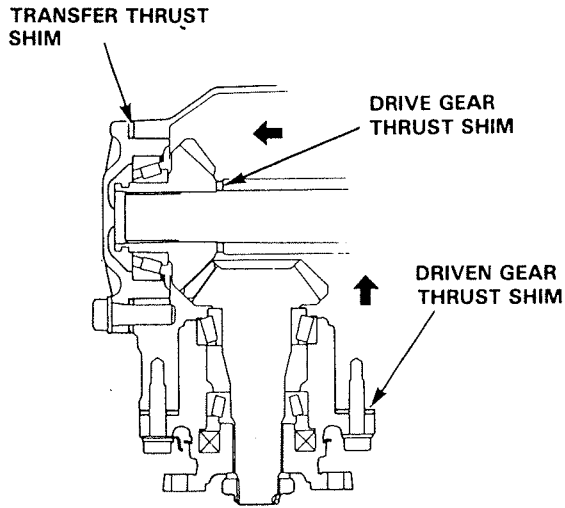


(cont'd)

Transfer

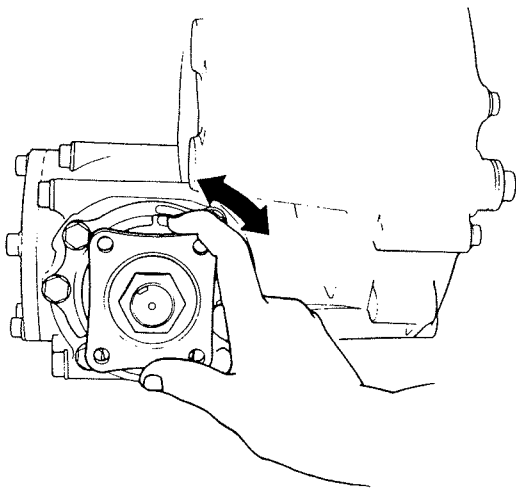
Driven/Drive Gear Reassembly (cont'd)

- If the backlash is outside the specifications, adjust by changing the driven gear and drive gear thrust shims.



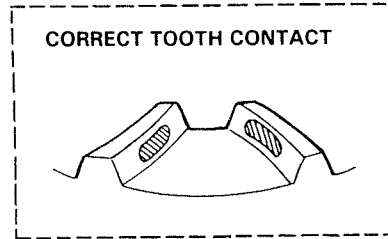
8. Check for proper tooth contact after the backlash adjustment has been completed.

- Remove the driven gear assembly from the transfer case, and coat the driven gear teeth evenly with Prussian Blue.
- Reinstall the driven gear assembly in the transfer case and tighten the bolts to the specified torque.
- With the disengagement lever in 2WD, rotate the companion flange one full turn in both directions.



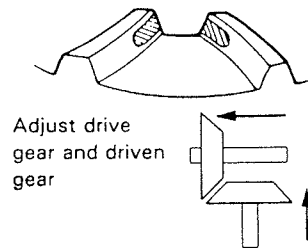
- Remove the driven gear assembly from the transfer case and note the tooth impression on the gear.

NOTE: Compare the tooth impression of the gear with the examples below and follow the appropriate adjustment instructions. Continue the check/adjustment procedure until the tooth contact is correct.

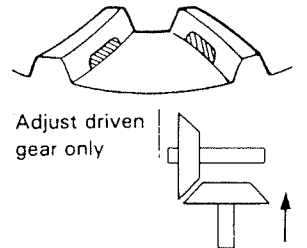


IMPROPER TOOTH CONTACT

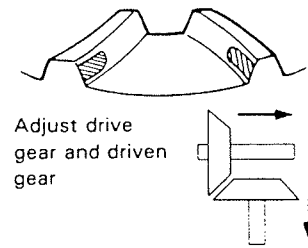
TOE CONTACT



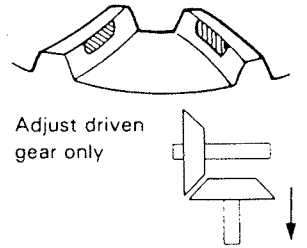
FLANK CONTACT



HEEL CONTACT



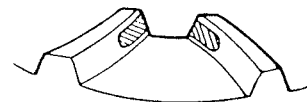
FACE CONTACT

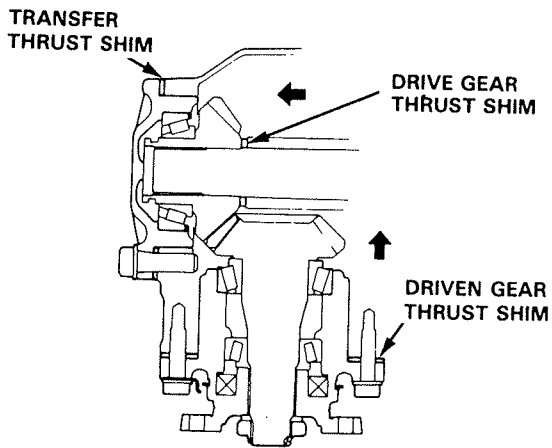


TOE CONTACT

If the pattern shows toe contact, use a thicker drive gear thrust shim and increase the thickness of the transfer thrust shim an equal amount.

TOE CONTACT

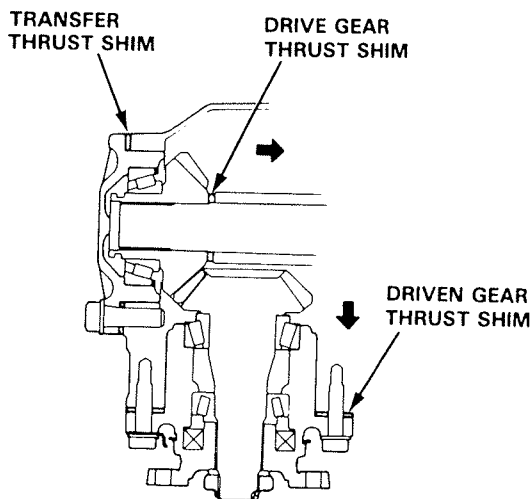
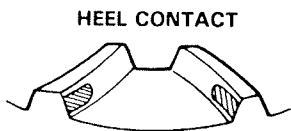




HEEL CONTACT

If the pattern shows heel contact, it indicates too much backlash. To correct, reduce the thickness of the drive gear thrust shim. The thickness of the transfer thrust shim must also be reduced by the amount by which the drive gear thrust shim thickness is reduced.

NOTE: The driven gear thrust shim will have to be changed also to compensate for the change in backlash.

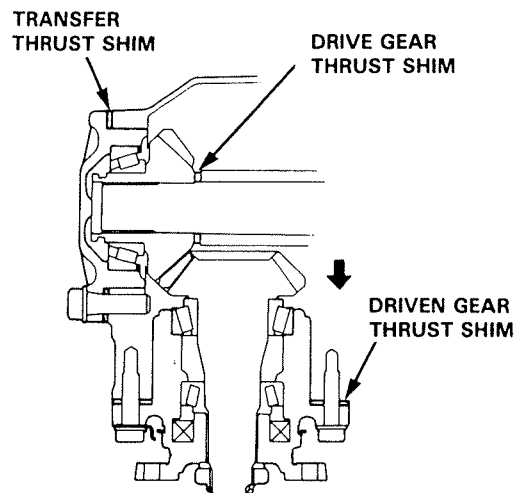
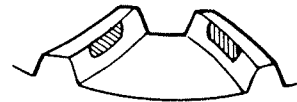


FACE CONTACT

To correct face contact, use a thicker driven gear thrust shim to move the driven gear away from the drive gear. The backlash should remain within the limits.

If the backlash cannot be held within the limits (page 2-25), make correction in the same manner as for HEEL CONTACT.

FACE CONTACT



FLANK CONTACT

If the pattern shows flank contact, move the driven gear in toward the drive gear by using a thinner shim for the driven gear.

The backlash must remain within the limits.

If the backlash exceeds the limits (2-25), make correction in the same manner as for TOE CONTACT.

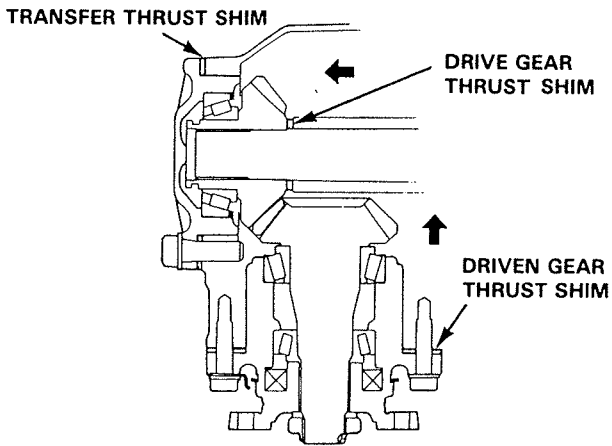
FLANK CONTACT



(cont'd)

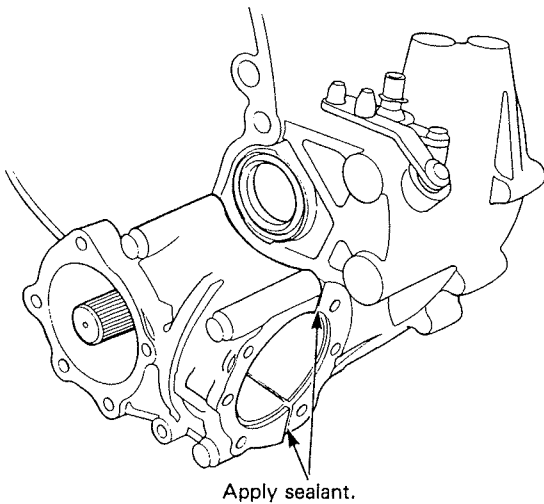
Transfer

Driven/Drive Gear Reassembly (cont'd)

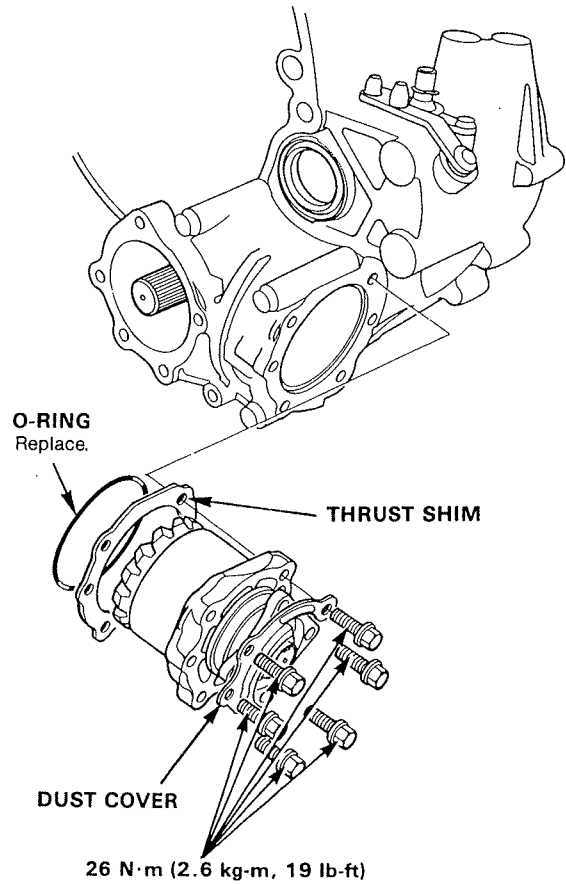


9. After the correct gear tooth contact has been accomplished, remove the transfer drive and driven gears.
10. Apply sealant to the clutch housing and transfer case mating points on the driven gear mating surface.

NOTE: This transmission uses no gaskets between the major housings; use Honda Genuine Liquid Sealant (Three Bond® 1216). Assemble the housings within 20 minutes after applying the sealant and allow it to cure for at least 30 minutes after assembly before filling it with oil.



11. Install the thrust shim and a new O-ring on the driven gear assembly, then install the assembly in the transfer case.

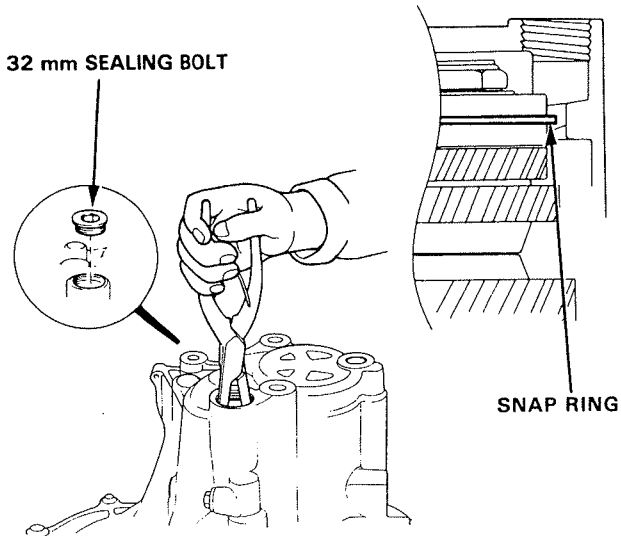


NOTE: Coat a new O-ring with oil.

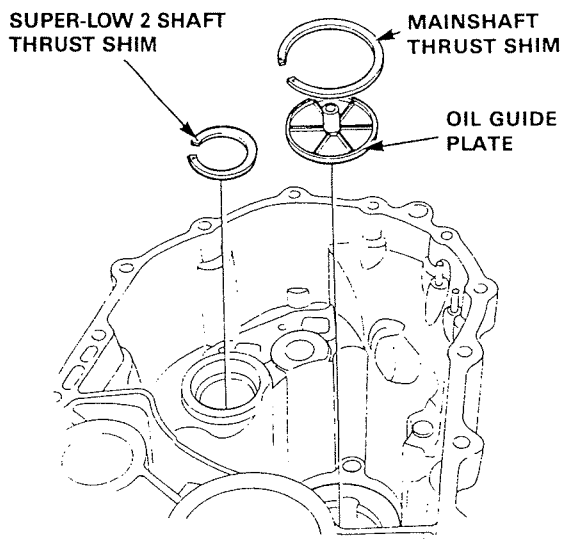
Transmission Housing

Removal (cont'd)

4. Remove the 32 mm sealing bolts.
5. Separate the transmission housing from the clutch housing by pulling up the transmission housing while expanding the snap ring holding the countershaft ball bearing with a pair of snap ring pliers.



6. Remove the transmission housing. Clean the mating surfaces thoroughly.
7. Remove the mainshaft thrust shim, oil guide plate and super-low 2 shaft thrust shim from transmission housing.



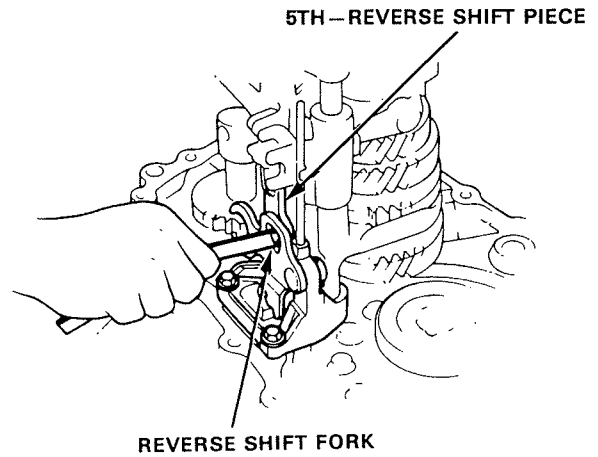
Reverse Shift Fork/ 5th-Reverse Shift Piece

Clearance Inspection

1. Measure the clearance between the reverse shift fork and 5th-reverse shift piece pin.

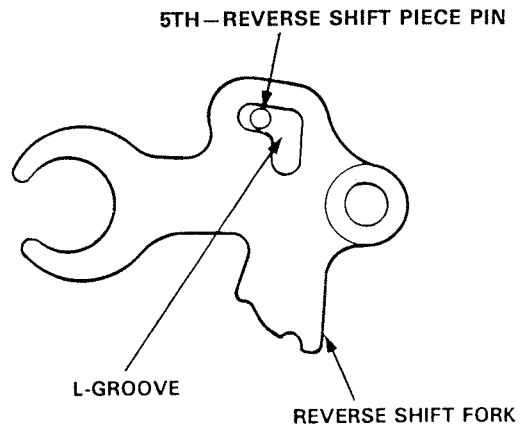
Standard: 0.05–0.35 mm (0.002–0.014 in.)

Service Limit: 0.5 mm (0.020 in.)



2. If the clearance is outside the above limits, measure the width of the L-groove in the reverse shift fork.

Standard: 7.05–7.25 mm (0.278–0.285 in.)



3. Replace the reverse shift fork with a new one if the width exceeds 7.25 mm.

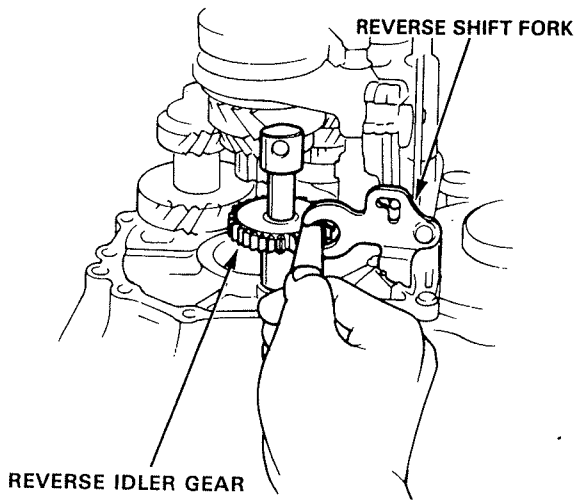
Reverse Idler Gear/ Reverse Shift Fork

Clearance Inspection

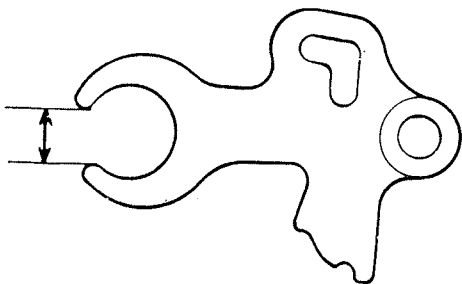
1. Measure the clearance between the reverse idler gear and reverse shift fork.

Standard: 0.5–1.1 mm (0.020–0.043 in.)

Service Limit: 1.8 mm (0.071 in.)



2. If the clearance exceeds 1.8 mm (service limit), measure the width of the reverse shift fork pawl groove.



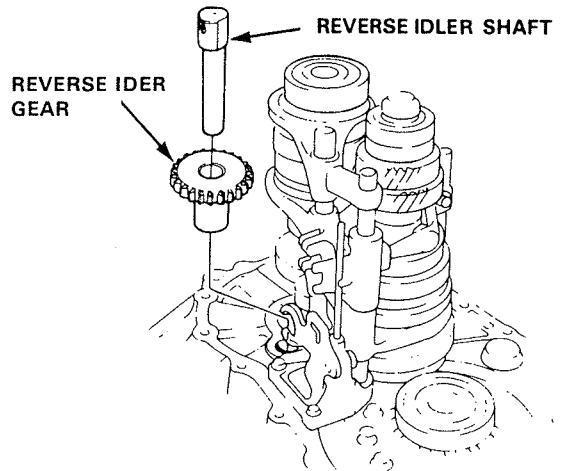
Standard: 13.0–13.3 mm (0.512–0.524 in.)

3. If the width is outside the above limits, replace the shift fork with a new one.

Mainshaft/Countershaft

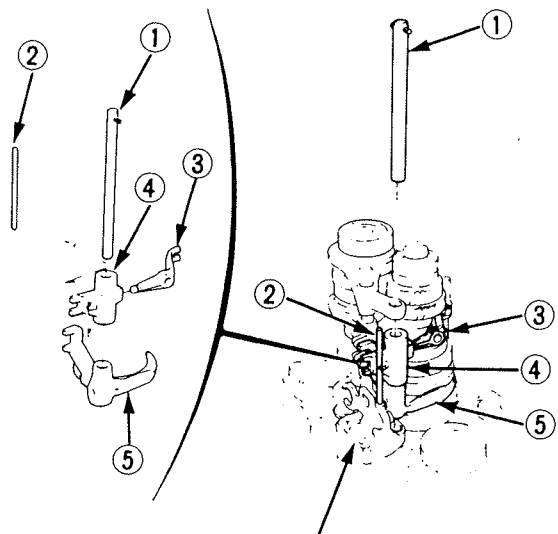
Removal

1. Remove the reverse idler shaft and reverse idler gear from the clutch housing.



2. Remove the following parts, in the order shown, from the reverse shift holder assembly.

- ① 1st–2nd SHIFT FORK SHAFT
- ② SUPER-LOW SHIFT PIECE BAR
- ③ SUPER-LOW SHIFT LEVER
- ④ SUPER-LOW SHIFT PIECE A
- ⑤ 1st–2nd SHIFT FORK



REVERSE SHIFT HOLDER ASSEMBLY

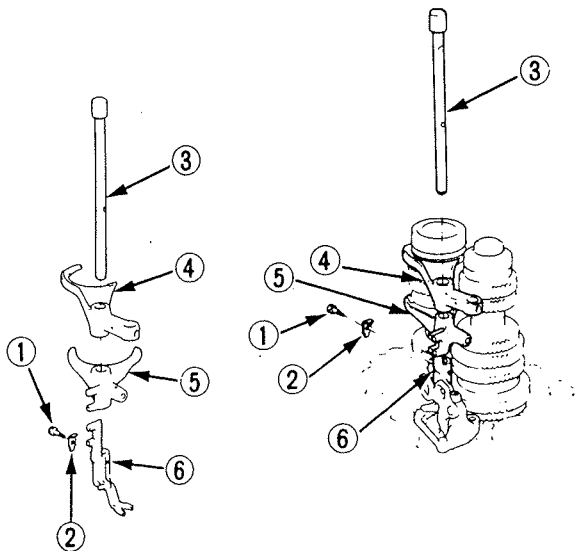
(cont'd)

Mainshaft/Countershaft

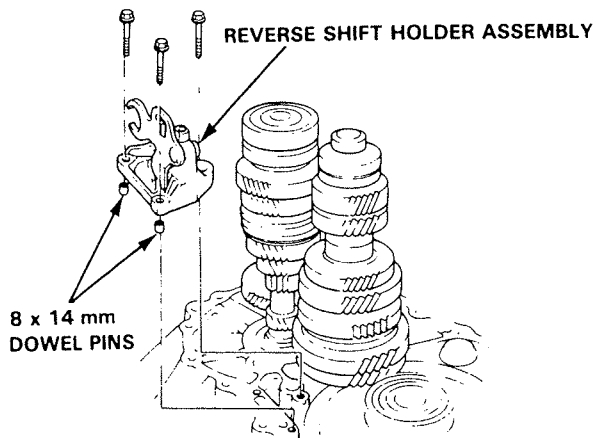
Removal (cont'd)

3. Remove the following parts, in the order shown, from the clutch housing.

- ① 6 mm SPECIAL BOLT
- ② LOCK PLATE
- ③ 5th/REVERSE SHIFT FORK SHAFT
- ④ 5th SHIFT FORK
- ⑤ 3rd-4th SHIFT FORK
- ⑥ REVERSE SHIFT FORK

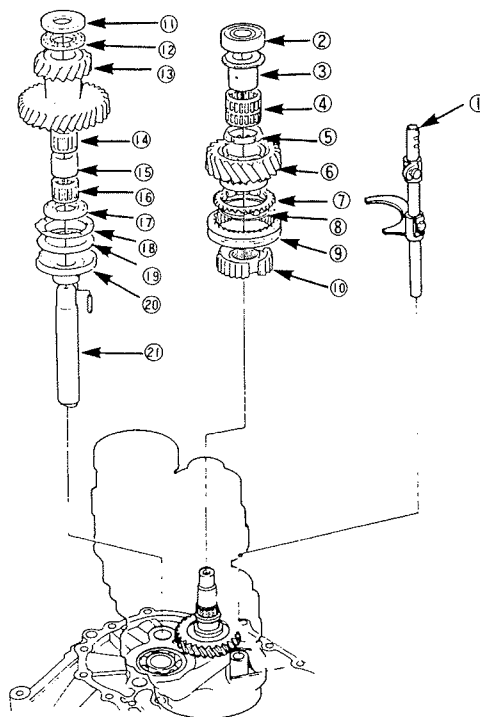


4. Remove the reverse shift holder assembly from the clutch housing.



5. Remove the following parts from the clutch housing:

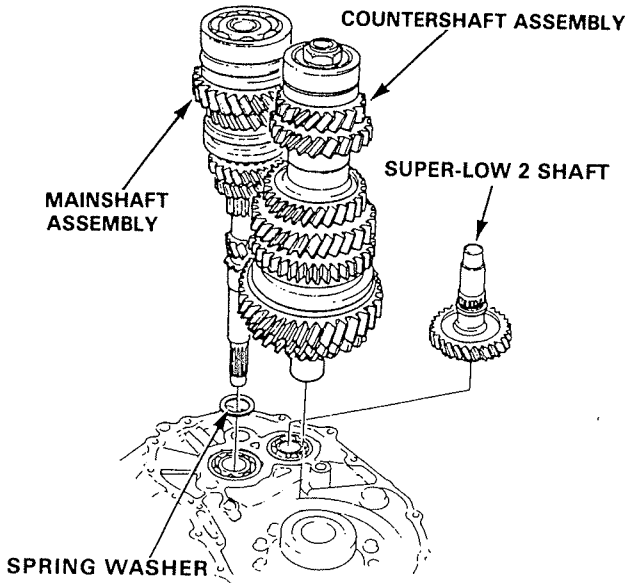
- ① SUPER-LOW SHIFT FORK SHAFT ASSEMBLY
- ② BALL BEARING
- ③ DISTANCE COLLAR
- ④ NEEDLE BEARING
- ⑤ FRICTION DAMPER
- ⑥ SUPER-LOW 2 GEAR
- ⑦ SYNCHRO RING
- ⑧ SYNCHRO SPRING
- ⑨ SYNCHRO SLEEVE
- ⑩ SYNCHRO HUB
- ⑪ THRUST WASHER
- ⑫ THRUST NEEDLE BEARING
- ⑬ SUPER-LOW 1 GEAR
- ⑭ NEEDLE BEARING
- ⑮ DISTANCE COLLAR
- ⑯ NEEDLE BEARING
- ⑰ THRUST NEEDLE BEARING
- ⑱ THRUST WASHER
- ⑲ SPRING WASHER
- ⑳ DISTANCE COLLAR
- ㉑ SUPER-LOW 1 SHAFT



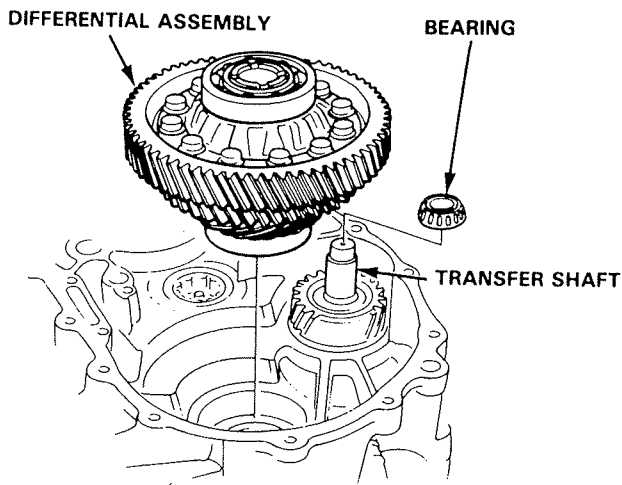
Transfer Shaft

Replacement

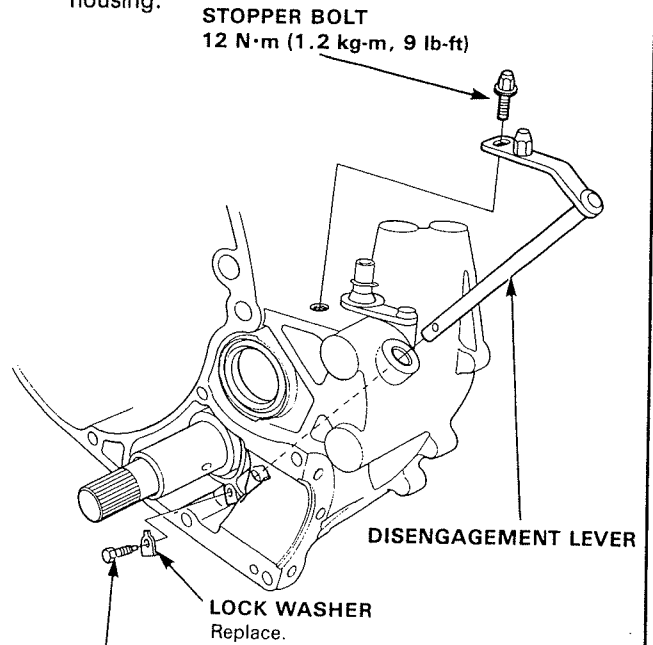
6. Remove the mainshaft assembly, countershaft assembly and super-low 2 shaft from the clutch housing.



7. Remove the bearing from the transfer shaft.
8. Remove the differential assembly from the clutch housing.

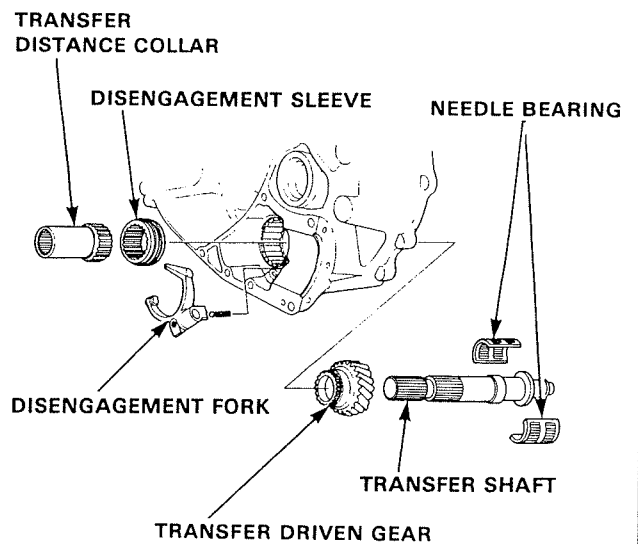


1. Remove the disengagement lever from the clutch housing.



6 mm SPECIAL BOLT
17 N·m (1.7 kg-m, 12 lb-ft)

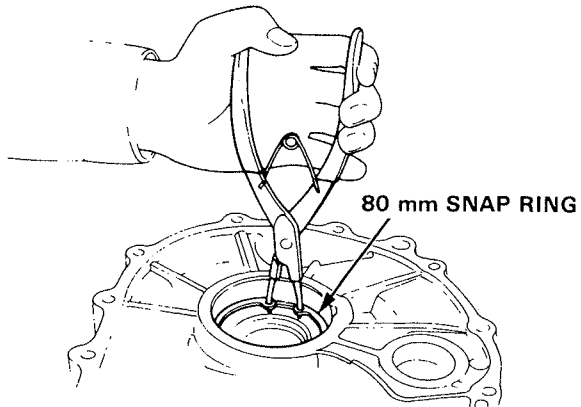
2. Remove the disengagement fork, disengagement sleeve, and transfer distance collar from the clutch housing.
3. Remove the transfer shaft, needle bearing, and transfer driven gear from the transmission side of the clutch housing.



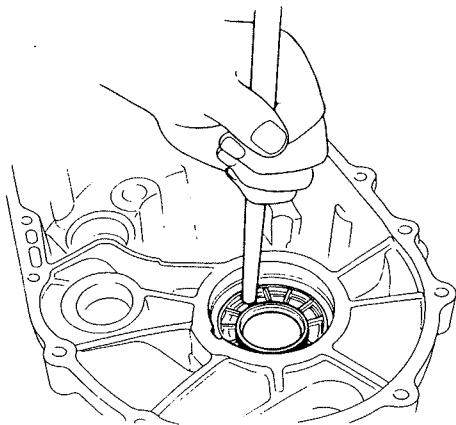
Differential Oil Seal

Removal

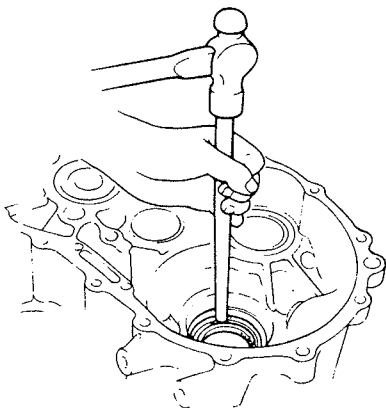
1. Remove the 80 mm snap ring from the transmission housing.



2. Remove the oil seal from the transmission housing.



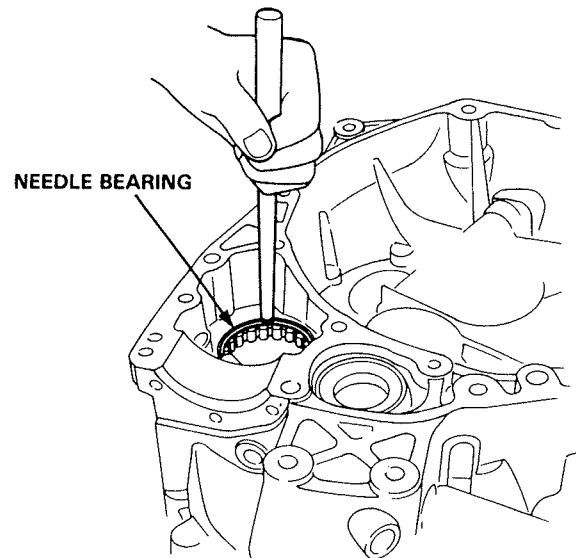
3. Remove the oil seal from the clutch housing.



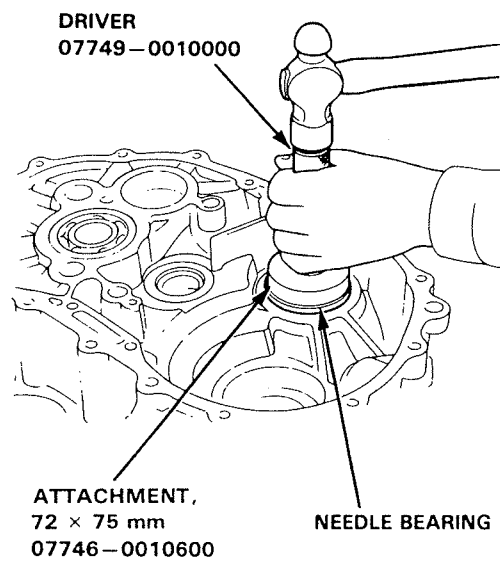
Transfer Shaft Needle Bearing (Clutch Housing)

Replacement

1. Remove the needle bearing from the clutch side of the clutch housing.



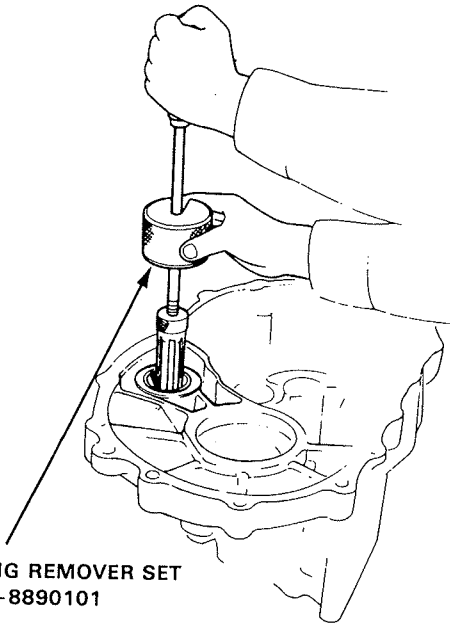
2. Drive a new needle bearing into hole of the clutch housing with the tools shown.



Transfer Shaft Taper Bearing (Transmission Housing)

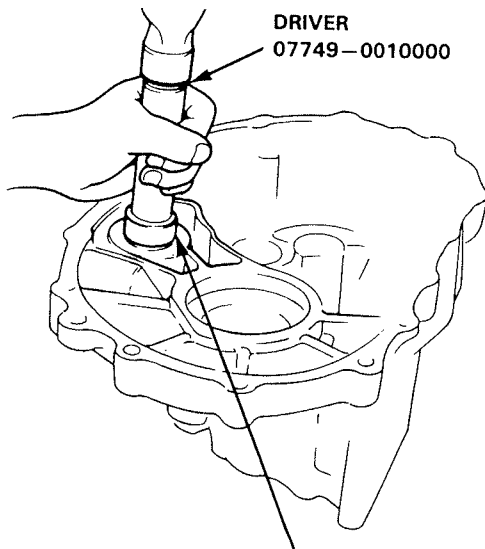
Replacement

1. Remove the bearing outer race with the tool shown.



BEARING REMOVER SET
07936-8890101

2. Drive a new bearing outer race into the transmission housing.



DRIVER
07749-0010000

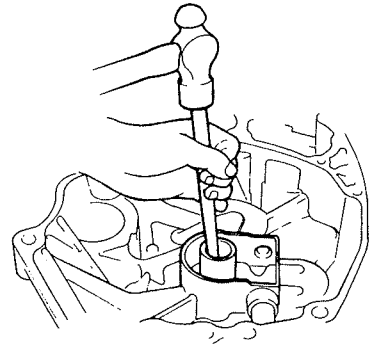
ATTACHMENT,
37 × 40 mm
07746-0010200

CAUTION: Support the transmission housing with a wood block to avoid damaging the transmission housing.

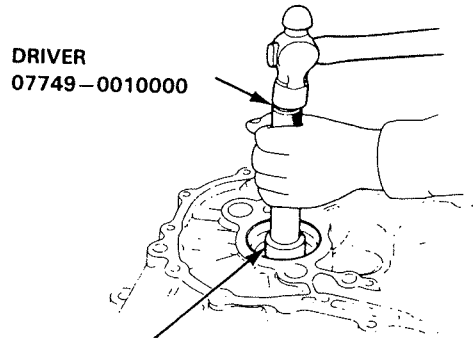
Mainshaft Bearing/Oil Seal (Clutch Housing)

Replacement

1. Remove the mainshaft bearing and oil seal from the clutch side.



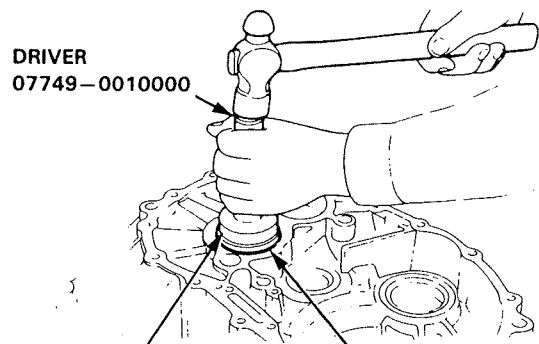
2. Drive in a new oil seal from the transmission side.



DRIVER
07749-0010000

ATTACHMENT, 42 × 47 mm
07746-0010300

3. Using the tools as shown, drive in a new bearing from the transmission side.



DRIVER
07749-0010000

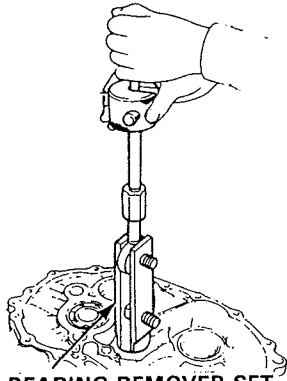
ATTACHMENT,
62 × 68 mm
07746-0010500

BEARING

Countershaft Bearing (Clutch Housing)

Replacement

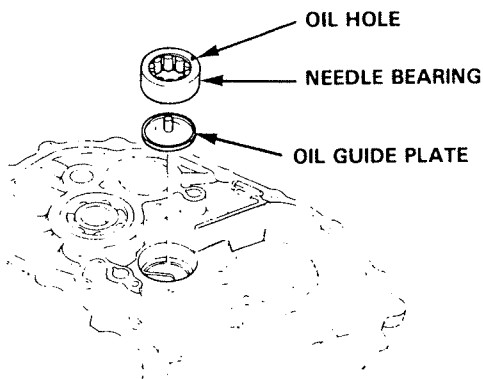
1. Remove the needle bearing with the bearing puller.



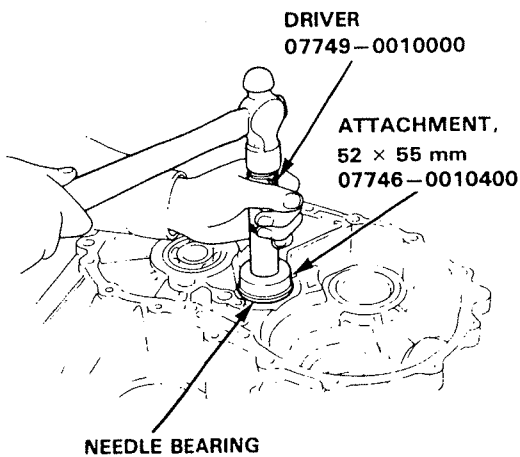
**ADJUSTABLE BEARING REMOVER SET
07JAC-PH80000**

2. Position the oil guide plate and new needle bearing in the bore of the clutch housing.

NOTE: Position the needle bearing with the oil hole facing up.



3. Drive the needle bearing in using the tools shown.



**DRIVER
07749-0010000**

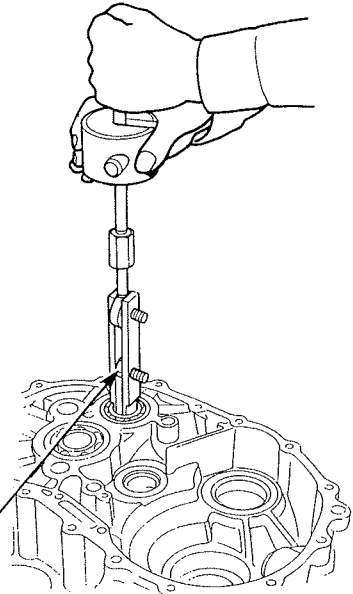
**ATTACHMENT,
52 × 55 mm
07746-0010400**

NEEDLE BEARING

Super-low 2 Shaft Bearing (Clutch Housing)

Replacement

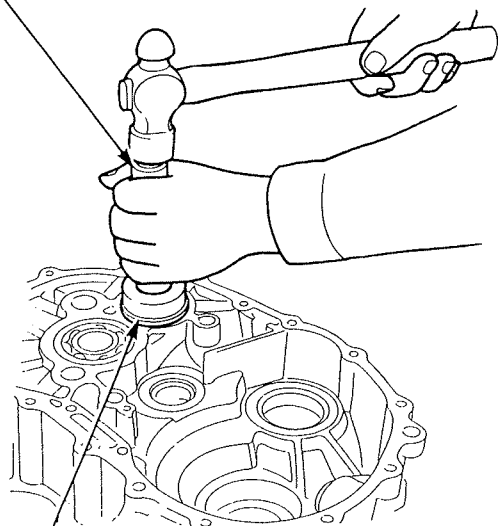
1. Remove the super-low 2 shaft bearing.



**ADJUSTABLE BEARING REMOVER SET
07JAC-PH80000**

2. Drive the super-low 2 shaft bearing in the clutch housing.


**DRIVER
07749-0010000**

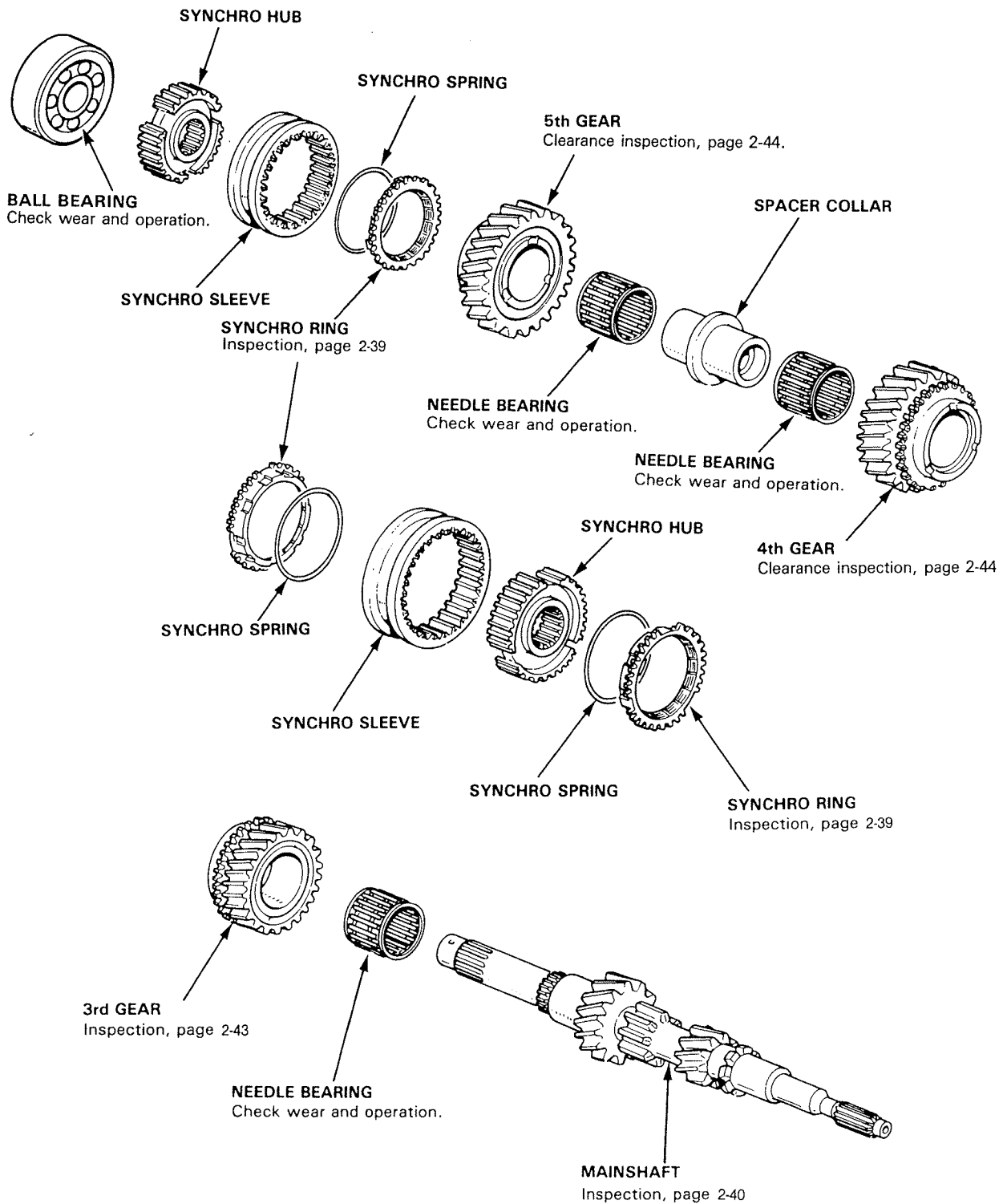


**ATTACHMENT, 52 × 55 mm
07746-0010400**

Mainshaft Overhaul

NOTE: The needle bearings are of the same size.

 Before assembling, clean all parts in solvent, dry them with compressed air, then coat them with clean oil.




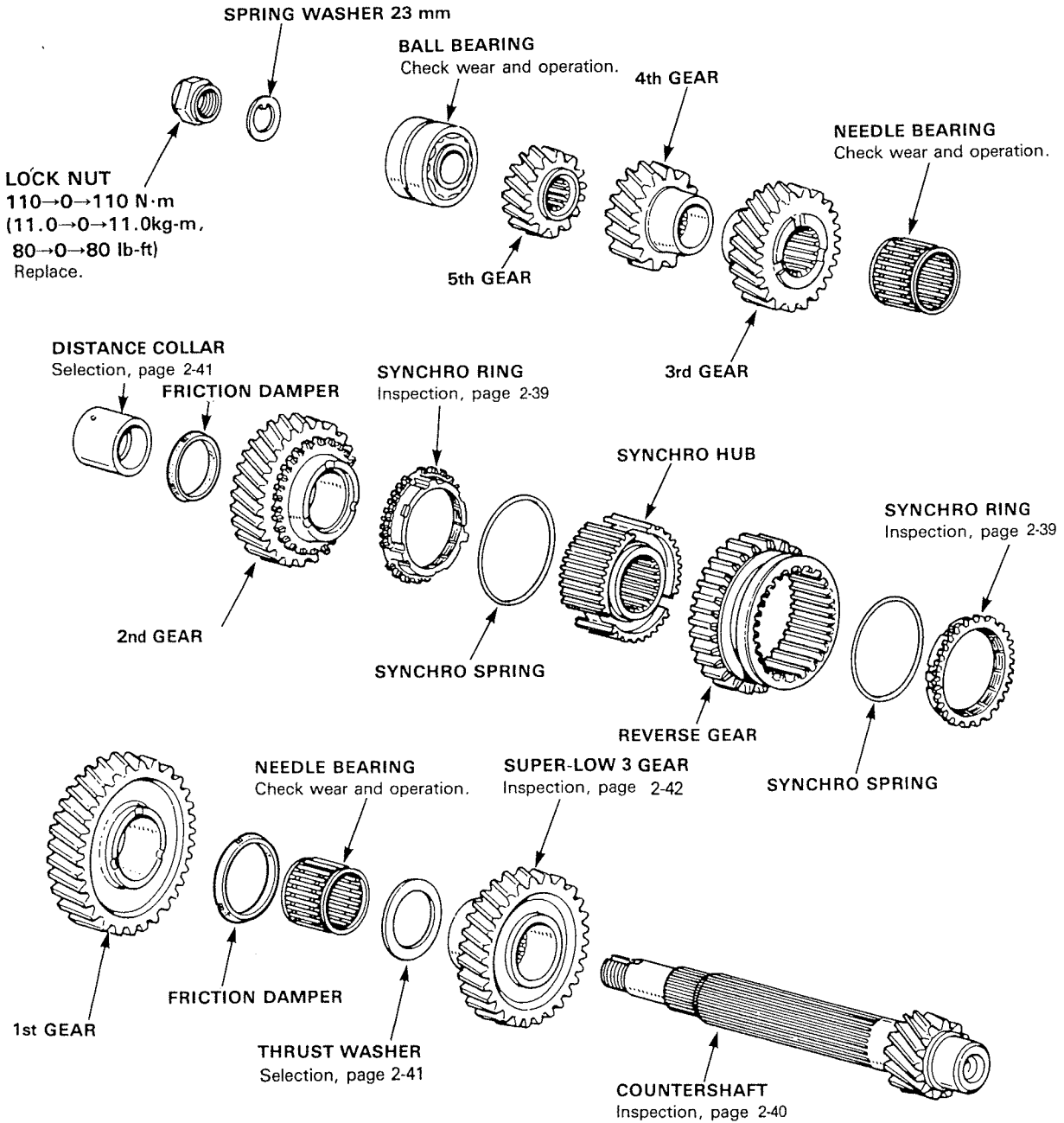
Countershaft

Overhaul

NOTE:

- The needle bearings are of the same size.
- Remove the 5th gear and 4th gear with a bearing puller.

 Before assembling, clean all parts in solvent, blow dry, and coat with clean oil.



Synchro Ring and Gear

Inspection

SYNCHRO SPRING

1. Inspect the inside of synchro ring for wear.

SYNCHRO RING

2. Inspect the synchro ring teeth and matching teeth on gear for wear (rounded off).

Wear



3. Inspect the gear hub thrust surface for wear.

4. Inspect the cone surface for wear or roughness.

5. Inspect the teeth on all gears for uneven wear, scoring, galling or cracks.

6. Coat the cone surface of the gear with oil and place the synchro ring on the matching gear. Rotate the ring, making sure that it does not slip.

Measure the clearance between the ring and gear all the way around.

NOTE: Hold the ring against the gear evenly while measuring the clearance.

Ring-to-Gear Clearance

Standard: 0.85–1.10 mm (0.033–0.043 in.)

Service Limit: 0.4 mm (0.02 in.)

7. Separate the synchro ring and gear, and coat them with oil.

8. Install the synchro spring on the synchro ring, then set it aside for later reassembly.

GEAR

SYNCHRO SPRING

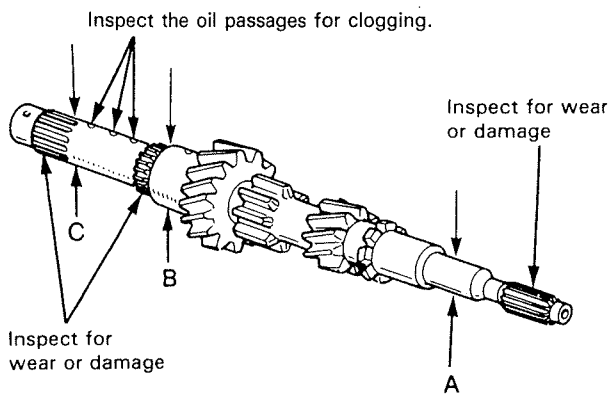
Mainshaft/Countershaft

Mainshaft Inspection

1. Measure the mainshaft O.D. at points A, B and C

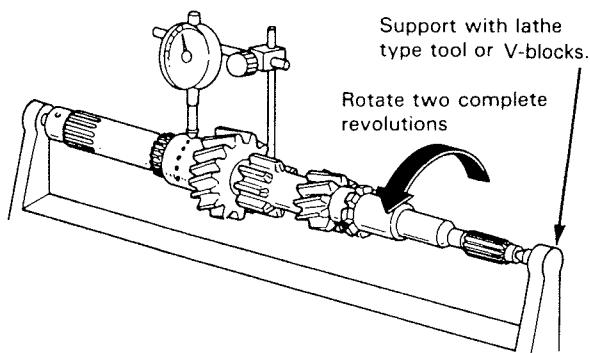
Standards: A: 27.977—27.990 mm
(1.1014—1.1020 in.)
B: 34.984—35.000 mm
(1.3773—1.3780 in.)
C: 24.987—25.000 mm
(0.9837—0.9843 in.)

Service Limits: A: 27.92 mm
(1.100 in.)
B: 34.93 mm
(1.375 in.)
C: 24.93 mm
(0.981 in.)



2. Replace the mainshaft if any readings are out of tolerance.
3. Inspect for runout.

Standard: 0.02 mm (0.0008 in.) Max.
Service Limit: 0.05 mm (0.001 in.)



4. Replace the mainshaft if the reading is out of tolerance.

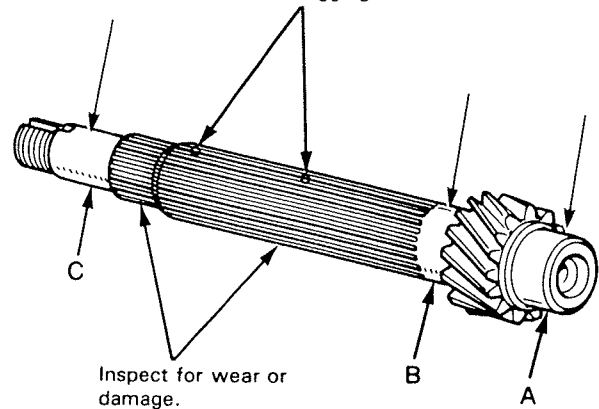
Countershaft Inspection

1. Measure the countershaft O.D. at points A, B and C.

Standards: A: 29.000—29.015 mm
(1.1417—1.1423 in.)
B: 30.464—30.480 mm
(1.1994—1.2000 in.)
C: 24.987—25.000 mm
(0.9837—0.9843 in.)

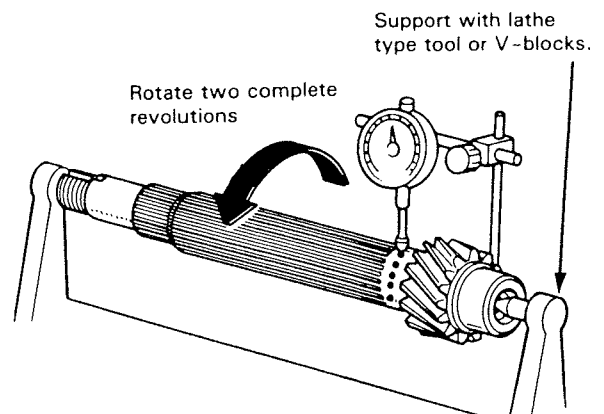
Service Limits: A: 28.94 mm
(1.139 in.)
B: 30.41 mm
(1.197 in.)
C: 24.93 mm
(0.981 in.)

Inspect the oil passages for clogging



2. Replace the countershaft if any readings are out of tolerance.
3. Inspect for runout.

Standard: 0.02 mm (0.0008 in.) Max.
Service Limit: 0.05 mm (0.001 in.)



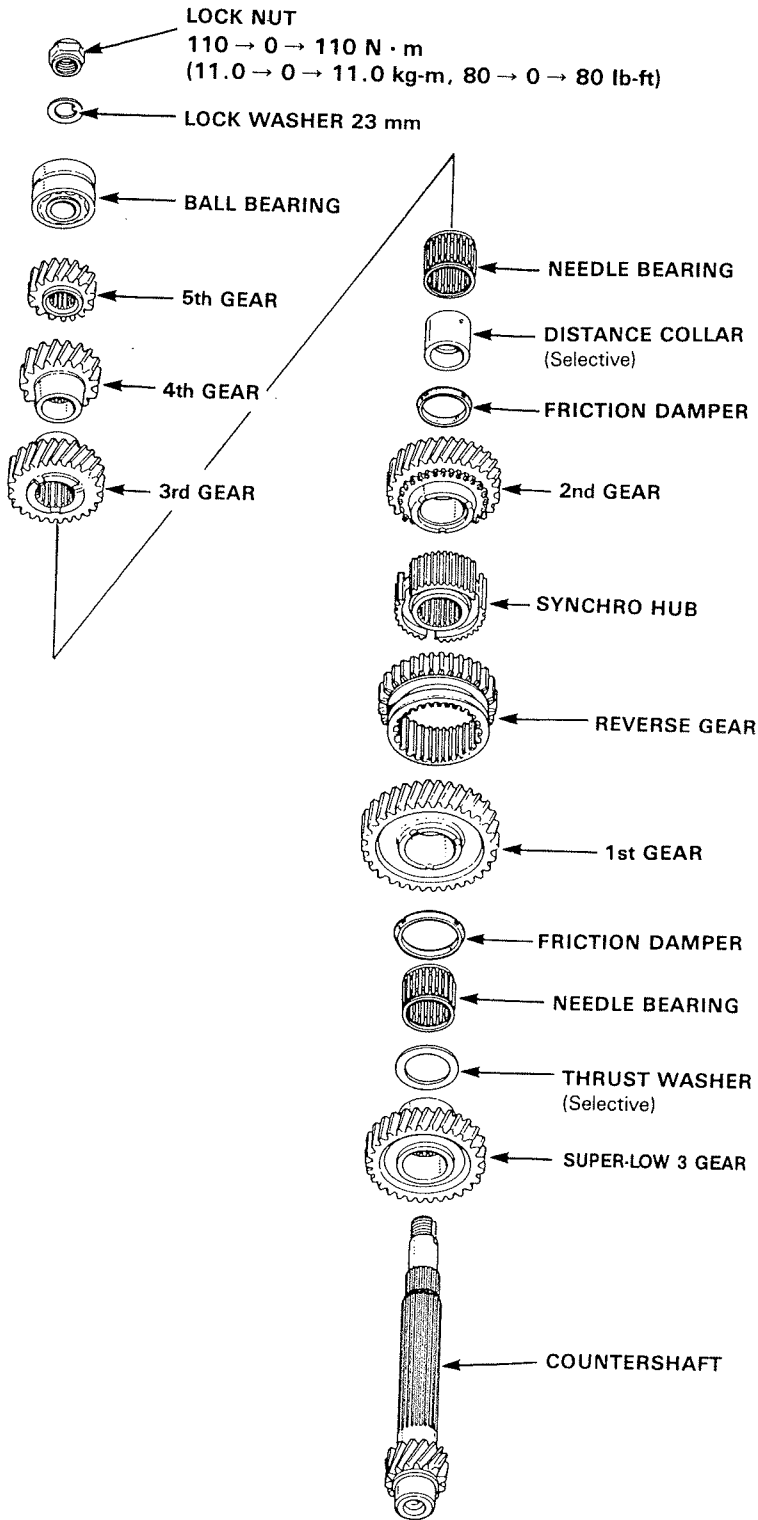
4. Replace the countershaft if the reading is out of tolerance.

Countershaft

Clearance Inspection

- Assemble the gears, distance collar, thrust washer, synchro hub, needle bearings and ball bearings as per the instruction shown below.

NOTE: 4th gear and 5th gear are press fit.



Distance collar

Part Number	Length
23911-PK5-000	29.03 – 29.05 mm (1.1429 – 1.1437 in.)
23912-PK5-000	29.01 – 29.03 mm (1.1421 – 1.1429 in.)
23913-PK5-000	28.99 – 29.01 mm (1.1413 – 1.1421 in.)
23914-PK5-000	28.97 – 28.99 mm (1.1405 – 1.1431 in.)
23915-PK5-000	28.95 – 28.97 mm (1.1398 – 1.1405 in.)

(cont'd)

Thrust washer

Part Number	Thickness
23921-PH8-900	1.95 mm (0.0768 in)
23922-PH8-900	1.96 mm (0.0772 in)
23923-PH8-900	1.97 mm (0.0776 in)
23924-PH8-900	1.98 mm (0.0780 in)
23925-PH8-900	1.99 mm (0.0784 in)
23926-PH8-900	2.00 mm (0.0787 in)
23927-PH8-900	2.01 mm (0.0791 in)
23928-PH8-900	2.02 mm (0.0795 in)
23929-PH8-900	2.03 mm (0.0799 in)
23930-PH8-900	2.04 mm (0.0803 in)
23931-PH8-900	2.05 mm (0.0807 in)
23932-PH8-900	2.06 mm (0.0811 in)
23933-PH8-900	2.07 mm (0.0815 in)
23934-PH8-900	2.08 mm (0.0819 in)
23935-PH8-900	2.09 mm (0.0823 in)
23936-PH8-900	2.10 mm (0.0827 in)

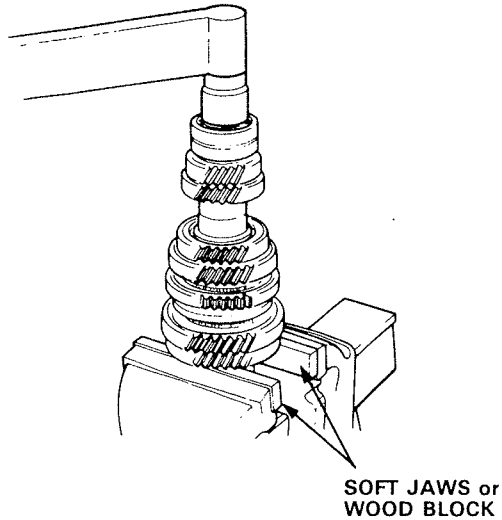
Countershaft

Clearance Inspection (cont'd)

2. Tighten the countershaft lock nut to the correct torque.

NOTE: Place the shaft in a vice with soft jaws.

110 → 0 → 110 N · m
11.0 → 0 → 11.0 kg-m, 80 → 0 → 80 lb-ft

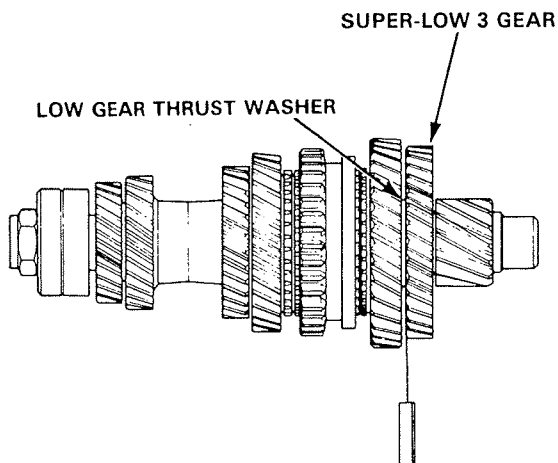


3. Measure and record the clearance between the super-low gear and thrust washer.

Super-low Gear Clearance:

Standard : 0.03–0.08 mm
(0.001–0.003 in.)

Service Limit: 0.18 mm (0.007 in.)



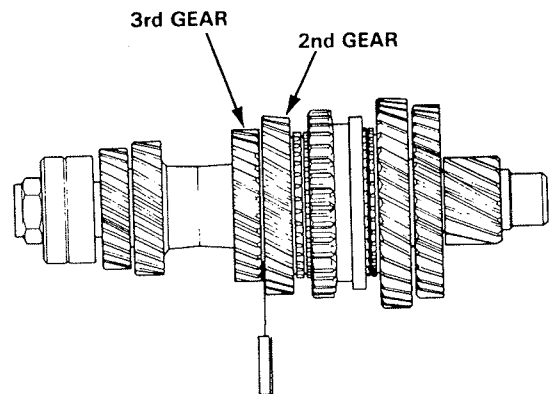
4. If the clearance is out of tolerance, select the appropriate thrust washer for the correct clearance from the charts on page 2-41.

5. Measure the clearance between the 2nd gear and 3rd gear.

2nd and 3rd Gear Clearance:

Standard : 0.03–0.08 mm
(0.001–0.003 in.)

Service Limit: 0.18 mm (0.007 in.)

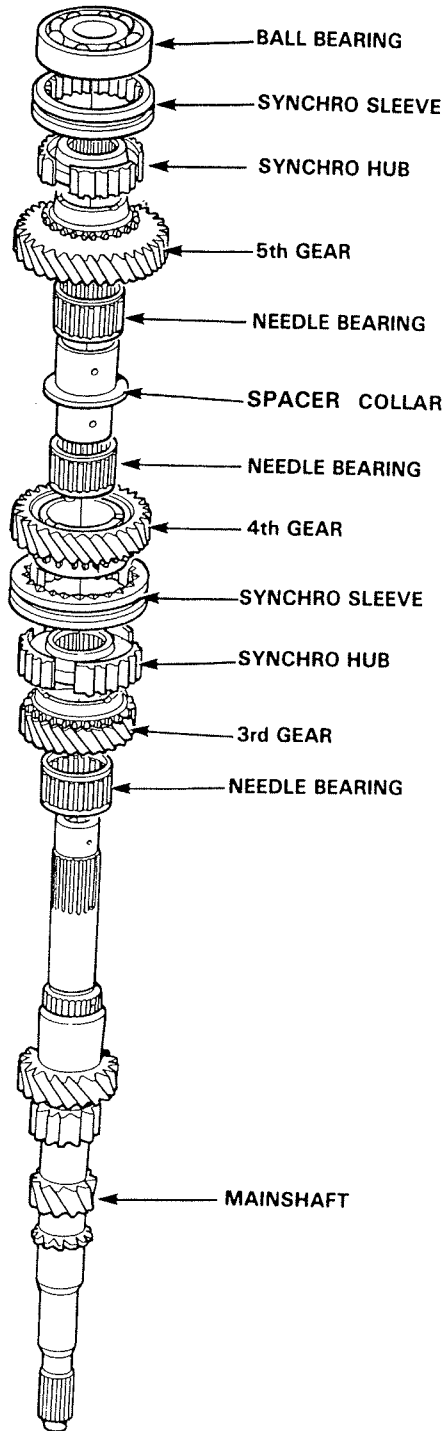


6. If the clearance is out of tolerance, select the appropriate distance collar for the correct clearance from the charts on page 2-41.

Mainshaft

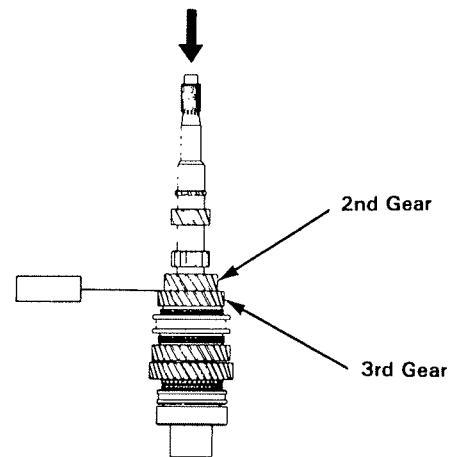
Clearance Inspection

1. Assemble the bearings, synchro hub, synchro sleeve, gears and spacer collar on the mainshaft as instructed below.



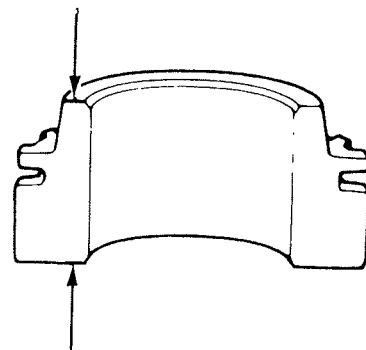
2. Push down on the bearing inner race with about 30kg (66 lb) using a socket wrench and measure the clearance between 3rd and 2nd gears.

3rd and 2nd Gear Clearance:
Standard: 0.06–0.21 mm
(0.002–0.008 in.)
Service Limit: 0.3 mm (0.012 in.)



3. If the reading is outside specifications, measure the thickness of 3rd gear.

3rd Gear Thickness:
Standard: 32.42–32.47 mm
(1.276–1.278 in.)
Service Limit: 32.3 mm (1.272 in.)



4. If the reading is within specifications, replace the synchro hub.
5. If the service limit is exceeded, replace the 3rd gear.

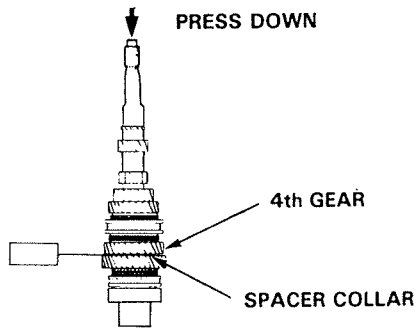
(cont'd)

Mainshaft

Clearance Inspection (cont'd)

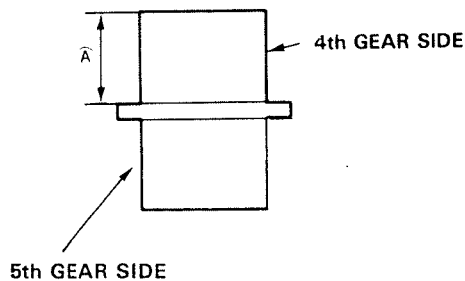
6. Measure the clearances between 4th gear and the spacer collar.

Standard: 0.06–0.21 mm
(0.002–0.008 in.)
Service Limit: 0.3 mm (0.01 in.)



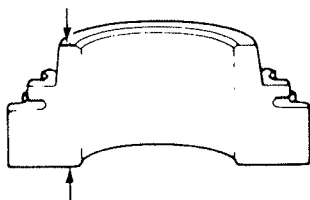
7. If the reading is out of specifications measure distance (A) on the spacer collar.

Standard: 26.03–26.08 mm
(1.025–1.027 in.)
Service Limit: 26.01 mm (1.02 in.)



8. If distance (A) is within specification, measure the thickness of 4th gear.

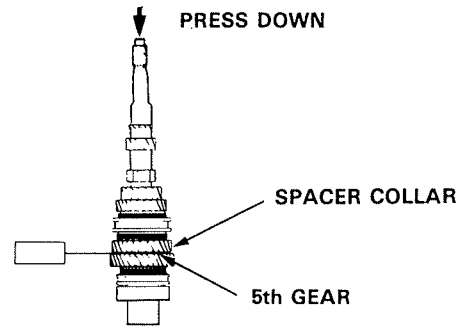
Standard: 30.92–30.97 mm
(1.217–1.220 in.)
Service Limit: 30.8 mm (1.21 in.)



9. Replace 4th gear if its measurement is out of specification.
Replace 4th gear synchro hub if 4th gear is within specification.

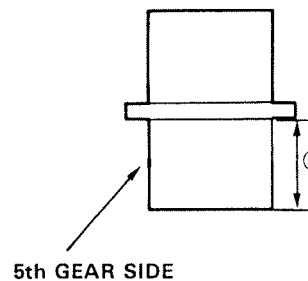
10. Measure the clearance between 5th gear and the spacer collar.

Standard: 0.06–0.21 mm
(0.002–0.008 in.)
Service Limit: 0.3 mm (0.01 in.)



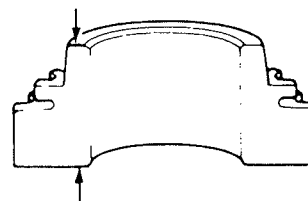
11. If the reading is out of specifications, measure distance (B) on the spacer collar.

Standard: 26.03–26.08 mm
(1.025–1.027 in.)
Service Limit: 26.01 mm (1.024 in.)



12. If distance (B) is within specification, measure the thickness of 5th gear.

5th Gear Thickness:
Standard: 30.42–30.47 mm
(1.198–1.200 in.)
Service Limit: 30.3 mm (1.193 in.)

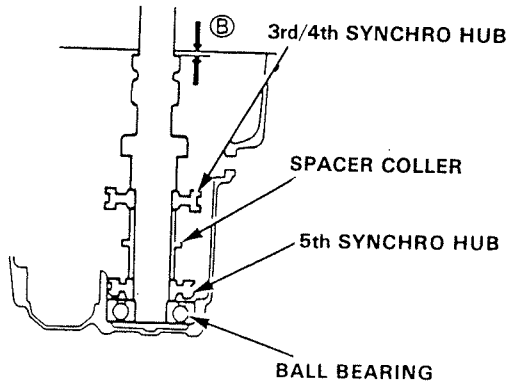


13. Replace 5th gear if its measurement is out of specification.
Replace 5th gear synchro hub if 5th gear is within specification.

Mainshaft Thrust Shim

Adjustment

1. Remove the thrust shim and oil guide plate from the transmission housing (page 2-30).
2. Install the 3rd/4th synchro hub, spacer collar, 5th synchro hub and transmission side ball bearing on the mainshaft. Install the assembly in the transmission housing.



3. Measure the distance B between the end of the transmission housing and mainshaft.

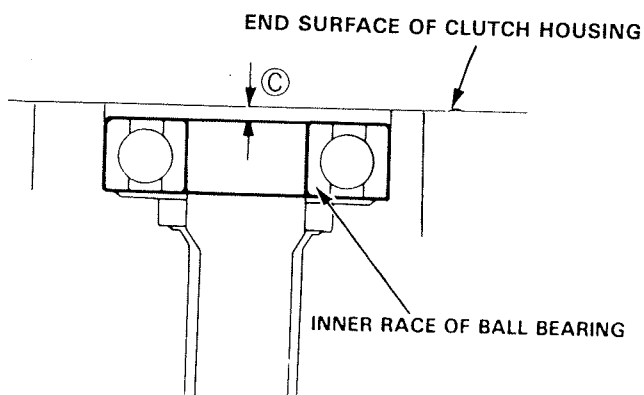
NOTE:

- Use a straight edge and feeler gauge.
- Measure at three locations and average the readings.

4. Measure the distance C between the surfaces of the clutch housing and bearing inner race.

NOTE:

- Use a straight edge and feeler gauge.
- Measure at three locations and average the readings.



5. Select the correct thickness thrust shim as follows:

- a. Add the measurement (C) of clutch housing ball bearing inner race surface and clutch housing seal surface determined in step 4 to the measurement (B) of mainshaft and transmission housing end in step 3.

- b. Subtract the distance 0.94 mm (0.0370 in.) from the dimension determined in step 5(a).

Example:

B:	2.34 mm (0.0921 in.)
C:	+ 0.04 mm (0.0016 in.)
	<hr/> 2.38 mm (0.0937 in.)

Max.	2.38 mm (0.0937 in.)
	- 0.94 mm (0.0370 in.)
	<hr/> 1.44 mm (0.0567 in.)

- c. Select the 1.44 mm (0.0567 in.) thickness shim.

NOTE: Do not use more than one shim.

(cont'd)

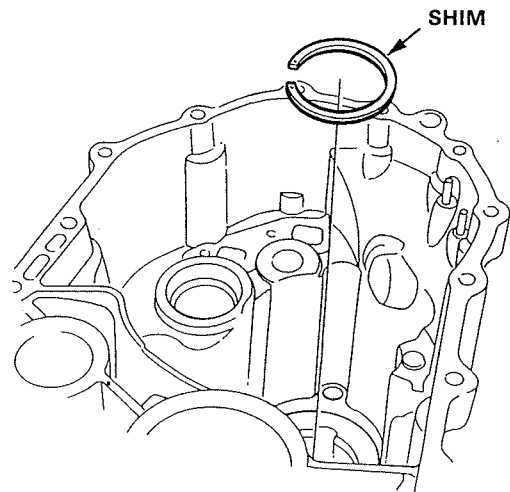
Mainshaft Thrust Shim

Adjustment (cont'd)

Part No.	Thickness
23941-PH8-900	1.20 mm (0.0472 in)
23942-PH8-900	1.23 mm (0.0484 in)
23943-PH8-900	1.26 mm (0.0496 in)
23944-PH8-900	1.29 mm (0.0509 in)
23945-PH8-900	1.32 mm (0.0520 in)
23946-PH8-900	1.35 mm (0.0531 in)
23947-PH8-900	1.38 mm (0.0543 in)
23948-PH8-900	1.41 mm (0.0555 in)
23949-PH8-900	1.44 mm (0.0567 in)
23950-PH8-900	1.47 mm (0.0579 in)
23951-PH8-900	1.50 mm (0.0591 in)
23952-PH8-900	1.53 mm (0.0602 in)
23953-PH8-900	1.56 mm (0.0614 in)
23954-PH8-900	1.59 mm (0.0626 in)
23955-PH8-900	1.62 mm (0.0638 in)
23956-PH8-900	1.65 mm (0.0649 in)
23957-PH8-900	1.68 mm (0.0661 in)
23958-PH8-900	1.71 mm (0.0673 in)
23959-PH8-900	1.74 mm (0.0685 in)
23960-PH8-900	1.77 mm (0.0697 in)
23961-PH8-900	1.80 mm (0.0709 in)
23962-PH8-900	1.83 mm (0.0720 in)
23963-PH8-900	1.86 mm (0.0732 in)
23964-PH8-900	1.89 mm (0.0744 in)
23965-PH8-900	1.92 mm (0.0756 in)
23966-PH8-900	1.95 mm (0.0768 in)
23967-PH8-900	1.98 mm (0.0780 in)
23968-PH8-900	2.01 mm (0.0791 in)
23969-PH8-900	2.04 mm (0.0803 in)
23970-PH8-900	2.07 mm (0.0815 in)
23971-PH8-900	2.10 mm (0.0827 in)
23972-PH8-900	2.13 mm (0.0839 in)
23973-PH8-900	2.16 mm (0.0850 in)
23974-PH8-900	2.19 mm (0.0862 in)
23975-PH8-900	2.22 mm (0.0874 in)
23976-PH8-900	2.25 mm (0.0886 in)
23977-PH8-900	2.28 mm (0.0898 in)
23978-PH8-900	2.31 mm (0.0909 in)
23979-PH8-900	2.34 mm (0.0921 in)
23980-PH8-900	2.37 mm (0.0933 in)

6. Check the thrust clearance in the manner described below.

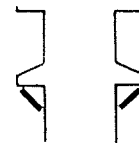
a. Install the oil guide plate shim selected in the transmission housing.



b. Install the spring washer on the mainshaft.

NOTE:

- Clean the spring washer and shim thoroughly before installation.
- Install the spring washer and shim properly.



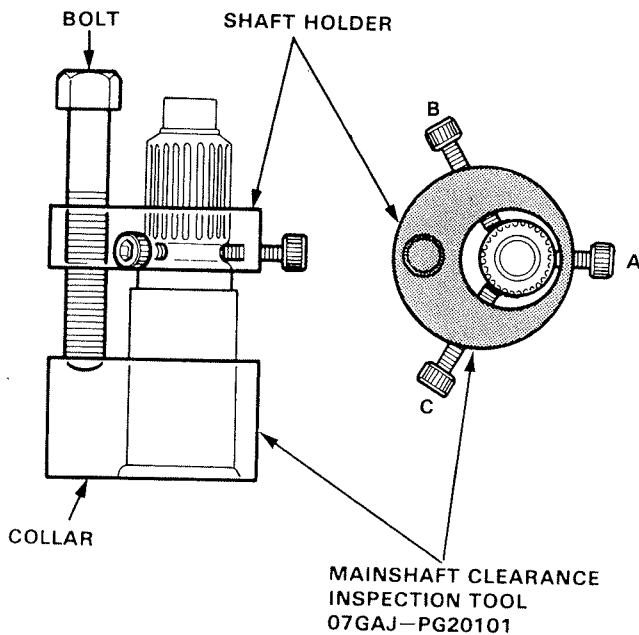
c. Install the mainshaft in the clutch housing and install the 3rd/4th synchro hub, spacer collar, 5th synchro hub and ball bearing.

d. Place the transmission housing over the mainshaft and onto the clutch housing.

e. Tighten the clutch and transmission housings with several 10 mm bolts.

f. Tap the mainshaft with a plastic hammer.

- g. Attach the collar and shaft holder of the special tool (Mainshaft Clearance Inspection Tool) to the mainshaft. First turn bolt A in just enough to keep the tool away from the mainshaft splines; then, turn bolts B and C equally to secure the tool "off center" nearest to bolt A.



CAUTION: Screw the three bolts into the area below the spline. Never screw into the splined area.

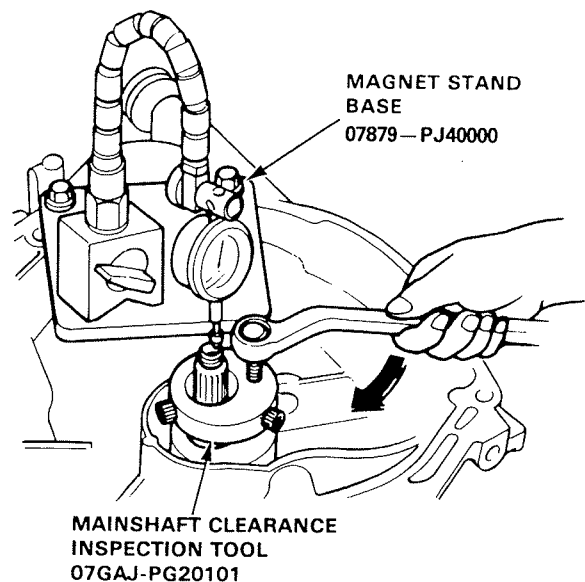
- h. Attach the special tool (magnet stand base) to the clutch housing and set the dial gauge on the top of the mainshaft.

- i. Turn the bolt clockwise and measure the clearance.

CAUTION:

- Do not turn the bolt more than 60 degrees after the needle of the gauge stops moving. Be careful not to overtighten.
- Measurement should be made at room temperature.

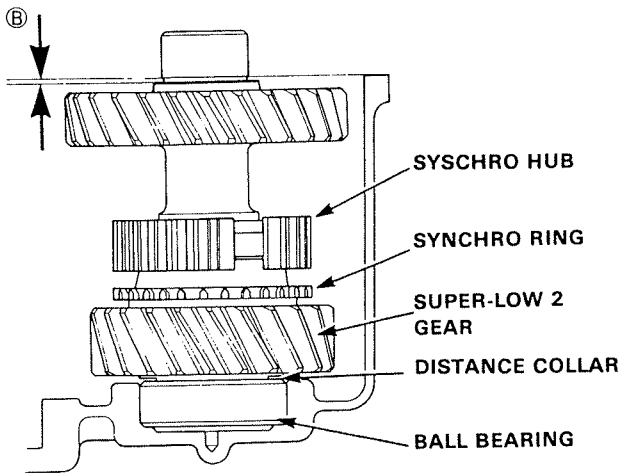
- j. Clearance is correct if the reading is between 0.08–0.15 mm (0.0031–0.0059 in.). If not, readjust the shim thickness.



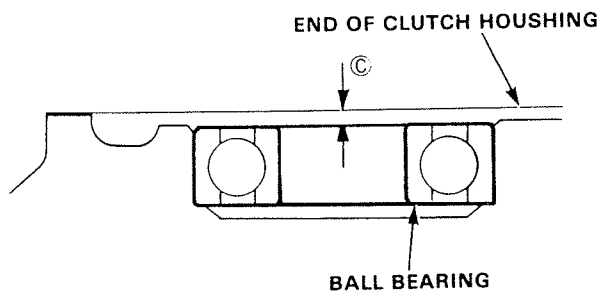
Super-low 2 Shaft Thrust Shim

Adjustment

1. Remove the super-low 2 shaft thrust shim (page 2-30).
2. Install the synchro hub, synchro spring, synchro ring, super-low 2 gear, distance collar and ball bearing on the super-low 2 shaft; install the assembly in the transmission housing.
3. Measure the distance (B) between the end of the transmission housing and super-low 2 shaft.
NOTE:
 - Use a straight edge and feeler gauge.
 - Measure at three locations and average the readings.



4. Measure the distance © between the surfaces of the clutch housing and bearing inner race.
NOTE:
 - Use a straight edge and feeler gauge.
 - Measure at three locations and average the readings.



5. Select proper shim (or shim pair) on the basis of the following calculations:

NOTE: Do not use more than one shim.

- a. Add measurement B in step 3 to the measurement C in step 4.

- b. Subtract the 0.07–0.20 mm (0.0027–0.0079 in.) from the distance in step 5-a.

Example:

$$\begin{array}{r} \text{B:} \quad 0.50 \text{ mm (0.0197 in.)} \\ \text{C:} \quad + 1.00 \text{ mm (0.0394 in.)} \\ \hline 1.50 \text{ mm (0.0591 in.)} \end{array}$$

$$\begin{array}{r} \text{Max.} \quad 1.50 \text{ mm (0.0591 in.)} \\ \quad \quad - 0.07 \text{ mm (0.0028 in.)} \\ \hline 1.43 \text{ mm (0.0563 in.)} \end{array}$$

$$\begin{array}{r} \text{Min.} \quad 1.50 \text{ mm (0.0591 in.)} \\ \quad \quad - 0.20 \text{ mm (0.0079 in.)} \\ \hline 1.30 \text{ mm (0.0512 in.)} \end{array}$$

- c. The required thrust shim is 1.40 mm (0.0551 in.).

PART NUMBER	THICKNESS
237750-PH8-900	1.0 mm (0.0394 in)
237751-PH8-900	1.1 mm (0.0433 in)
237752-PH8-900	1.2 mm (0.0472 in)
237753-PH8-900	1.3 mm (0.0512 in)
237754-PH8-900	1.4 mm (0.0551 in)
237755-PH8-900	1.5 mm (0.0591 in)
237756-PH8-900	1.6 mm (0.0630 in)
237757-PH8-900	1.7 mm (0.0670 in)

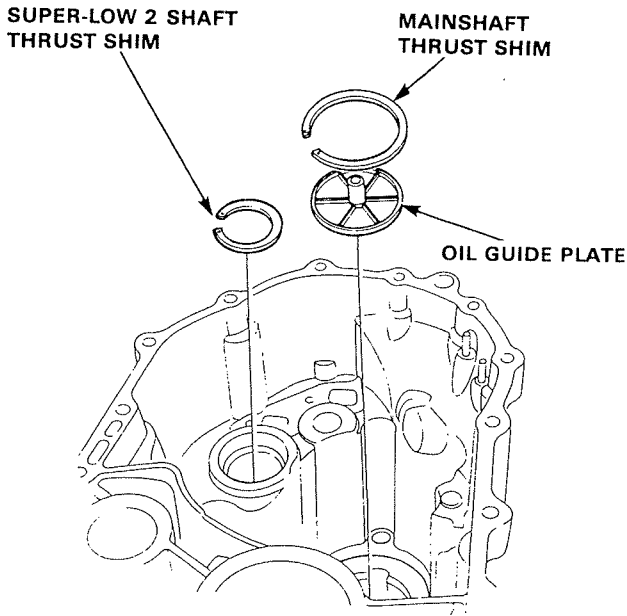
Transmission

Reassembly

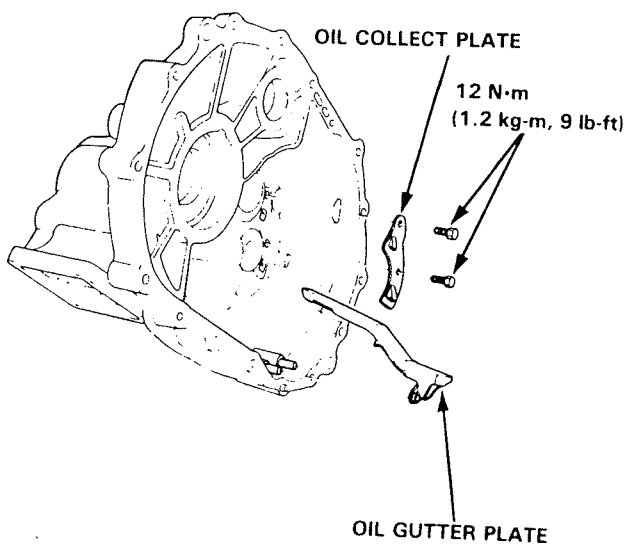
NOTE:

- Use the correct thrust shim to assure the proper mainshaft thrust clearance.
- For shim selection, refer to page 2-45.
- Use the correct thrust shim to assure the proper super-low 2 shaft thrust clearance.
- For shim selection, refer to page 2-48.

1. Install the oil guide plate, mainshaft thrust shim and super-low 2 shaft thrust shim.



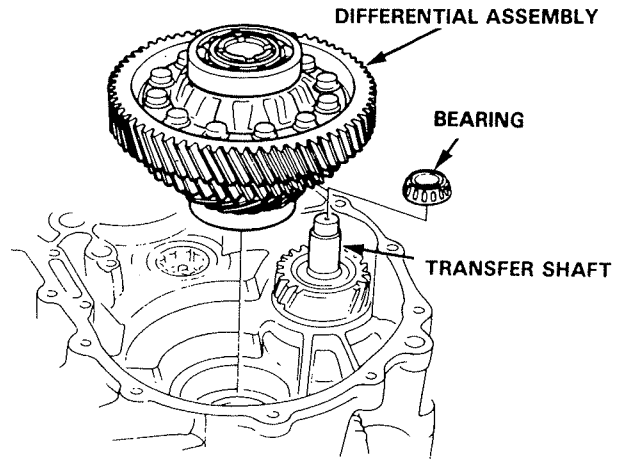
2. Install the oil gutter and collect plates in the transmission housing.



3. Install the transfer shaft assembly and 4WD disengagement selector rod (page 2-33).

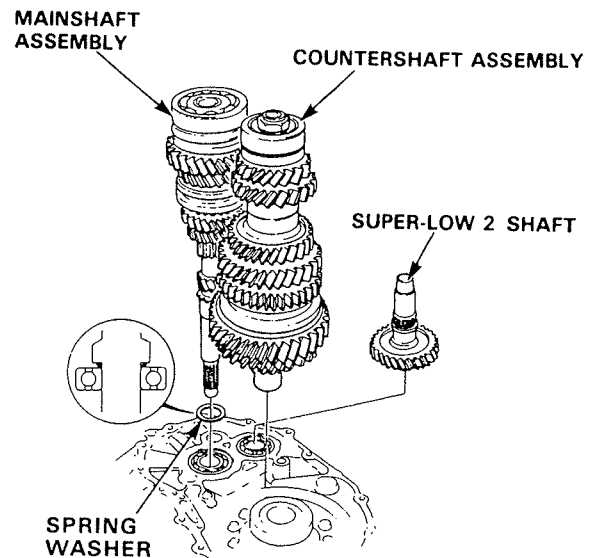
NOTE: Place the clutch housing on two 70 x 70 x 450 mm (2.76 x 2.76 x 17.71 in.) lumbers to hold the transmission.

4. Install the differential assembly in the clutch housing.
5. Put the bearing on the transfer shaft.



6. Install the spring washer on the mainshaft and then install the super-low 2 shaft, countershaft assembly and mainshaft assembly in the clutch housing.

NOTE: Install the spring washer with the dished end facing up.



(cont'd)

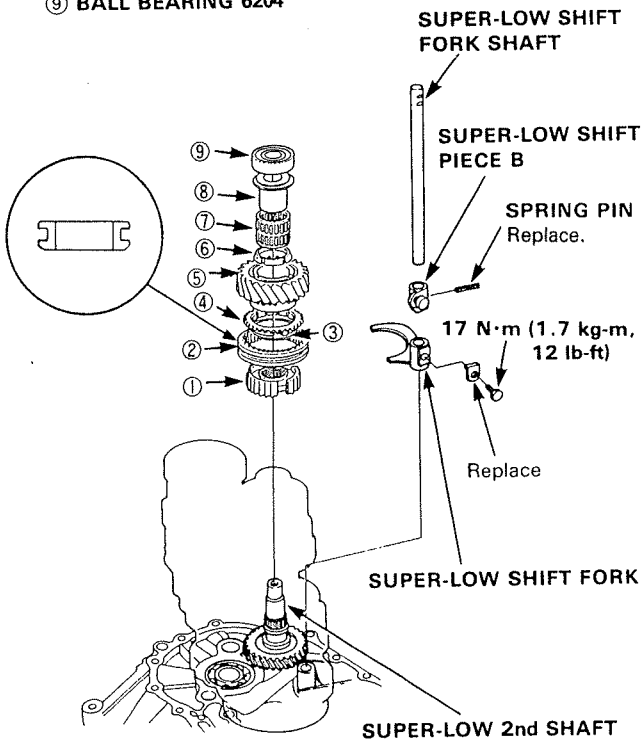
Transmission

Reassembly (cont'd)

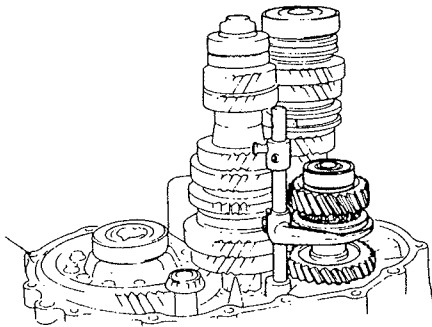
7. Install the super-low shift piece B and shift fork on the super-low shift fork shaft.
8. Assemble the super-low shift fork shaft assembly with the following parts, and install them on the super-low 2 shaft.

NOTE: Note the installation direction of the synchro sleeve

- ① SYNCHRO HUB
- ② SYNCHRO SLEEVE
- ③ SYNCHRO SPRING
- ④ SYNCHRO RING
- ⑤ SUPER-LOW 2 GEAR
- ⑥ FRICTION DAMPER
- ⑦ NEEDLE BEARING
- ⑧ DISTANCE COLLAR
- ⑨ BALL BEARING 6204



Assembled View

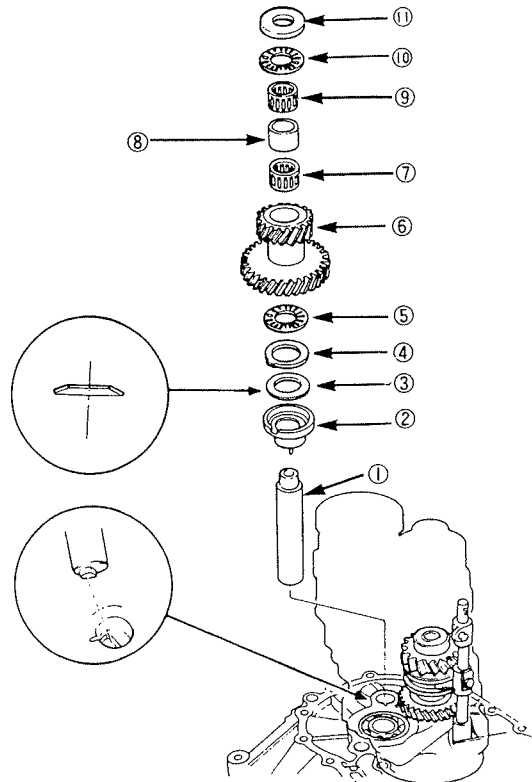


9. Install the following parts in the clutch housing:

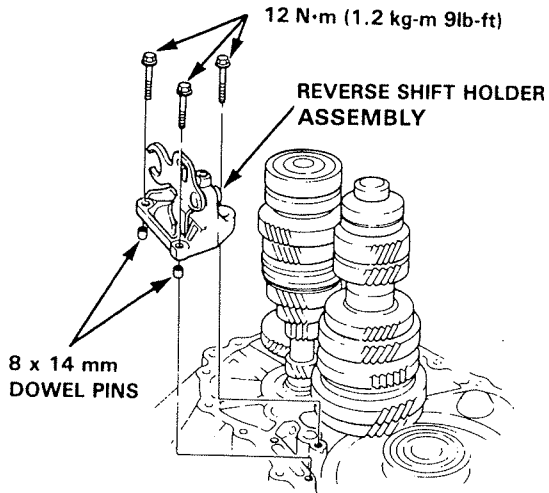
NOTE:

- Align the lug on the end of the super-low 1 shaft with the groove in the clutch housing.
- Install the 62 mm lock washer with the dished end facing down.

- ① SUPER-LOW 1 SHAFT
- ② DISTANCE COLLAR
- ③ SPRING WASHER
- ④ THRUST WASHER
- ⑤ THRUST NEEDLE BEARING
- ⑥ SUPER-LOW 1 GEAR
- ⑦ NEEDLE BEARING
- ⑧ DISTANCE COLLAR
- ⑨ NEEDLE BEARING
- ⑩ THRUST NEEDLE BEARING
- ⑪ THRUST WASHER



10. Install the reverse shift holder assembly in the clutch housing.

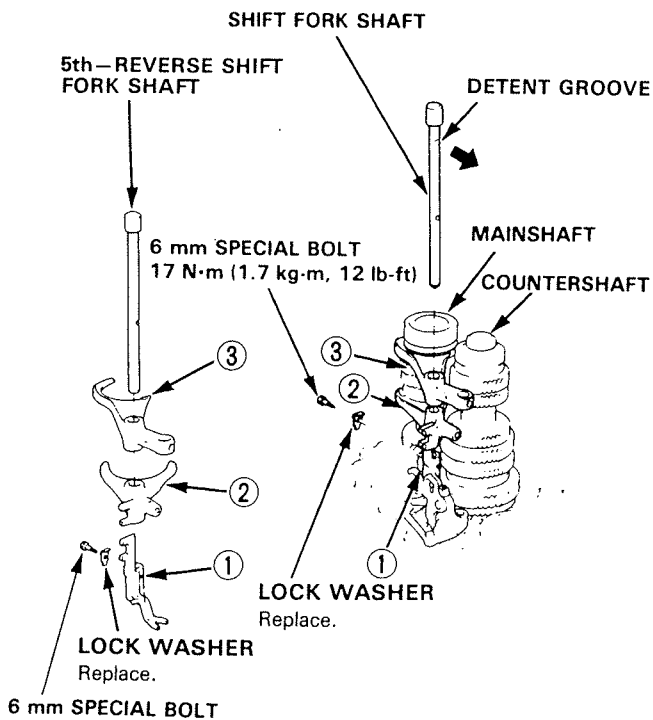


11. Install the following parts on the mainshaft:

- ① Reverse shift fork
- ② 3rd—4th shift fork
- ③ 5th shift fork

12. Slide the shift fork shaft down through each shift fork.

NOTE: Install the shift fork shaft with the detent groove facing the countershaft.



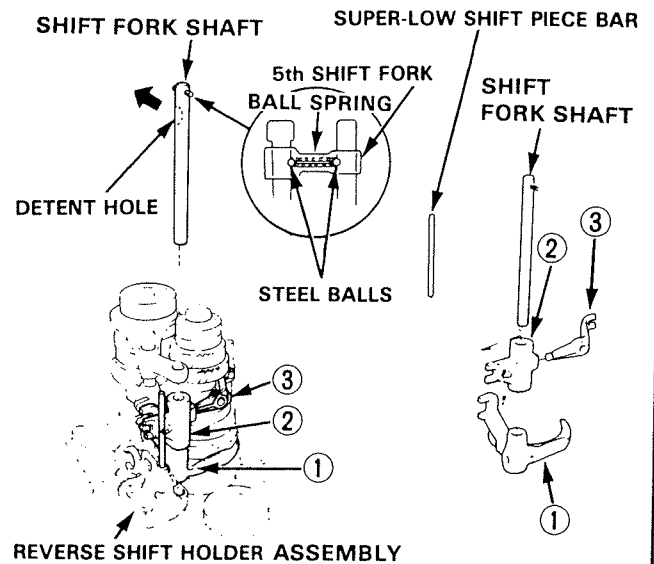
13. Install the following parts on the countershaft:

- ① 1st—2nd shift fork
- ② Super-low shift piece A
- ③ Super-low shift lever

14. Insert the steel balls and ball springs into the 5th shift fork then slide the shift fork shaft through each shift piece and shift lever.

NOTE: Install the shift fork shaft with the detent hole facing the mainshaft.

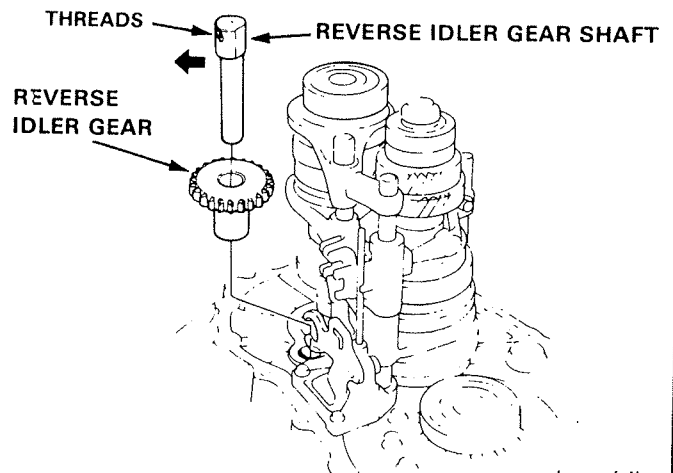
15. Install the super-low shift piece bar in the reverse shift holder assembly.



REVERSE SHIFT HOLDER ASSEMBLY

16. Install the reverse idler gear and idler gear shaft in the clutch housing.

NOTE: Install the idler shaft with the threads facing outside.



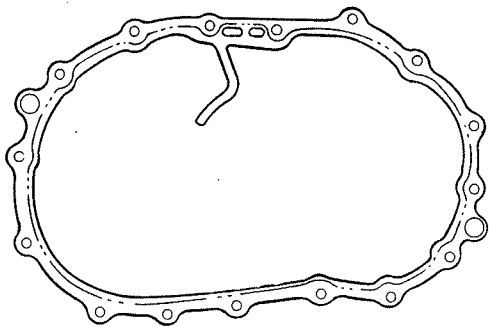
(cont'd)

Transmission

Reassembly (cont'd)

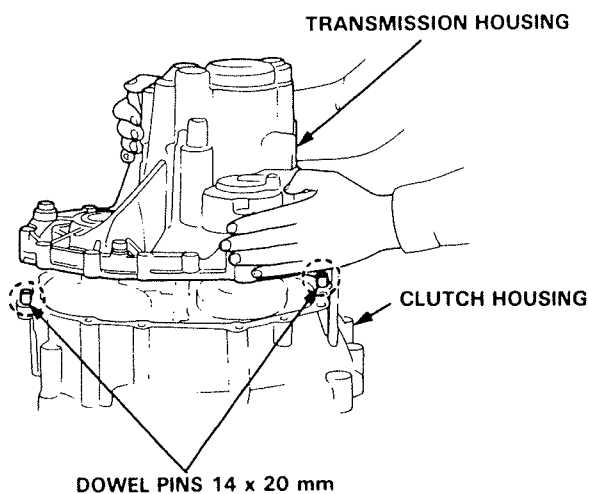
17. Apply sealant to the transmission mating surface of the clutch housing.

NOTE: This transmission uses no gaskets between the major housings; use Honda Genuine Liquid Sealant (Three Bond® 1216). Assemble the housings within 20 minutes after applying the sealant and allow it to cure for at least 30 minutes after assembly before filling it with oil.



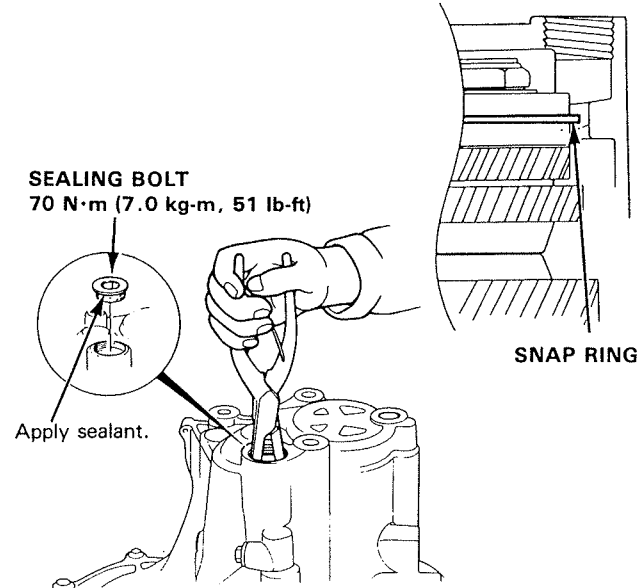
18. Install the 14 x 20 mm dowel pins.

19. Place the transmission housing over the clutch housing, being careful to line up the shafts.

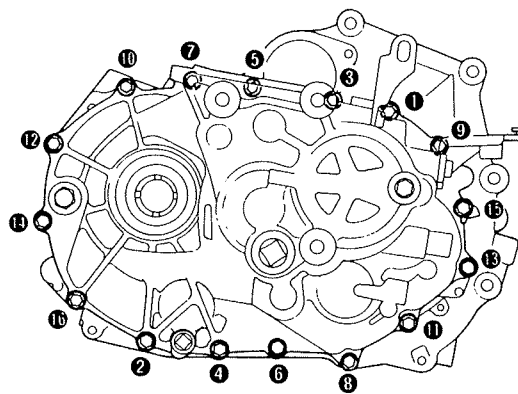


20. Using a snap ring pliers, carefully expand the snap ring, press the transmission case, and then seat the snap ring in the bearing groove securely. Install the sealing bolt.

NOTE: Apply Honda Genuine Liquid Sealant (Three Bond® 1216) to the threads of the 32 mm sealing bolt.



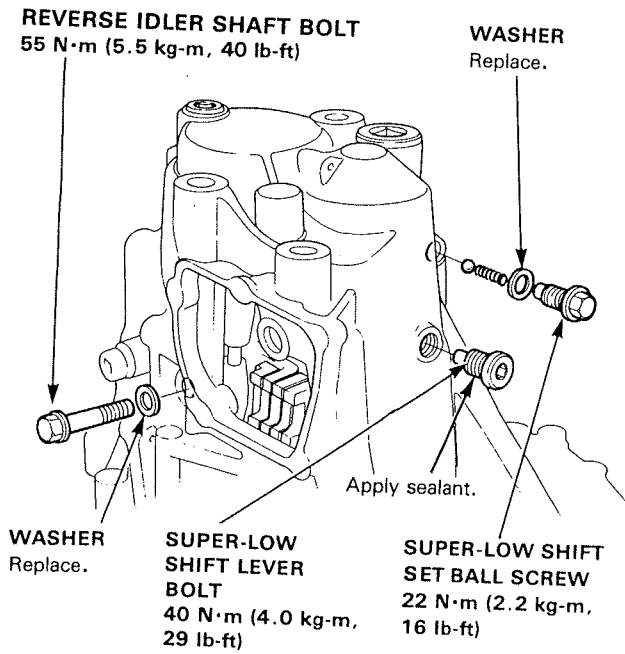
21. Torque the bolts in the sequence shown to 26N·m (2.6 kg-m, 19 lb-ft).



22. Install the following parts on the transmission housing:

- reverse idler shaft bolt using a new washer.
- super-low shift lever bolt.
- steel ball, ball spring and super-low shift set ball screw using a new washer.

NOTE: Apply Honda Genuine Liquid Sealant (Three Bond® 1216) to the threads of the super-low shift lever bolt.



Differential

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Service Specifications

Unit: mm (in.)

Front Differential

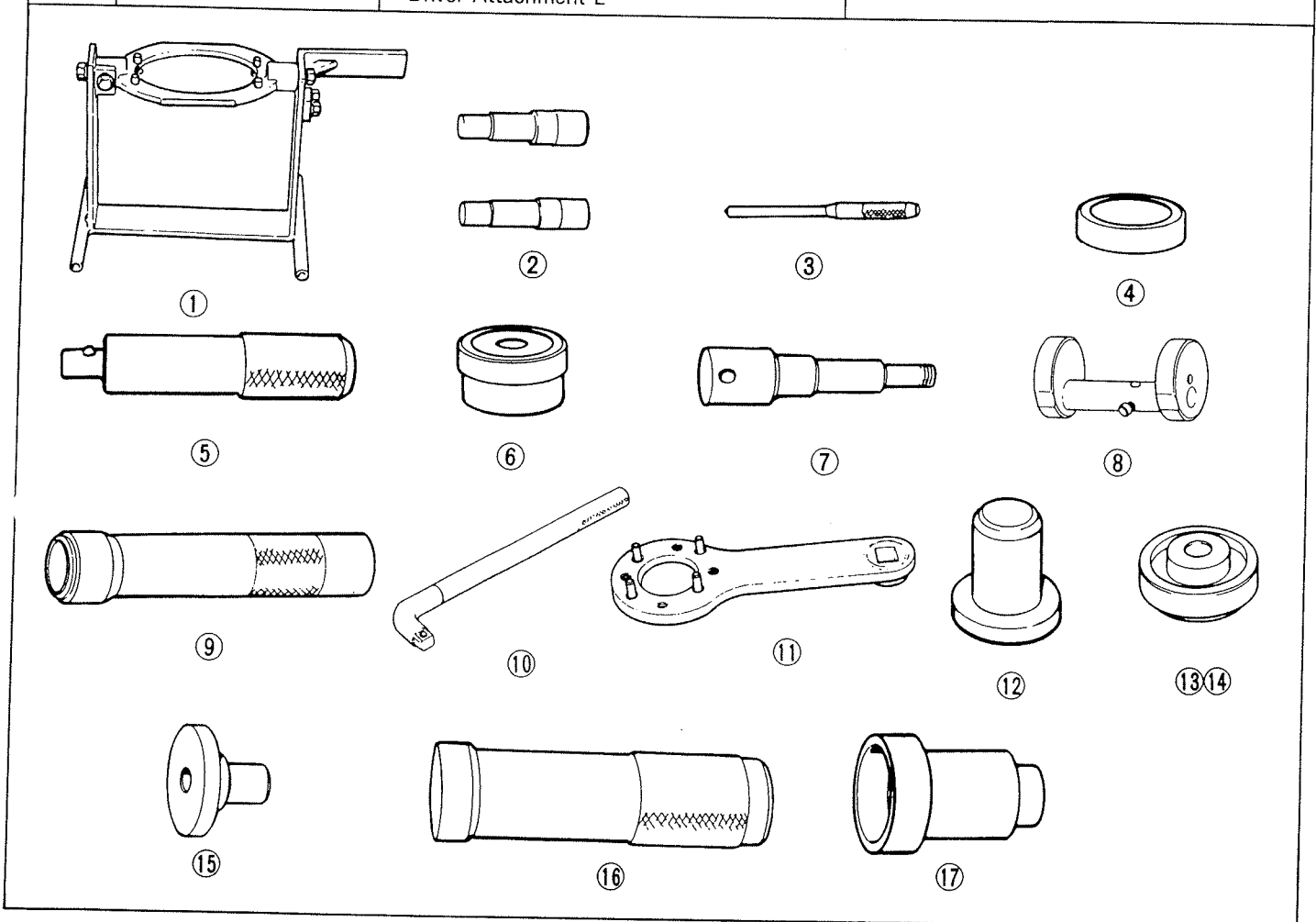
PART	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Ring gear	Backlash	0.071 – 0.129 (0.0030 – 0.0050)	—
Differential carrier	Pinion shaft bore diameter	18.000 – 18.018 (0.7087 – 0.7094)	—
	Carrier-to-pinion shaft clearance	0.016 – 0.052 (0.0006 – 0.0020)	0.1 (0.004)
	Driveshaft bore diameter	28.000 – 28.021 (1.1024 – 1.1032)	—
	Carrier-to-drive shaft clearance	0.025 – 0.006 (0.0010 – 0.0026)	0.12 (0.005)
	Ball bearing bore diameter	40.002 – 40.018 (1.5749 – 1.5755)	—
Differential pinion gear	Backlash	0.05 – 0.15 (0.002 – 0.006)	Adjust with pinion washers.
	Pinion gear bore diameter	18.042 – 18.066 (0.7103 – 0.7112)	—
	Pinion gear-to-pinion shaft clearance	0.059 – 0.095 (0.0023 – 0.0037)	0.15 (0.006)

Rear Differential

PART	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Differential carrier assembly	Oil capacity Replace	0.65 l (0.59 Imp qt, 0.72 US qt)	—
	Disassemble	0.70 l (0.64 Imp qt, 0.77 US qt)	—
Differential carrier	Diameter of taper bearing contact area 322/28	57.979 – 58.009 (2.2826 – 2.2838)	58.06 (2.286)
	32306	71.979 – 72.009 (2.8338 – 2.8350)	72.06 (2.837)
	32008	68.000 – 68.030 (2.6772 – 2.6783)	68.08 (2.680)
Differential case	Diameter of differential pinion shaft contact area	18.000 – 18.018 (0.7087 – 0.7094)	—
	Case-to-differential pinion shaft clearance	0.016 – 0.052 (0.0006 – 0.0020)	0.1 (0.004)
	Diameter of drive shaft contact area	26.005 – 26.025 (1.0236 – 1.0246)	—
	Case-to-drive shaft clearance	0.025 – 0.066 (0.0010 – 0.0026)	0.12 (0.005)
	Diameter of taper bearing contact area	40.002 – 40.018 (1.5749 – 1.5755)	39.95 (1.573)
Differential pinion gear	I.D.	18.042 – 18.066 (0.7103 – 0.7113)	—
	Gear-to-pinion shaft clearance	0.059 – 0.095 (0.0023 – 0.0037)	0.15 (0.006)
Drive pinion gear	Diameter of taper bearing contact area 332/28	27.987 – 28.000 (1.1018 – 1.1024)	27.93 (1.100)
	32306	30.002 – 30.018 (1.1812 – 1.1818)	29.95 (1.179)
Ring gear	Backlash	0.11 – 0.16 (0.004 – 0.006)	Adjust with shim.

Special Tools

No.	Tool Number	Description	Remarks
①	07966—SD90000	Differential Carrier Stand	
②	07973—SD90300	Differential Pinion Center Pin	
③	07944—SA00000	Pin Driver, 4.0mm	
④	07965—SB00200	Dis/assembly Tool B	
⑤	07749—0010000	Driver	
⑥	07746—0010600	Attachment, 72x75mm	
⑦	07973—SD90100	Pinion Dummy Shaft	
⑧	07973—SD90200	Pinion Height Block	
⑨	07946—MB00000	Driver	
⑩	07907—6010300	Socket Wrench Handle	
⑪	07926—SD90000	Companion Flange Holder	
⑫	07948—SC20200	Oil Seal Driver	
⑬	07JAD—PH80100	Oil Seal Driver Attachment	
⑭	07947—SD90100	Oil Seal Driver Attachment	
⑮	07947—6110500	Oil Seal Driver Attachment	
⑯	07746—0030100	Driver	
⑰	07947—6340500	Driver Attachment E	

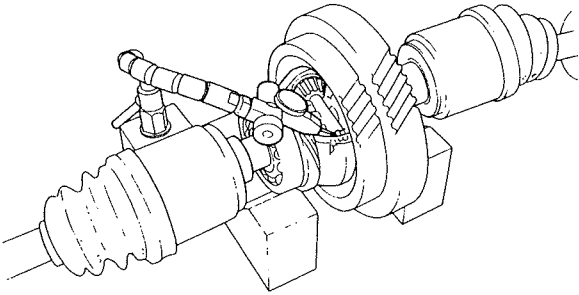


Front Differential

Backlash Inspection

1. Place differential assembly on V-blocks and install both driveshafts.
2. Check backlash of both pinion gears.

Standard: 0.05–0.15 mm
(0.002–0.006 in.)



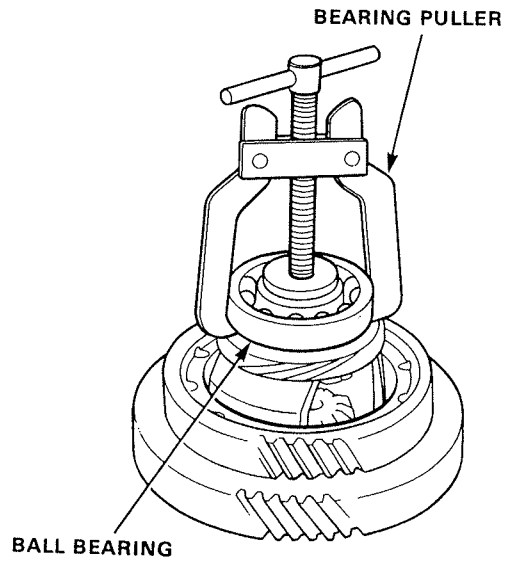
3. If out of tolerance, disassemble differential and select new pinion washers from the table below.

PART NUMBER	THICKNESS
41351-689-000	0.7 mm (0.028 in.)
41352-689-000	0.8 mm (0.031 in.)
41353-689-000	0.9 mm (0.035 in.)
41354-689-000	1.0 mm (0.039 in.)
41355-PC8-000	0.75 mm (0.030 in.)
41356-PC8-000	0.85 mm (0.033 in.)
41357-PC8-000	0.95 mm (0.037 in.)

Bearing Replacement

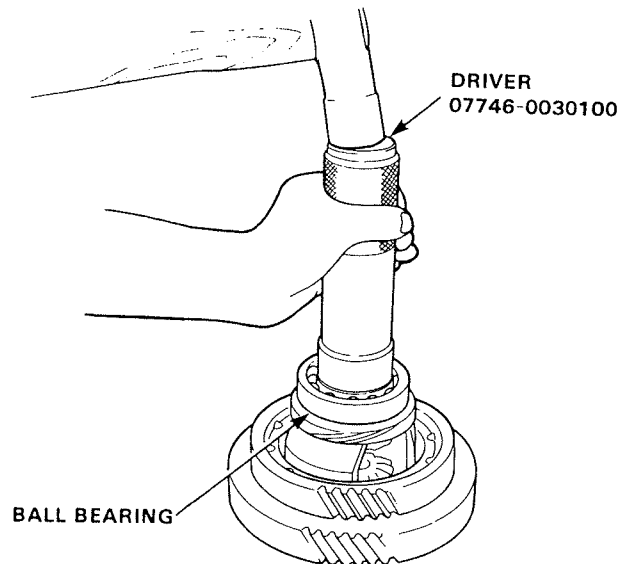
NOTE: Check bearings for wear and rough rotation. If bearings are OK, removal is not necessary.

1. Remove bearings using a standard bearing puller.



2. Install new bearings.

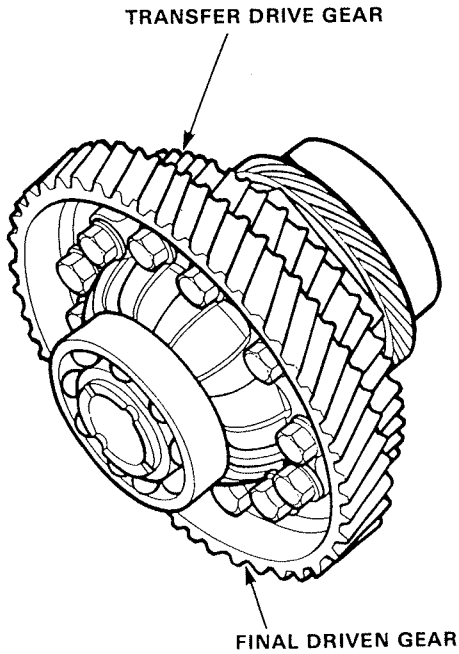
NOTE: Drive the bearings squarely until they bottom against the carrier.



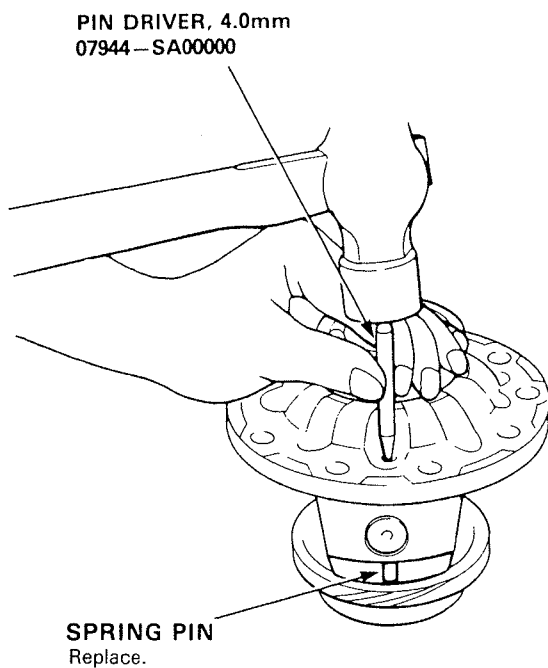
Front Differential

Disassembly

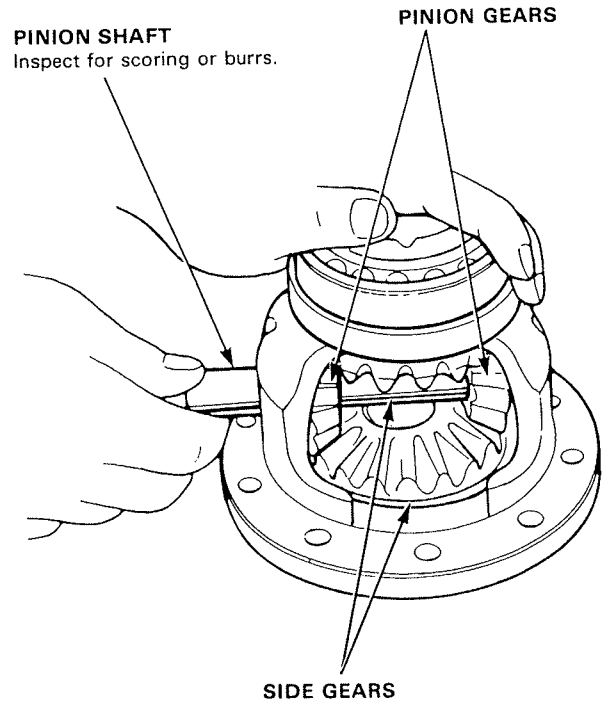
1. Remove the final driven gear and transfer drive gear. Inspect teeth for wear or damage.



2. Drive out the 4 mm spring pin.



3. Remove the pinion shaft, pinion gears, and thrust washers.

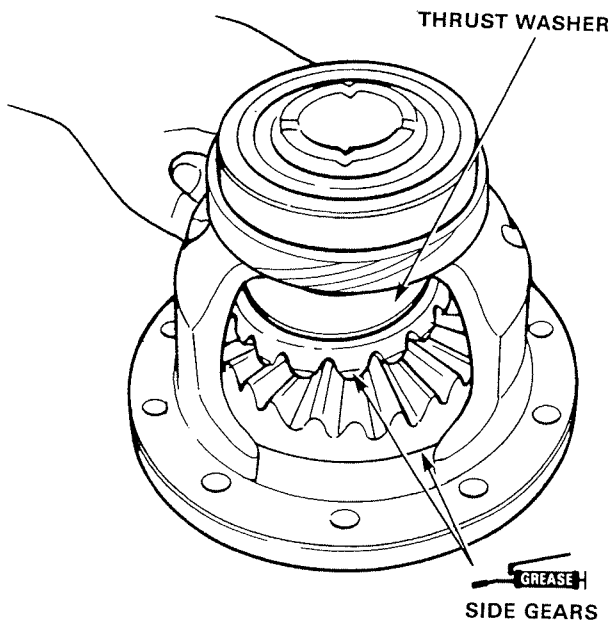


4. Wash the parts thoroughly in solvent and dry with compressed air. Inspect all parts for wear or damage and replace any that are defective.

Reassembly

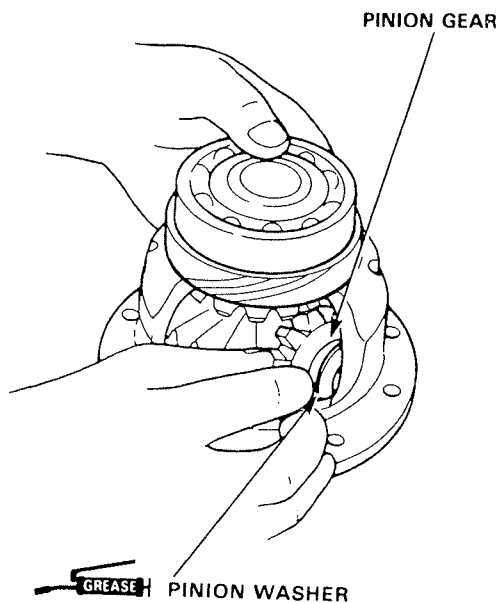
1. Install the side gears with thrust washers in differential carrier.

CAUTION: Coat all gears with molybdenum disulfide grease on all sides.



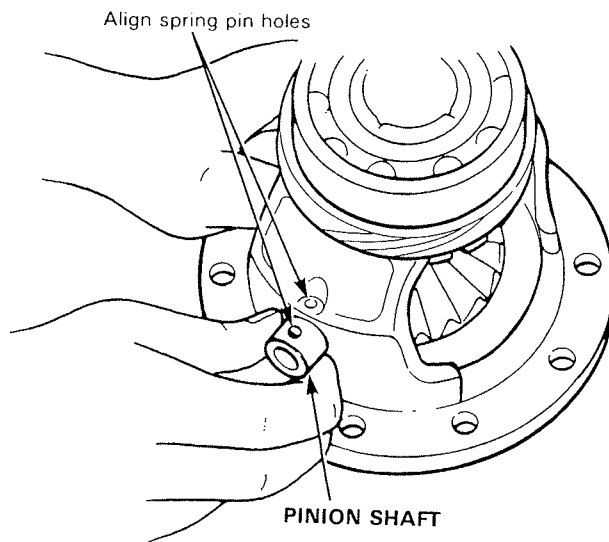
2. Set the pinion gears in place exactly opposite each other in mesh with side gears, then install a thrust washer behind each one. Washers must be of equal thickness.

NOTE: Select the correct pinion washer from the table on page 3-5.

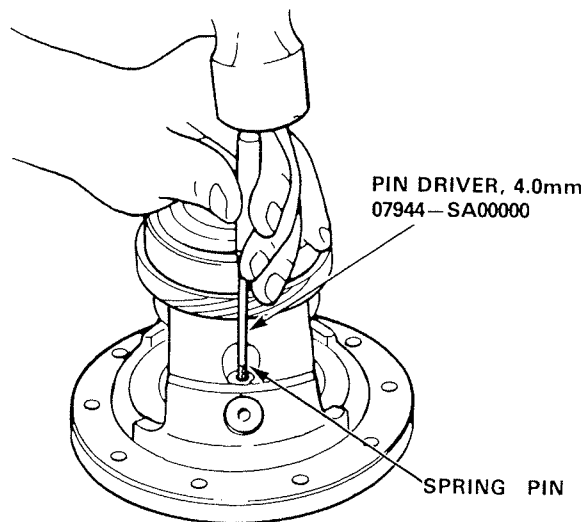


3. Rotate the gears until shaft holes in pinion gears line up with shaft holes in carrier.

4. Insert the pinion shaft and align the spring pin holes in one end with matching hole in the carrier.



5. Drive in a new 4 mm spring pin.



6. Check backlash of both pinion gears again.

Standard : 0.05–0.15 mm
(0.002–0.006 in.)

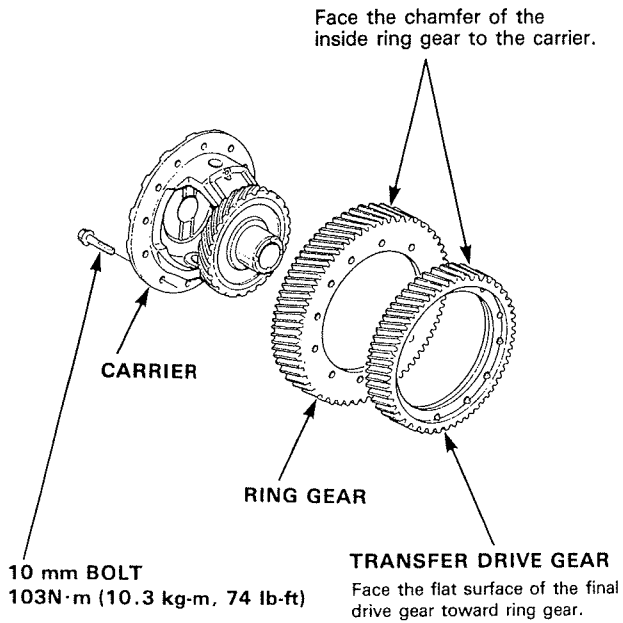
- If still out of tolerance, replace the pinion washers, then recheck backlash.
- If still out of tolerance, replace both pinion gears, then recheck backlash.
- If still out of tolerance, replace side gears, and recheck backlash.
- If still out of tolerance, replace carrier assembly.

(cont'd)

Front Differential

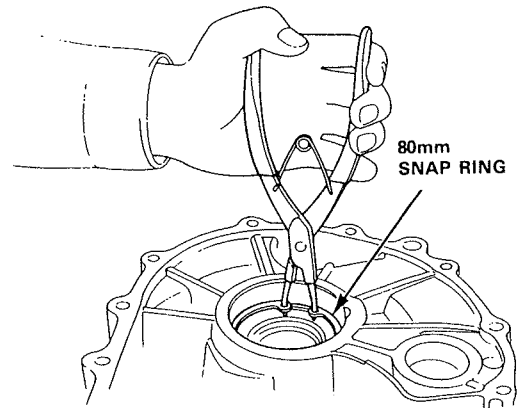
Reassembly (cont'd)

7. Install the final driven gear and transfer drive gear.

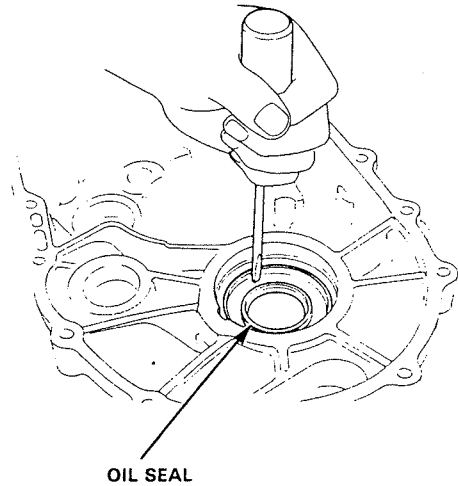


Oil Seal Removal

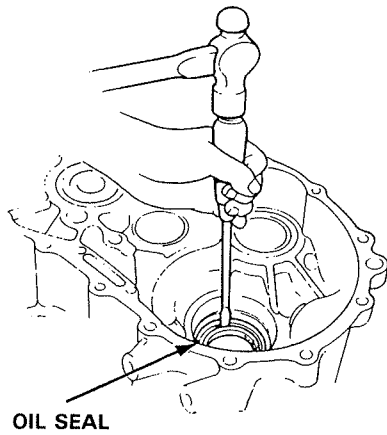
1. Remove the 80mm snap ring from the transmission housing.



2. Remove the oil seal from the transmission housing.

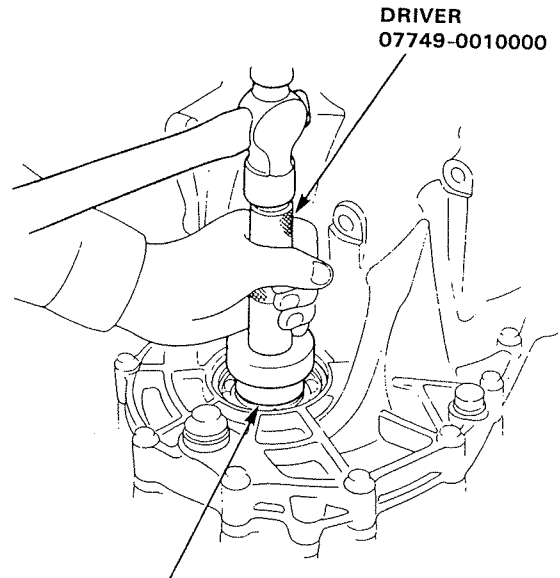


3. Remove the oil seal from the clutch housing.

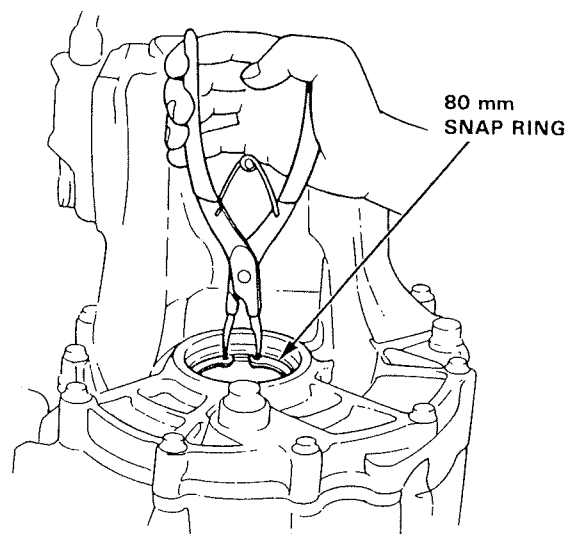


Oil Seal Installation

1. Install the differential assembly in the clutch housing (page 2-49).
2. Assemble the transmission and install the transmission housing (pages 2-49 thru 2-53).
3. Use driver and attachment to bottom the differential assembly in clutch housing



4. Install the 80 mm snap ring in the transmission housing.

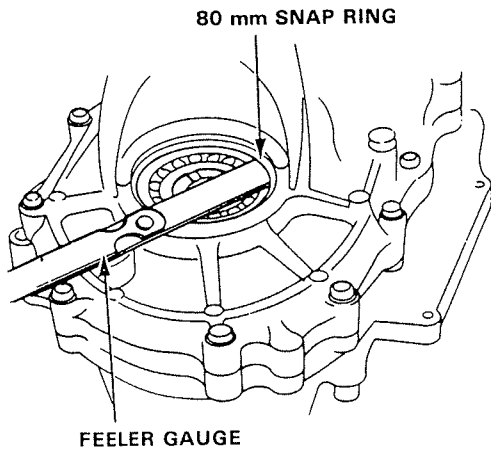


(cont'd)

Front Differential

Oil Seal Installation (cont'd)

5. Measure clearance between the 80 mm snap ring and outer race of the bearing in transmission housing.



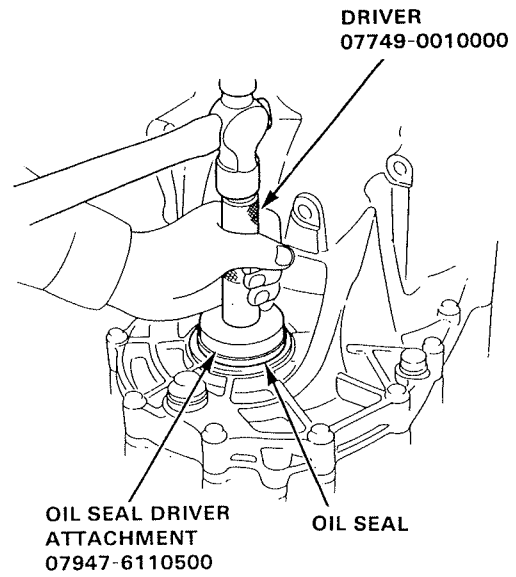
Side Clearance: 0–0.15 mm (0–0.006 in.) max.

If out of limits, select new 80mm snap ring from following table and install.

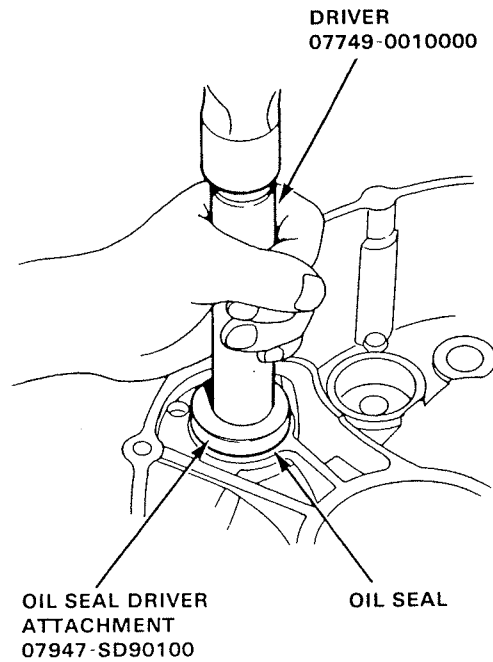
80 mm Snap Ring

PART NUMBER	THICKNESS
90414-689-000	2.50 mm (0.0984 in)
90415-689-000	2.60 mm (0.1024 in)
90416-689-000	2.70 mm (0.1063 in)
90417-689-000	2.80 mm (0.1102 in)
90418-689-000	2.90 mm (0.1142 in)
90419-PH8-000	3.00 mm (0.1181 in)

6. Install the oil seal in the transmission housing.

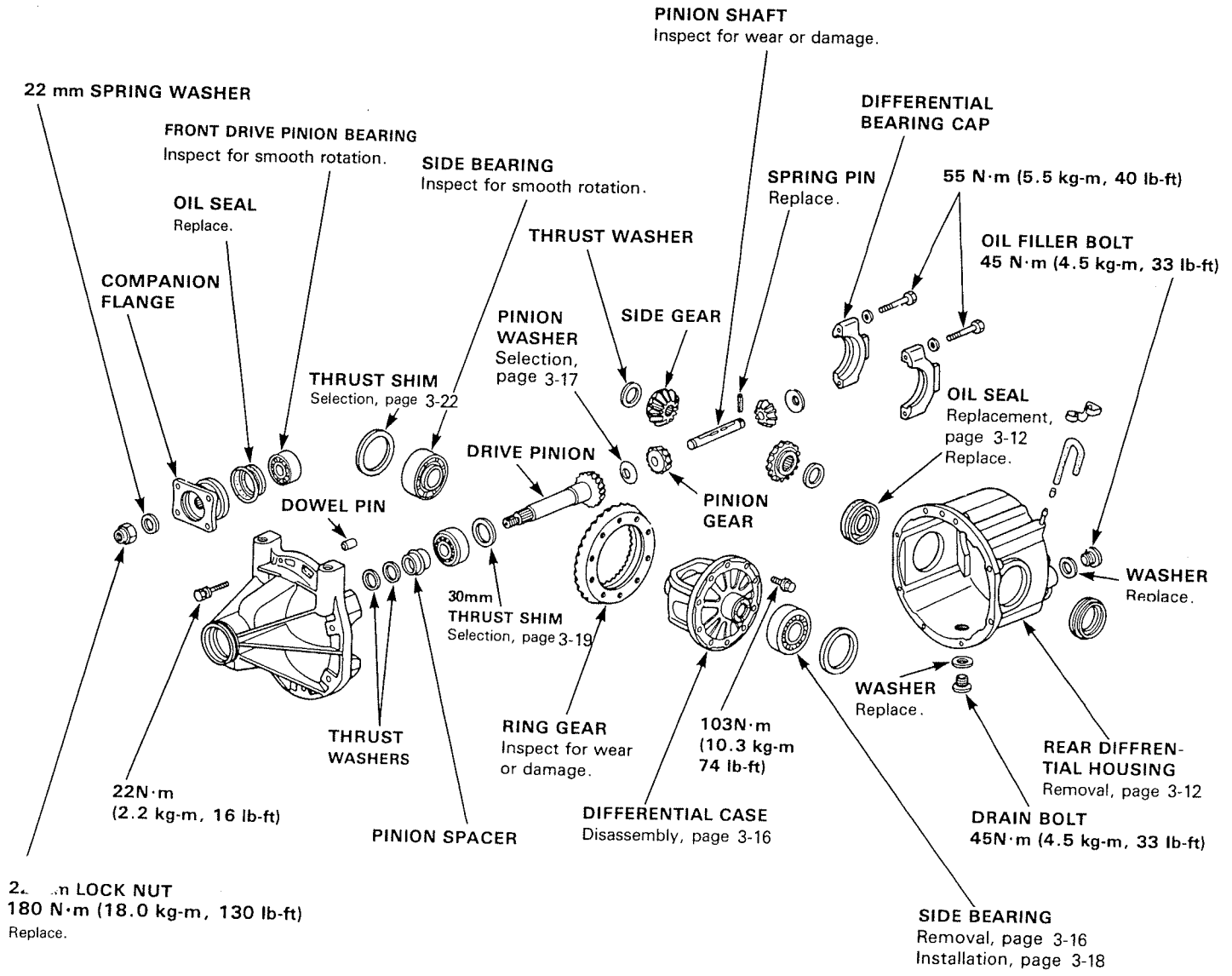


7. Install the oil seal in the clutch housing.



Rear Differential

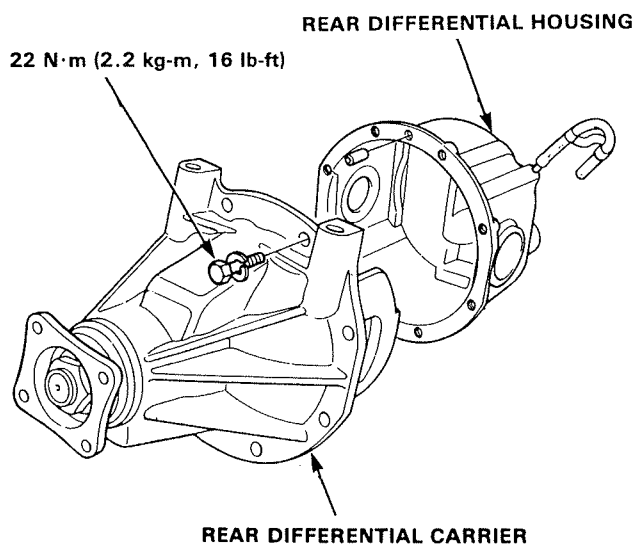
Illustrated Index



Rear Differential

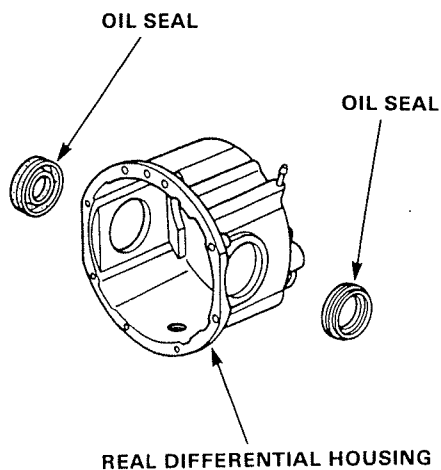
Carrier Removal

1. Remove the rear differential carrier and dowel pin.

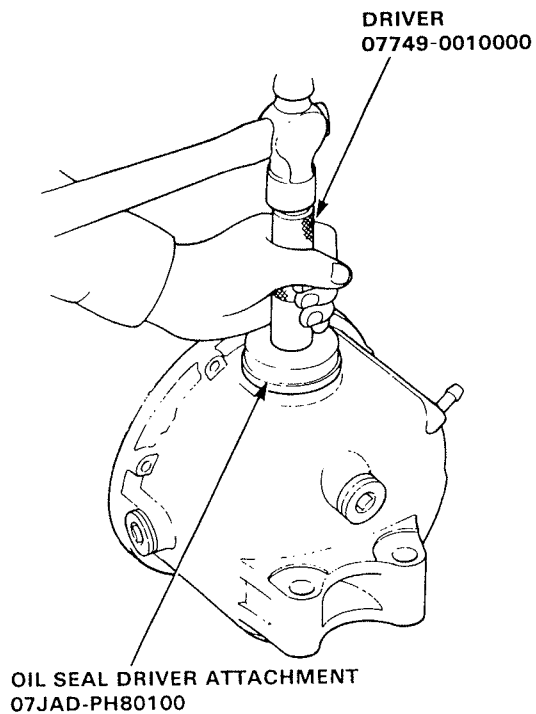


Housing Oil Seal Replacement

1. Remove the oil seal from the rear differential housing.



2. Drive the oil seal in the rear differential housing.

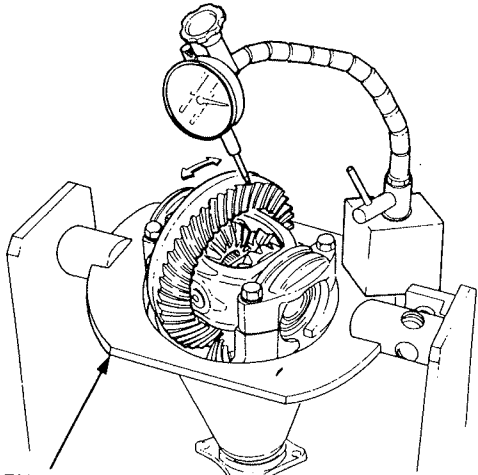


Inspection Before Disassembly

Ring Gear Backlash Inspection

1. Place the differential assembly on the Differential Carrier Stand and check backlash at four equally spaced locations around the gear.

Standard: 0.11—0.16 mm (0.004—0.006 in.)



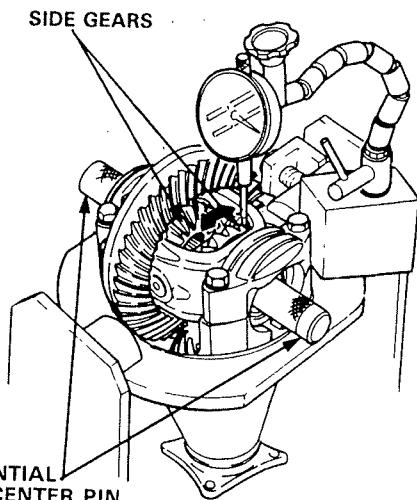
DIFFERENTIAL CARRIER STAND
07966—SD90000

2. If out of tolerance, adjust as described on page 3-22.

Pinion Gear-to-Side Gear Backlash Inspection

1. Install the tools "Differential Pinion Center Pin" in the differential side gear. Measure the backlash with a dial indicator.

Standard: 0.05—0.15 mm (0.002—0.006 in.)



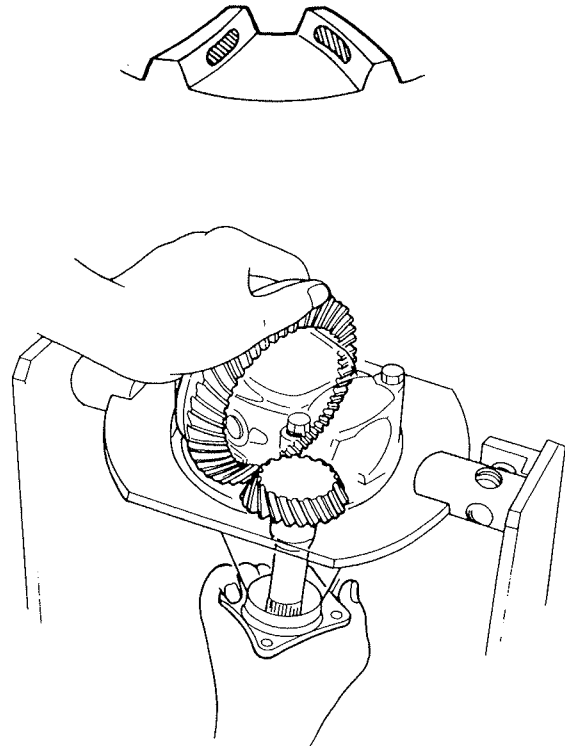
DIFFERENTIAL
PINION CENTER PIN
07973—SD90300

2. If out of tolerance, adjust as described on page 3-17.

Tooth Contact (Ring Gear and Drive Pinion)

1. Thoroughly clean the ring gear and drive pinion teeth, and paint the ring gear teeth with Prussian Blue lightly and evenly.
2. Rotate the pinion one full turn in the forward and reverse directions to produce a contact pattern on the ring gear.

GOOD CONTACT PATTERN

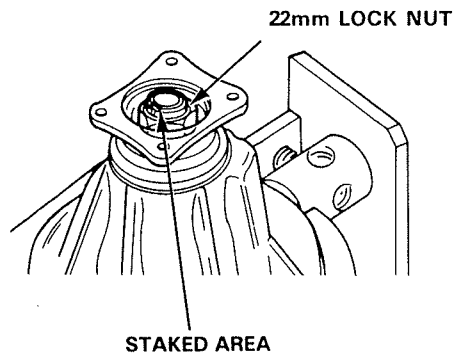


3. Inspect the contact pattern produced by the above procedure. If the pattern is abnormal, adjust as instructed on page 3-24.

Rear Differential Carrier

Disassembly

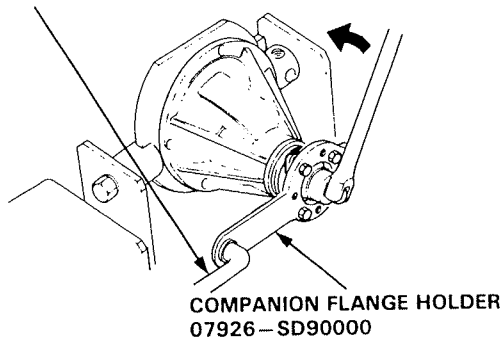
1. Loosen the staked area of the 22 mm lock nut.



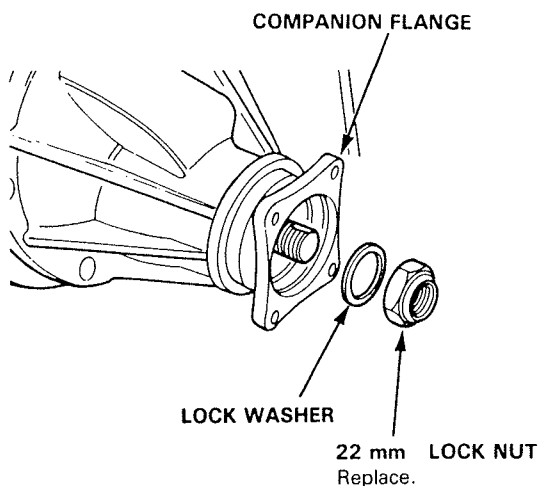
2. Hold the companion flange with the tool "Companion Flange Holder" and loosen the 22 mm lock nut.

NOTE: The lock nut has right-hand threads.

SOCKET WRENCH HANDLE
07907-6010300



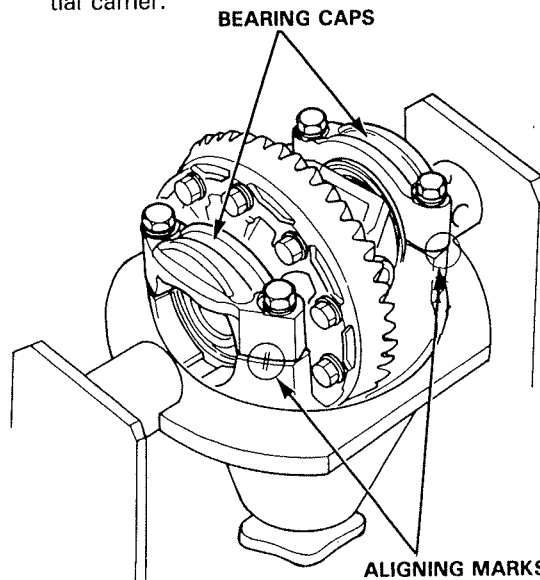
3. Remove the 22 mm lock nut, lock washer and companion flange from the pinion shaft.



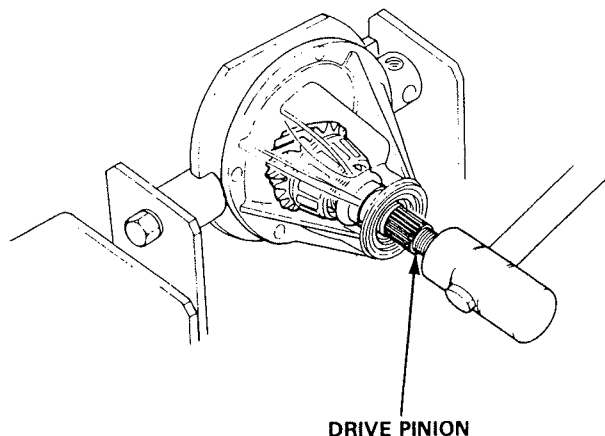
4. Scribe an aligning mark across each bearing cap and differential carrier. Remove the bearing caps from the differential carrier.

NOTE: Do not mix the right and left bearing caps.

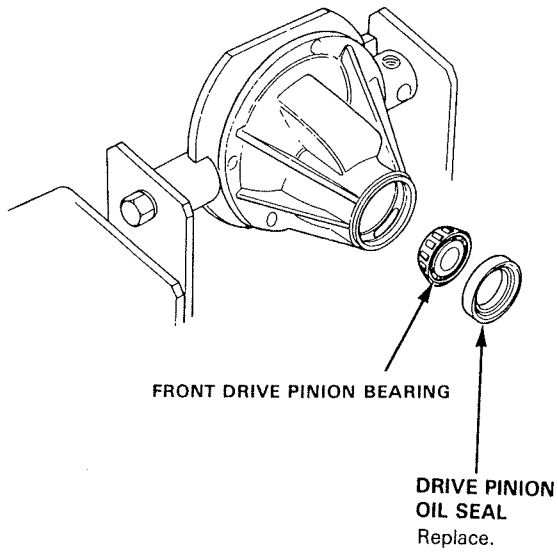
5. Remove the differential assembly from the differential carrier.



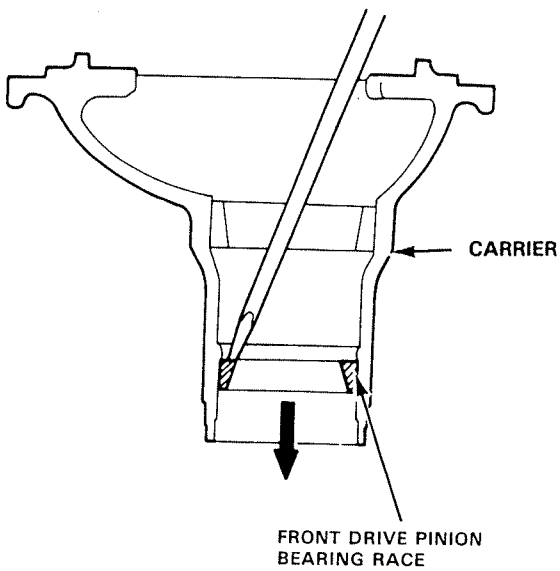
6. Remove the drive pinion from the differential carrier.



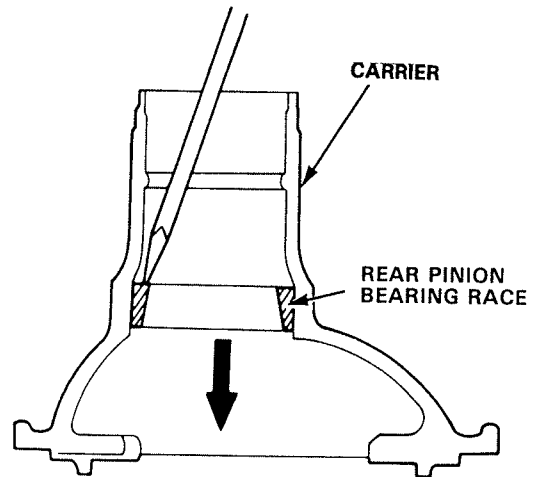
7. Remove the drive pinion oil seal and front drive pinion bearing (332/23).



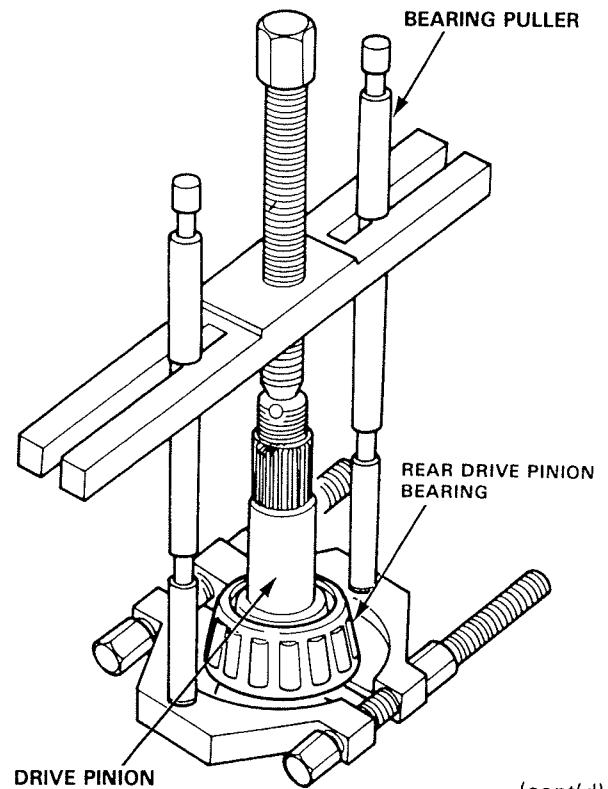
8. Remove the front drive pinion bearing race from the carrier.



9. Remove the rear drive pinion bearing race.



10. Using a puller, remove the rear drive pinion bearing from the drive pinion.



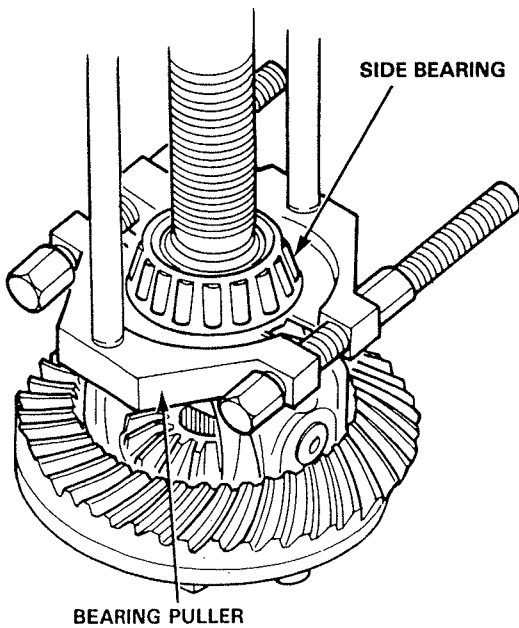
(cont'd)

Differential Carrier

Disassembly (cont'd)

11. Using a puller, remove the differential side bearing.

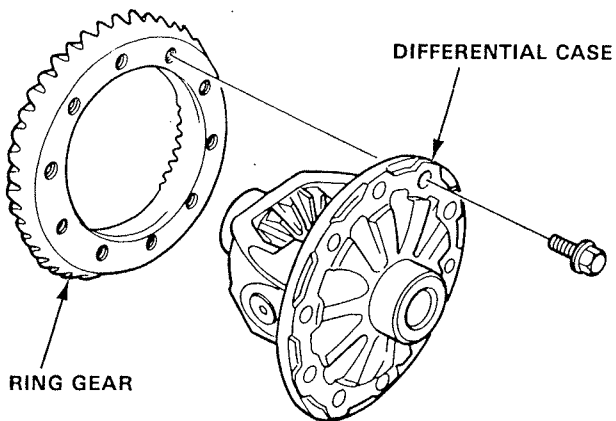
NOTE: The differential housing has notches on the ring gear side to accept the puller legs.



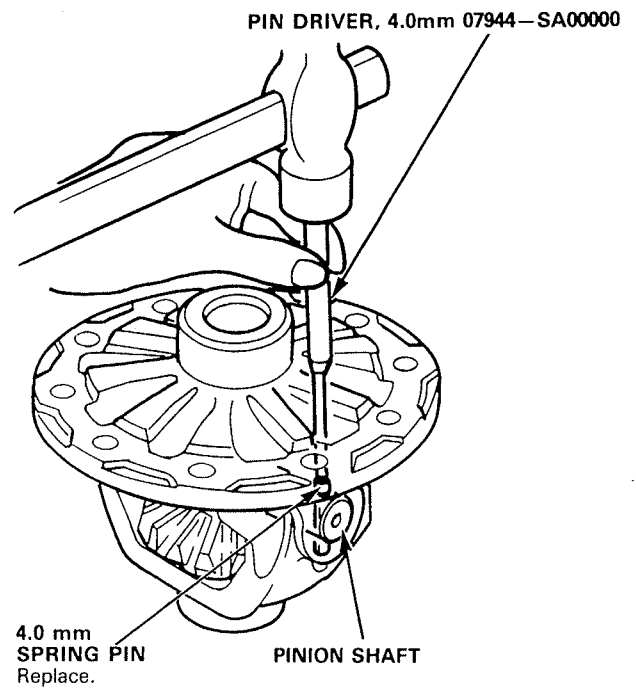
12. Remove the ring gear from the differential case by removing the attaching bolts.

NOTE:

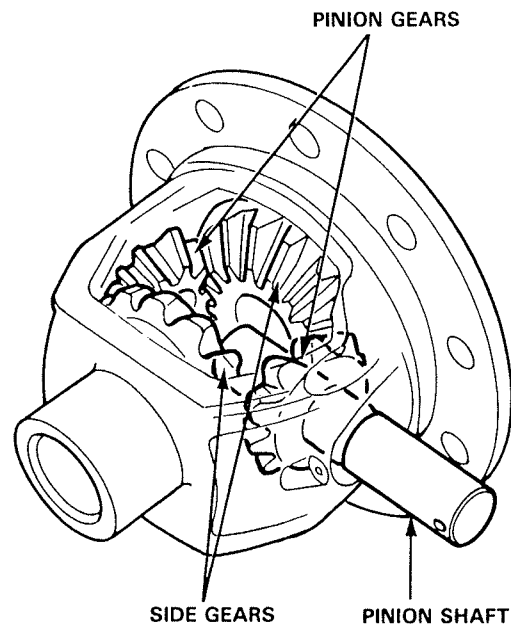
- The ring gear bolts have right-hand threads.
- Loosen the bolts in a criss-cross pattern in 2-3 steps.



13. Drive the 4 mm (0.16 in.) spring pin out of the pinion shaft.



14. Withdraw the pinion shaft from the housing, and remove the side gears and pinions.

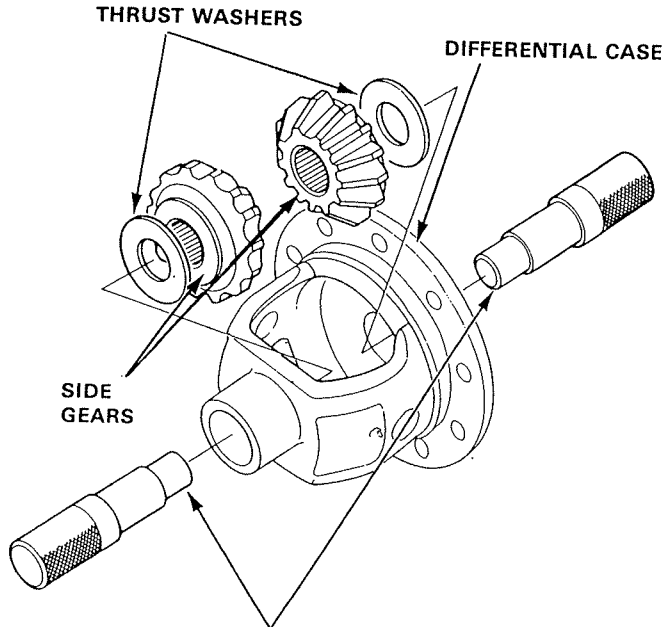


Rear Differential Case

Reassembly

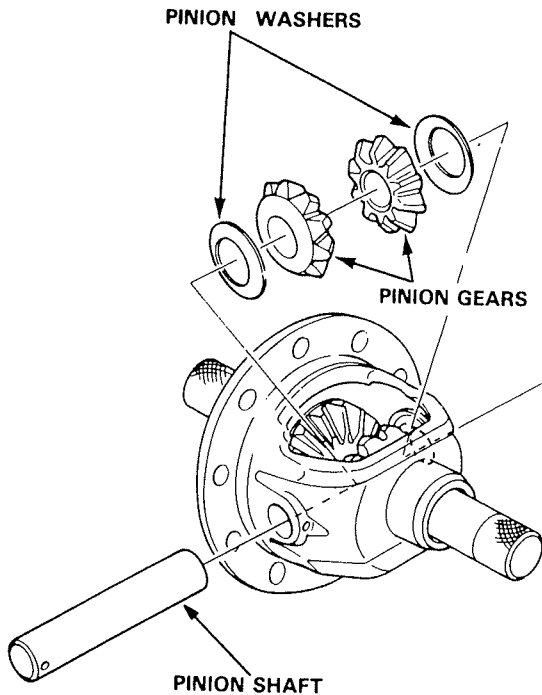
1. Install the thrust washers and side gears in the differential case by inserting the tools "Differential Pinion Center Pin" through the differential case into the side gears as shown.

CAUTION: Coat all gear with molybdenum desulfated grease on all sides.



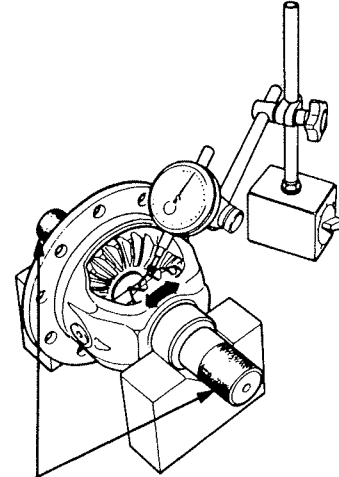
**DIFFERENTIAL PINION CENTER PIN SET
07973-SD90300**

2. Install the pinions and pinion washers, then the pinion shaft.



3. Place the rear differential assembly in V-Blocks on a surface plate as shown.
4. Measure the backlash between the side gear and pinion.

Side gear-to-pinion gear backlash:
Standard: 0.05–0.15 mm (0.002–0.006 in.)



**DIFFERENTIAL PINION CENTER PIN SET
07973-SD90300**

5. If the backlash is out of tolerance, select new pinion washers from the table below to bring it within tolerance.

NOTE: The washers must be of equal thickness.

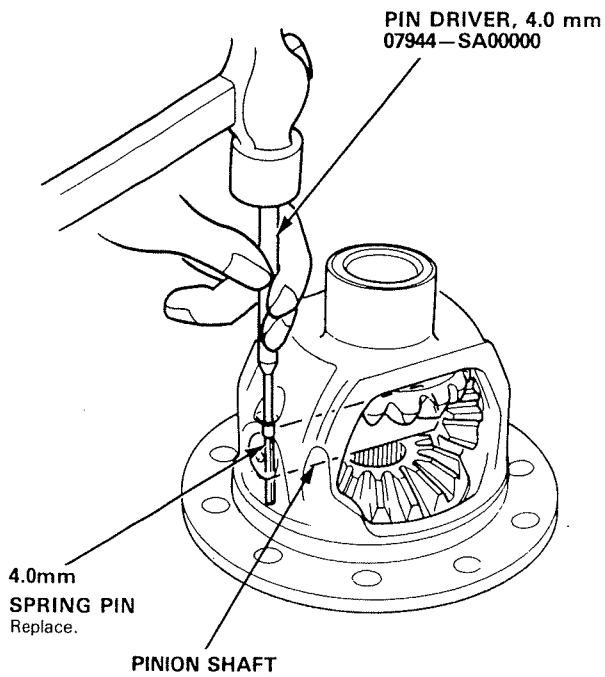
Part No.	Thickness
41351-689-000	0.70 mm (0.028 in)
41355-PC8-000	0.75 mm (0.030 in)
41352-689-000	0.80 mm (0.031 in)
41356-PC8-000	0.85 mm (0.033 in)
41353-689-000	0.90 mm (0.035 in)
41357-PC8-000	0.95 mm (0.037 in)
41354-689-000	1.00 mm (0.039 in)

(cont'd)

Rear Differential Case

Reassembly (cont'd)

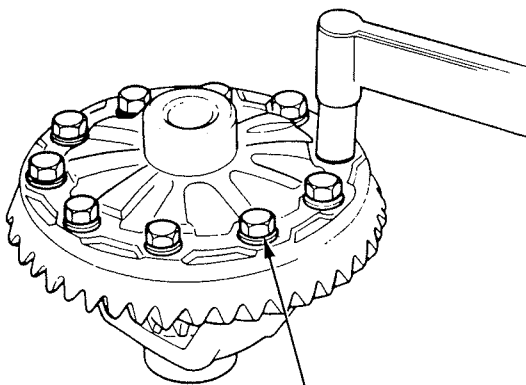
6. Drive the 4 mm spring pin through the differential housing into the pinion shaft.



7. Install the ring gear.

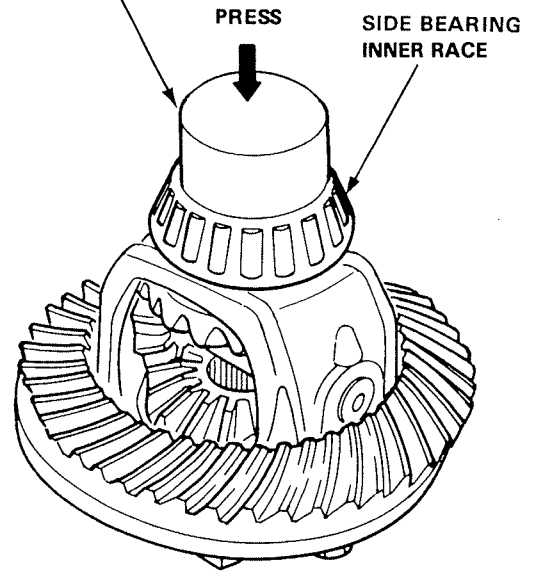
NOTE:

- The ring gear bolts are of a right-hand thread.
- Tighten the bolts in a criss-cross fashion in 2-3 steps.



8. Press the side bearings into the differential housing.

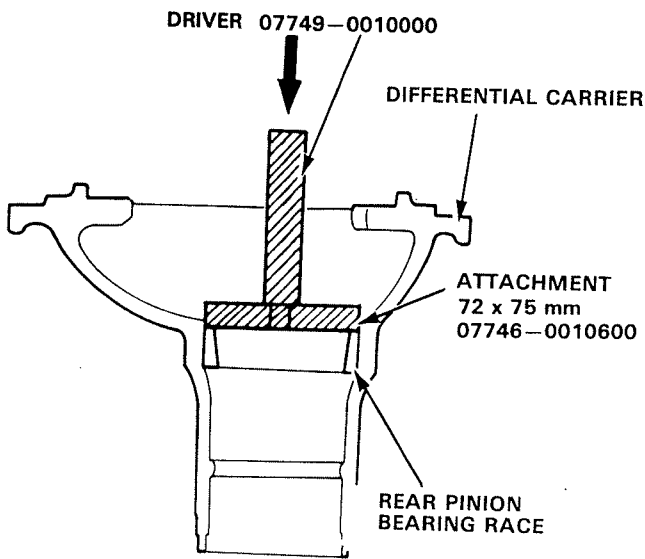
DIS/ASSEMBLY TOOL B
07965-SB00200



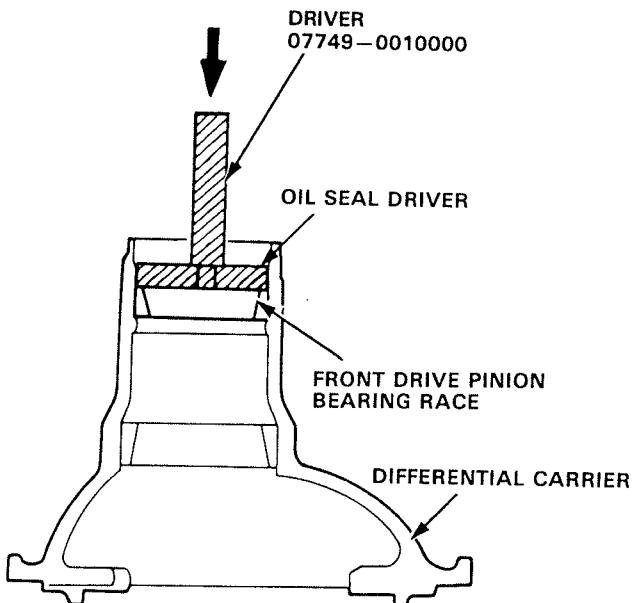
Rear Differential Carrier

Drive Pinion Height Adjustment

1. Using the tools shown, install the rear drive pinion bearing race into the differential carrier.



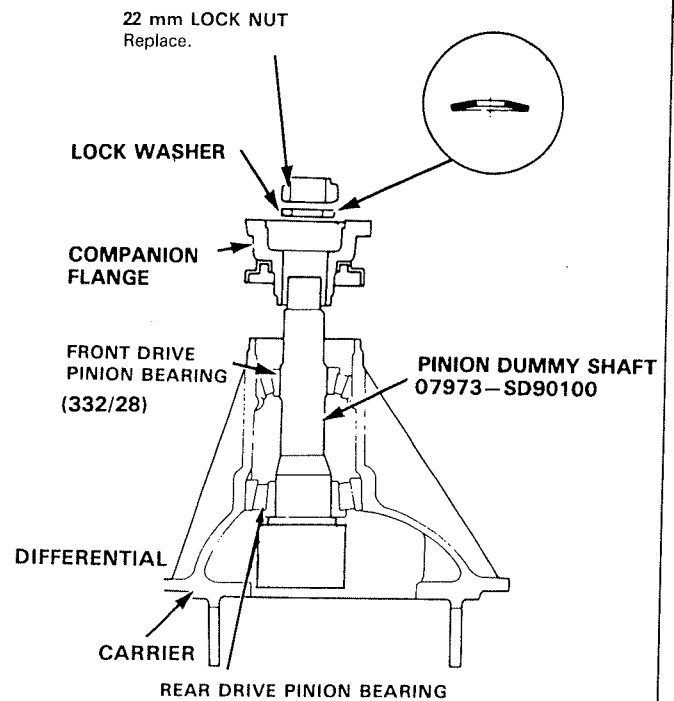
2. Press the front drive pinion bearing race into the differential housing on the other side.



3. Adjust drive pinion height as follows:

NOTE: Clean all parts and tools in solvent thoroughly before adjusting the pinion height.

- a. Install the rear pinion bearing on the tool "Dummy Shaft," then install the shaft in the differential carrier.



- b. Slide the front drive pinion bearing onto the dummy shaft.
- c. Install the companion flange, lock washer and 22 mm lock nut on the dummy shaft.

NOTE:

- Replace the 22 mm lock nut with a new one.
- Do not install the drive pinion oil seals and pinion spacers at this time.
- Install the lock washer with the dished end facing the carrier.

(cont'd)

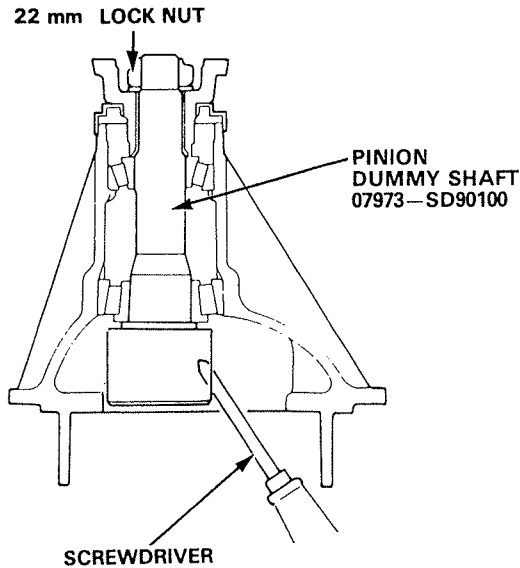
Rear Differential Carrier

Drive Pinion Height Adjustment (cont'd)

d. Hold the dummy shaft by inserting the end of a screwdriver in its hole, and torque the 22 mm lock nut to 10 N·m (1.0 kg-m, 7 ft-lb).

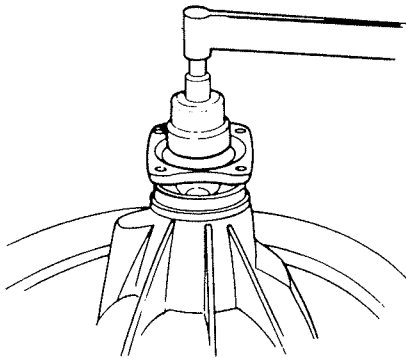
NOTE:

- The 22 mm lock nut has righthand threads.
- Do not overtighten the lock nut.



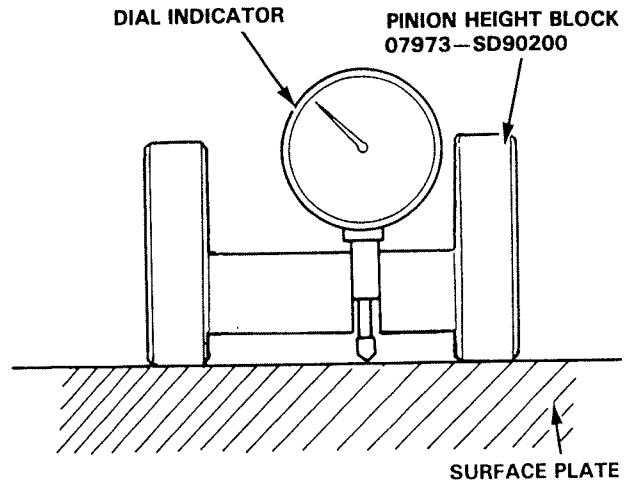
e. Measure drive pinion preload.

Standard: 1.05 N·m (10.5 kg-cm, 9.1 in-lb)



f. If out of tolerance, turn the 22 mm lock nut in or out until the correct preload is obtained.

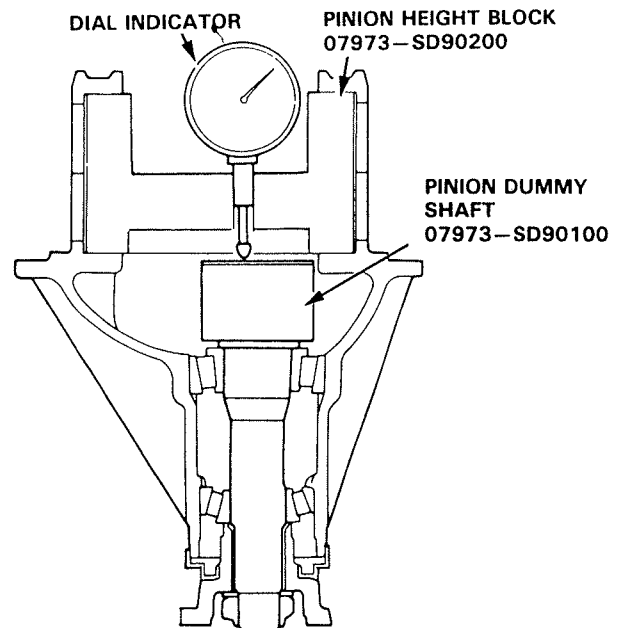
g. Place the tool "Pinion Height Block" on a surface plate; set the dial indicator needle to "0".



h. Move the tool "Pinion Height Block" onto the differential housing with the indicator needle over the end of the dummy shaft as shown.

NOTE: Tighten the right and left bearing caps to 55 N·m (5.5 kg-m, 40 ft-lb) to assure proper tool contact.

i. Remove the bearing caps, and measure the pinion height. Take the least reading to determine the pinion height by rotating the Pinion Height Block on the differential housing.



- j. To determine the proper 30mm pinion shim thickness, subtract the value etched on the pinion from the value obtained in step 3-i.

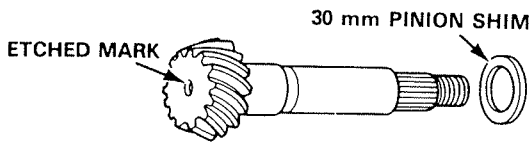
NOTE: Marks etched on the pinion are a plus (+) or minus (-) figure representing machining tolerance in hundredths of a mm.

Example:

Value measured in Step 3-i 0.85 mm
(0.033 in.)
Mark etched on pinion (+2)
Shim thickness required $0.85 - 2/100$
= 0.83 mm
(0.033 in.)
Shim to be selected from 0.84 mm
chart (0.033 in.)

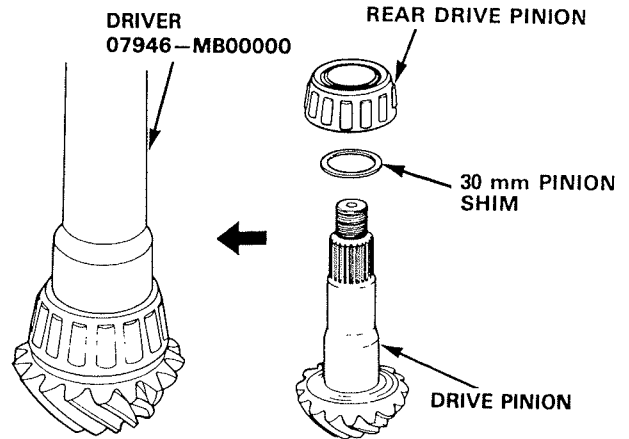
Example:

Value measured in Step 3-i 0.85 mm
(0.033 in.)
Mark etched on pinion (-1)
Shim thickness required $0.85 + 1/100$
= 0.86 mm
(0.034 in.)
Shim to be selected from 0.87 mm
chart (0.034 in.)

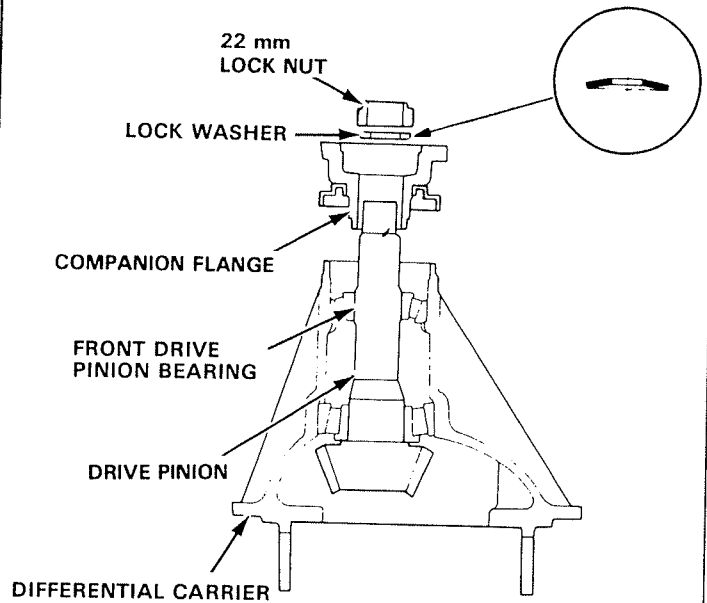


	Part No.	Thickness
1	41361-PH8-000	0.75 mm (0.030 in)
2	41362-PH8-000	0.78 mm (0.031 in)
3	41363-PH8-000	0.81 mm (0.032 in)
4	41364-PH8-000	0.84 mm (0.033 in)
5	41365-PH8-000	0.87 mm (0.034 in)
6	41366-PH8-000	0.90 mm (0.035 in)
7	41367-PH8-000	0.93 mm (0.037 in)
8	41368-PH8-000	0.96 mm (0.038 in)
9	41369-PH8-000	0.99 mm (0.039 in)
10	41370-PH8-000	1.02 mm (0.040 in)
11	41371-PH8-000	1.05 mm (0.041 in)
12	41372-PH8-000	1.08 mm (0.043 in)
13	41373-PH8-000	1.11 mm (0.044 in)
14	41374-PH8-000	1.14 mm (0.045 in)
15	41375-PH8-000	1.17 mm (0.046 in)
16	41376-PH8-000	1.20 mm (0.047 in)

4. Drive the rear drive pinion bearing and 30 mm pinion shim selected onto the drive pinion.



5. Install the drive pinion in the carrier.



6. Install the front drive pinion bearing, companion flange, lock washer, and 22 mm lock nut.

NOTE:

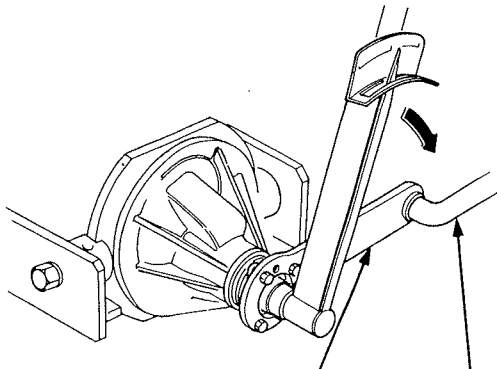
- Do not install the drive pinion oil seals and pinion spacers.
- Install the lock washer with the dished end facing the carrier.

(cont'd)

Rear Differential Carrier

Drive Pinion Height Adjustment (cont'd)

7. Hold the companion flange with the tool "Companion Flange Holder," and tighten the 22 mm lock nut to about 10 N·m (1.0 kg-m, 7.23 lb-ft) torque.



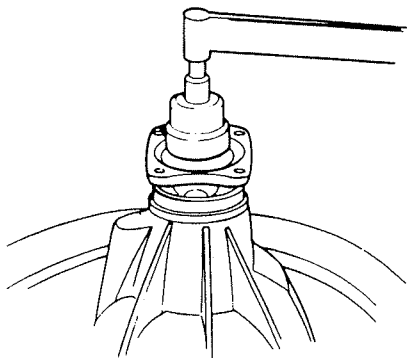
COMPANION FLANGE HOLDER 07926-SD90000
SOCKET WRENCH HANDLE 07907-6010300

8. Check the drive pinion bearing preload.

NOTE:

- Do not overtighten the 22 mm lock nut.
- Rotate the pinion several times to assure proper bearing contact.

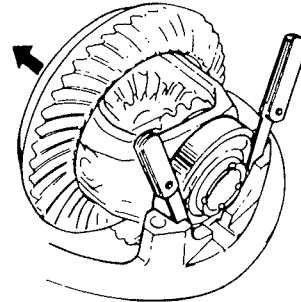
Preload: 1.05 N·m (10.5 kg-cm, 9.1 in-lb.)



9. If out of tolerance, turn the 22 mm lock nut in or out until the correct preload is obtained.

Reassembly

1. Position the differential assembly on the differential housing.
2. Insert the one 2.20 (0.087 in.) shim between the side bearing and carrier at the ring gear side, then push the differential assembly to move the ring gear away from the drive pinion. Measure the clearance between the side bearing and carrier at the opposite side of the ring gear.



3. To determine the shim thickness, add 2.23 mm (0.0878 in.) to 2.26 mm (0.0889 in.) to the clearance measured (to compensate for bearing tightening), then divide 2.

Example

Clearance measured:

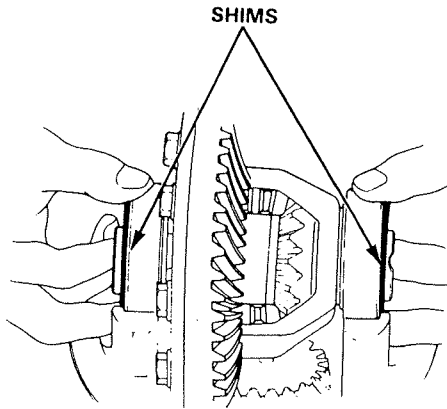
$$\begin{array}{r} 3.32 \text{ mm (0.1307 in.)} \\ + 2.23 \text{ mm (0.0878 in.)} \\ \hline 5.55 \text{ mm (0.2185 in.)} \end{array} \qquad \begin{array}{r} 3.32 \text{ mm (0.1307 in.)} \\ + 2.26 \text{ mm (0.0889 in.)} \\ \hline 5.58 \text{ mm (0.2196 in.)} \end{array}$$

$$\begin{array}{l} 5.55 \text{ mm (0.2185 in.)} / 2 = 2.78 \text{ mm (0.1094 in.)} \\ 5.58 \text{ mm (0.2196 in.)} / 2 = 2.79 \text{ mm (0.1098 in.)} \end{array}$$

4. Select 2.77 mm (0.109 in.) shim from chart below.

	Part No.	Thickness
1	41411-PH8-000	2.20 mm (0.087 in)
2	41412-PH8-000	2.23 mm (0.088 in)
3	41413-PH8-000	2.26 mm (0.089 in)
4	41414-PH8-000	2.29 mm (0.090 in)
5	41415-PH8-000	2.32 mm (0.091 in)
6	41416-PH8-000	2.35 mm (0.093 in)
7	41417-PH8-000	2.38 mm (0.094 in)
8	41418-PH8-000	2.41 mm (0.095 in)
9	41419-PH8-000	2.44 mm (0.096 in)
10	41420-PH8-000	2.47 mm (0.097 in)
11	41421-PH8-000	2.50 mm (0.098 in)
12	41422-PH8-000	2.53 mm (0.100 in)
13	41423-PH8-000	2.56 mm (0.101 in)
14	41424-PH8-000	2.59 mm (0.101 in)
15	41425-PH8-000	2.62 mm (0.103 in)
16	41426-PH8-000	2.65 mm (0.104 in)
17	41427-PH8-000	2.68 mm (0.106 in)
18	41428-PH8-000	2.71 mm (0.107 in)
19	41429-PH8-000	2.74 mm (0.108 in)
20	41430-PH8-000	2.77 mm (0.109 in)
21	41431-PH8-000	2.80 mm (0.110 in)
22	41432-PH8-000	2.83 mm (0.111 in)
23	41433-PH8-000	2.86 mm (0.113 in)
24	41434-PH8-000	0.50 mm (0.020 in)

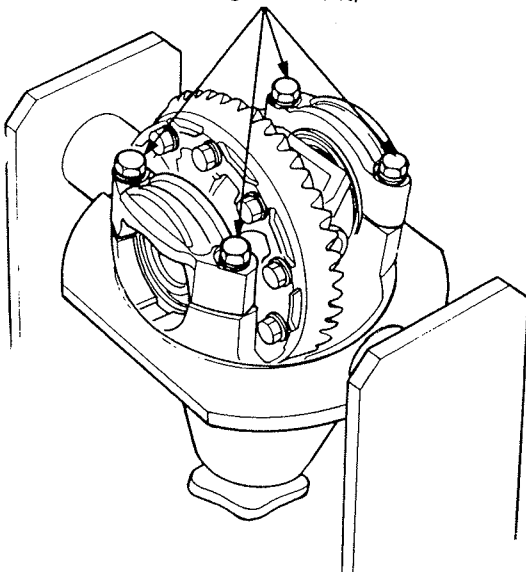
4. Install the shims selected between the side bearing and carrier on both sides.



5. Position the bearing caps in place and tighten the bolts.

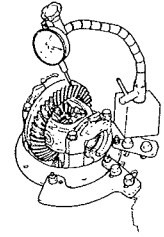
NOTE: Align the marks made during disassembly.

10 mm BOLT
55 N·m (5.5 kg-m, 40 lb-ft)



6. Measure the backlash between the ring gear and drive pinion.

Backlash: 0.11–0.16 mm (0.0043–0.0063 in.)



7. If out of tolerance, correct by decreasing the shim thickness on one side and increasing the thickness of other shim the same amount.

NOTE:

- The total of both shims must still equal the calculation you made in step 3.
- If there is too much backlash, move the ring gear toward the drive pinion. If there is not enough backlash, move the ring gear away from the drive pinion.

8. When you obtain correct backlash, check the total bearing preload.

Drive pinion preload: 0.9–0.12 N·m (9.0–12.0
+ kg-cm, 7.8–10.4 in-lb)

Diff housing preload: 0.4–0.6 N·m (4–6 kg-cm,
3.4–5.2 in-lb)

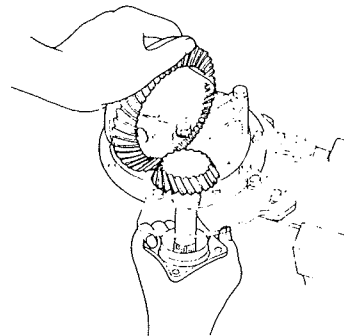
If the preload is not within the limit, change the 67 mm (2.64 in) shims on both sides of the differential case.

The backlash must remain within tolerance.

9. Check the contact between the ring gear and drive pinion.

NOTE:

- Paint the ring gear teeth lightly and evenly with Prussian Blue (on both sides of each tooth).
- Rotate the pinion one full turn forward and backward while applying pressure the ring gear.

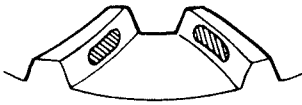


(cont'd)

Differential

Reassembly (cont'd)

1) CORRECT TOOTH CONTACT



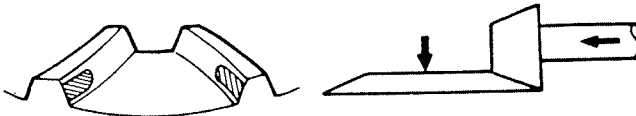
2) TOE CONTACT

- Use a thinner pinion shim to move the drive pinion away from the ring gear.



3) HEEL CONTACT

- Use a thicker pinion shim to move the drive pinion toward the ring gear.



4) FLANK CONTACT

- Use a thinner side bearing shim on the drive pinion side and a thicker one on the ring gear side to move the ring gear toward the drive pinion. The total of both shims must still equal the calculation you made on page 3-22, step 3.

NOTE: Recheck backlash after replacing the side bearing shims. If out of specification, adjust as described under TOE CONTACT



5) FACE CONTACT

- Use thicker side bearing shim on the drive pinion side and a thinner one on the ring gear side to move the ring gear away from the drive pinion. The total of both shims must still equal the calculation you made on page on page 3-22, step 3.

NOTE: Recheck backlash after replacing the side bearing shims.

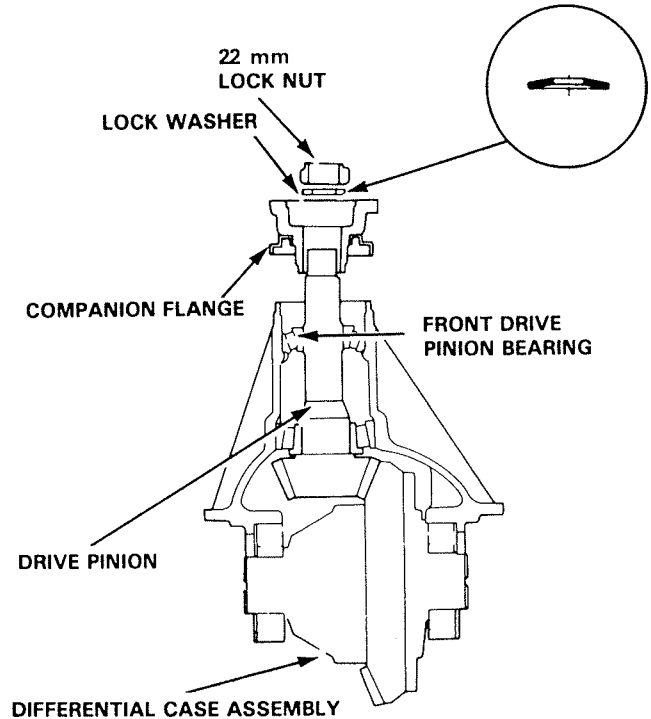
If out of specification, adjust as described under HEEL CONTACT



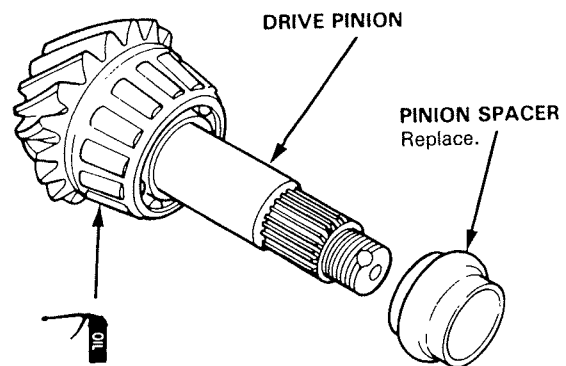
10. Remove the differential assembly from the carrier.

11. Remove the following parts from the carrier:

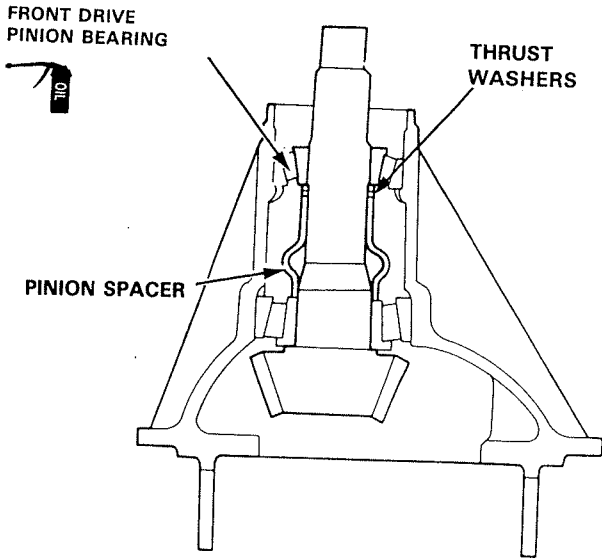
- 22 mm lock nut
- Lock washer
- Companion flange
- Drive pinion
- Front drive pinion bearing



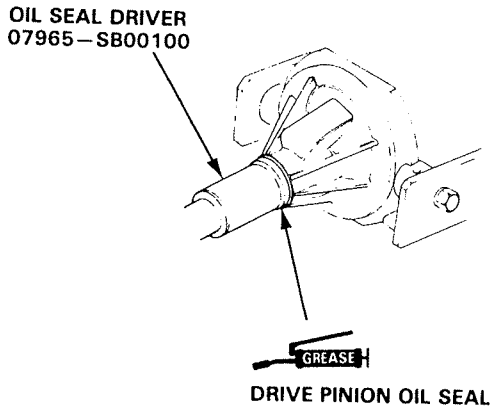
12. Install a new pinion spacer onto the drive pinion.



13. Install the drive pinion in the differential carrier, then install the two thrust washers and front drive pinion bearing on the drive pinion.



14. Using the tools shown, drive the drive pinion oil seal into the position.

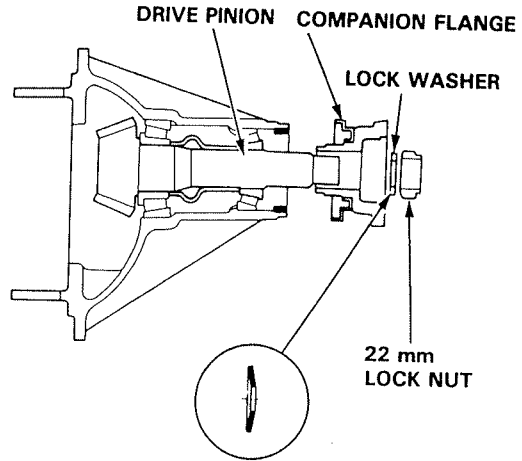


15. Install the following parts on the drive pinion:

- Companion flange
- Lock washer
- 22 mm lock nut

NOTE:

- Replace the 22 mm lock nut with new one.
- Install the lock washer with the dished end facing the carrier.

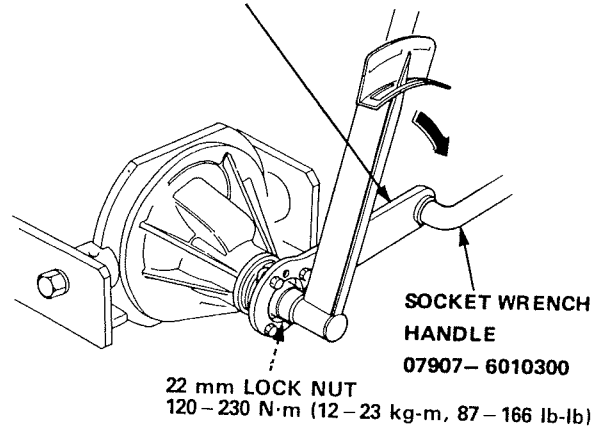


16. Hold the companion flange with the Companion Flange Holder and tighten the 22 mm lock nut to 120–230 N·m (12–23 kg·m, 86–166 lb-ft). The preload should be 1.2–1.5 N·m (12.0–15.0 kg·cm, 10–13 lb-in).

NOTE:

- If the preload exceeds 1.5 N·m (15 kg·cm, 13 in-lb), replace the spacer; Do not adjust by loosening the 22 mm lock nut.
- Also replace the pinion spacer if the preload is not within the limit even when the lock nut is tightened over 230 N·m (23 kg·m, 166 lb-ft).

**COMPANION FLANGE HOLDER
07926-SD90000**



(cont'd)

Rear Differential Carrier

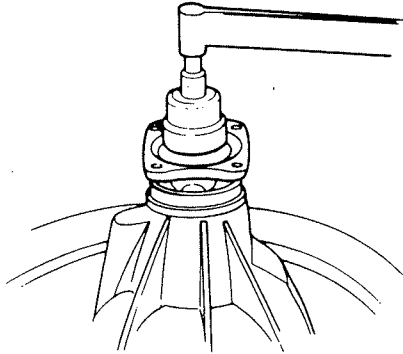
Reassembly (cont'd)

17. Check the preload.

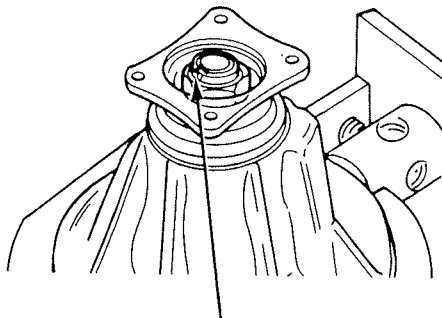
NOTE:

- Before measuring the preload, rotate the pinion several times to assure proper bearing contact.

**Preload: 1.2–1.5 N·m
(12.0–15.0 kg-cm 10–13 in-lb)**



18. Stake the 22 mm lock nut.



STAKED AREA

19. Install the differential assembly on the carrier (Page 3-23).

20. Check the total preload.

Drive Pinion	Diff case
Preload: 1.2–1.5 N·m (12.0–15.0 kg-cm, + 10–13 in-lb)	Preload: 0.4–0.6 N·m (4–6 kg-cm, 3.4–5.2 in-lb)

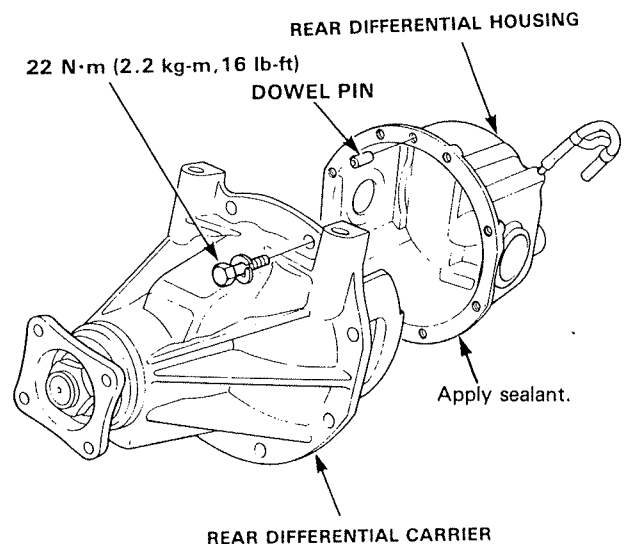
Carrier Installation

1. Apply Honda Genuine Liquid Sealant (Three Bond® 1216) to carrier mating surfaces of the rear differential housing.

NOTE:

- This rear differential uses no gaskets between the major housings; use Honda Genuine Liquid Sealant (Three Bond® 1216).
- Assemble the housings within 20 minutes after applying the sealant and allow it to cure for at least 30 minutes after assembly before filling it with oil.
- Clean the mating surfaces thoroughly before applying sealant.
- Apply the sealant to the threads of the eight bolts.

2. Install the carrier on the differential housing.



HONDA

HONDA MOTOR CO., LTD. TOKYO, JAPAN

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