

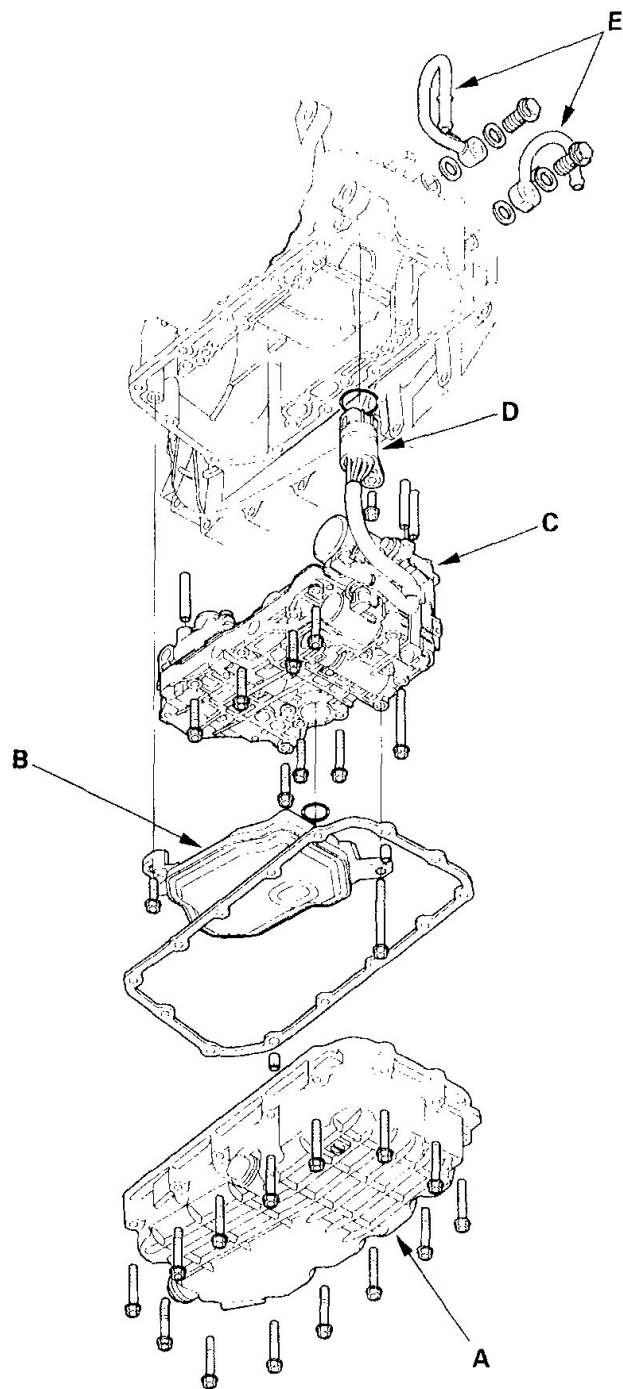
2001-05 AUTOMATIC TRANSMISSIONS

Overhaul - MYLA & SLYA (CVT)

TRANSMISSION LOWER VALVE BODY

ATF PAN, ATF STRAINER, AND LOWER VALVE BODY ASSEMBLY REMOVAL

1. Remove the ATF pan (A) (14 bolts).



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Fig. 1: Removing ATF Pan (14 Bolts)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the ATF strainer (B) (two bolts).

3. Remove the lower valve body assembly (C) (eight bolts).
4. Remove the bolt securing the solenoid harness connector (D) with holding the lower valve body assembly, and remove the connector and valve body assembly.
5. Remove the ATF cooler lines (E).
6. Clean the inlet opening (A) of the ATF strainer (B) thoroughly with compressed air. Check that the strainer is in good condition, and that the inlet opening is not clogged.

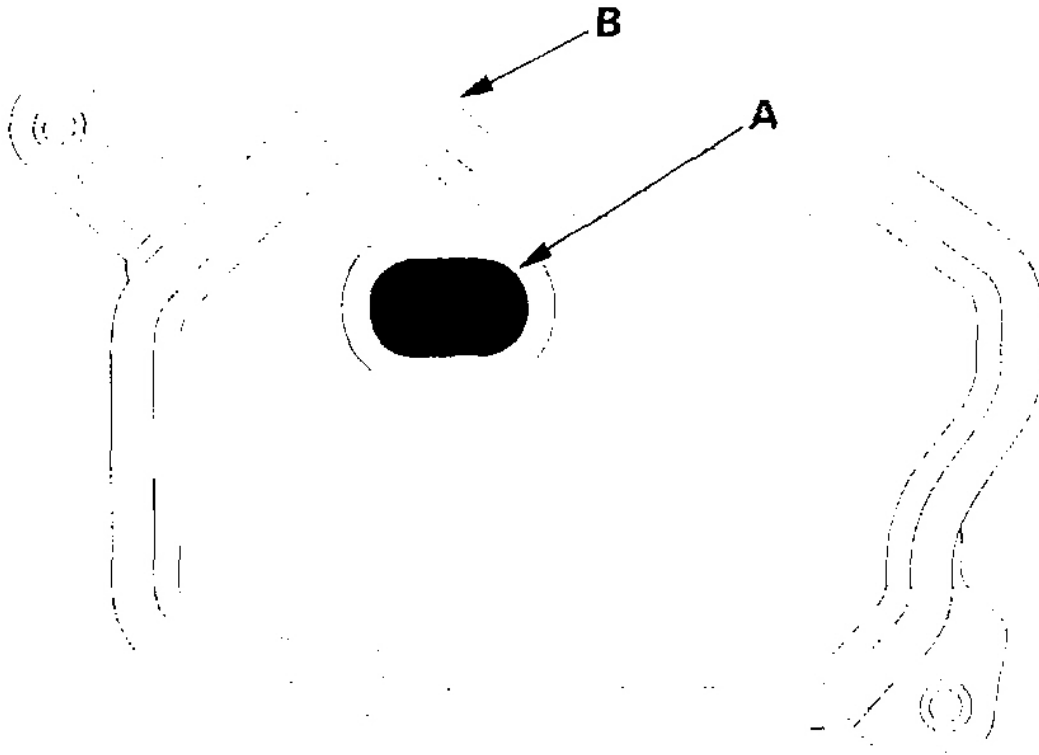
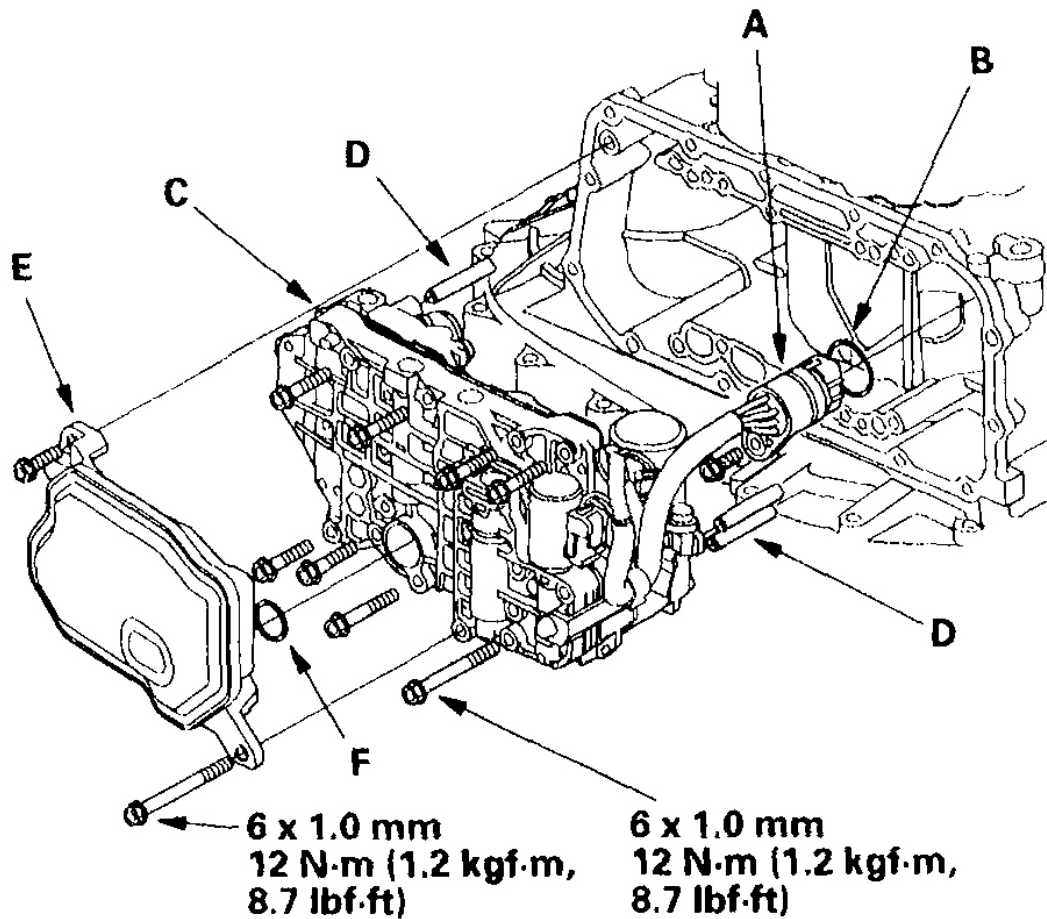
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Fig. 2: Cleaning Inlet Opening Of ATF Strainer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Test the ATF strainer by pouring clean ATF through the inlet opening, and replace it if it is clogged or damaged.

LOWER VALVE BODY ASSEMBLY, ATF STRAINER, AND ATF PAN INSTALLATION

1. Install the solenoid harness connector (A) with the new O-ring (B) (one bolt), and install the lower valve body assembly (C) with three ATF feed pipes (D) (eight bolts).

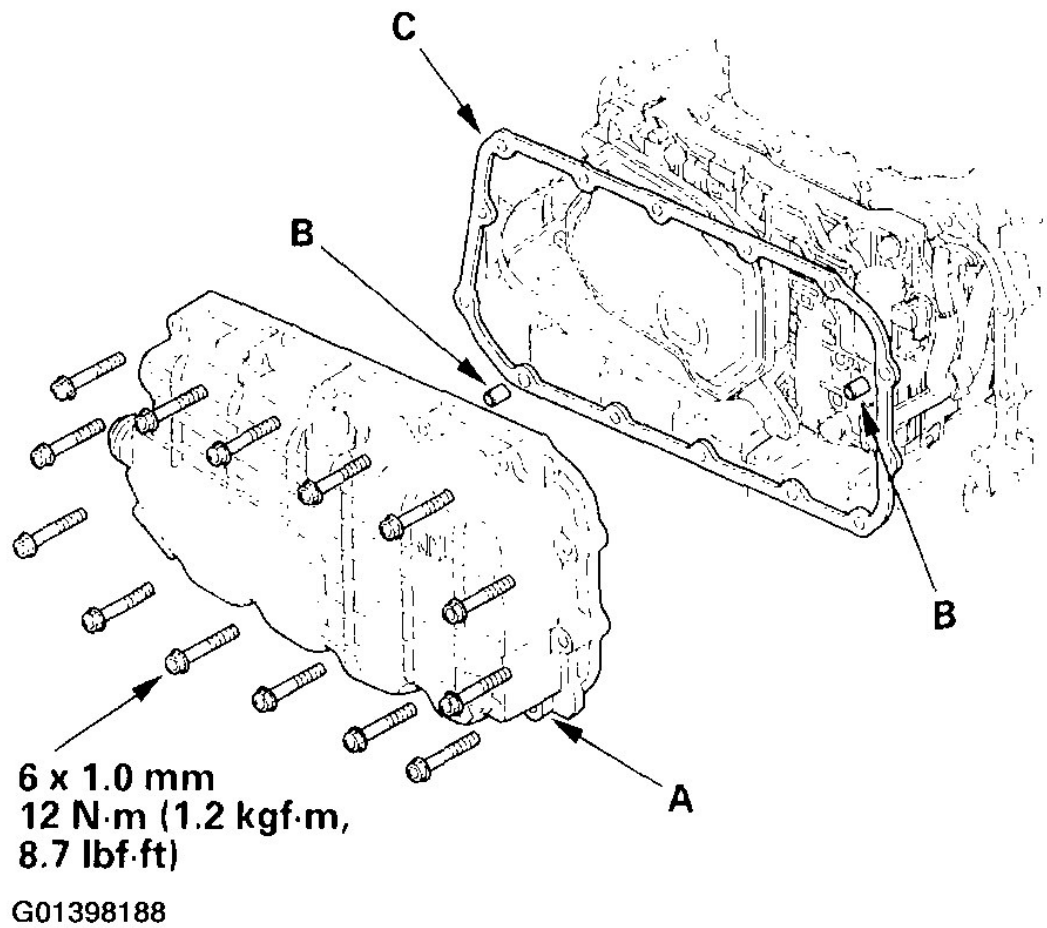


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Fig. 3: Installing Solenoid Harness Connector

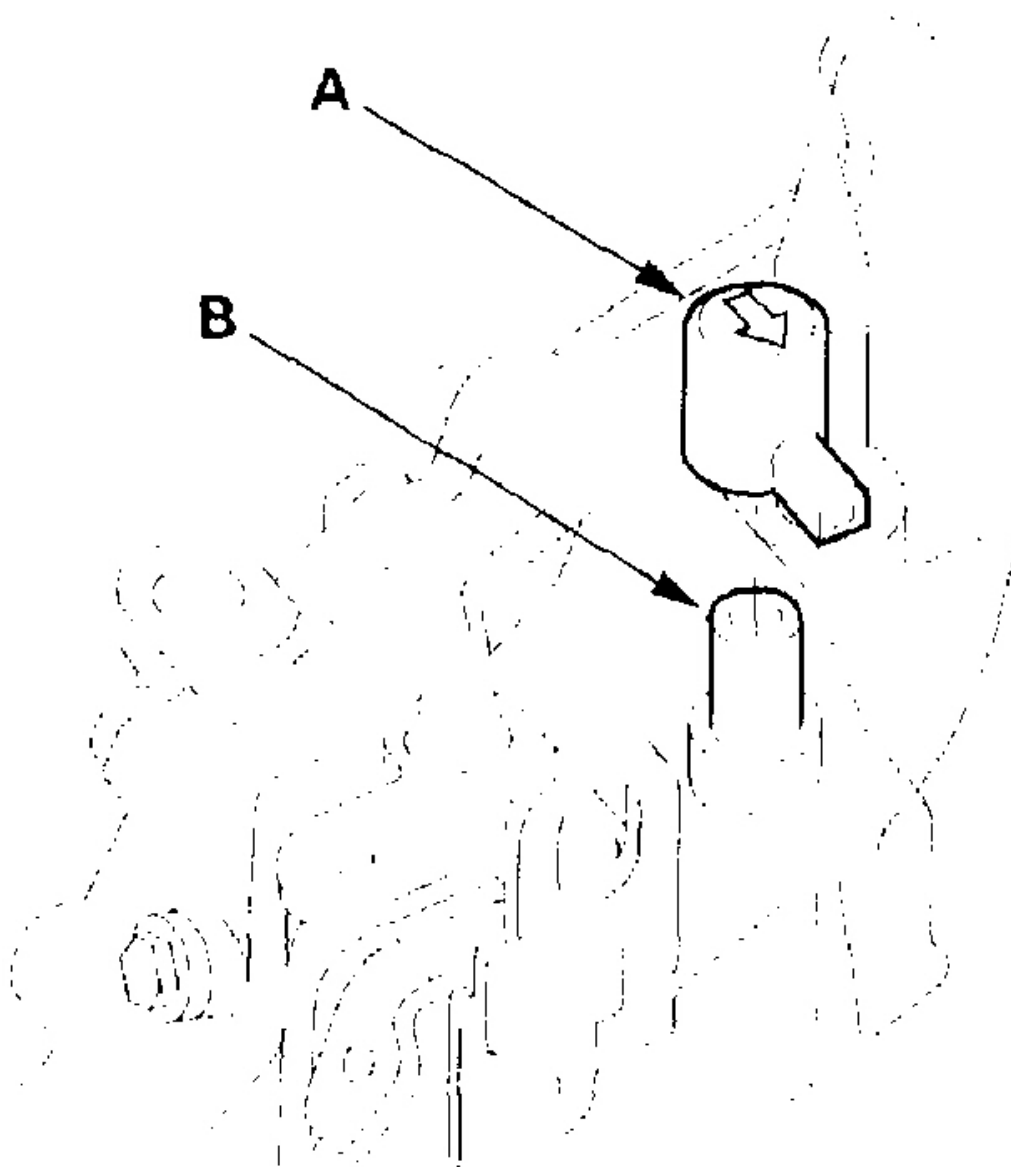
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the ATF strainer (E) with the new O-ring (F) (two bolts).
3. Install the ATF pan (A) with the two dowel pins (B) and new ATF pan gasket (C) (14 bolts).

**Fig. 4: Installing ATF Pan**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the breather cap (A) on the breather pipe (B) so its arrow points to the flywheel housing.



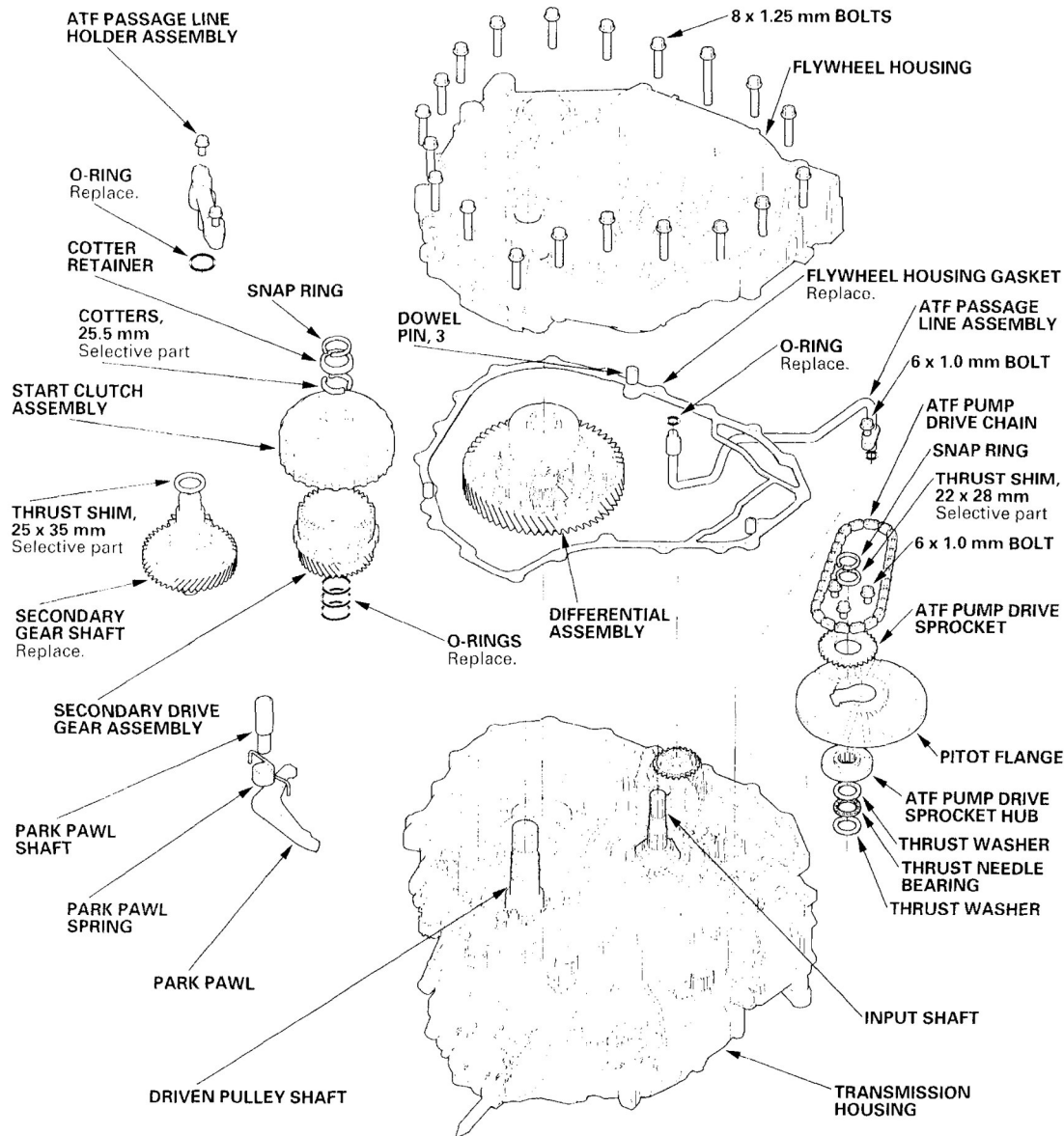
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Fig. 5: Installing Breather Cap

Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSMISSION HOUSING/FLYWHEEL HOUSING

FLYWHEEL HOUSING AND START CLUTCH REMOVAL



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Fig. 6: Exploded View Of Flywheel Housing & Start Clutch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

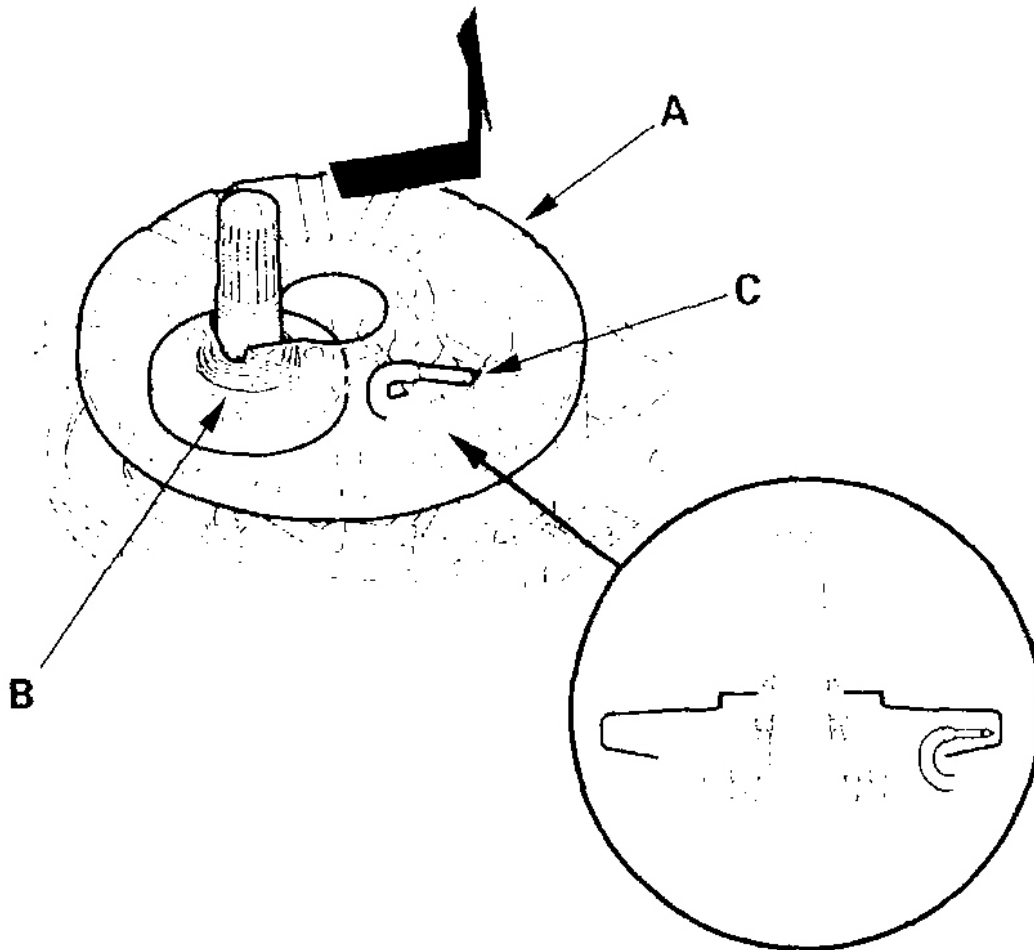
Special Tools Required

Start clutch remover 07TAE-P4VA120

NOTE: Refer to the Exploded View as needed during the following procedure.

1. Remove the ATF passage line holder.
2. Remove the flywheel housing (20 bolts).

3. Remove the ATF passage line (one bolt).
4. Remove the ATF pump drive sprocket (three bolts), and remove the ATF pump drive chain.
5. Move the pitot flange (A) toward its cutout (B) to clear the pitot pipe (C) under the pitot flange, and remove the pitot flange.



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Fig. 7: Moving Pitot Flange

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Remove the snap ring securing the ATF pump drive sprocket hub, and remove the 22 x 28 mm thrust shim, ATF pump drive sprocket hub, thrust washers, and thrust needle bearing.
7. Remove the differential assembly.
8. Remove the park pawl shaft, park pawl spring, and park pawl.
9. Remove the snap ring securing the start clutch, and remove the cotter retainer and the cotters.

10. Set the special tool on the start clutch (A), and attach the jaws (B) of the special tool to the park gear (C) securely. Do not place the jaws of the special tool on the start clutch guide. If the jaws contacts the start clutch guide, the clutch guide may be damaged. Be sure not to allow dust and other foreign particles to enter into the driven pulley shaft.

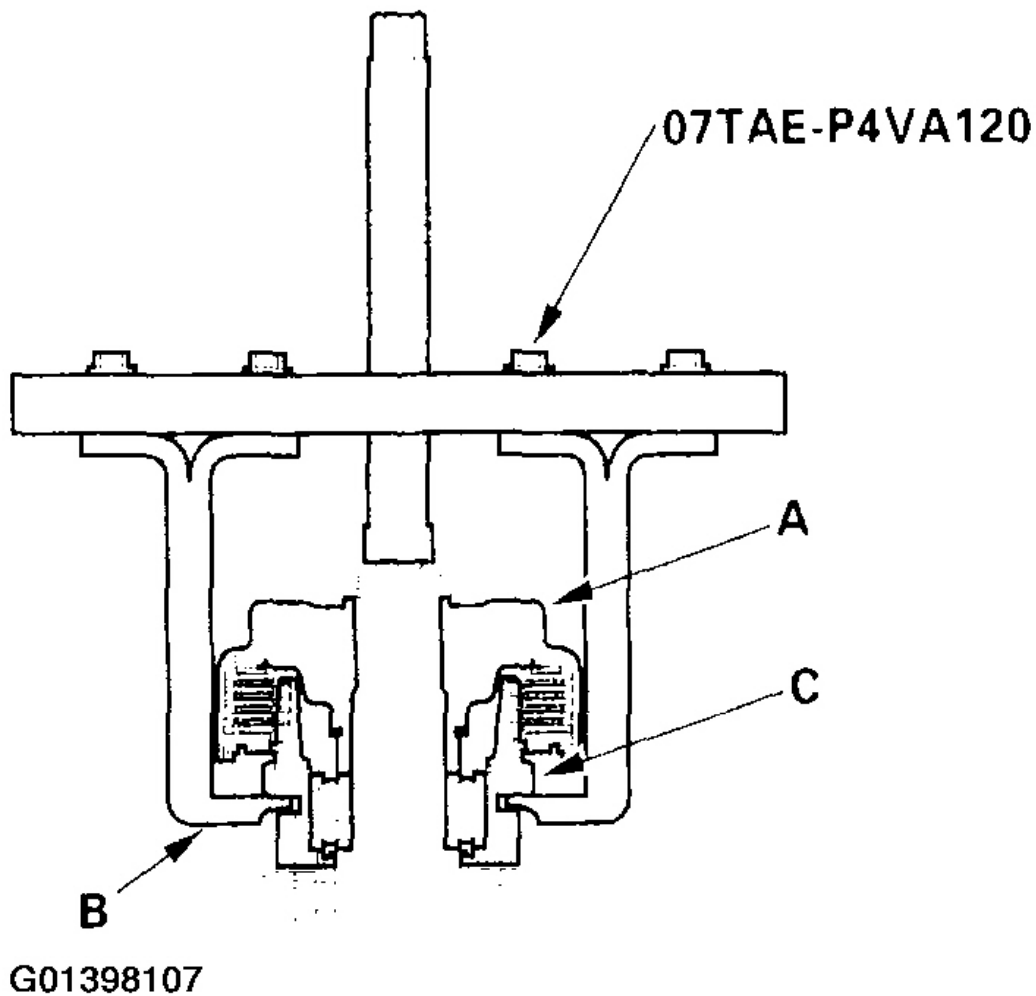
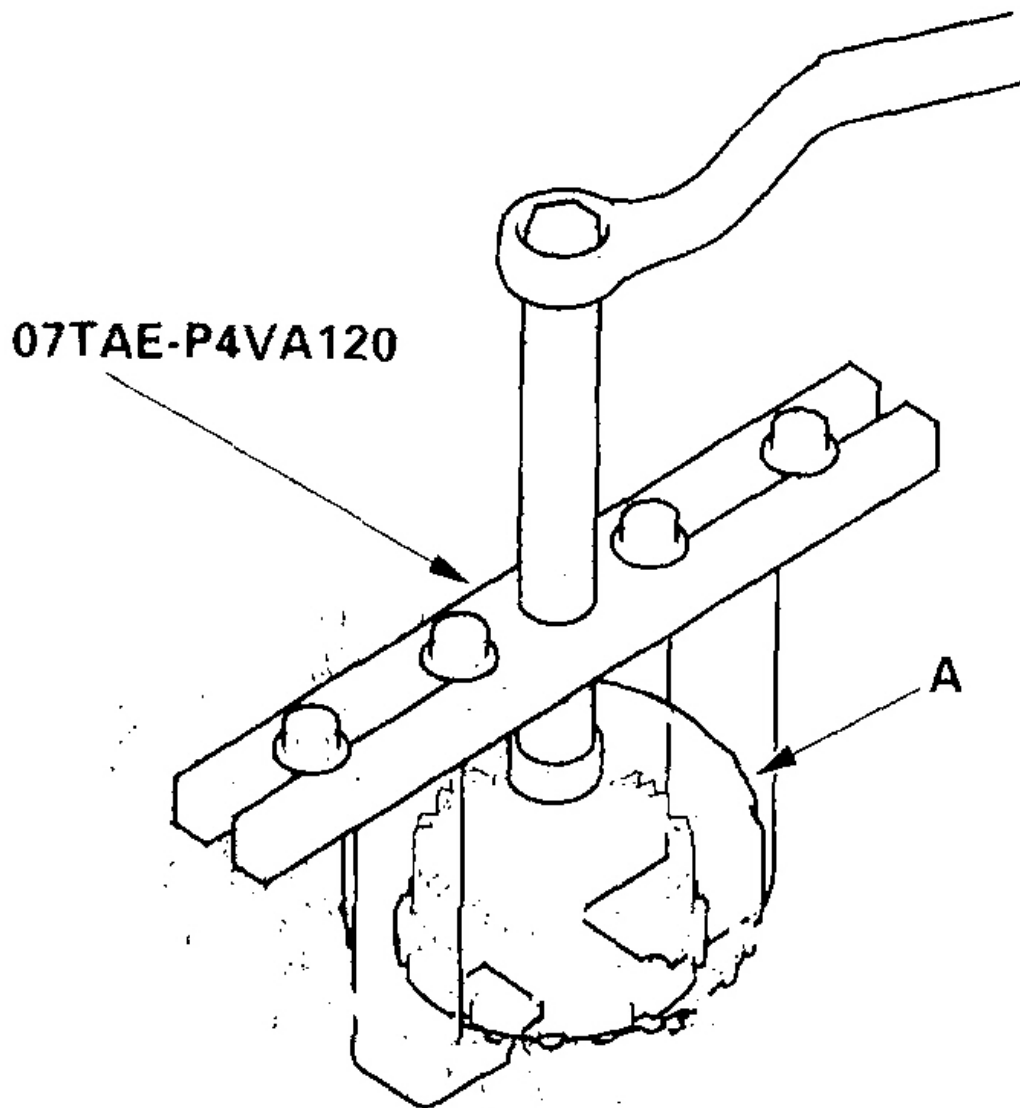


Fig. 8: Setting Special Tool On Start Clutch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Remove the start clutch (A) and the secondary drive gear assembly with the special tool.

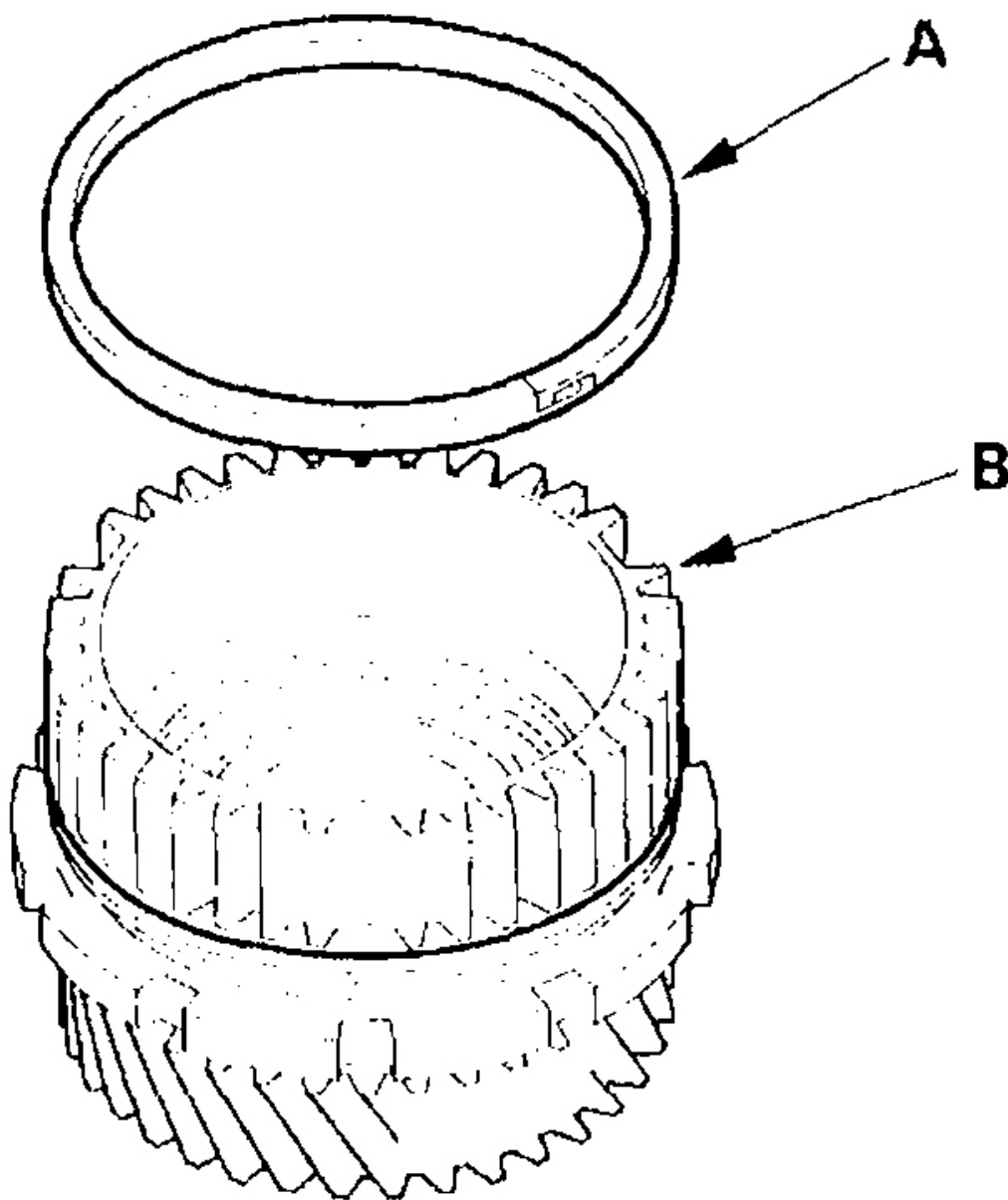


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Fig. 9: Removing Start Clutch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

12. Remove the sealing ring (A) from the secondary drive gear (B), and clean it; it is reinstalled on the new secondary drive gear when assembling the transmission.



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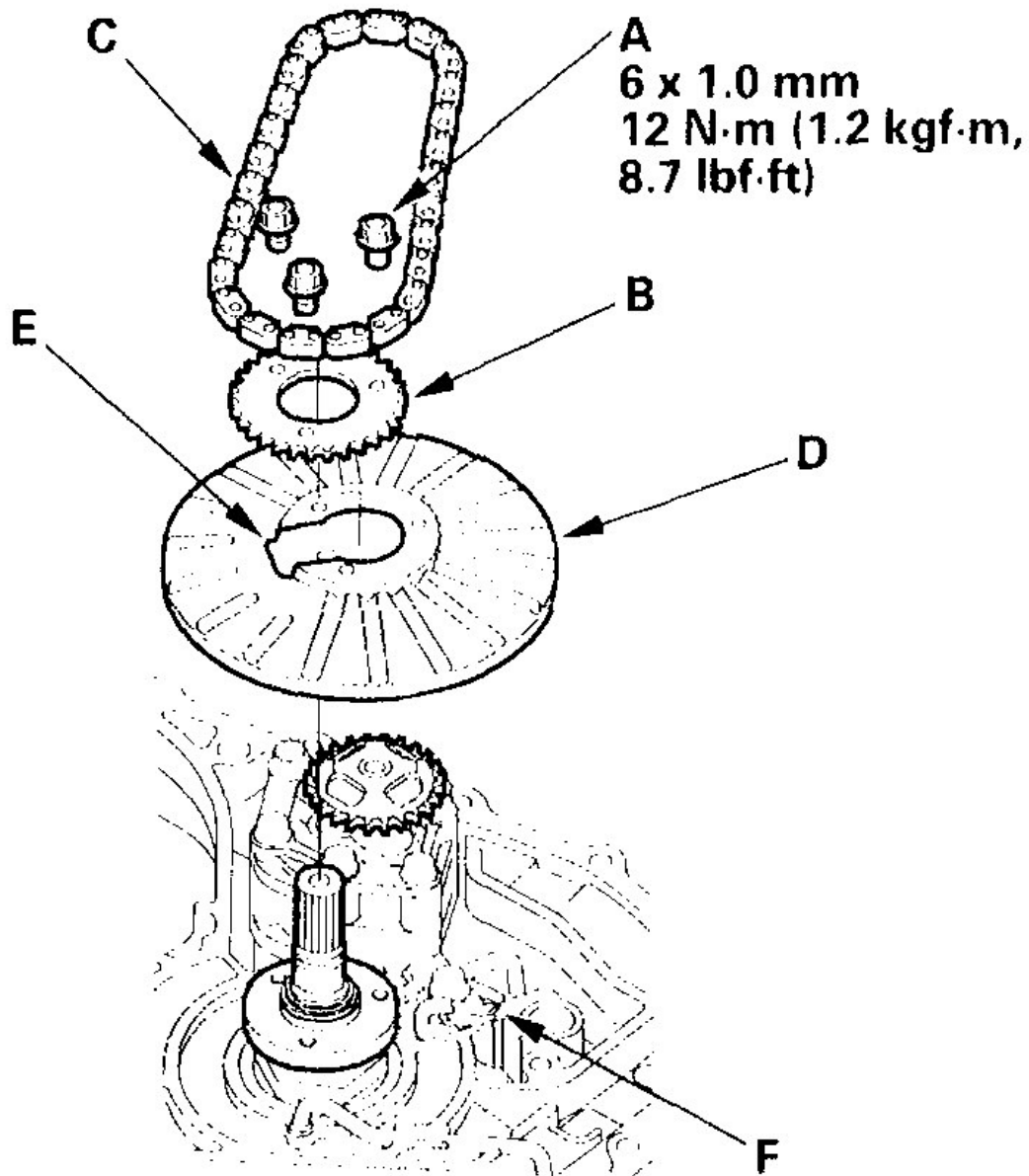
Fig. 10: Removing Sealing Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Remove the secondary gear shaft.

ATF PUMP REPLACEMENT

1. Remove the ATF pump drive sprocket bolts (A), and remove the ATF pump drive sprocket (B) and ATF pump drive chain (C).



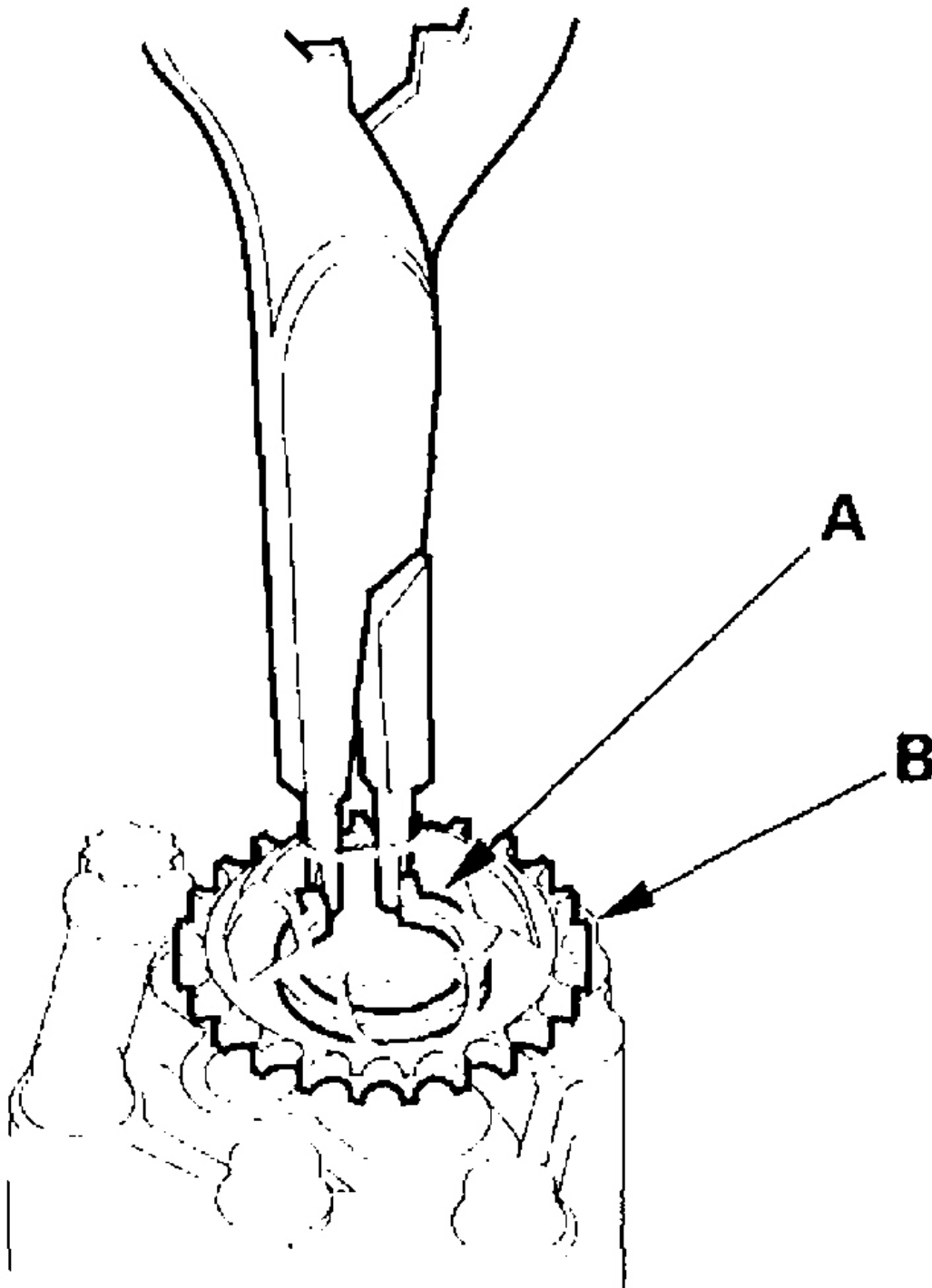
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Fig. 11: Removing ATF Pump Drive Sprocket Bolts
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2003 Honda Civic EX

2001-05 AUTOMATIC TRANSMISSIONS Overhaul - MYLA & SLYA (CVT)

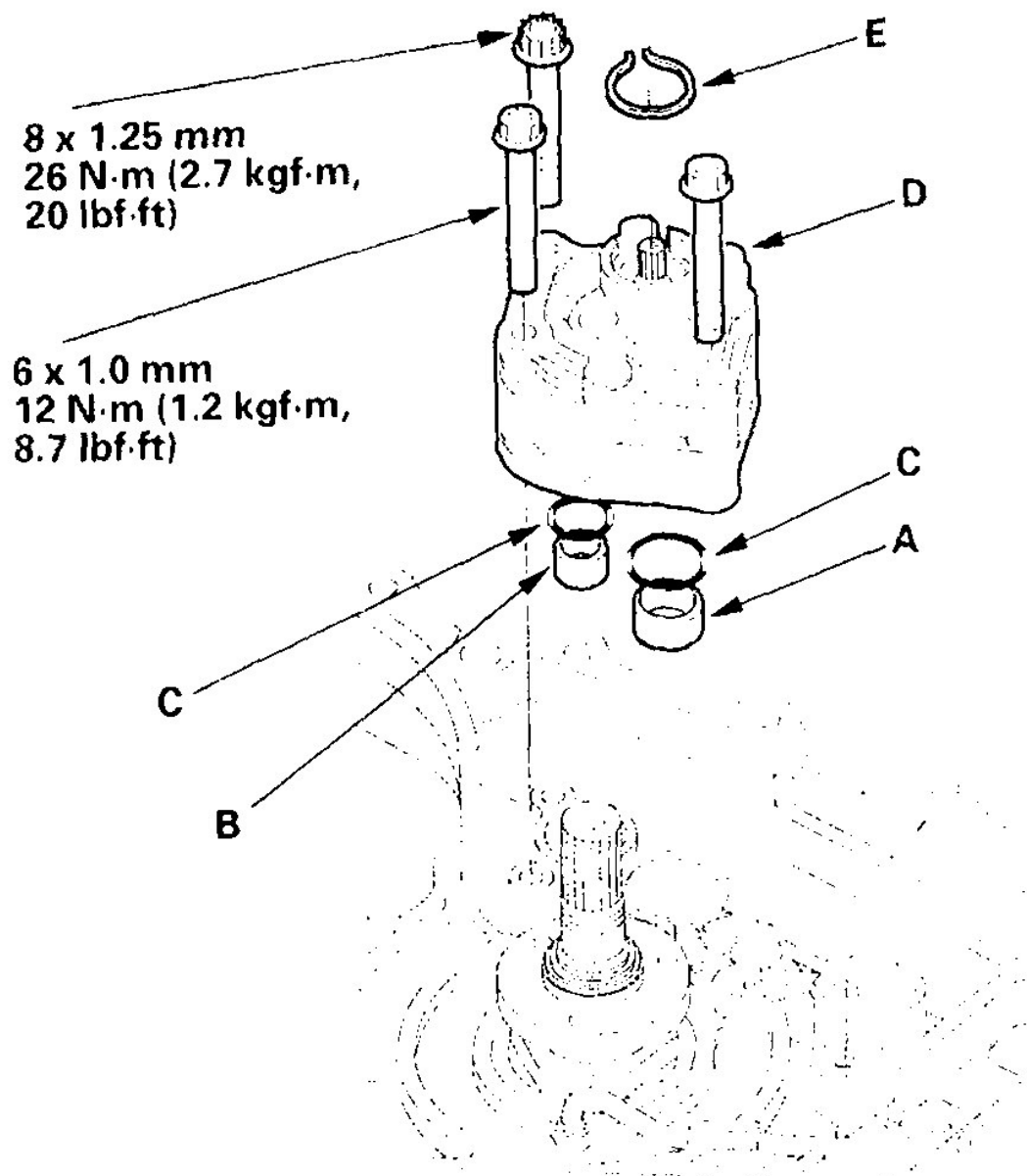
2. Move the pitot flange (D) toward its cutout (E) to clear the pitot pipe (F) under the pitot flange, and remove the pitot flange.
3. Expand the snap ring (A) under the ATF pump driven sprocket (B) with the snap ring pliers, then remove the ATF pump driven sprocket.



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Fig. 12: Expanding Snap Ring Under ATF Pump Driven Sprocket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Remove the old ATF pump body from the transmission housing.
5. Install the 22 x 10 mm ATF pipe (A) and 18 x 10 mm pipe (B) in the transmission housing, then install the new O-rings (C) over the ATF pipes.



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Fig. 13: Installing ATF Pipe In Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Install the new ATF pump body (D). Do not pinch the O-rings.
7. Install the snap ring (E) in the snap ring groove.
8. Install the ATF pump driven sprocket.
9. Install the pitot flange using its cutout to clear the pitot pipe.
10. Install the ATF drive chain and ATF drive sprocket.

DRIVEN PULLEY SHAFT BEARING REMOVAL/INSTALLATION

Special Tools Required

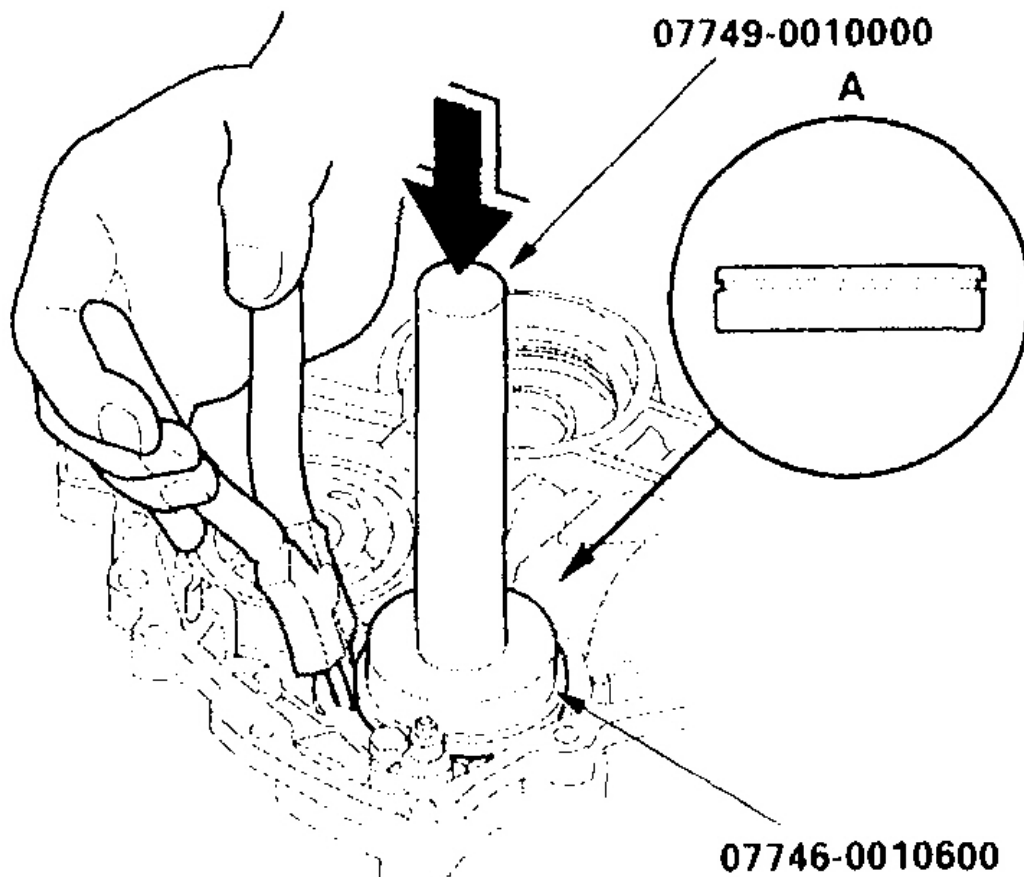
- Driver 07749-0010000
- Attachment, 72 x 75 mm 07746-0010600

NOTE: **Coat all parts with ATF before assembly.**

1. To remove the driven pulley shaft bearing from the transmission housing, expand the snap ring with the snap ring pliers, then push the bearing out.

NOTE: **Do not remove the snap ring unless it's necessary to clean the groove in the housing.**

2. Install the bearing (A) in the direction shown.

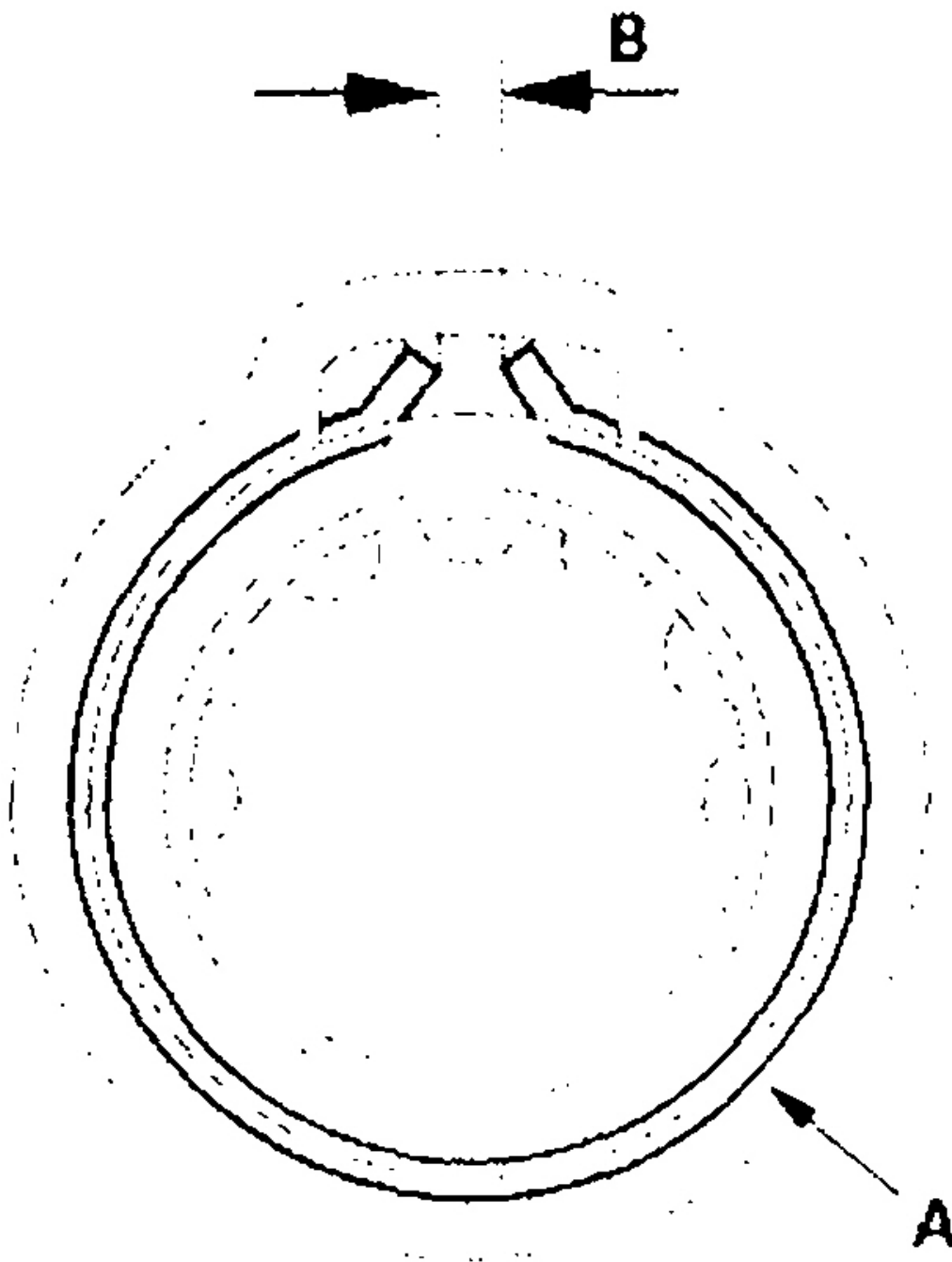


G01398113

Fig. 14: Installing Bearing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Expand the snap ring with the special tool, and install the bearing part-way into the housing.
4. Release the pliers, then push the bearing down into the housing until the snap ring snaps in place around it.
5. After installing the bearing verify that the snap ring (A) is seated in the bearing and housing grooves, and that the ring end gap (B) is correct.



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Fig. 15: Installing Bearing Verifying Snap Ring Is Seated In Bearing & Housing Grooves

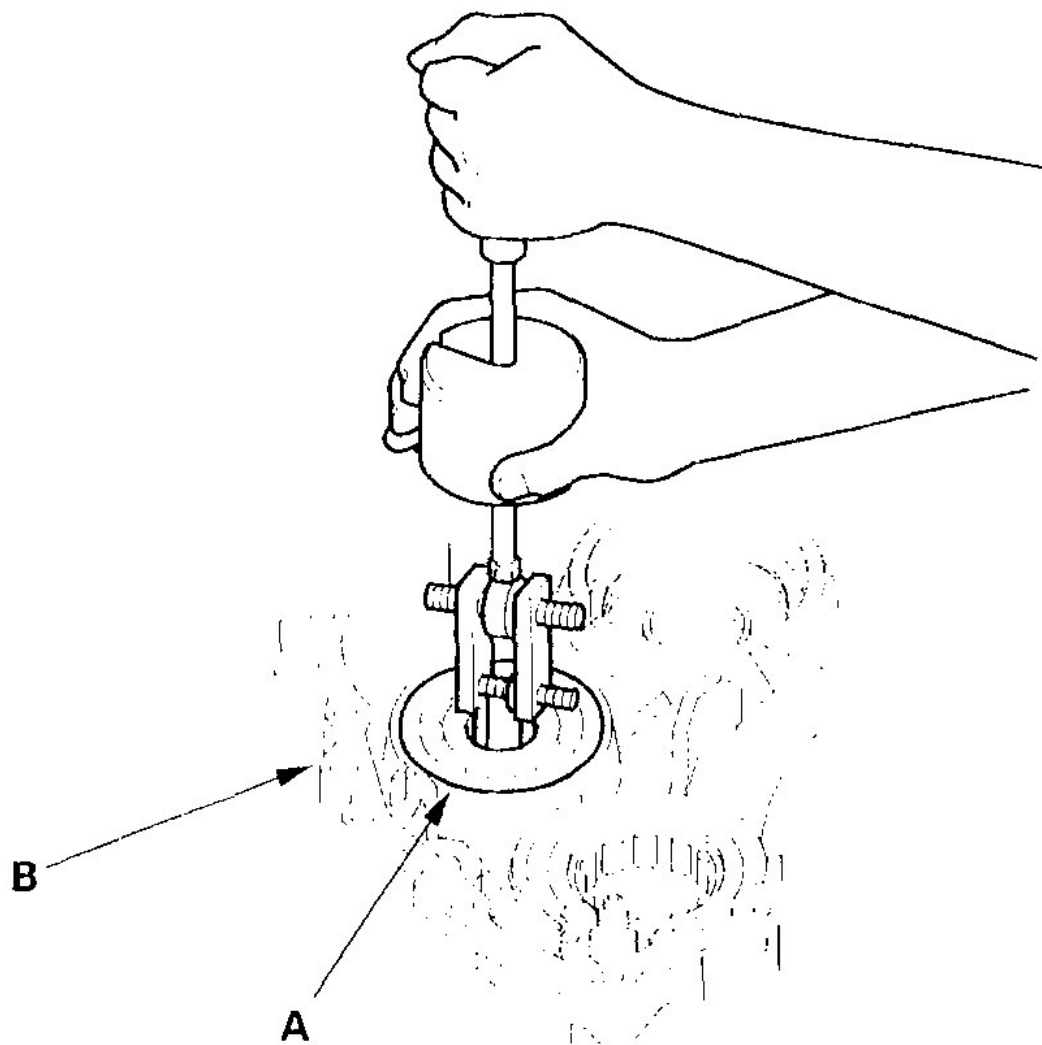
Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY GEAR SHAFT TRANSMISSION HOUSING BEARING REPLACEMENT

Special Tools Required

- Adjustable bearing puller, 25 - 40 mm 07736-A01000B or 07736A01000A
- Driver 07749-0010000
- Attachment, 72 x 75 mm 07746-0010600

1. Remove the secondary gear shaft bearing (A) from the transmission housing (B) with the special tool.



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Fig. 16: Removing Secondary Gear Shaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new secondary gear shaft bearing until it bottoms in the transmission housing with the special tools.

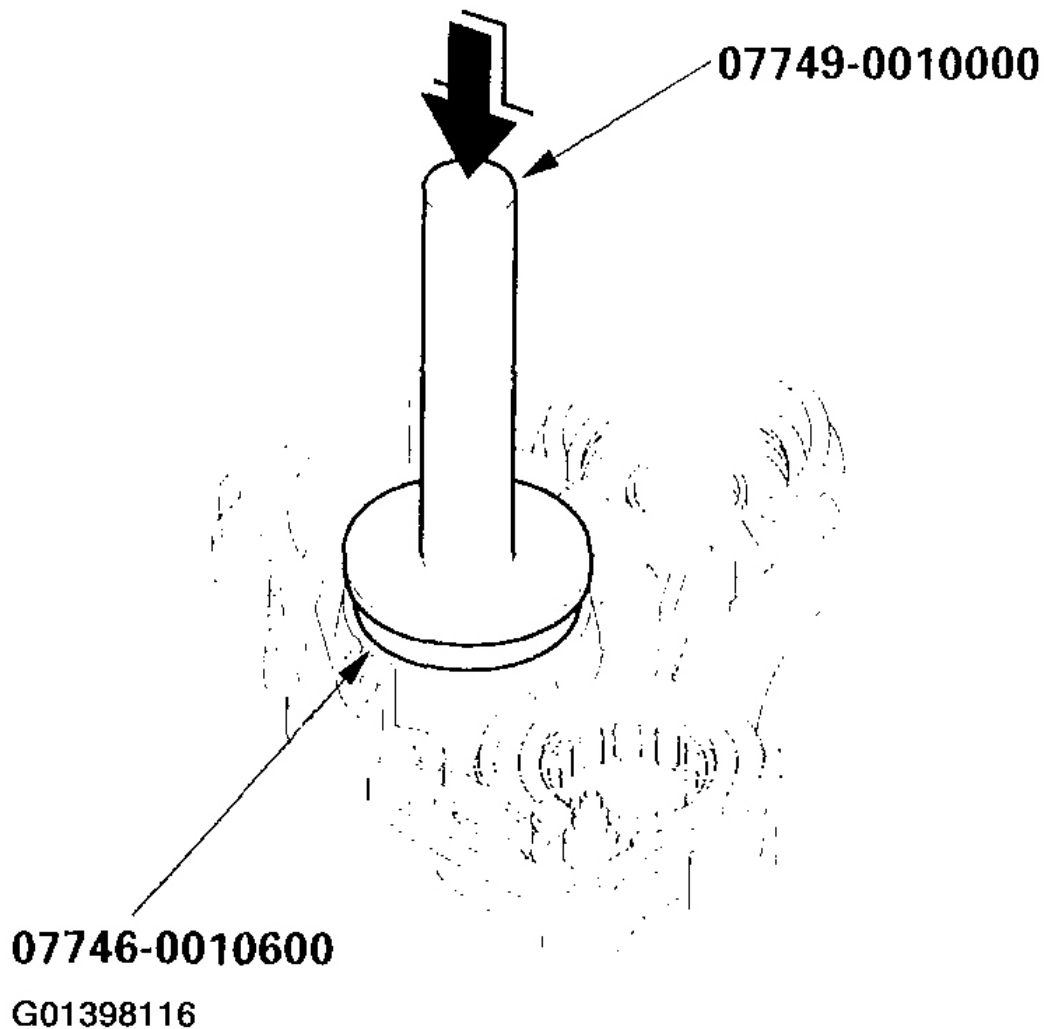


Fig. 17: Installing New Secondary Gear Shaft Bearing Until Bottoms In Transmission Housing With Special Tools

Courtesy of AMERICAN HONDA MOTOR CO., INC.

SECONDARY GEAR SHAFT FLYWHEEL HOUSING BEARING REPLACEMENT

Special Tools Required

- Adjustable bearing puller, 25 - 40 mm 07736-A01000B or 07736-A01000A
- Driver 07749-0010000
- Attachment, 62 x 68 mm 07746-0010500

1. Remove the secondary gear shaft bearing (A) from the flywheel housing (B) with the special tool.

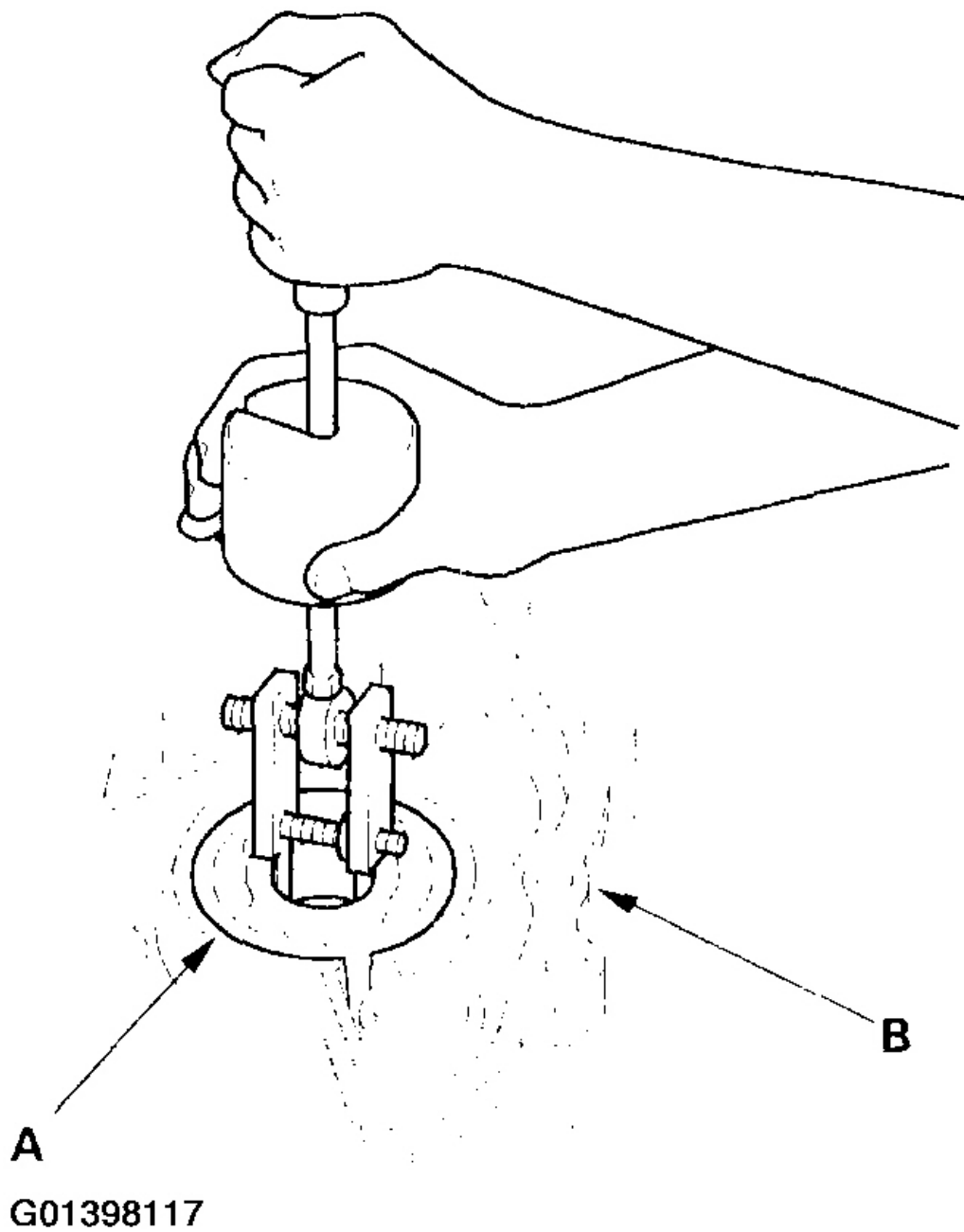


Fig. 18: Removing Secondary Gear Shaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new secondary gear shaft bearing until it bottoms in the flywheel housing with the special tools.

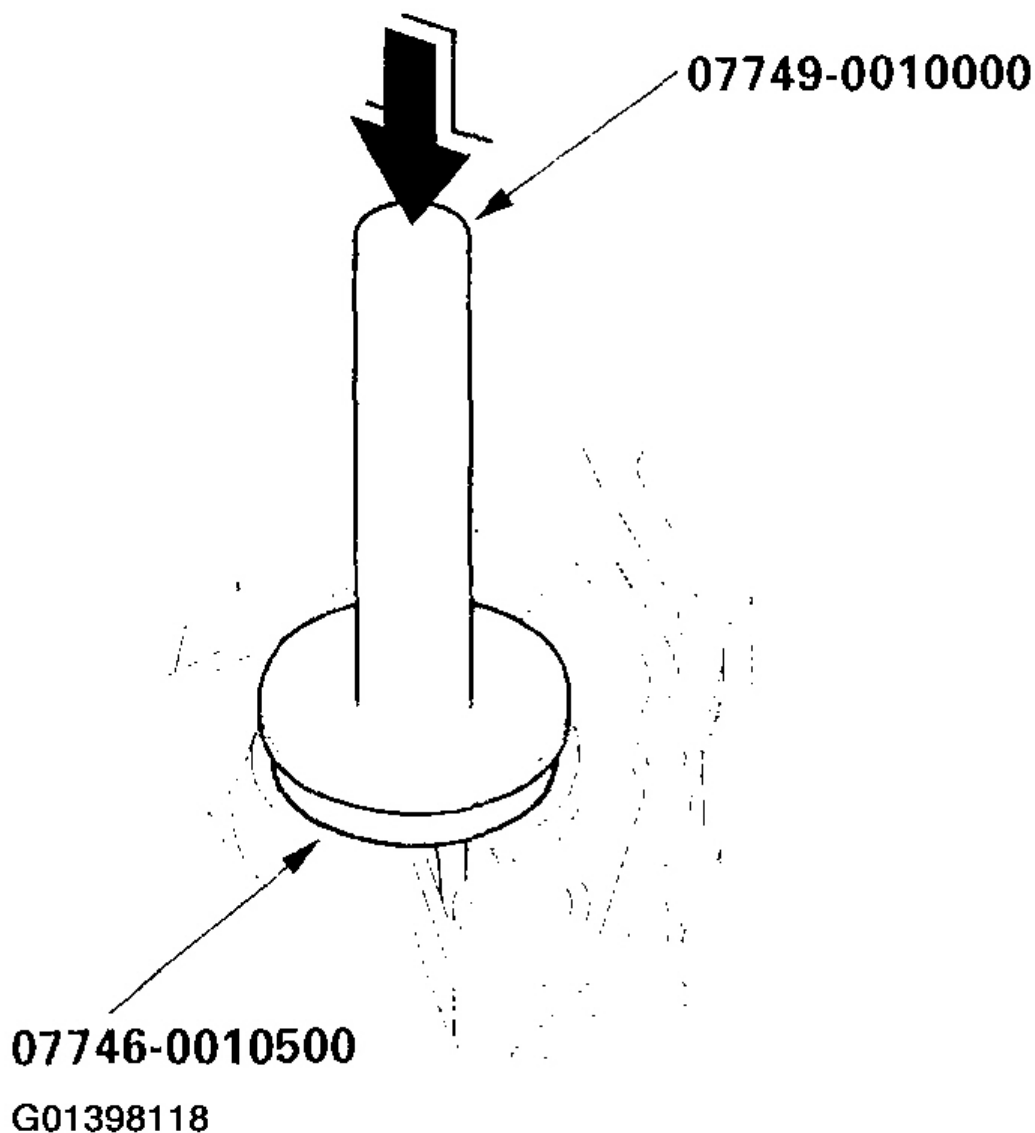


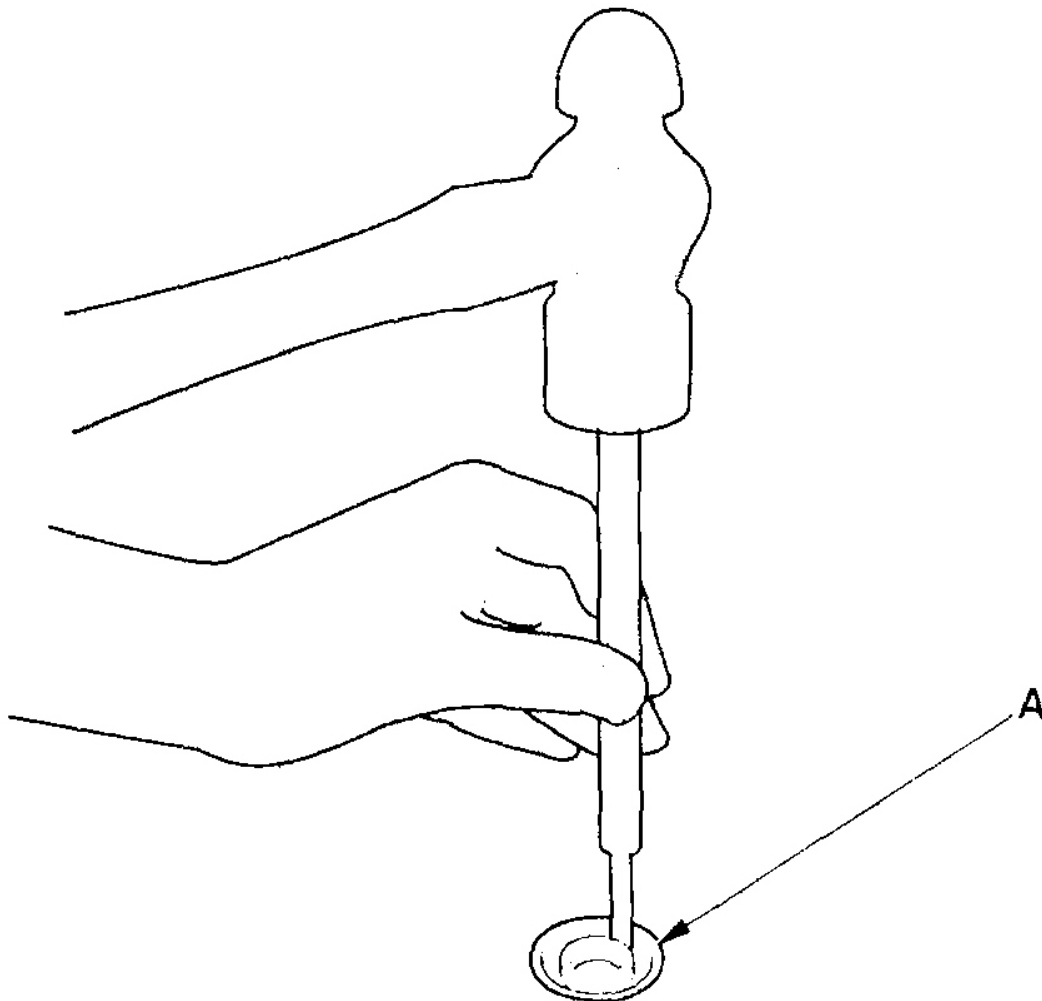
Fig. 19: Installing New Secondary Gear Shaft Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

FLYWHEEL HOUSING INPUT SHAFT OIL SEAL REPLACEMENT

Special Tools Required

- Driver 07749-0010000
- Attachment, 32 x 35 mm 07746-0010100

1. Remove the input shaft oil seal (A) from the flywheel housing.



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Fig. 20: Removing Input Shaft Oil Seal From Flywheel Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the oil seal (A) in the flywheel housing with the special tools.

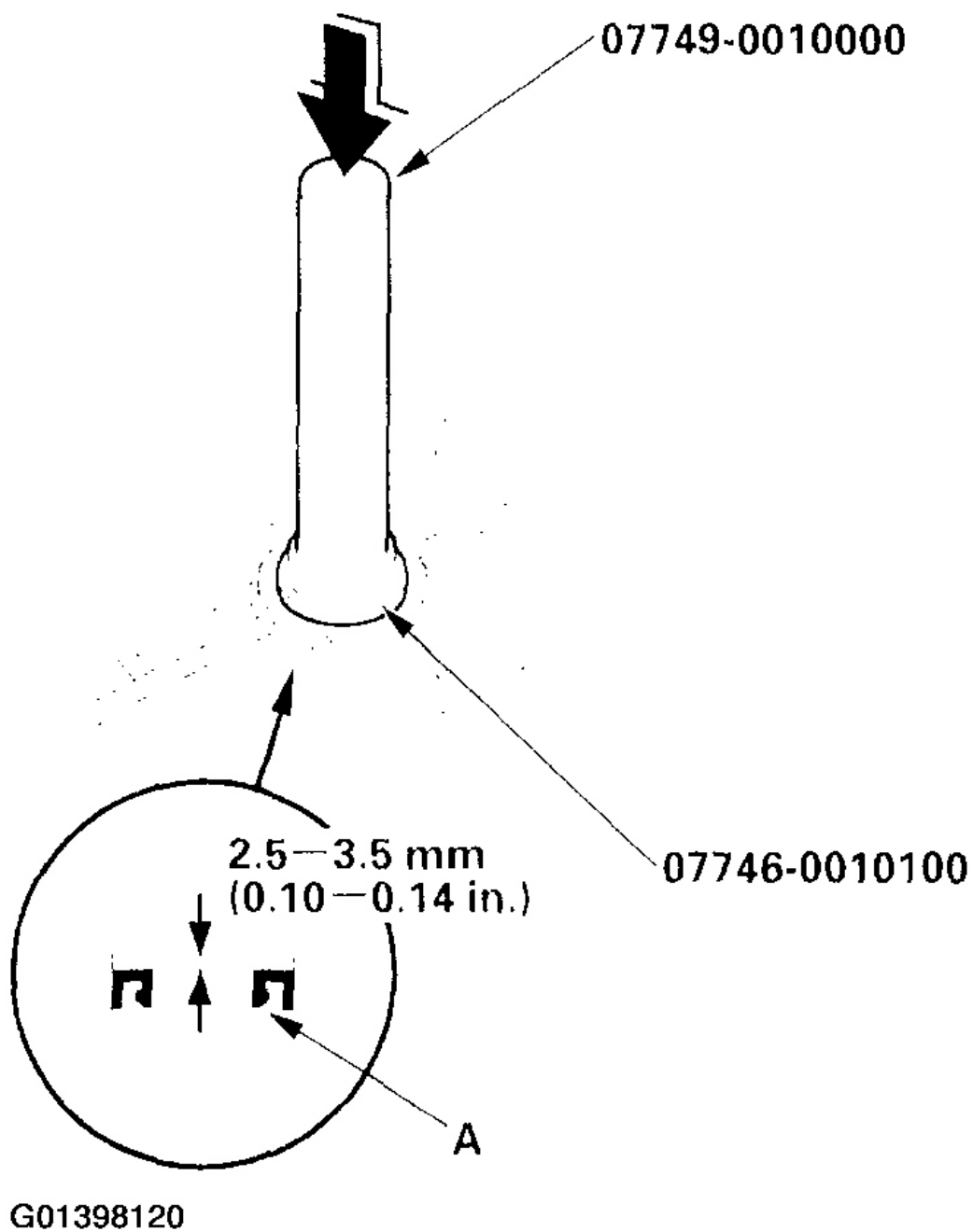
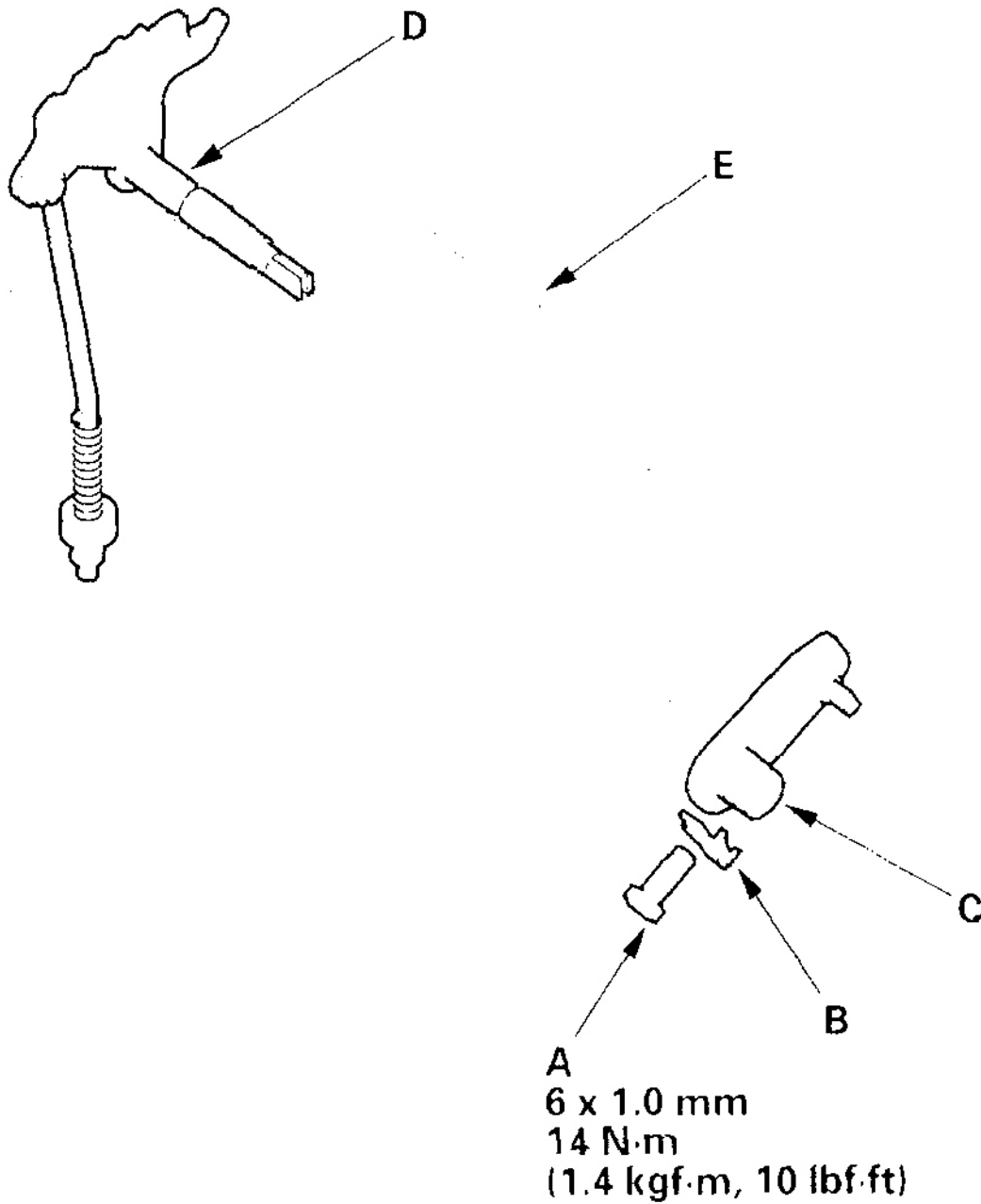


Fig. 21: Installing Oil Seal In Flywheel Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CONTROL SHAFT ASSEMBLY REMOVAL AND INSTALLATION

1. Remove the bolt (A) and lock washer (B).



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Fig. 22: Removing Bolt & Lock Washer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

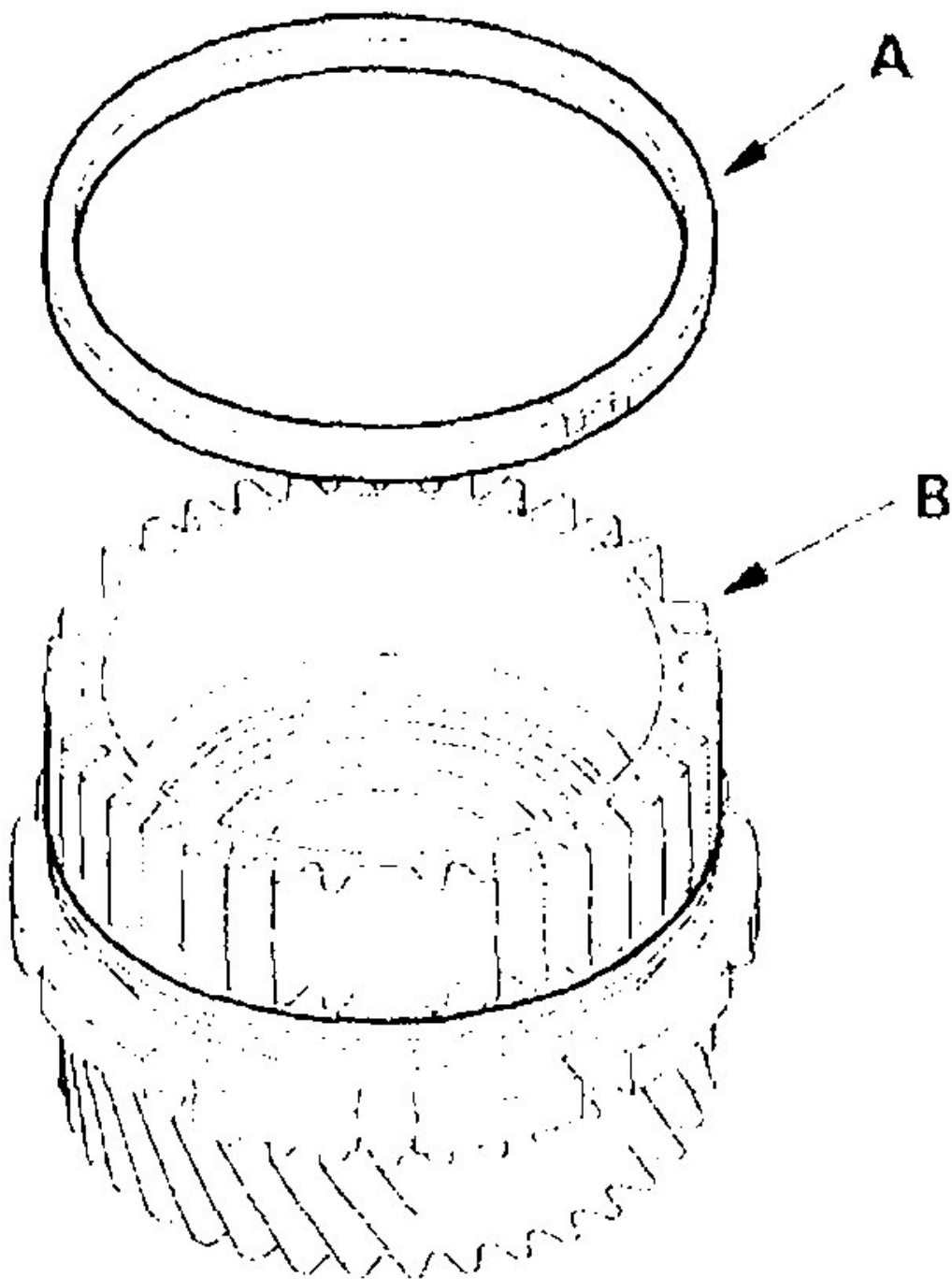
2. Remove the control lever (C) from the control shaft (D).
3. Remove the control shaft assembly from the transmission housing (E).
4. Install the control shaft assembly in the transmission housing.
5. Install the control lever to the control shaft.
6. Install and tighten the bolt with the new lock washer.

START CLUTCH AND FLYWHEEL HOUSING INSTALLATION

Special Tools Required

Start clutch installer 07TAE-P4VA130

1. Install the sealing ring (A) on the new secondary drive gear (B).

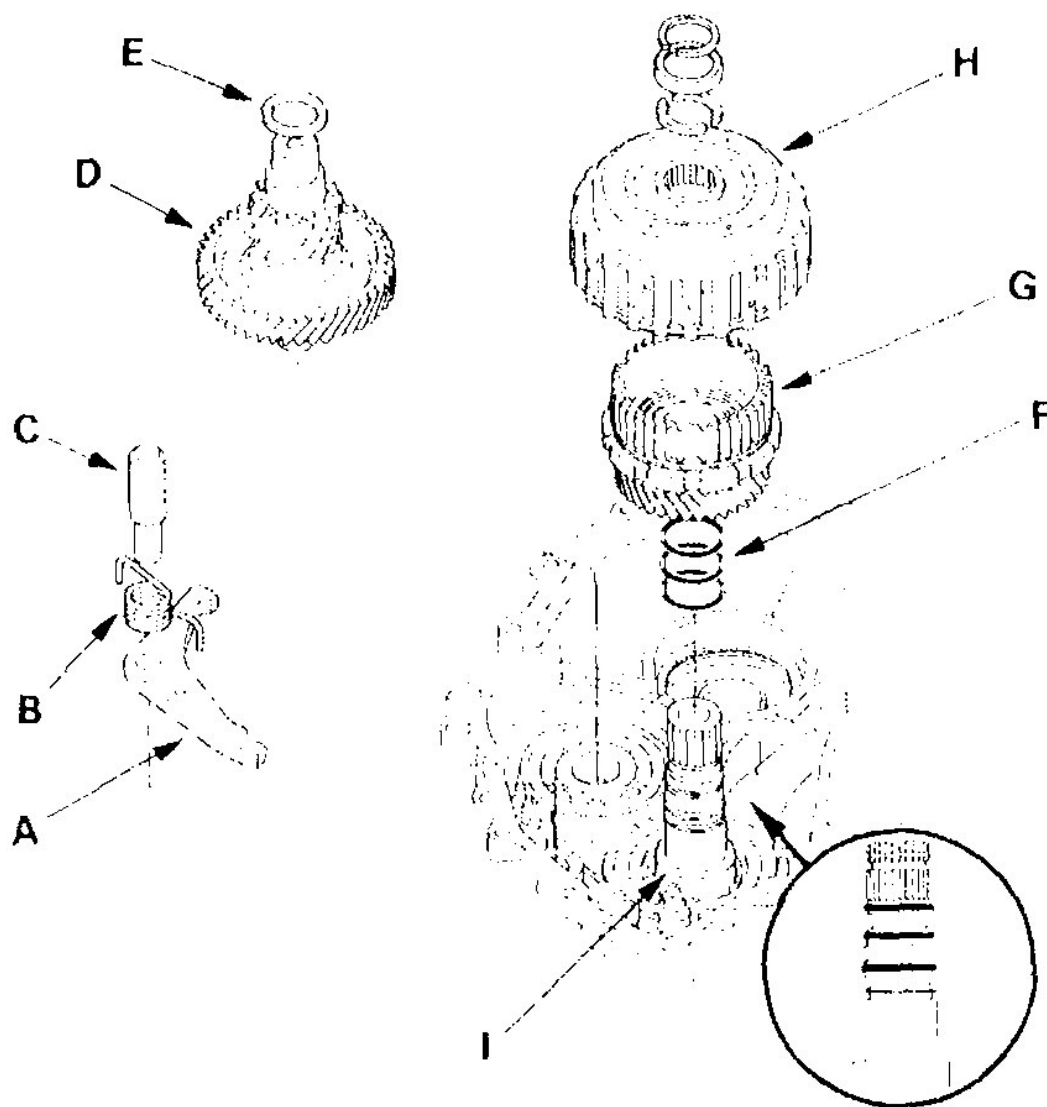


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Fig. 23: Installing Sealing Ring On New Secondary Drive Gear

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the park pawl (A), pawl spring (B) and pawl shaft (C) in the transmission housing, then move the control lever to any position other than P.



G01398174

Fig. 24: Installing Park Pawl

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the secondary gear shaft (D) with selected 25 x 35 thrust shim (E) (see [Secondary Gear Shaft](#)).
4. Wrap the driven pulley shaft splines with tape to prevent O-ring damage, install the new O-rings (F) in

the shaft O-ring grooves, and remove the tape.

5. Install the secondary drive gear assembly (G) in the start clutch (H), then install them on the driven pulley shaft (I).
6. Pull the handle of the special tool up, then install the tip of it into the driven pulley shaft feed pipe hole, and set the special tool on the start clutch. Do not allow dirt or other foreign particles to enter into the transmission.

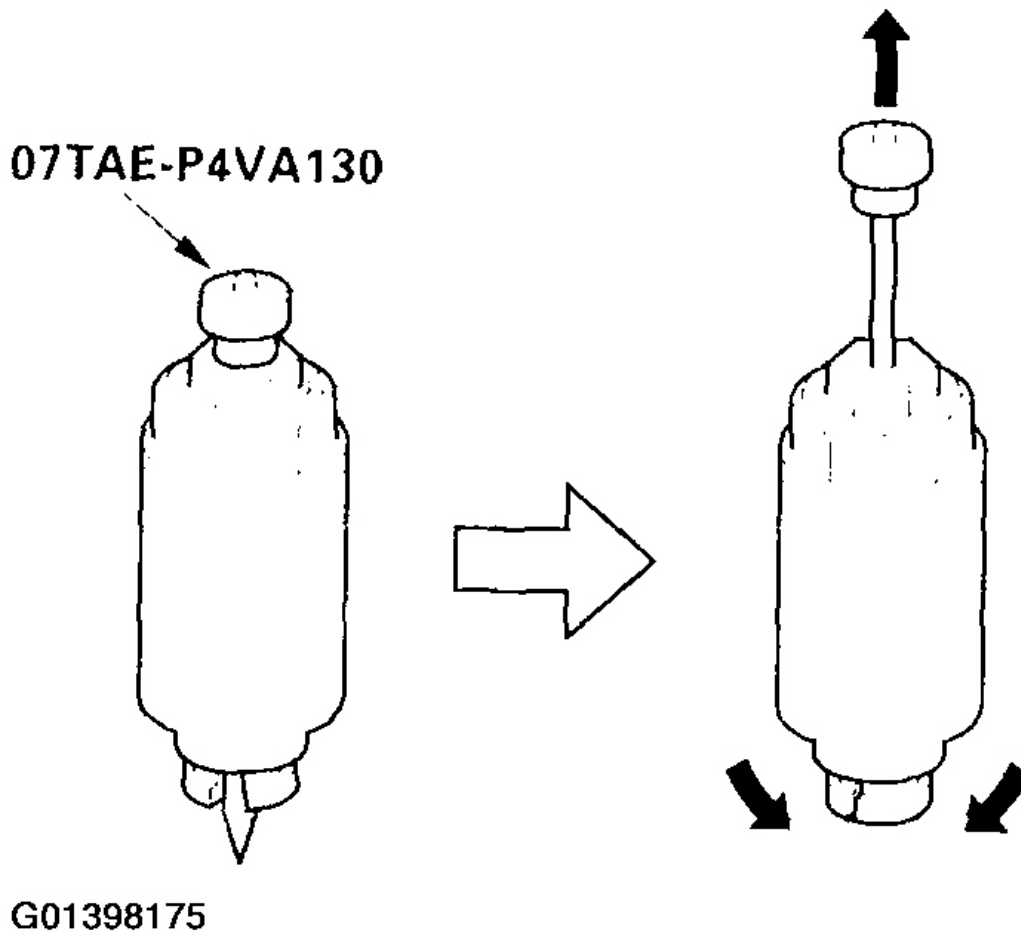
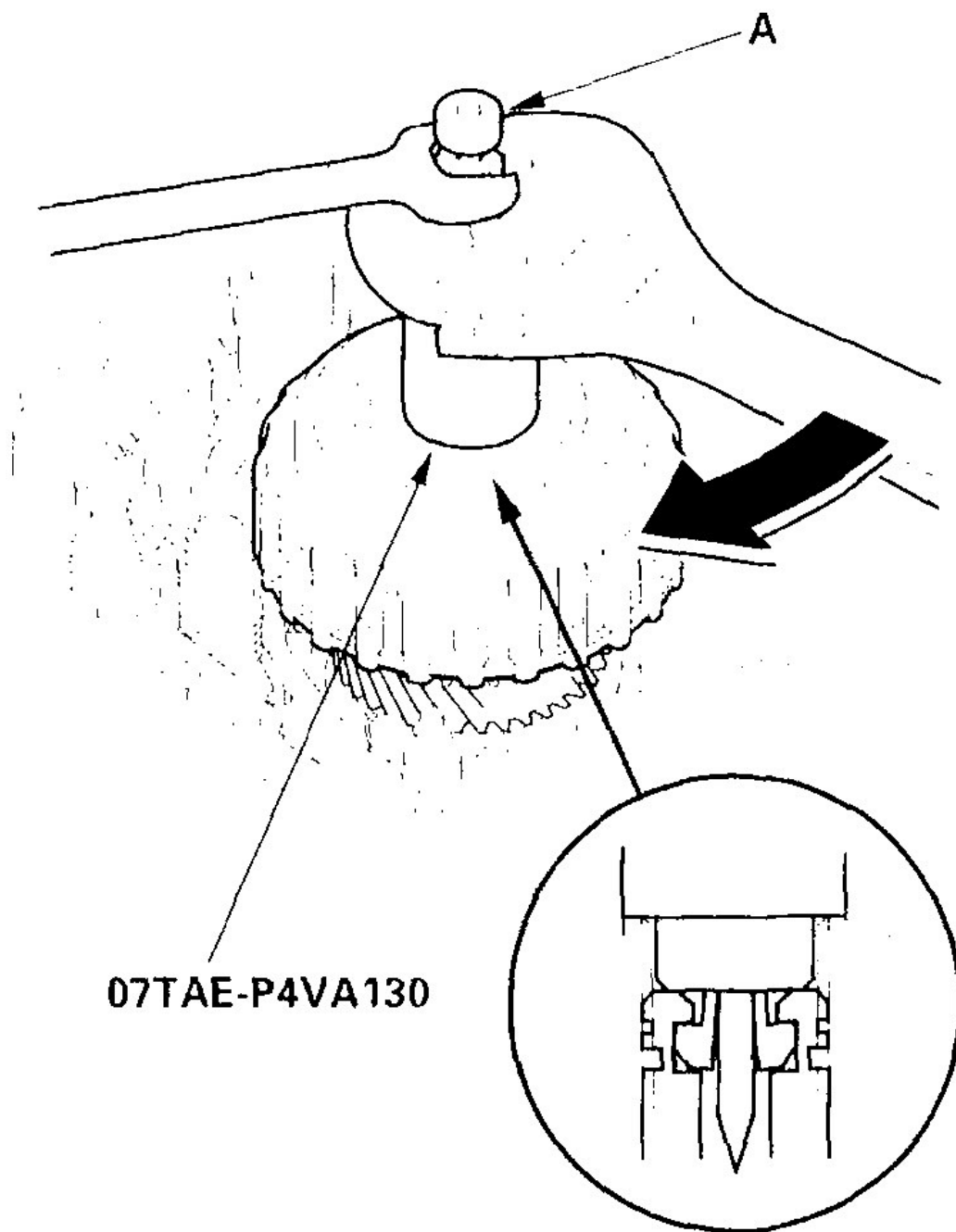


Fig. 25: Pulling Handle Of Special Tool Up
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Push the handle (A) of the special tool, then tighten the nut to seat the secondary drive gear assembly on the drive pulley shaft.



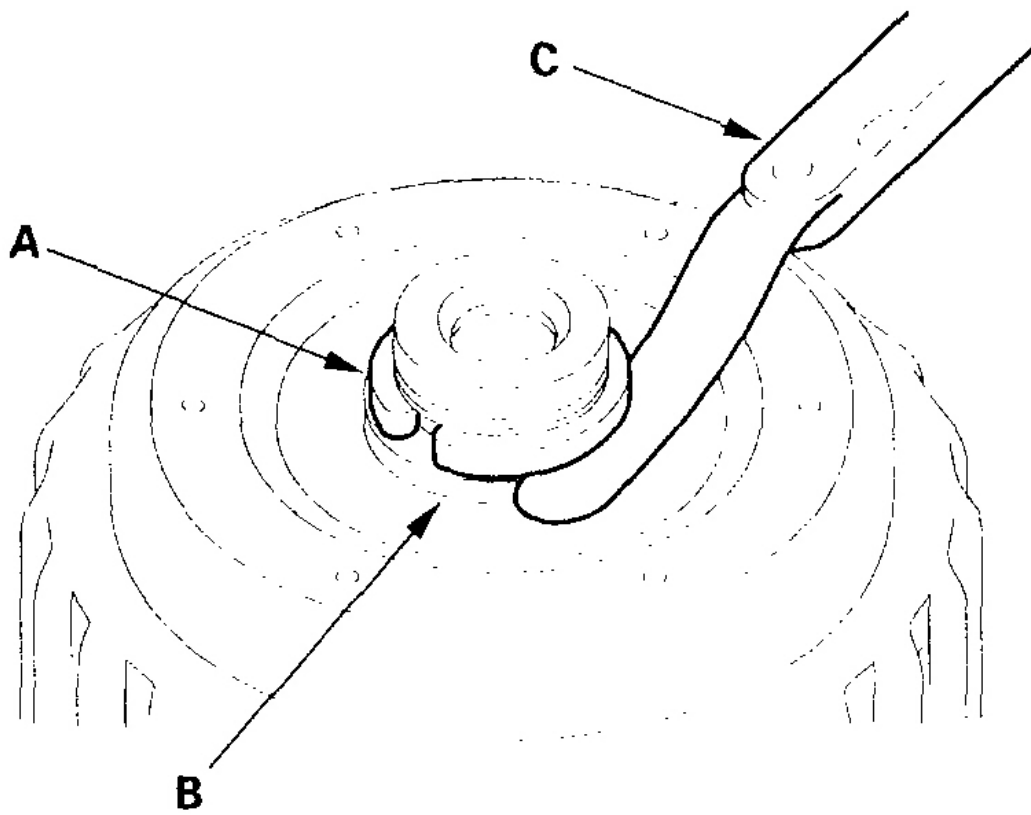
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Fig. 26: Pushing Handle Of Special Tool
Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Pull the handle of the special tool up, and remove the special tool.
9. Install the 25.5 mm cotters to the cotter groove on the driven pulley shaft, then measure the clearance between the cotters (A) and the start clutch guide (B) with a feeler gauge (C).

NOTE: Take measurements in at least three places, and use the average as the actual clearance.

Standard: 0-0.13 mm (0-0.005 in.)



G01398177

Fig. 27: Measuring Clearance Between Cotters
Courtesy of AMERICAN HONDA MOTOR CO., INC.

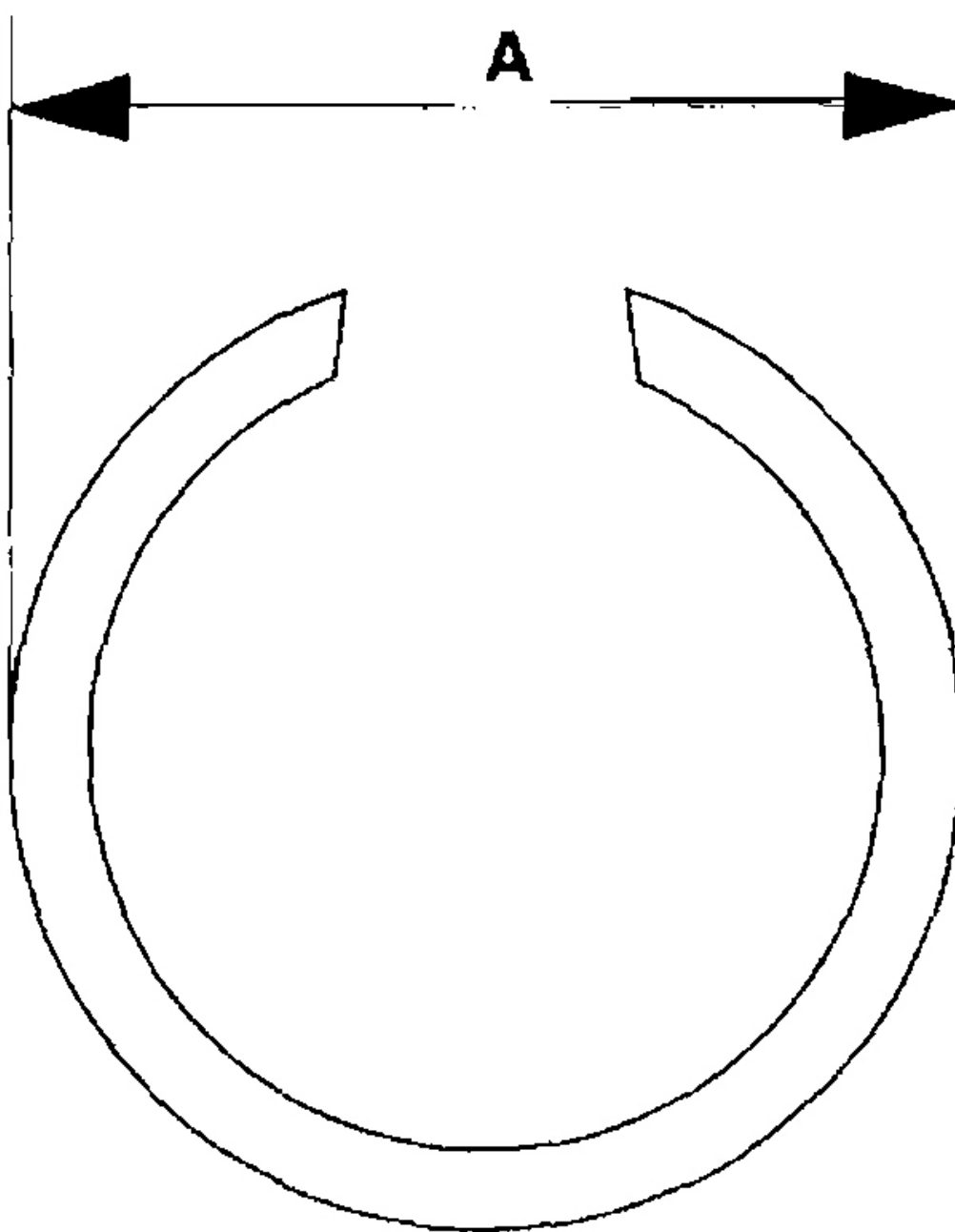
10. If the clearance is out of standard, remove the cotters, and measure their thickness.
11. Select and install the new 25.5 mm cotters, then recheck.

No.	Part Number	Thickness
A	90429-P4V-000	2.9 mm (0.114 in.)
B	90430-P4V-000	3.0 mm (0.118 in.)
C	90431-P4V-000	3.1 mm (0.122 in.)
D	90432-P4V-000	3.2 mm (0.126 in.)

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Fig. 28: Installing New Cotters Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.

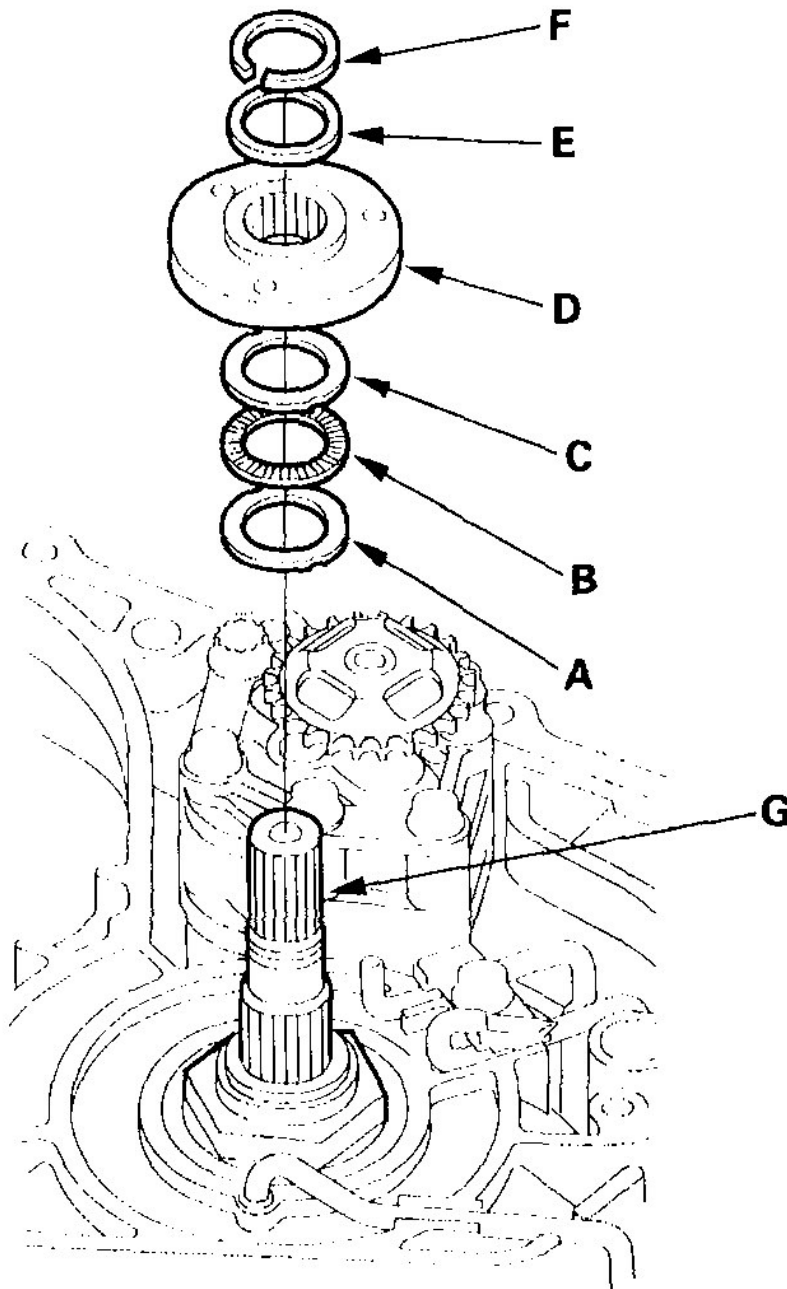
12. After replacing the cotters, make sure that the clearance is within the tolerance.
13. Install the cotter retainer and snap ring.
14. Verify that the snap ring outside diameter (A) is 33.9 mm (1.33 in.) or less.



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Fig. 29: Verifying Snap Ring Outside Diameter
Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Install the thrust washer (A), thrust needle bearing (B), thrust washer (C), ATF pump drive sprocket hub (D), 22 x 28 mm thrust shim (E), and snap ring (F) on the input shaft (G).

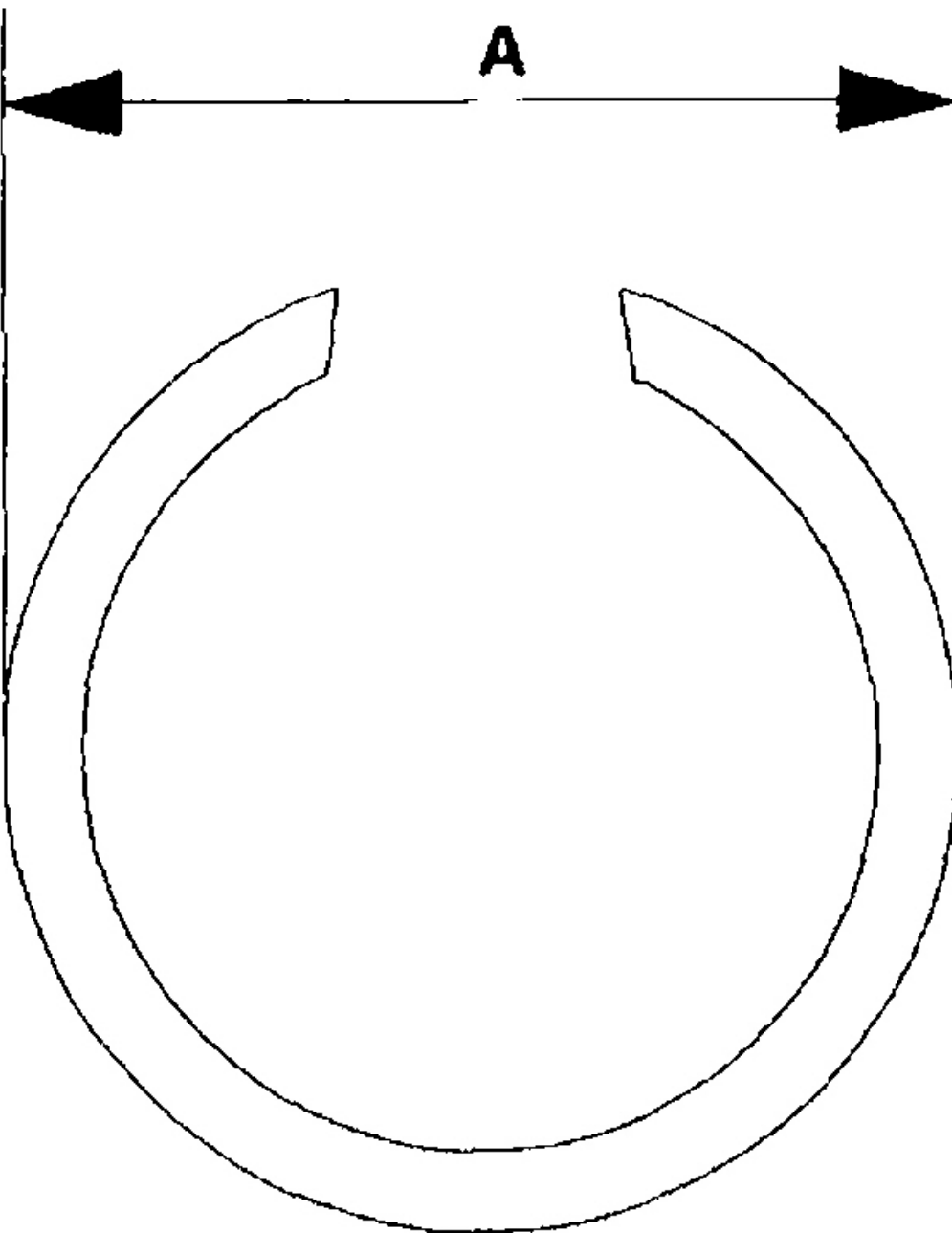


G01398180

Fig. 30: Installing Thrust Washer

Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Verify that snap ring outside diameter (A) is 26.3 mm (1.04 in.) or less.



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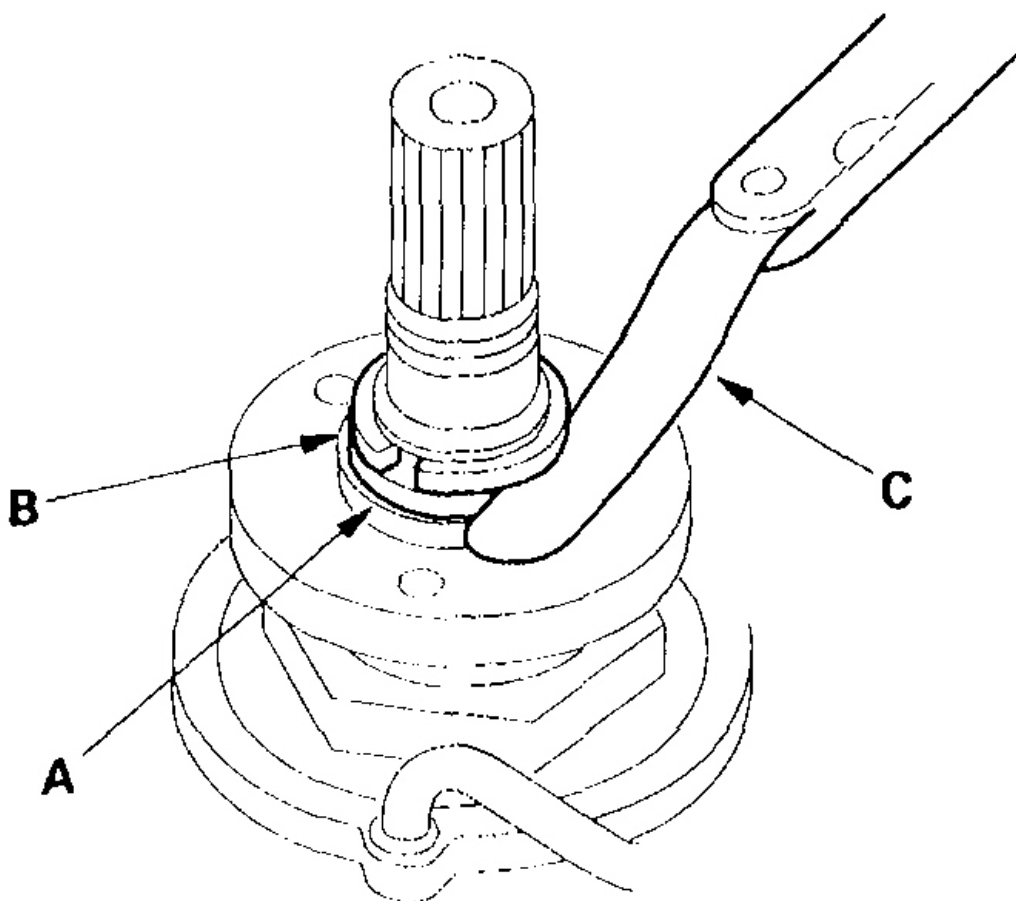
Fig. 31: Verifying Snap Ring Outside Diameter

Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Measure the clearance between the 22 x 28 mm thrust shim (A) and snap ring (B) with a feeler gauge (C).

NOTE: Take measurements in at least three places, and use the average as the actual clearance.

Standard: 0.37-0.65 mm (0.015-0.026 in.)



G01398182

Fig. 32: Measuring Clearance Between Thrust Shim

Courtesy of AMERICAN HONDA MOTOR CO., INC.

18. If the clearance is out of standard, remove the 22 x 28 mm thrust shim, and measure its thickness.

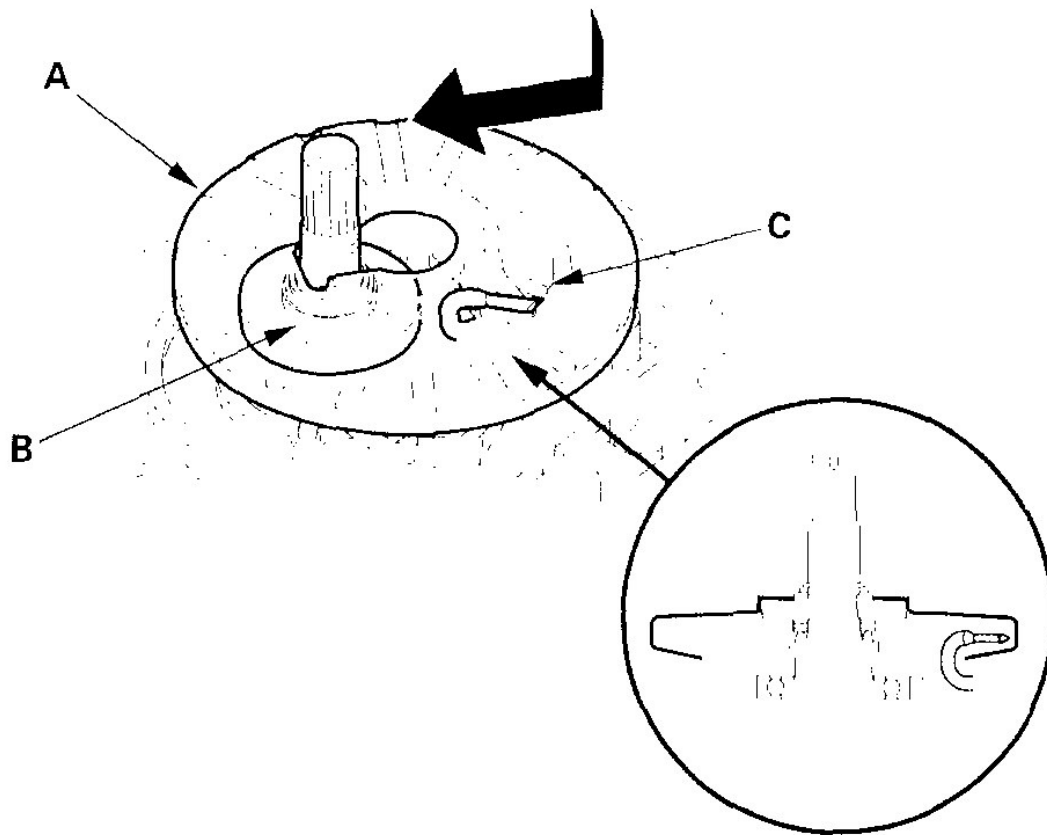
19. Select and install the new 22 x 28 mm thrust shim, then recheck.

No.	Part Number	Thickness
C	90573-P4V-000	1.15 mm (0.045 in.)
D	90574-P4V-000	1.40 mm (0.055 in.)
E	90575-P4V-000	1.65 mm (0.065 in.)
F	90576-P4V-000	1.90 mm (0.075 in.)
G	90577-P4V-000	2.15 mm (0.085 in.)
H	90578-P4V-000	2.40 mm (0.095 in.)

G01398183

Fig. 33: Selecting New Thrust Shim Chart (22 x 28 mm)
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. After replacing the 22 x 28 mm thrust shim, make sure that the clearance is within the tolerance and the snap ring outside diameter is correct.
21. Install the pitot flange (A) using its cutout (B) as shown to clear the pitot pipes (C).

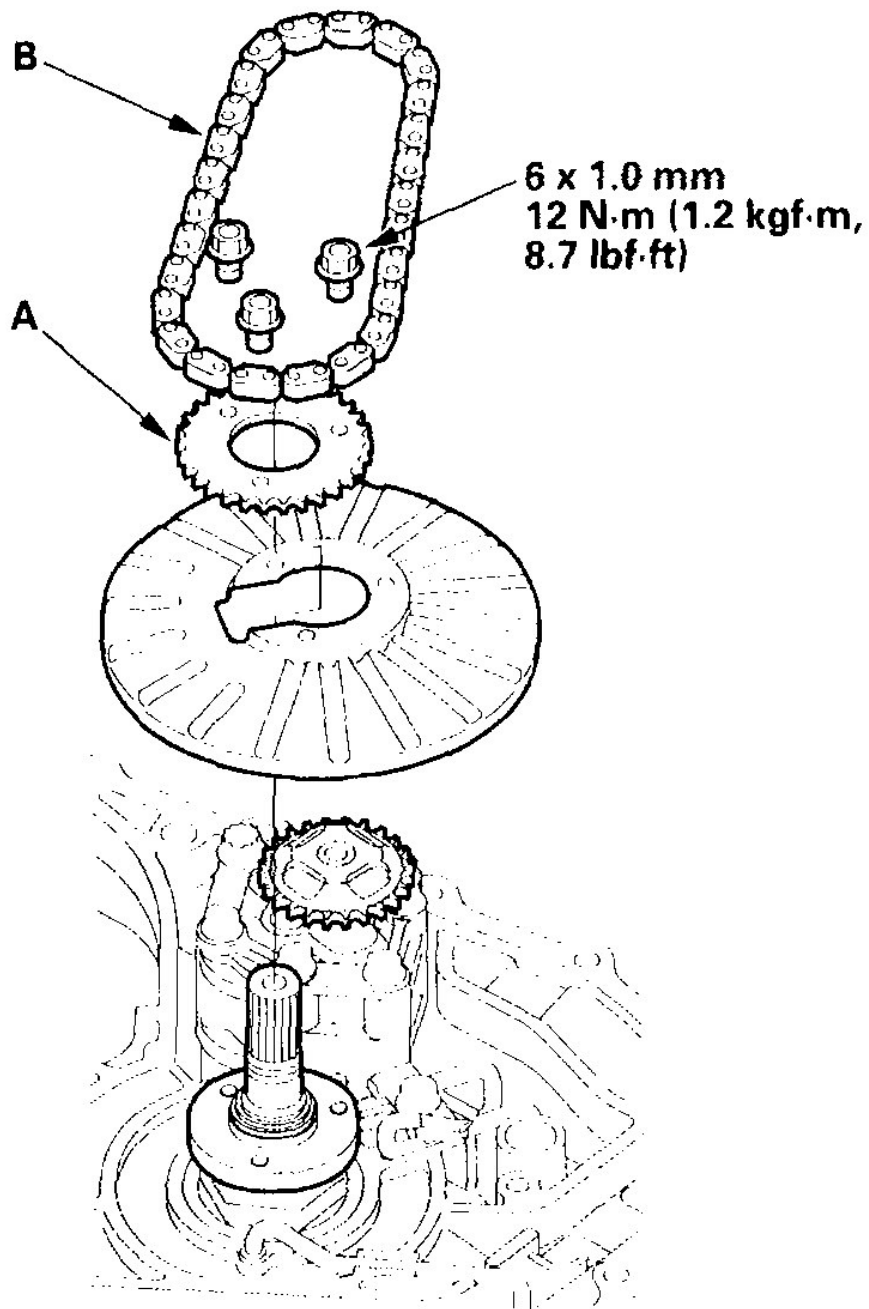


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Fig. 34: Installing Pitot Flange

Courtesy of AMERICAN HONDA MOTOR CO., INC.

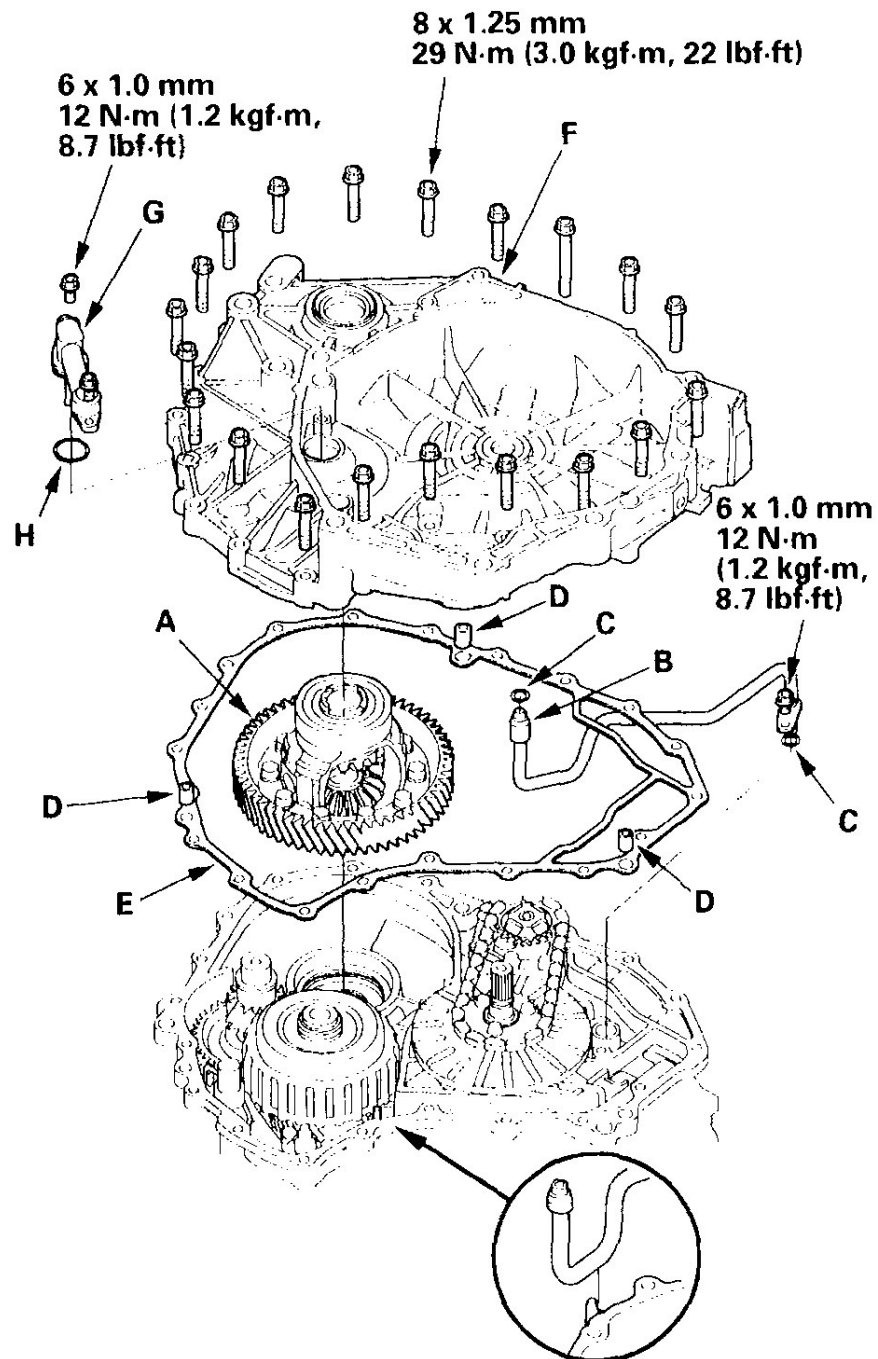
22. Install the ATF pump drive sprocket (A), and put the ATF pump drive chain (B) on the ATF pump drive and driven sprockets, then install and tighten the three bolts.



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Fig. 35: Installing ATF Pump Drive Sprocket
Courtesy of AMERICAN HONDA MOTOR CO., INC.

23. Install the differential assembly (A).



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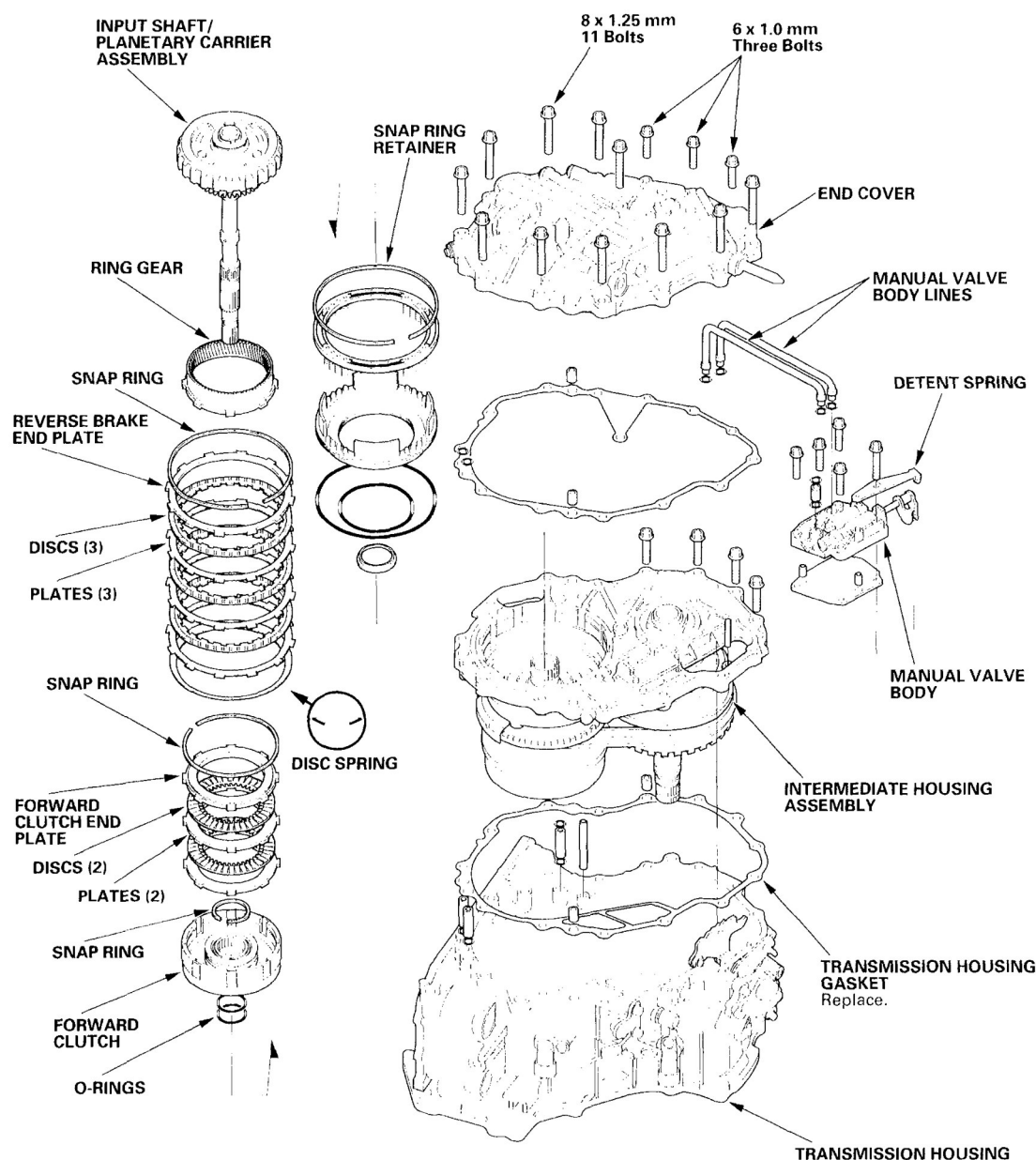
Fig. 36: Installing Differential Assembly
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

24. Install the ATF passage line assembly (B) with the new O-rings (C).

25. Install the three dowel pins (D) and new flywheel gasket (E) on the transmission housing.
26. Install the flywheel housing (F) (20 bolts).
27. Install the ATF passage line holder assembly (G) with the new O-ring (H) (two bolts).

END COVER/INTERMEDIATE HOUSING

FORWARD CLUTCH, REVERSE BRAKE, AND INTERMEDIATE HOUSING REMOVAL



G01398122

Fig. 37: Exploded View Of Forward Clutch, Reverse Brake & Intermediate Housing

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Special Tools Required

Reverse brake spring compressor 07TAE-P4V0110

NOTE: **Refer to the Exploded View as needed during the following procedure.**

1. Remove the end cover (three; 6 mm bolts and 11; 8 mm bolts).
2. Remove the manual valve body lines A and B.
3. Remove the planetary carrier/input shaft assembly and ring gear.
4. Remove the snap ring securing the reverse brake discs and plates, then remove the reverse brake and plate, discs, plates, and disc spring.
5. Remove the snap ring securing the forward clutch end plate, then remove the forward clutch end plate, discs and plates.
6. Remove the snap ring securing the forward clutch to the drive pulley shaft, then remove the forward clutch.
7. Install the special tool to remove the snap ring securing the reverse brake return spring retainer.

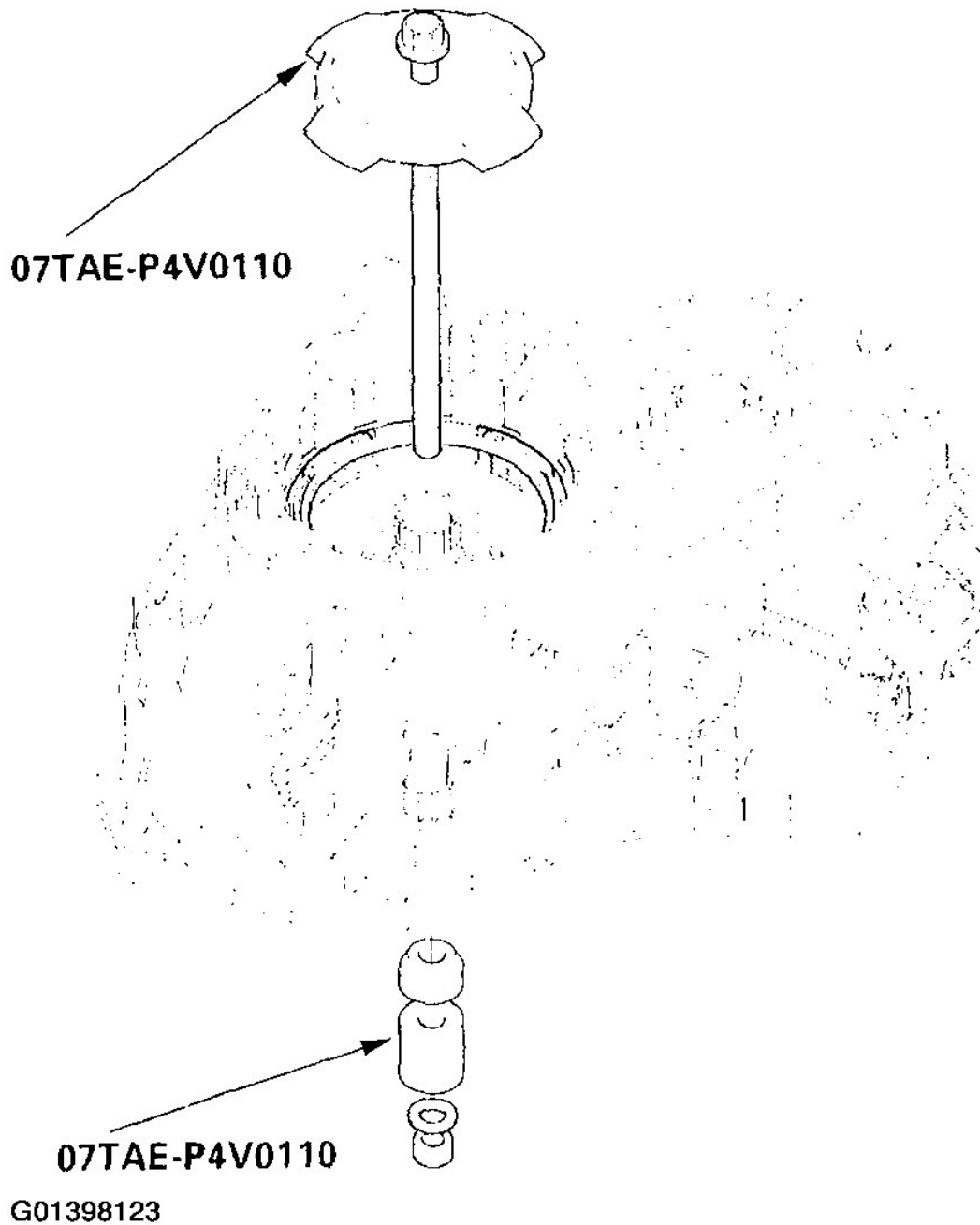
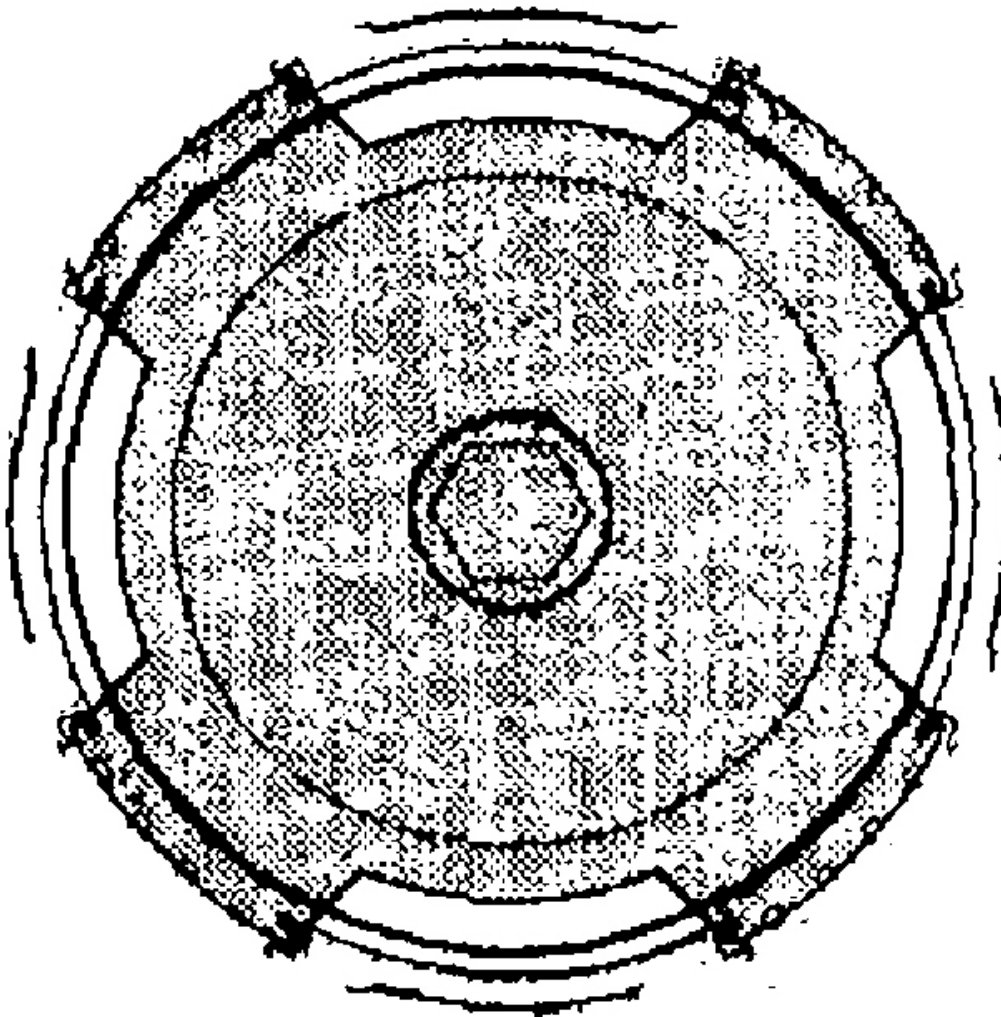


Fig. 38: Installing Special Tool To Remove Snap Ring Securing Reverse Brake Return Spring Retainer

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Compress the return spring with the special tool, then remove the snap ring. Be sure the special tool set over the reverse brake return springs.

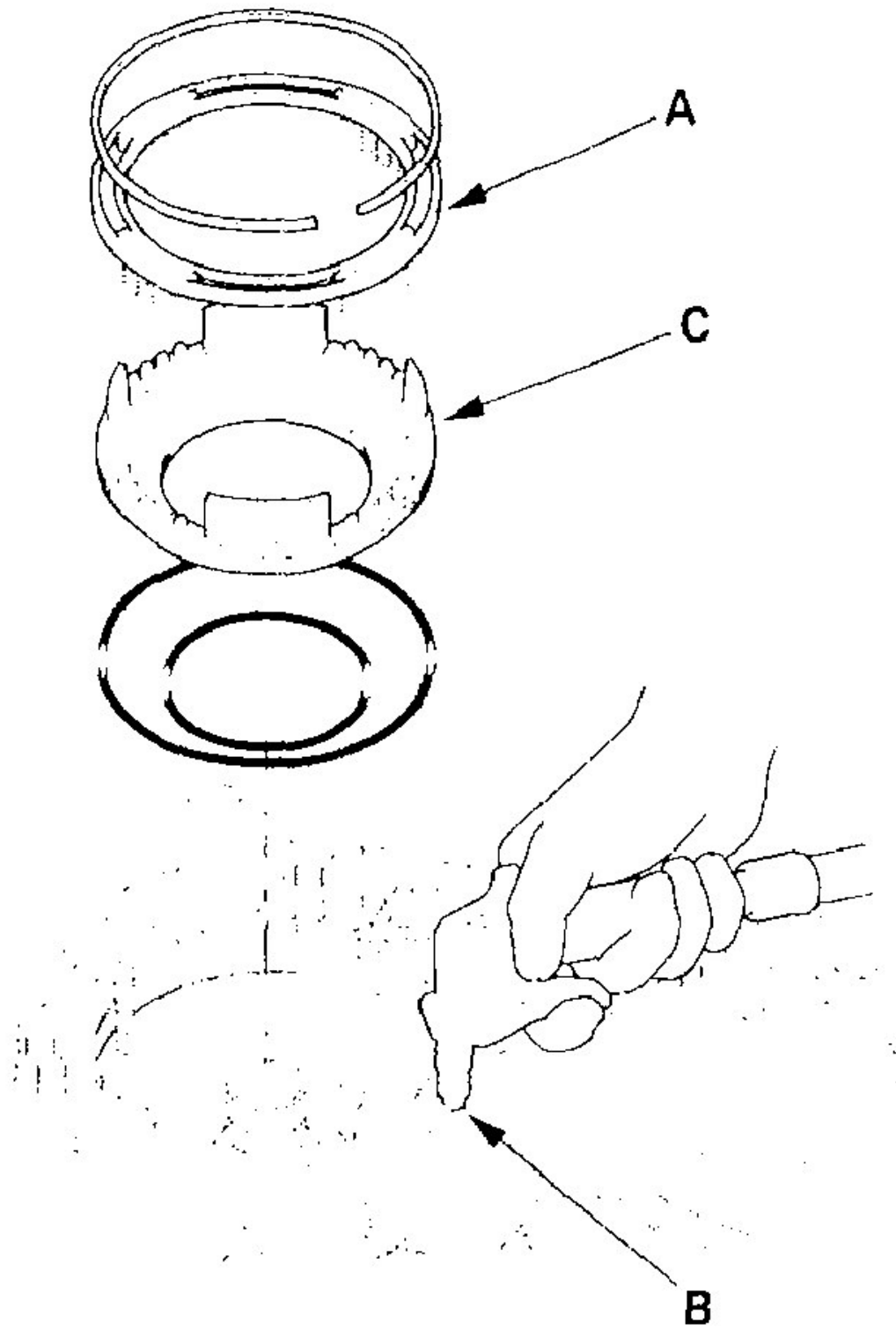


G01398124

Fig. 39: Removing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Remove the special tool, then remove the spring retainer/return spring assembly (A).



G01398125

Fig. 40: Removing Spring Retainer/Return Spring Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.

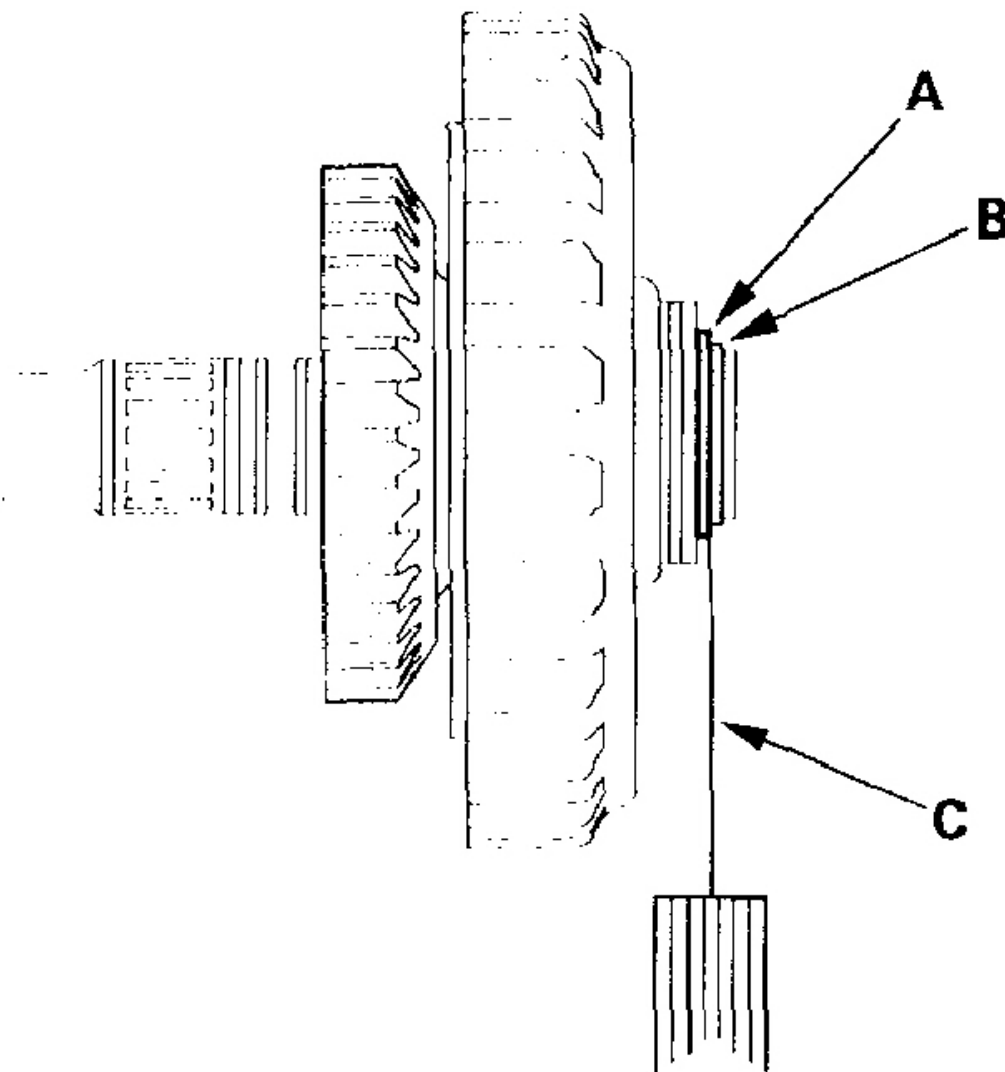
10. Apply air pressure to reverse brake pressure circuit hole (B) to remove the reverse brake piston (C).
11. Remove the snap ring retainer from the drive pulley shaft.
12. Remove the manual valve body (five bolts) and separator plate.
13. Remove the roller, and push the control shaft toward the outside of the transmission housing, then remove the intermediate housing (four bolts).

INPUT SHAFT AND PLANETARY CARRIER CLEARANCE INSPECTION

1. Measure the clearance between the 25 x 31 mm thrust shim (A) and the snap ring (B) with a feeler gauge (C).

NOTE: **Take measurements in at least three places, and use the average as the actual clearance.**

Standard: 0.05-0.115 mm (0.018-0.030 in.)

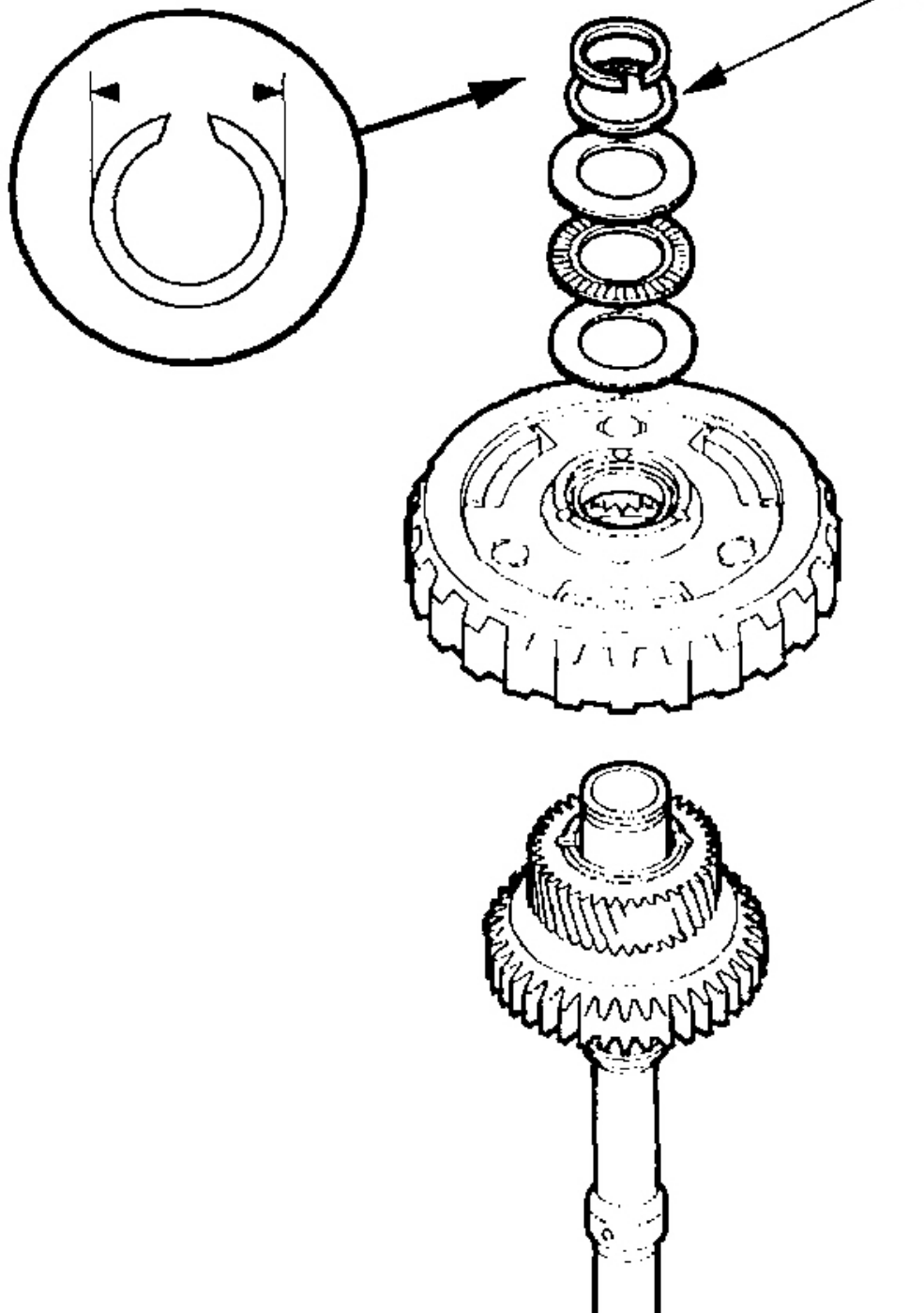


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Fig. 41: Making Clearance Between Thrust Shim
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. If the clearance is out of standard, remove the 25 x 31 mm thrust shim (A) and measure its thickness.

30.7 mm (1.21 in.)



G01398127

Fig. 42: Removing Thrust Shim & Measuring Thickness**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

3. Select and install the new thrust shim, and secure them with the snap ring, then recheck.

No.	Part Number	Thickness
A	90451-P4V-000	1.05 mm (0.041 in.)
B	90452-P4V-000	1.12 mm (0.044 in.)
C	90453-P4V-000	1.19 mm (0.047 in.)
D	90454-P4V-000	1.26 mm (0.050 in.)
E	90455-P4V-000	1.33 mm (0.052 in.)
F	90456-P4V-000	1.40 mm (0.055 in.)
G	90457-P4V-000	1.47 mm (0.058 in.)
H	90458-P4V-000	1.54 mm (0.061 in.)
I	90459-P4V-000	1.61 mm (0.063 in.)
J	90460-P4V-000	1.68 mm (0.066 in.)
K	90461-P4V-000	1.75 mm (0.069 in.)
L	90462-P4V-000	1.82 mm (0.072 in.)
M	90480-P4V-000	1.085 mm (0.0427 in.)
N	90481-P4V-000	1.155 mm (0.0454 in.)
O	90482-P4V-000	1.225 mm (0.0482 in.)
P	90483-P4V-000	1.295 mm (0.0510 in.)
Q	90484-P4V-000	1.365 mm (0.0537 in.)
R	90485-P4V-000	1.435 mm (0.0565 in.)
S	90486-P4V-000	1.505 mm (0.0593 in.)
T	90487-P4V-000	1.575 mm (0.0620 in.)
U	90488-P4V-000	1.645 mm (0.0648 in.)
V	90489-P4V-000	1.715 mm (0.0675 in.)
W	90490-P4V-000	1.785 mm (0.0703 in.)

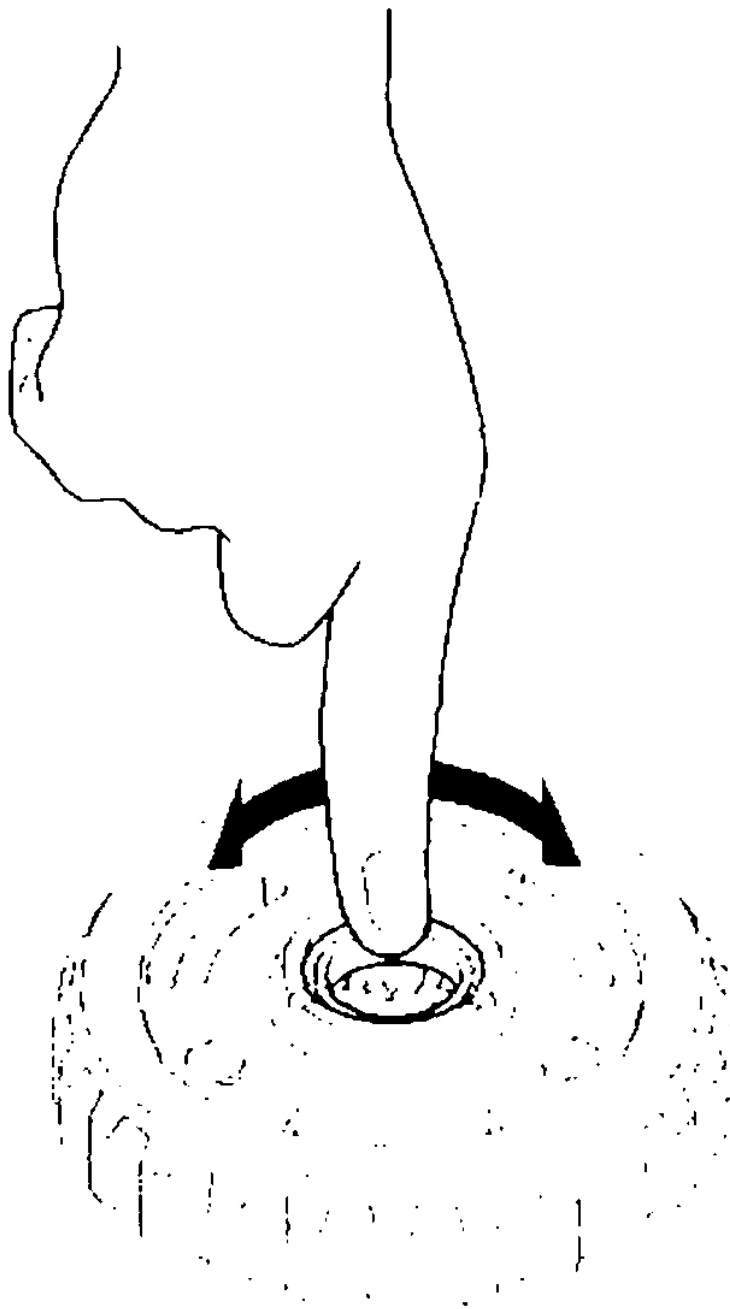
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Fig. 43: Installing New Thrust Shim Chart (25x31 mm)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. After replacing the 25 x 31 mm thrust shim, make sure that the clearance is within tolerance.
5. Verify that the snap ring outside diameter is 30.7 mm (1.21 in.) or less.

PLANETARY CARRIER BEARING INSPECTION

1. Check the planetary carrier bearing for play by spinning it by hand. If there is excessive play, replace the planetary carrier assembly.

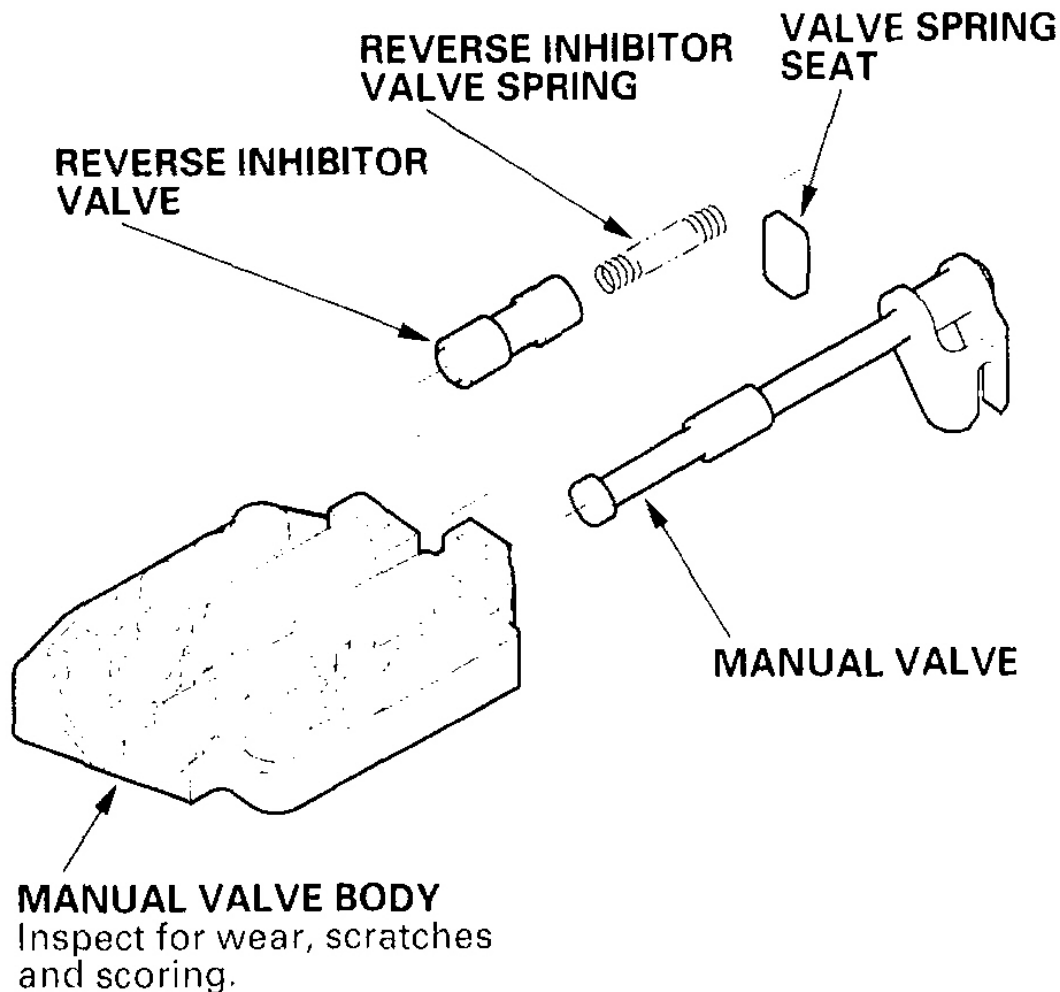


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Fig. 44: Checking Planetary Carrier Bearing For Play By Spinning By Hand
Courtesy of AMERICAN HONDA MOTOR CO., INC.

MANUAL VALVE BODY DISASSEMBLY, INSPECTION, AND REASSEMBLY

1. Clean all parts thoroughly in solvent or carburetor cleaner, and dry with compressed air. Blow out all passages.
2. Coat all parts with ATF during assembly.



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Fig. 45: Coating All Part With ATF
Courtesy of AMERICAN HONDA MOTOR CO., INC.

INTERMEDIATE HOUSING, REVERSE BRAKE, AND FORWARD CLUTCH INSTALLATION

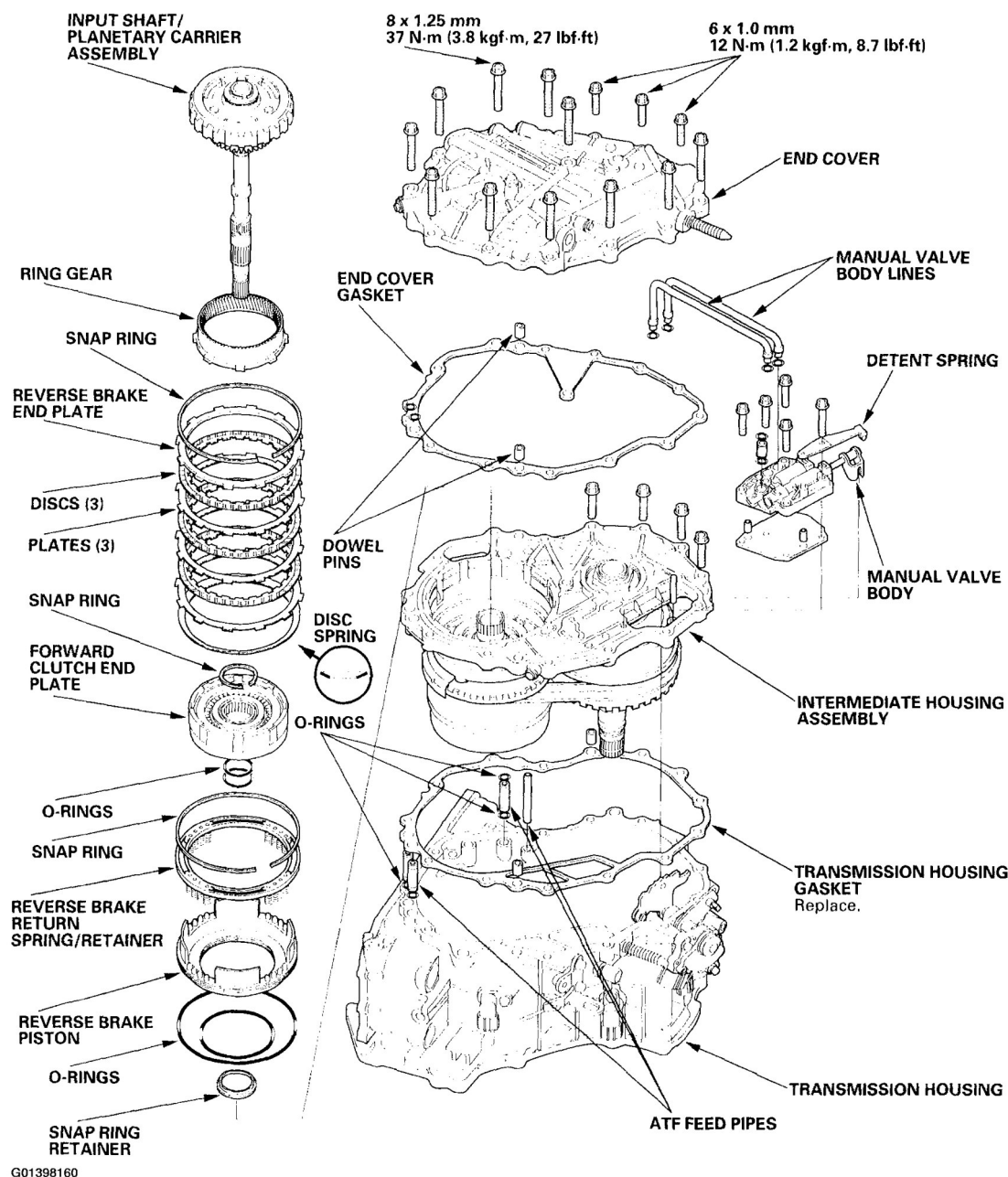


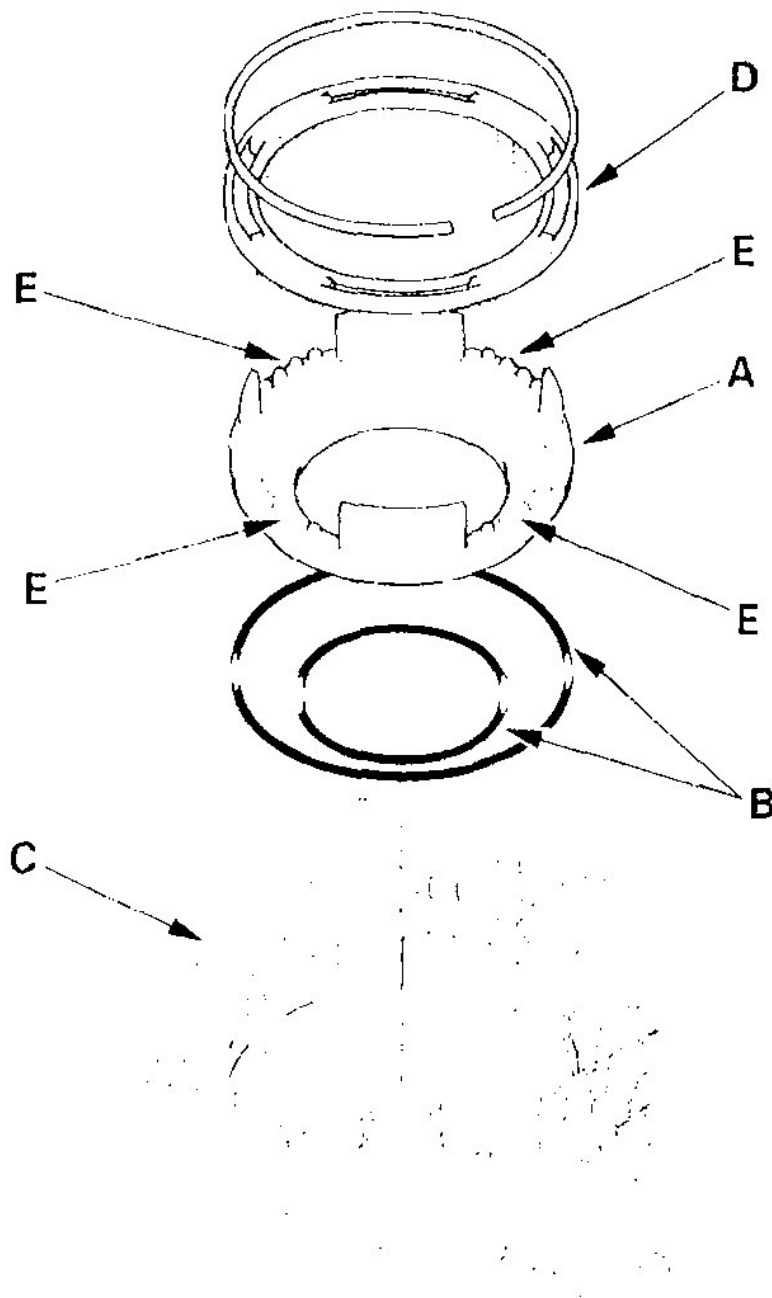
Fig. 46: Exploded View Of Intermediate Housing, Reverse Brake & Forward Clutch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

Special Tools Required

Reverse brake spring compressor 07TAE-P4V0110

1. Install the ATF feed pipe in the transmission housing, and install the three ATF feed pipes with the new O-rings in the transmission housing.

2. Install the two dowel pins and new transmission gasket on the transmission housing.
3. Push the control shaft toward the outside of the transmission housing, then install the intermediate housing (four bolts).
4. Install the manual valve body separator plate and two dowel pins on the intermediate housing, and install the manual valve body with the detent spring (five bolts).
5. Put the control shaft back, then install the roller in the intermediate housing with aligning the groove on the control shaft.
6. Install the reverse brake piston (A) with the new O-ring (B) in the intermediate housing (C).



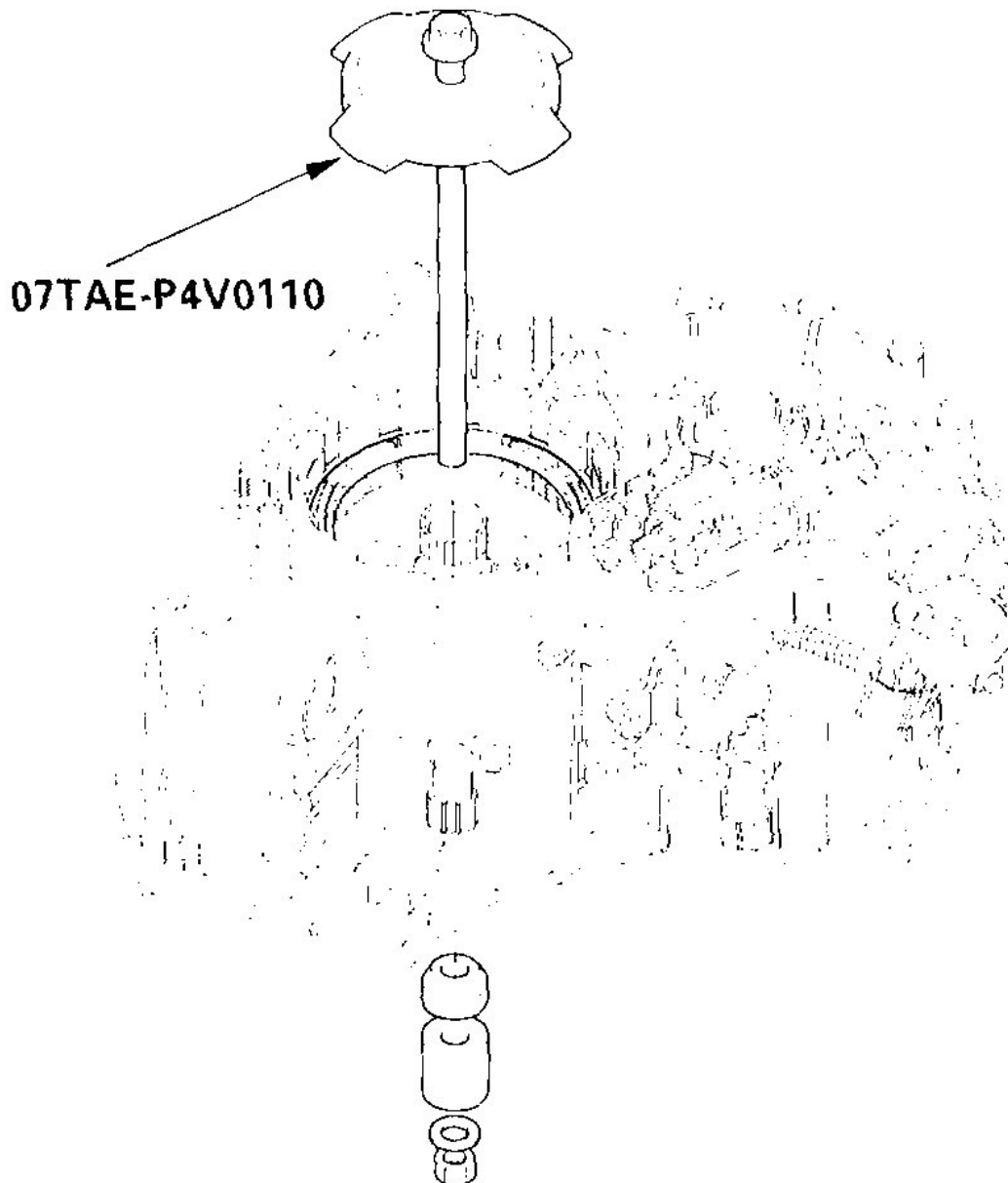
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Fig. 47: Installing Reverse Brake Piston

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Install the spring retainer/return spring assembly (D); Install the return springs on the spring guides (E) on the reverse brake piston.

8. Install the special tool through the drive pulley shaft to compress the return spring. Be sure the special tool (spring compressor attachment) is set over the return springs, not to over the reverse brake piston.



G01398162

Fig. 48: Installing Special Through Drive Pulley Shaft To Compress Return Spring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Compress the return springs while making sure that the special tool set over the return springs and the spring retainer tabs does not ride on the reverse brake piston.

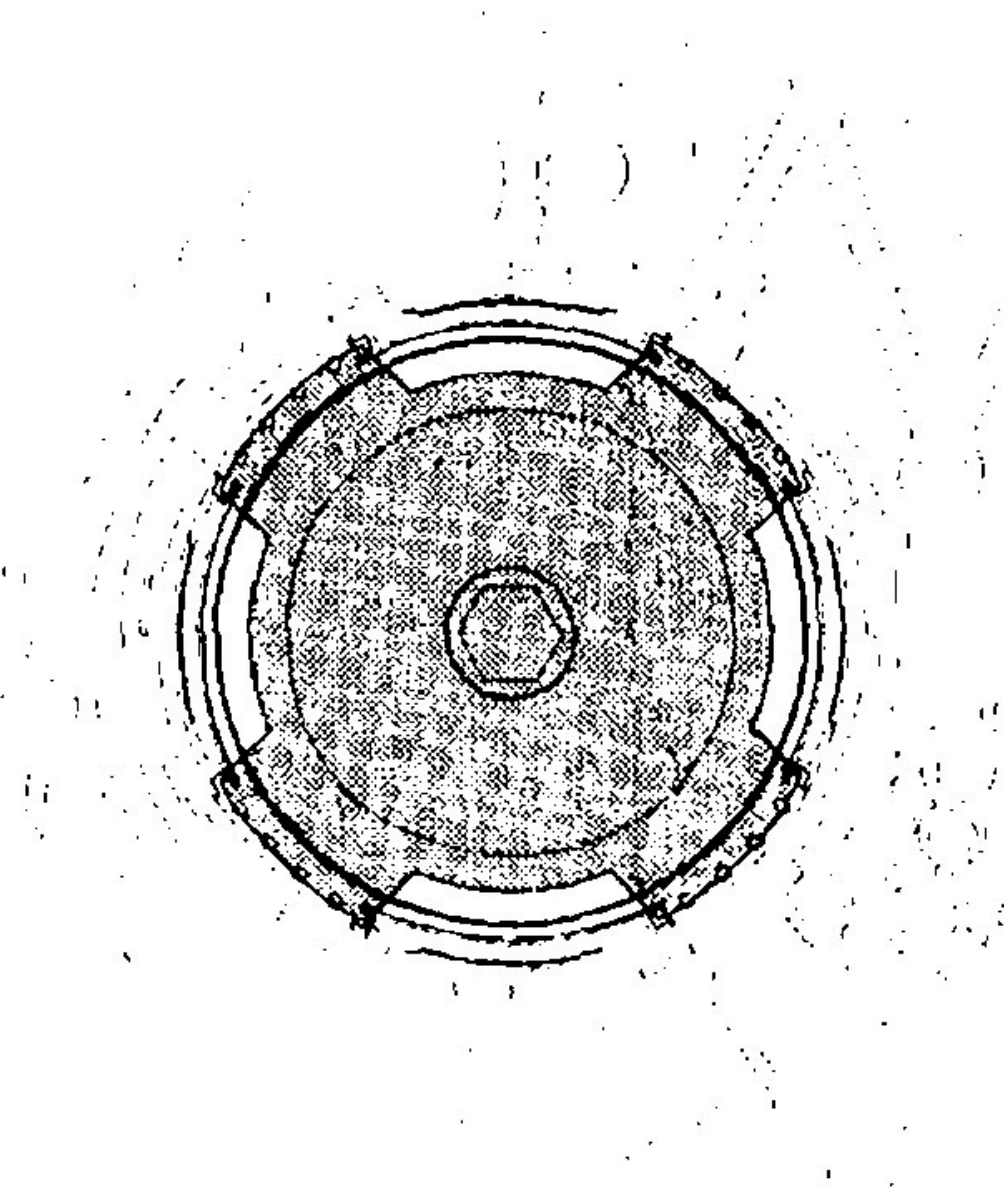
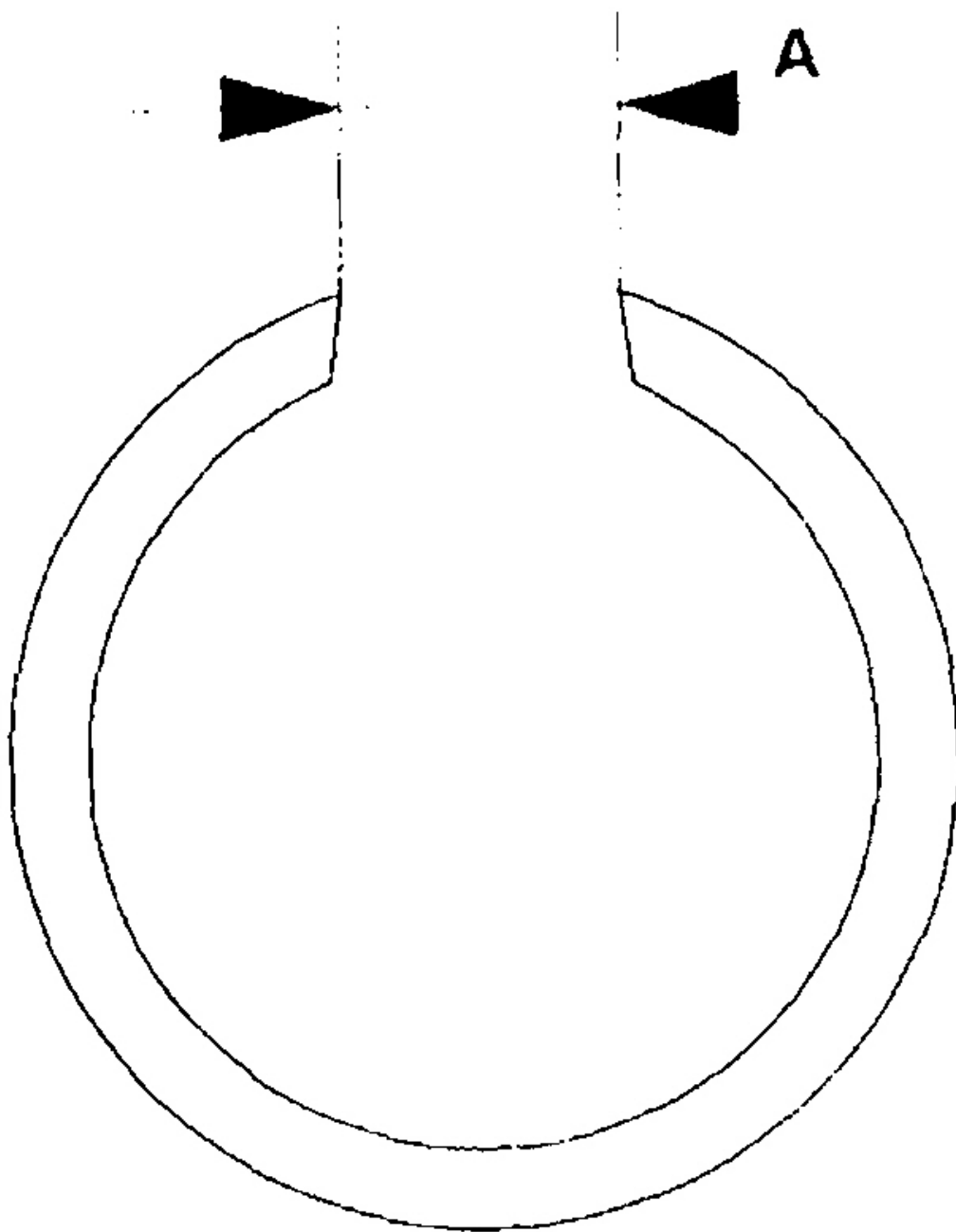
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Fig. 49: Compressing Return Springs
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2003 Honda Civic EX

2001-05 AUTOMATIC TRANSMISSIONS Overhaul - MYLA & SLYA (CVT)

10. Install the snap ring in the intermediate housing above the spring retainer.
11. Verify that the snap ring end gap (A) is 15 mm (0.59 in.) and above.



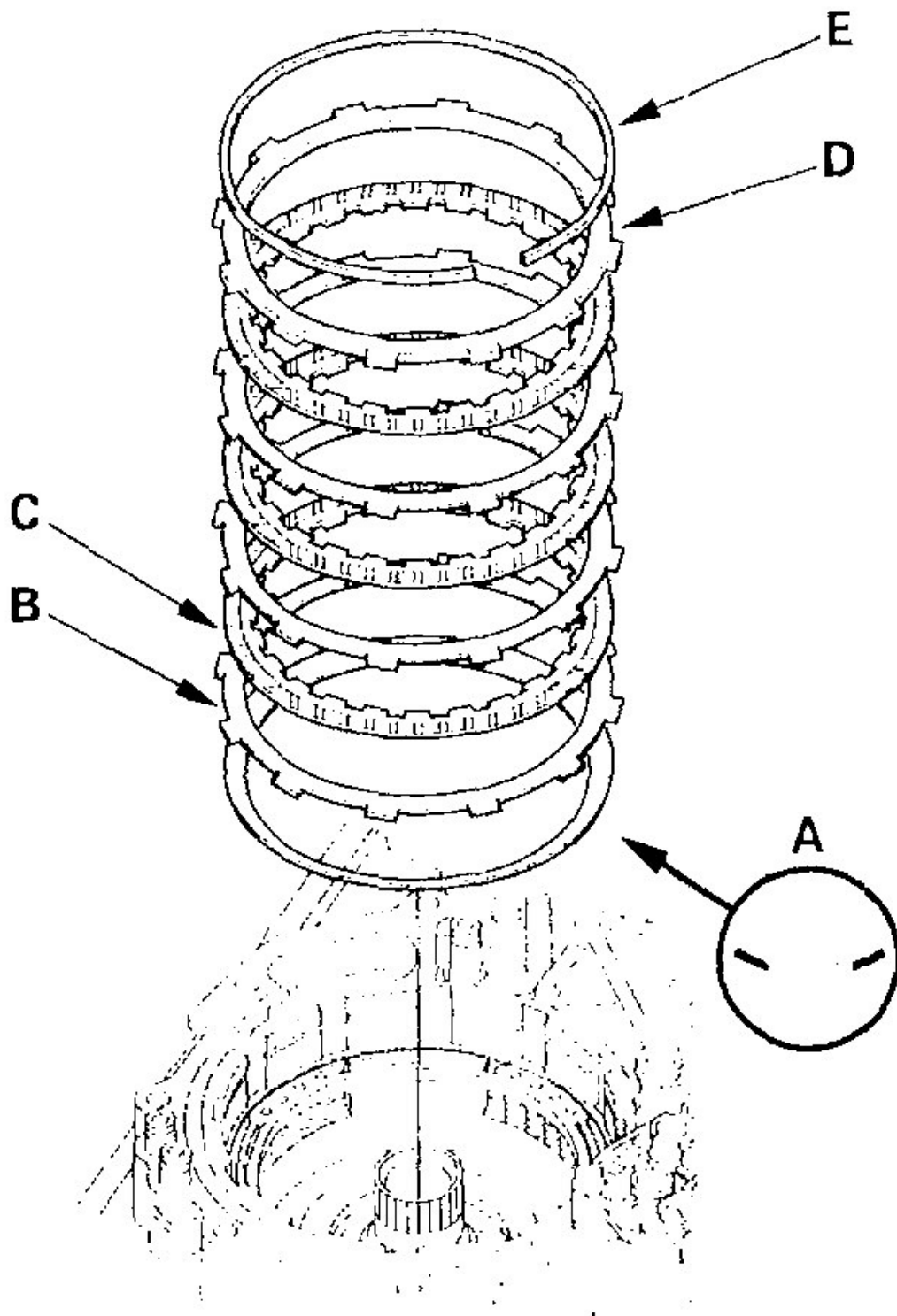
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Fig. 50: Verifying Snap Ring End Gap
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2003 Honda Civic EX

2001-05 AUTOMATIC TRANSMISSIONS Overhaul - MYLA & SLYA (CVT)

12. Soak the reverse brake discs thoroughly in ATF for a minimum of 30 minutes. Before installing the plates and discs, make sure the inside of the clutch drum is free of dirt and other foreign matter.
13. Install the disc spring (A) in the direction shown.



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Fig. 51: Installing Disc Spring**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

14. Starting with a reverse brake plate (B), alternately install the plates and discs (C). Install the reverse brake end plate (D) and snap ring (E).
15. Verify that the snap ring end gap (A) is 18 mm (0.71 in.) and above, and the inside diameter (B) of the snap ring is 143.5 mm (5.65 in.) and above.

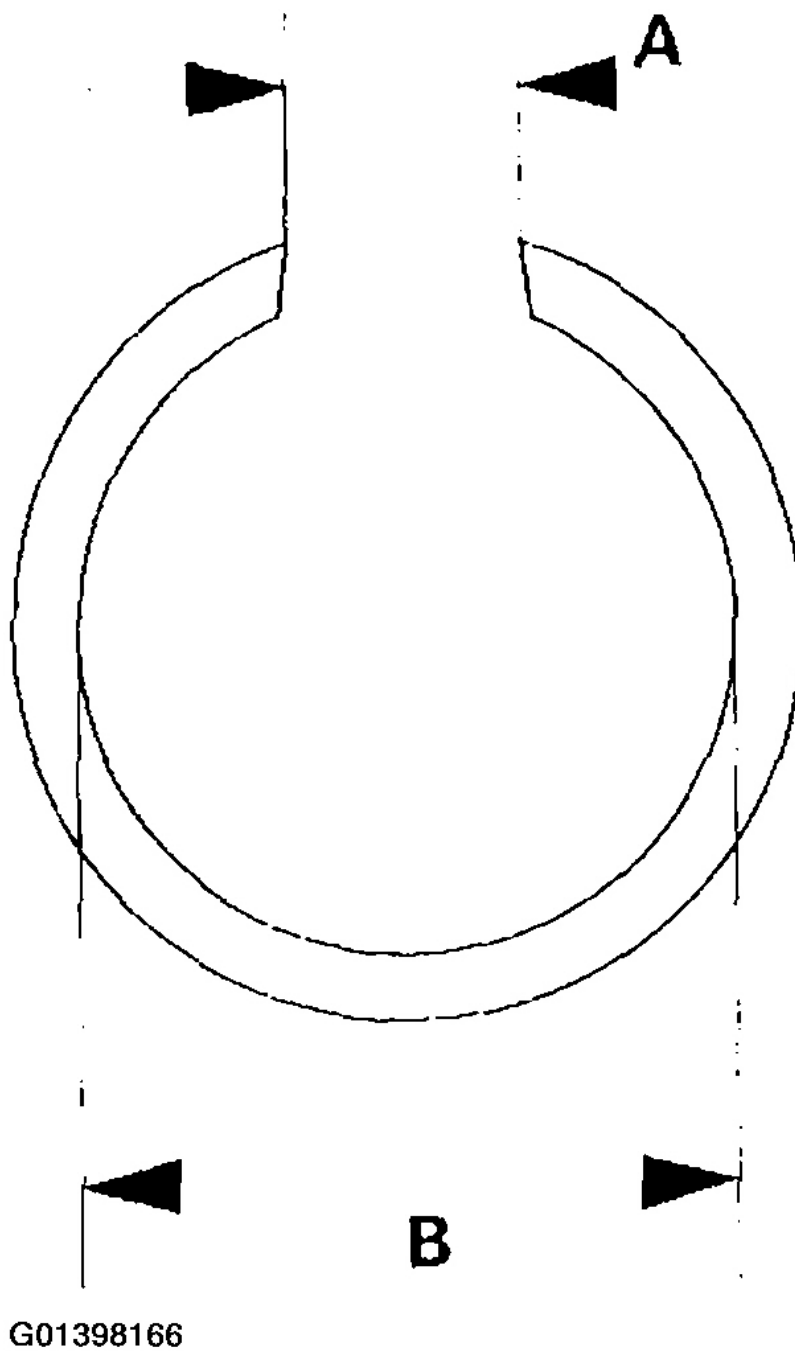
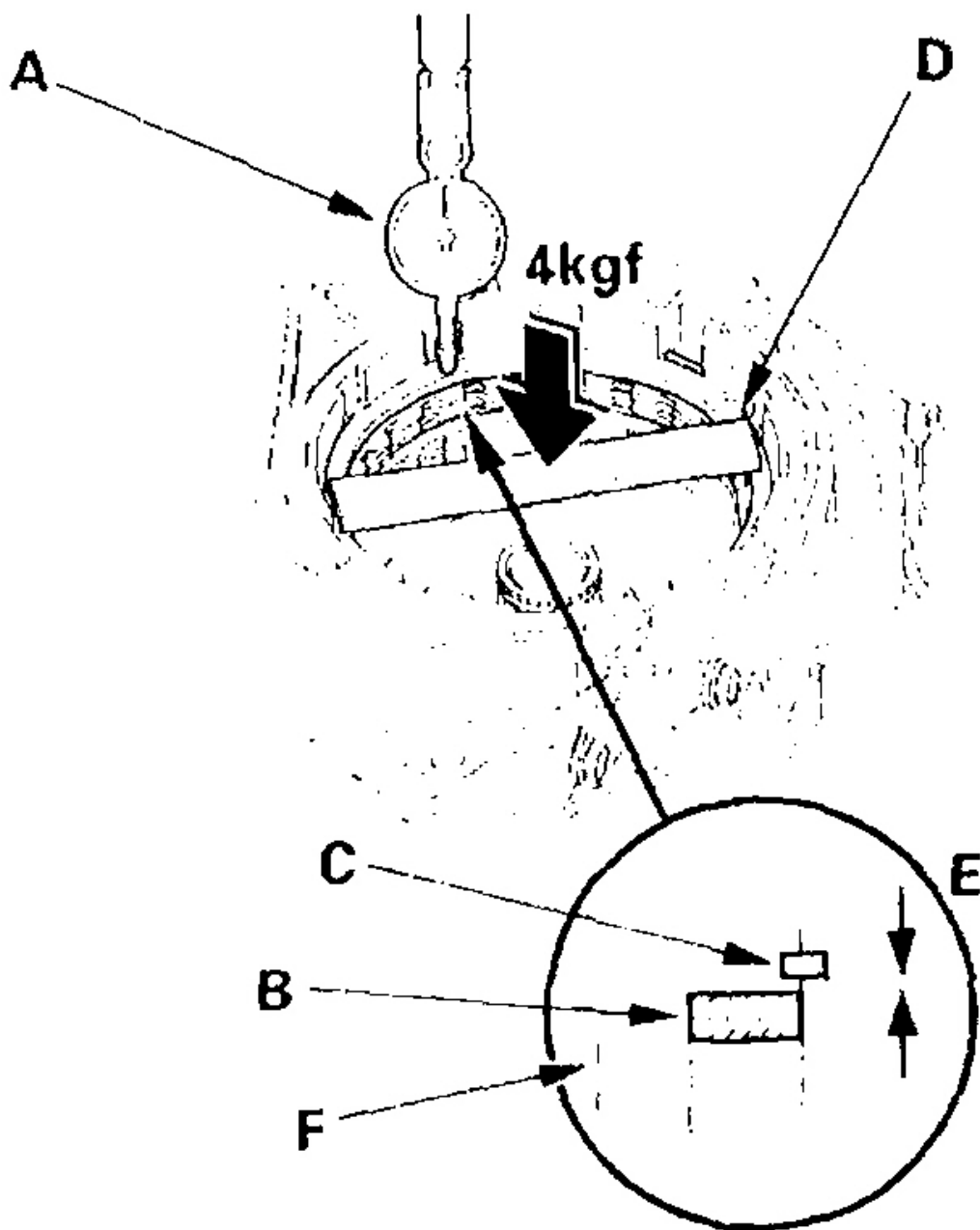


Fig. 52: Verifying Snap Ring End Gap
Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Set a dial indicator (A) on the clutch end plate (B). Zero the dial indicator with the clutch end plate lifted up to the snap ring (C).



G01398167

Fig. 53: Setting Dial Indicator On Clutch End Plate
Courtesy of AMERICAN HONDA MOTOR CO., INC.

17. Release the clutch end plate to lower the clutch end plate, then put a steel plate (D) on the end plate (B).
18. Press the steel plate down with 39 N (4 kgf, 9lbf) using a force gauge, and read the dial indicator (A). The dial indicator reads the clearance (E) between the clutch end plate and top disc (F). Take measurements in at least three places, and use the average as the actual clearance.

Reverse Brake End Plate-to-Top Disc Clearance

Service Limit: 0.45-0.75 mm (0.018-0.030 in.)

19. If the clearance is out of the service limit, select a new reverse brake end plate from following table, then recheck.

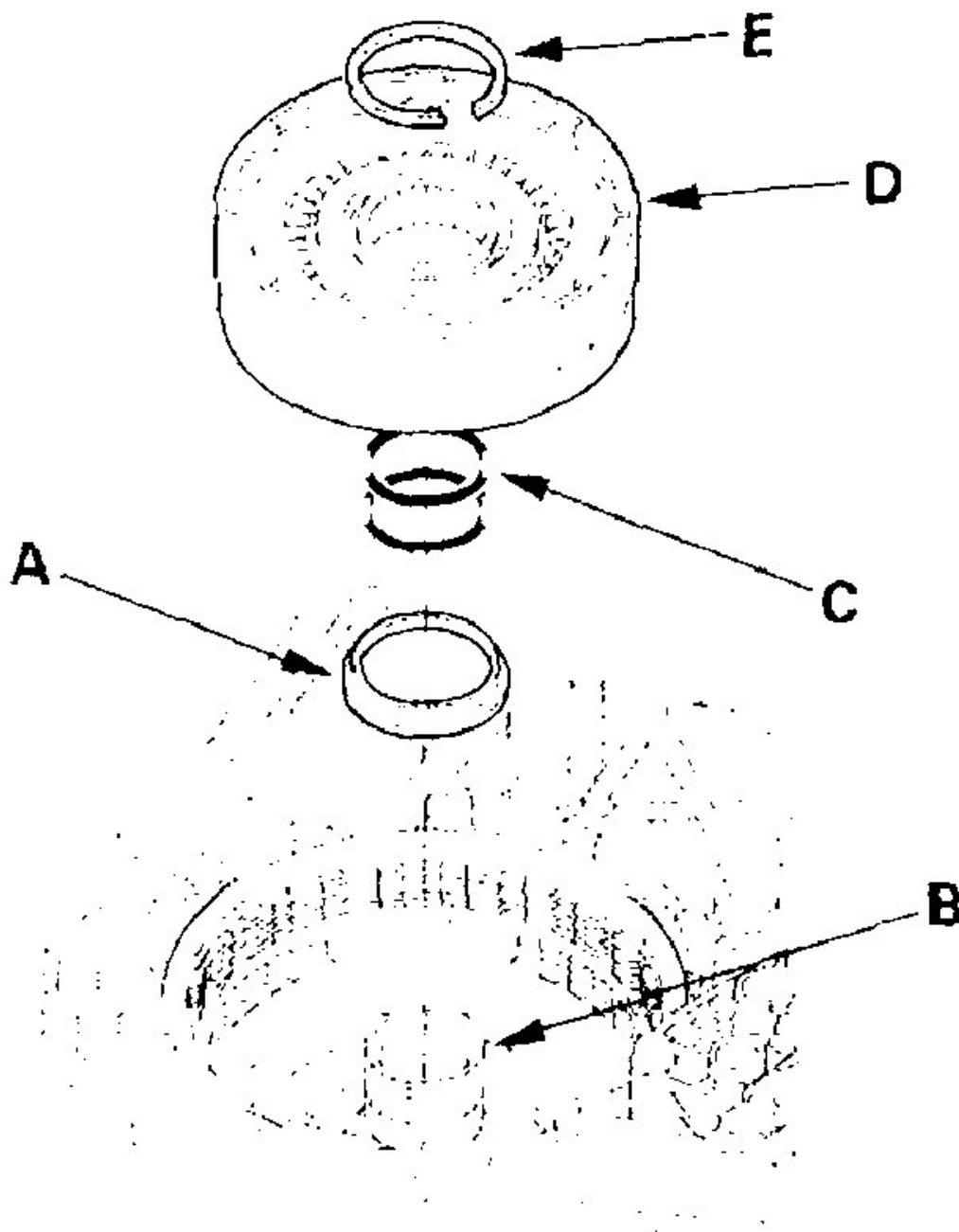
NOTE: If the thickest end plate is installed, but the clearance is still over the standard, replace the reverse brake discs and plates.

Plate No.	Part Number	Thickness
1	22551-P4V-003	3.6 mm (0.142 in.)
2	22552-P4V-003	3.8 mm (0.150 in.)
3	22553-P4V-003	4.0 mm (0.157 in.)
4	22554-P4V-003	4.2 mm (0.165 in.)
5	22555-P4V-003	4.4 mm (0.173 in.)
6	22556-P4V-003	4.6 mm (0.181 in.)
7	22557-P4V-003	4.8 mm (0.189 in.)
8	22558-P4V-003	5.0 mm (0.197 in.)

G01398168

Fig. 54: Reverse Brake End Plate Chart
Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. After replacing the reverse brake end plate, make sure that the clearance is within tolerance.
21. Install the snap ring retainer (A) over the drive pulley shaft (B).



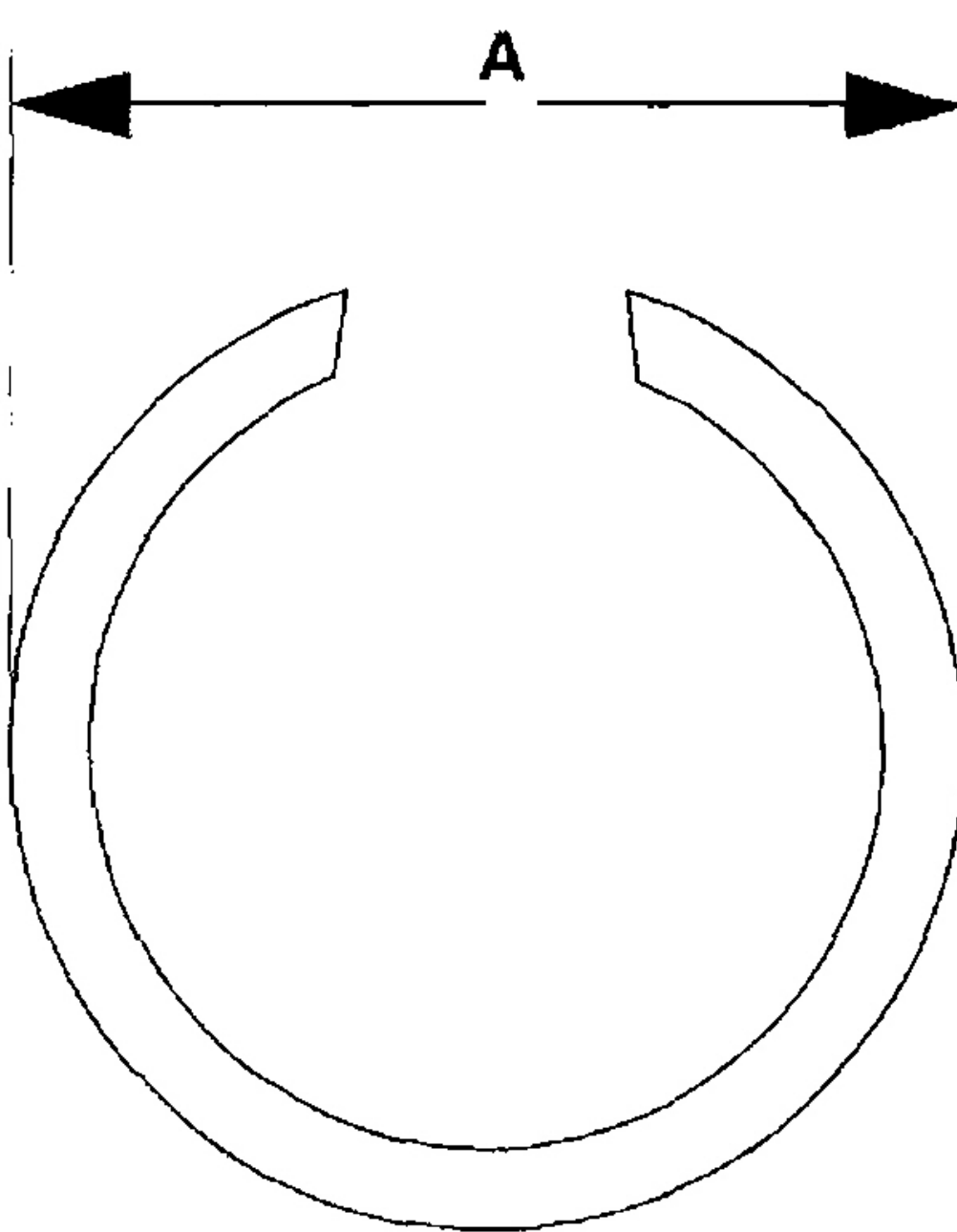
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Fig. 55: Installing Snap Ring Retainer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

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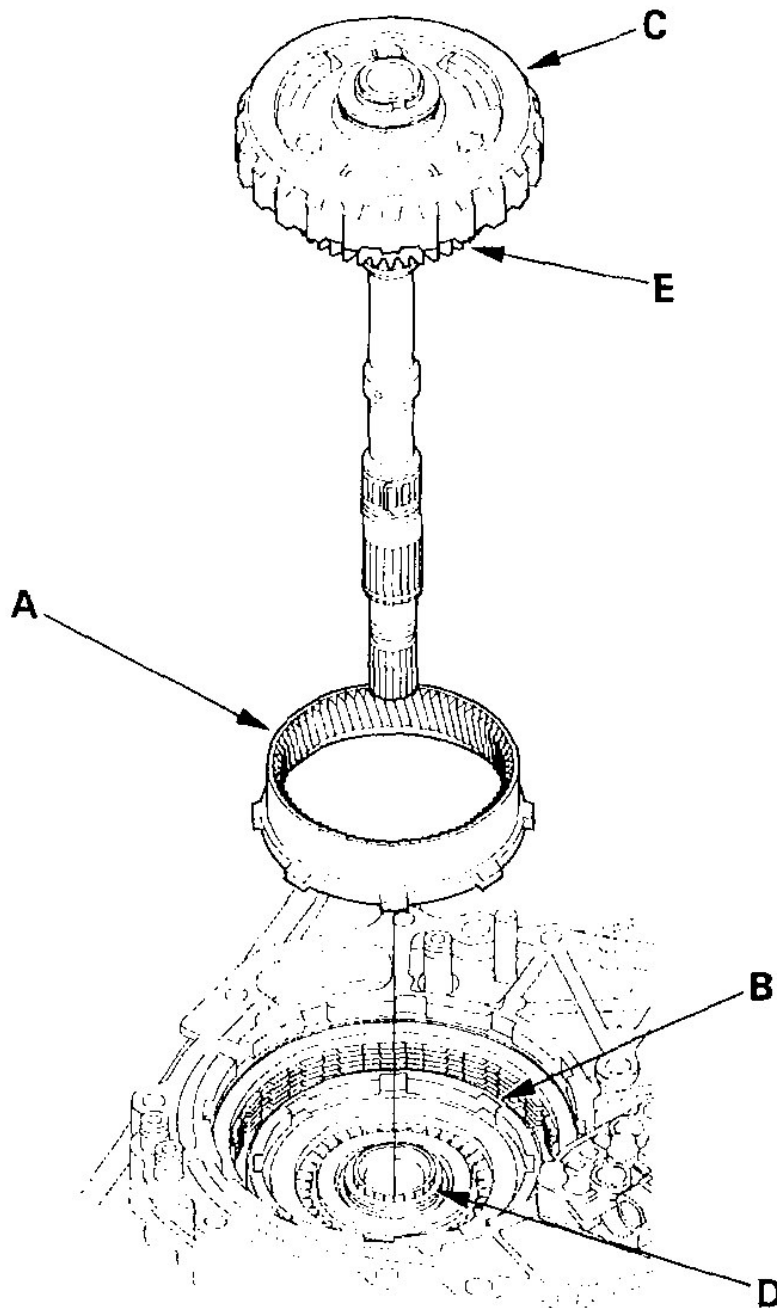
22. Wrap the drive pulley shaft splines with tape to prevent O-ring damage. Install new O-ring (C) in the drive pulley shaft O-ring grooves, then remove the tape.
23. Install the forward clutch (D) on the drive pulley shaft, then install the snap ring (E) to secure the forward clutch.
24. Verify that the snap ring outside diameter is 41.4 mm (1.63 in.) or less.



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Fig. 56: Verifying Snap Ring Outside Diameter
Courtesy of AMERICAN HONDA MOTOR CO., INC.

25. Install the ring gear (A) on the forward clutch (B).



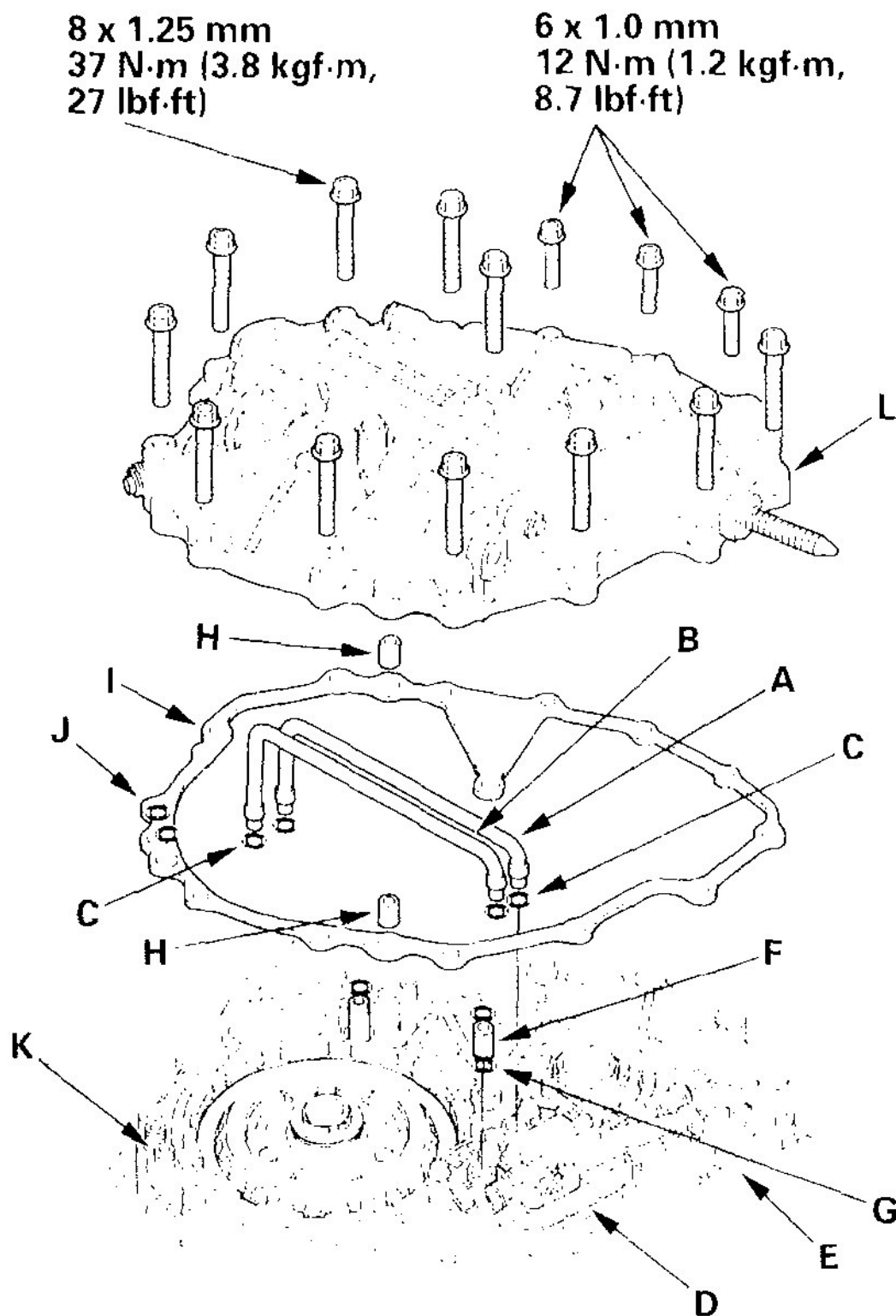
G01398171

Fig. 57: Installing Ring Gear On Forward Clutch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2003 Honda Civic EX

2001-05 AUTOMATIC TRANSMISSIONS Overhaul - MYLA & SLYA (CVT)

26. Install the input shaft/planetary carrier assembly (C) through the drive pulley shaft (D) while aligning the sun gear (E) to the clutch discs and aligning the planetary carrier to the reverse brake discs.
27. Install the manual valve body lines A and B with the new O-rings (C) on the manual valve body (D) and the intermediate housing (E).



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Fig. 58: Installing Manual Valve Body Lines A & B With New O-Rings
Courtesy of AMERICAN HONDA MOTOR CO., INC.

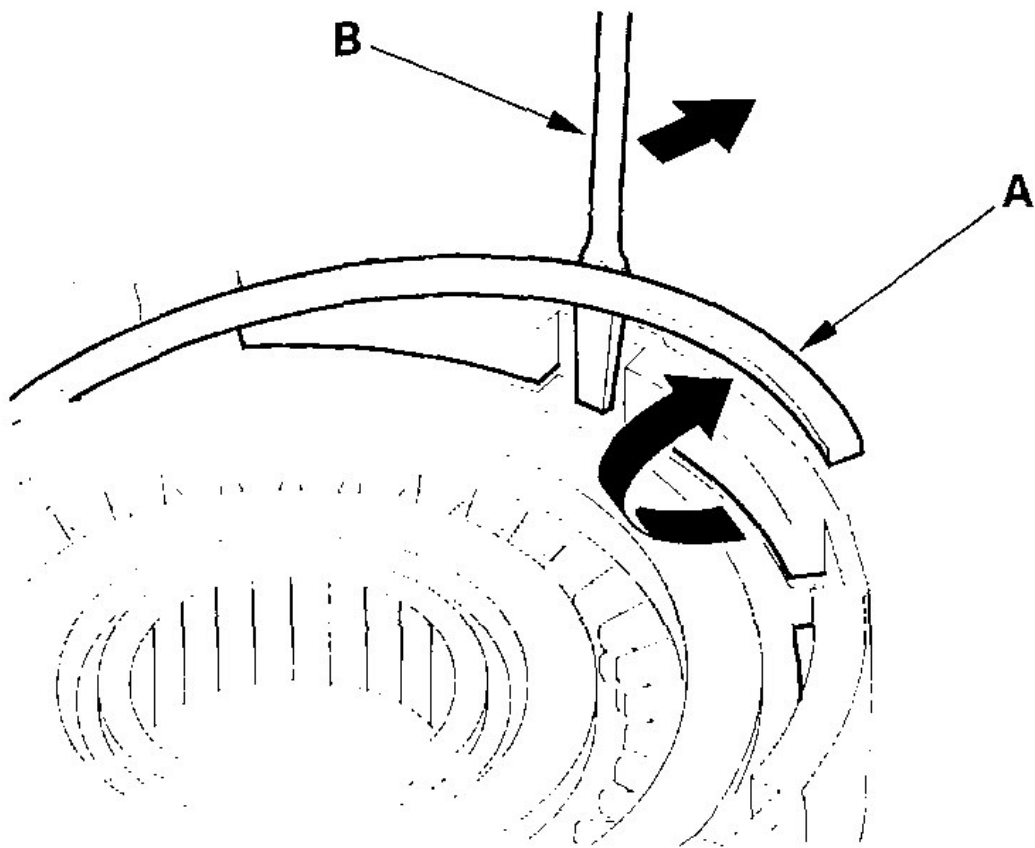
28. Install the ATF feed pipe (F) with the new O-rings (G).
29. Install the two dowel pins (H) and the new end cover gasket (I) on the intermediate housing, then install the new O-rings (J) over the ATF feed pipes (K).
30. Install the end cover (L) (three; 6 mm bolts and 11; 8 mm bolts).

FORWARD CLUTCH

CLUTCH DISASSEMBLY

Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100
 - Clutch spring compressor attachment 07HAE-PL50101
 - Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A
1. Remove the snap ring (A), then remove the clutch end plate, the clutch discs, and the plates with a screwdriver (B).

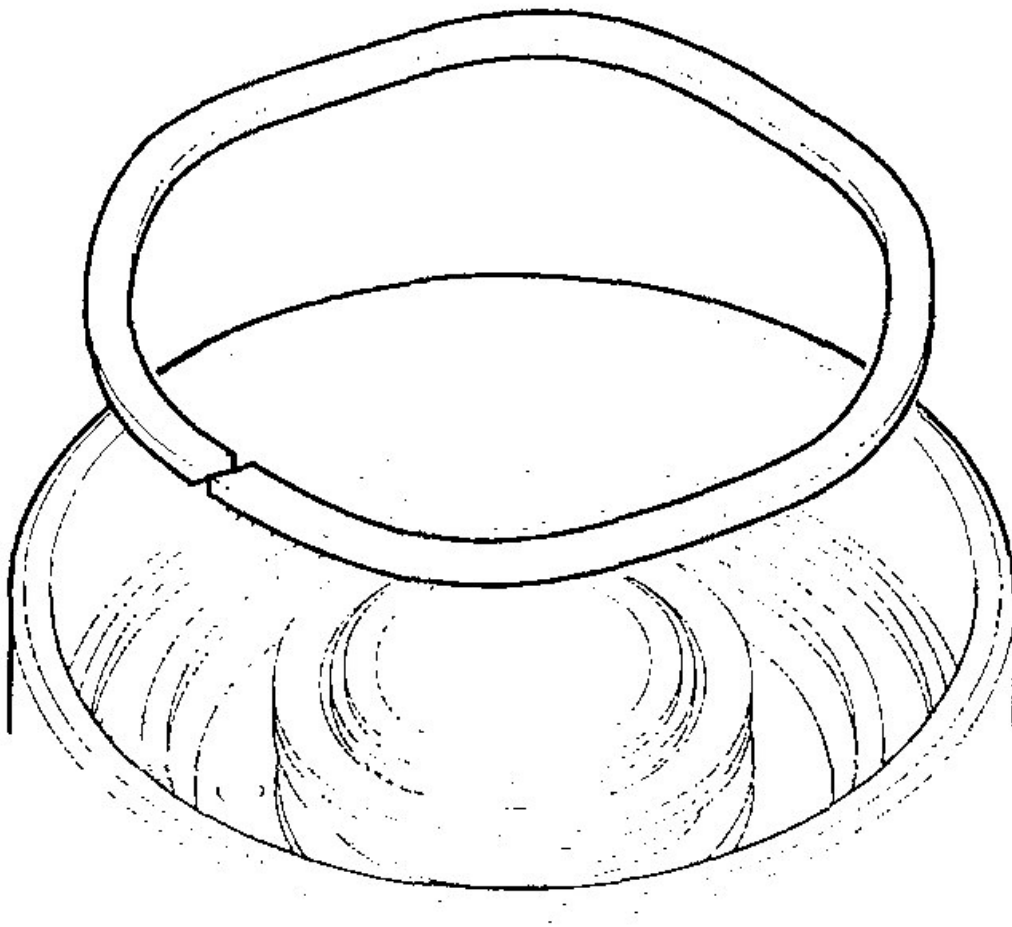


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Fig. 59: Removing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the waved spring.

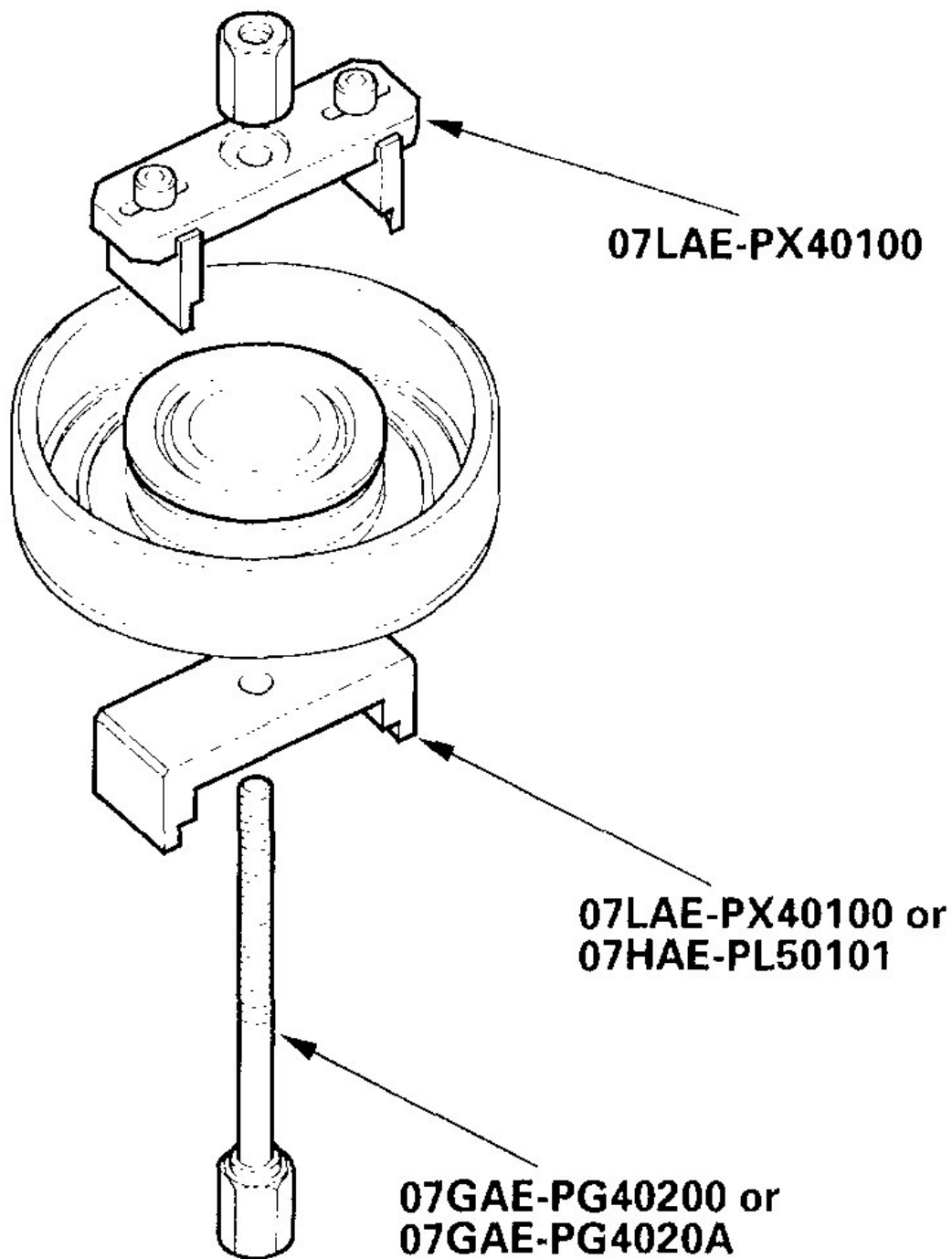


G01398132

Fig. 60: Removing Waved Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

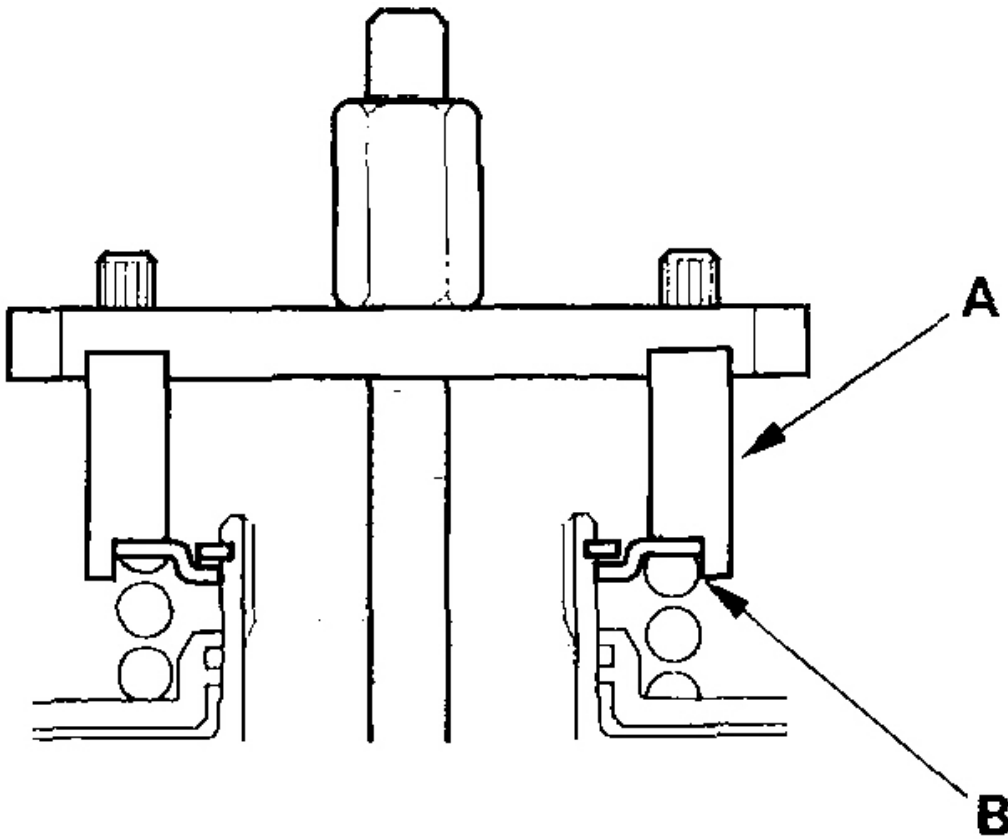
3. Install the special tool on the clutch assembly.



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Fig. 61: Installing Special Tool On Clutch Assembly
Courtesy of AMERICAN HONDA MOTOR CO., INC.

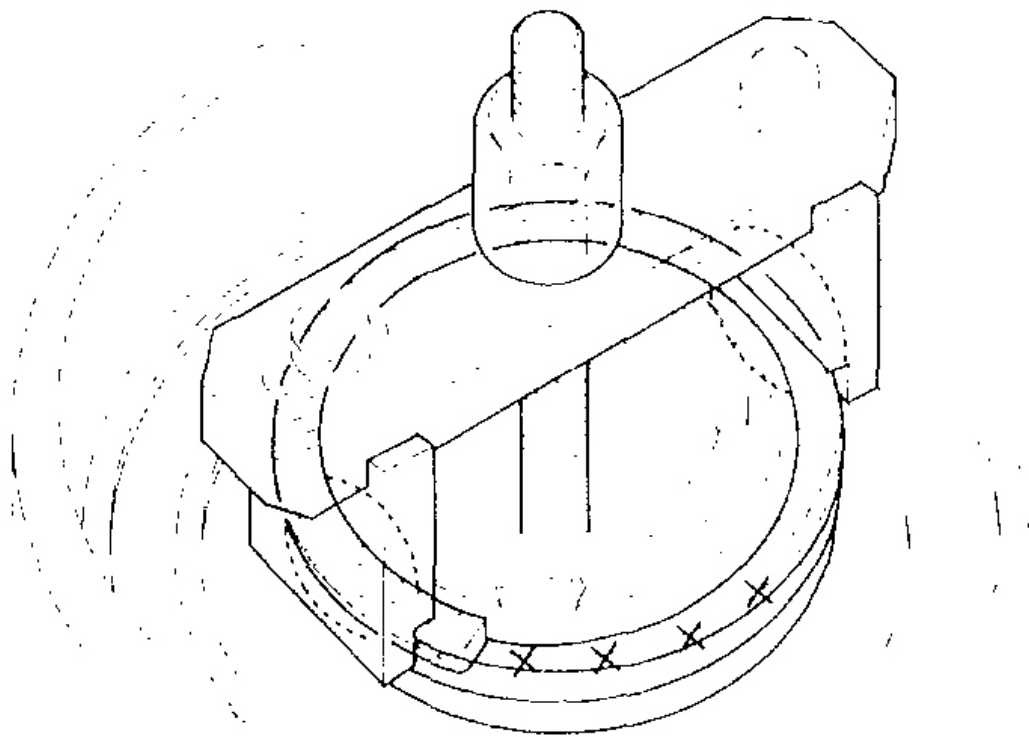
4. Be sure the special tool (A) is adjusted to have full contact with the spring retainer (B) on the clutch.



G01398134

Fig. 62: Making Sure Special Tool Is Adjusted To Have Full Contact With Spring Retainer
Courtesy of AMERICAN HONDA MOTOR CO., INC.

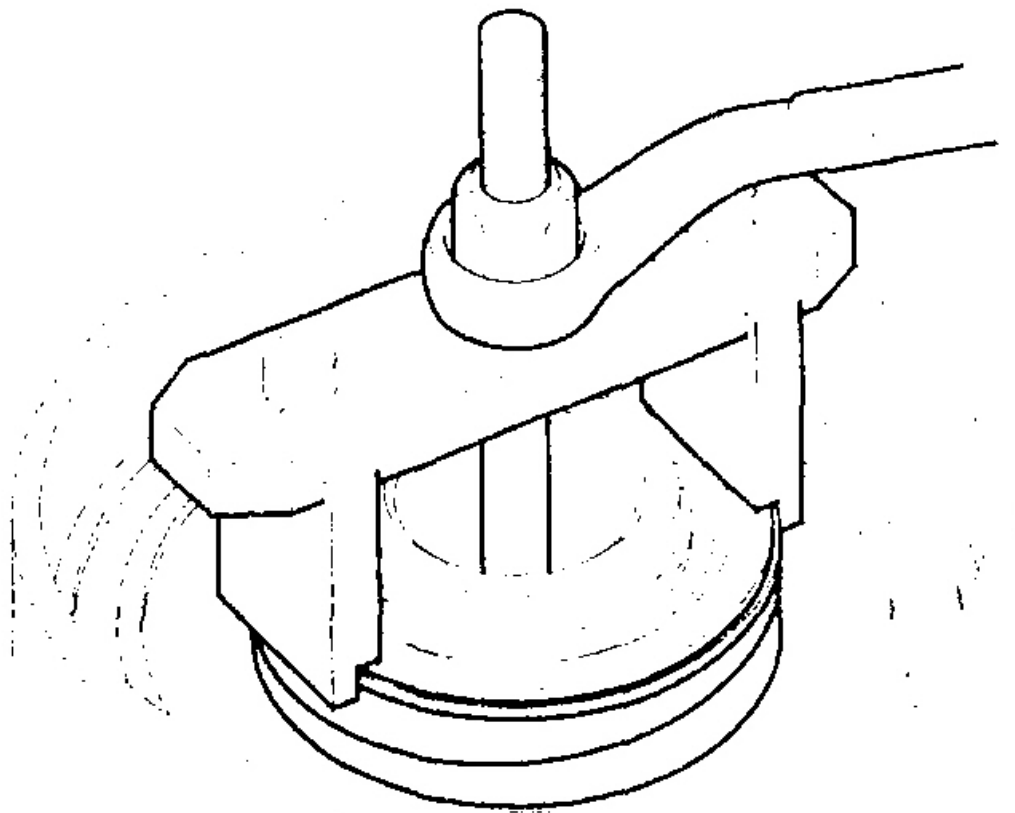
5. If either end of the special tool is set over an area of the spring retainer which is unsupported by the return spring, the retainer may be damaged.



G01398135

Fig. 63: Properly Installed Spring Compressor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Compress the spring until the snap ring can be removed.



G01398136

Fig. 64: Compressing Spring Until Snap Ring Can Be Removed
Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Remove the snap ring (A). Then remove the special tools (B), spring retainer (C), and return spring.

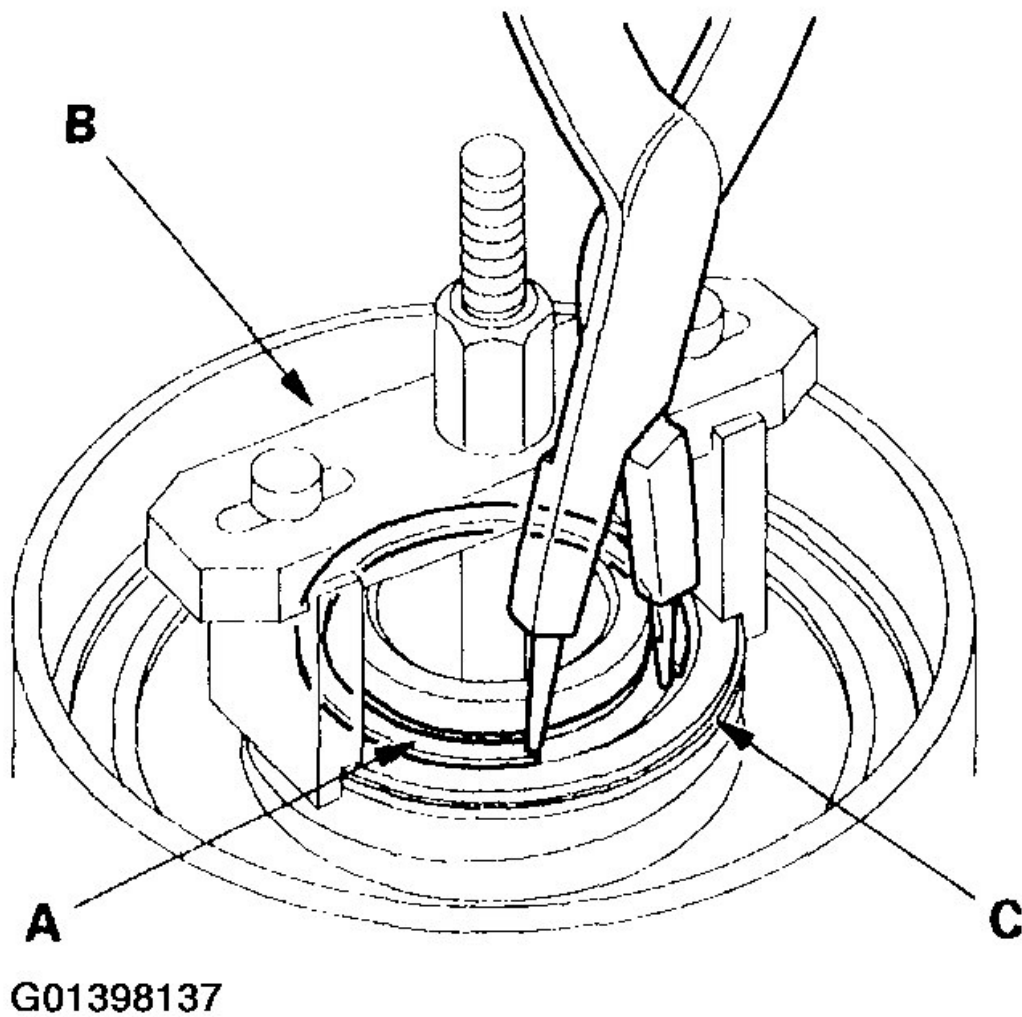


Fig. 65: Removing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

8. Wrap a shop rag around the clutch drum (A), and apply air pressure to the fluid passage to remove the piston (B).

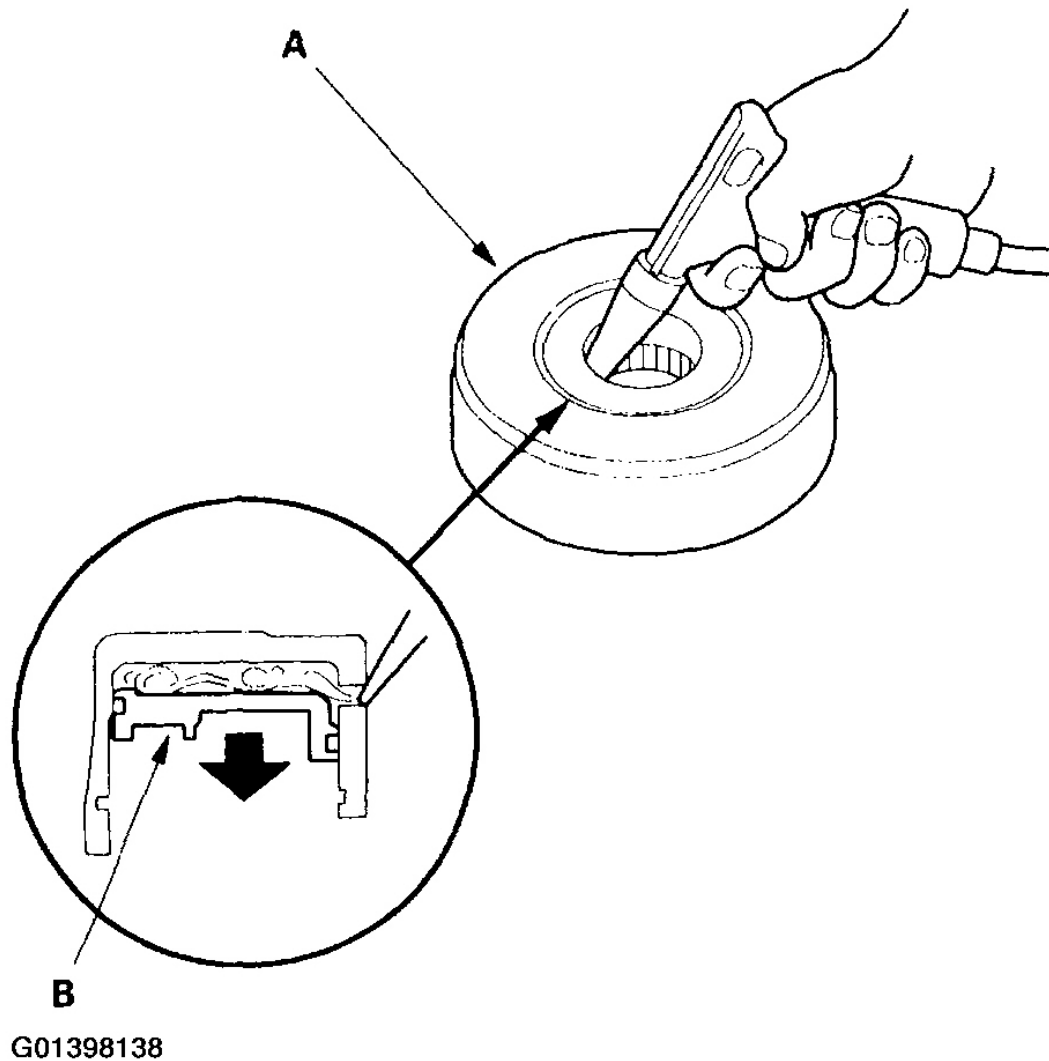
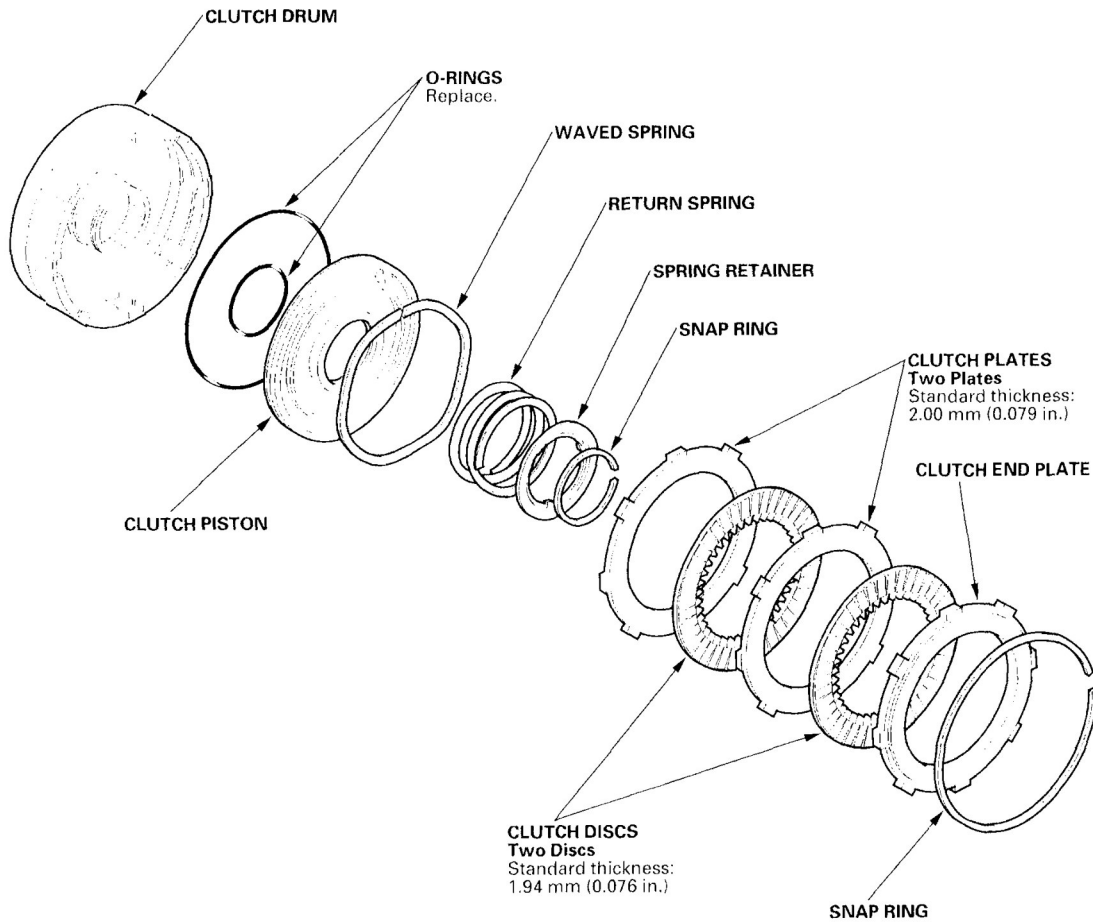


Fig. 66: Wrapping Shop Rag Around Clutch Drum
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CLUTCH INSPECTION



G01398139

Fig. 67: Exploded View Of Clutch

Courtesy of AMERICAN HONDA MOTOR CO., INC.

CLUTCH REASSEMBLY

Special Tools Required

- Clutch spring compressor attachment 07LAE-PX40100
- Clutch spring compressor attachment 07HAE-PL50101
- Clutch spring compressor bolt assembly 07GAE-PG40200 or 07GAE-PG4020A
- Clutch compressor attachment 07ZAE-PRP0100

1. Soak the clutch discs thoroughly in ATF for a minimum of 30 minutes.
2. Inspect the check valve (A); if it's loose or stuck, replace the piston (B).

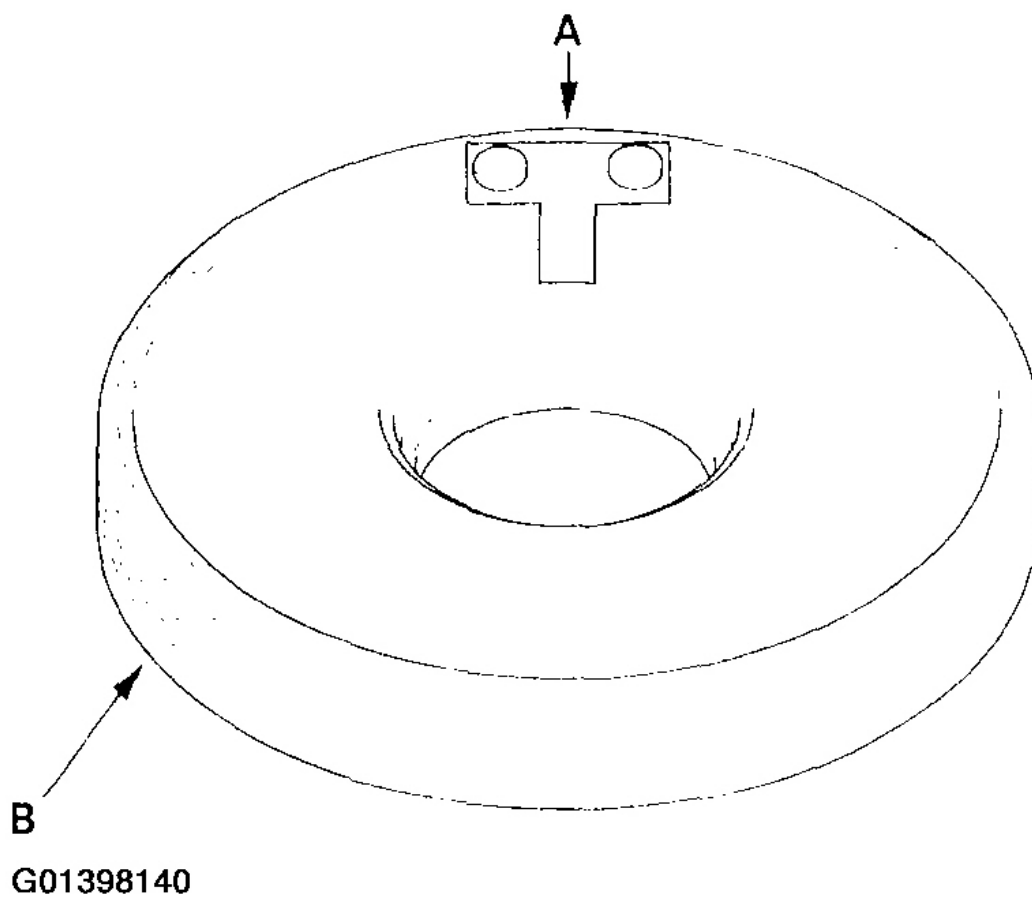
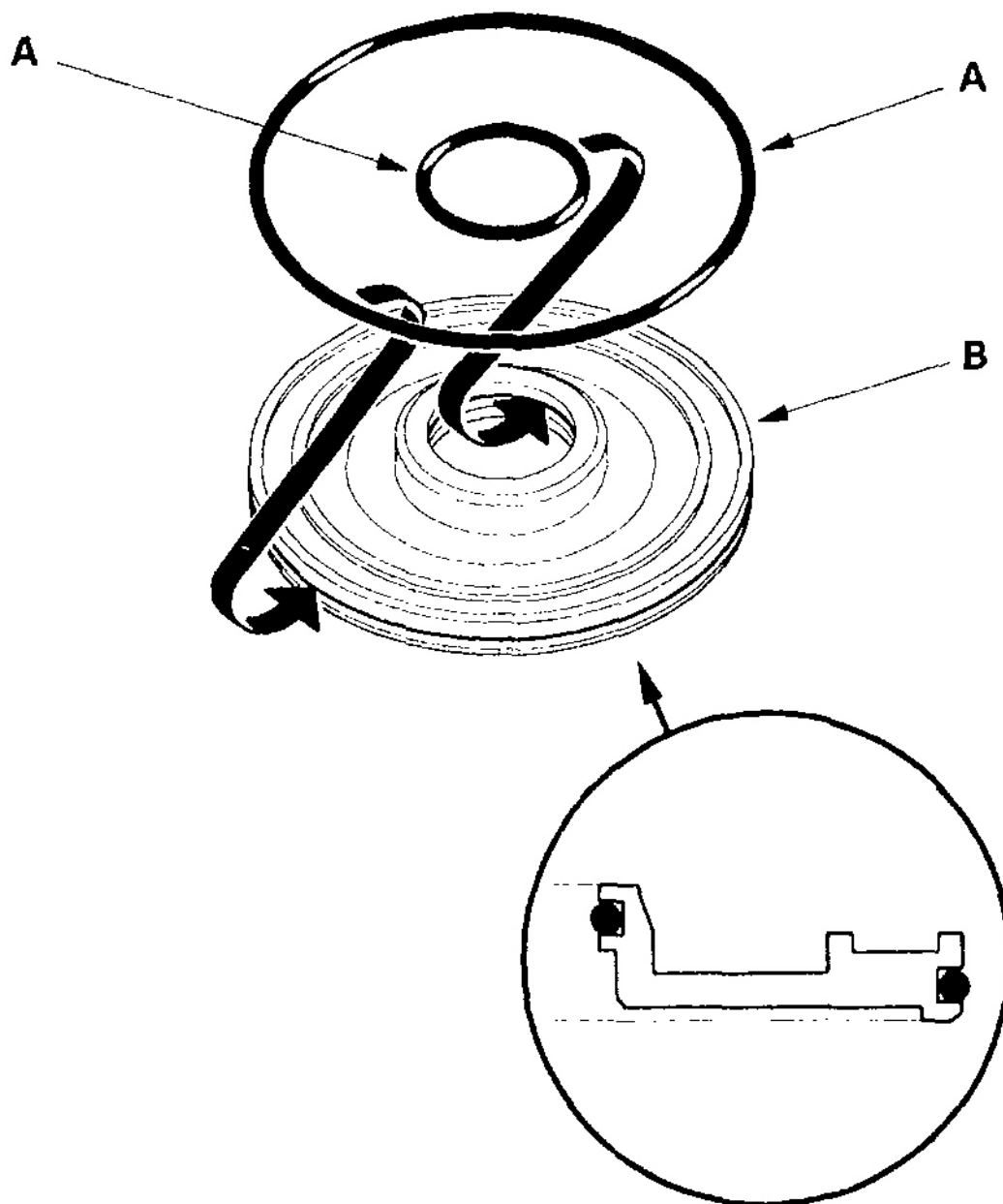


Fig. 68: Inspecting Check Valve

Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install new O-rings (A) on the piston (B).

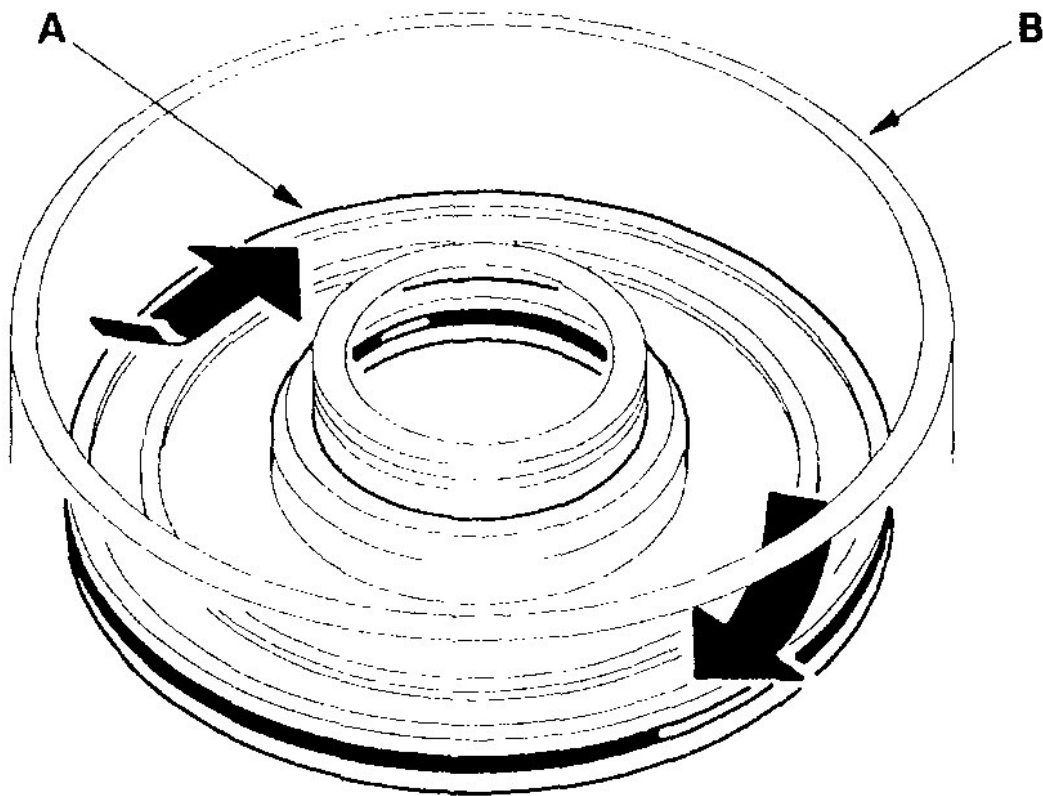


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Fig. 69: Installing New O-Rings On Piston

Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the piston (A) in the clutch drum (B). Apply pressure and rotate to ensure proper seating. Lubricate the piston O-ring with ATF before installing. Do not pinch the O-ring by installing the piston with too much force.

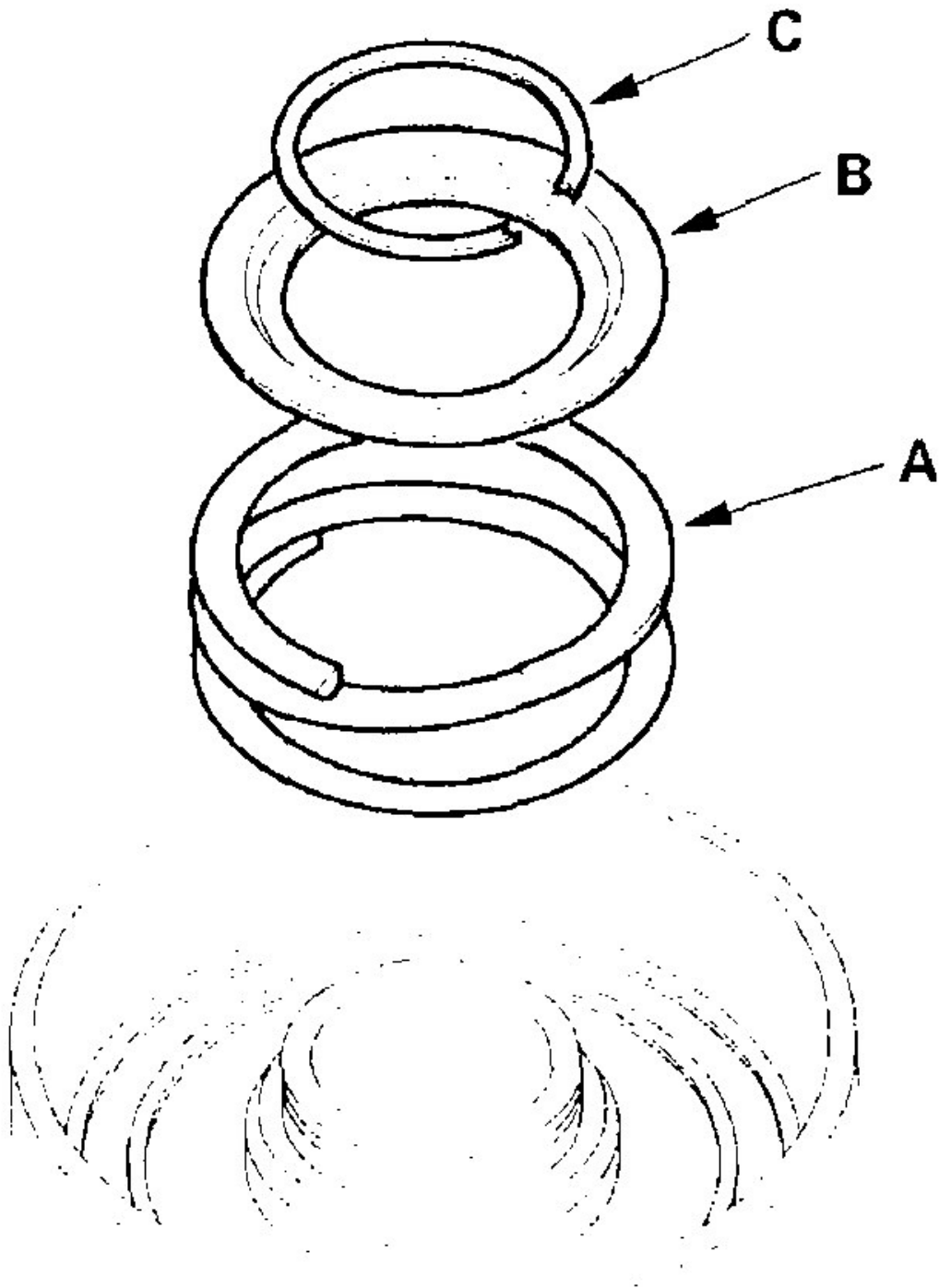


G01398142

Fig. 70: Installing Piston In Clutch Drum

Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the return spring (A) and spring retainer (B), and position the snap ring (C) on the retainer.

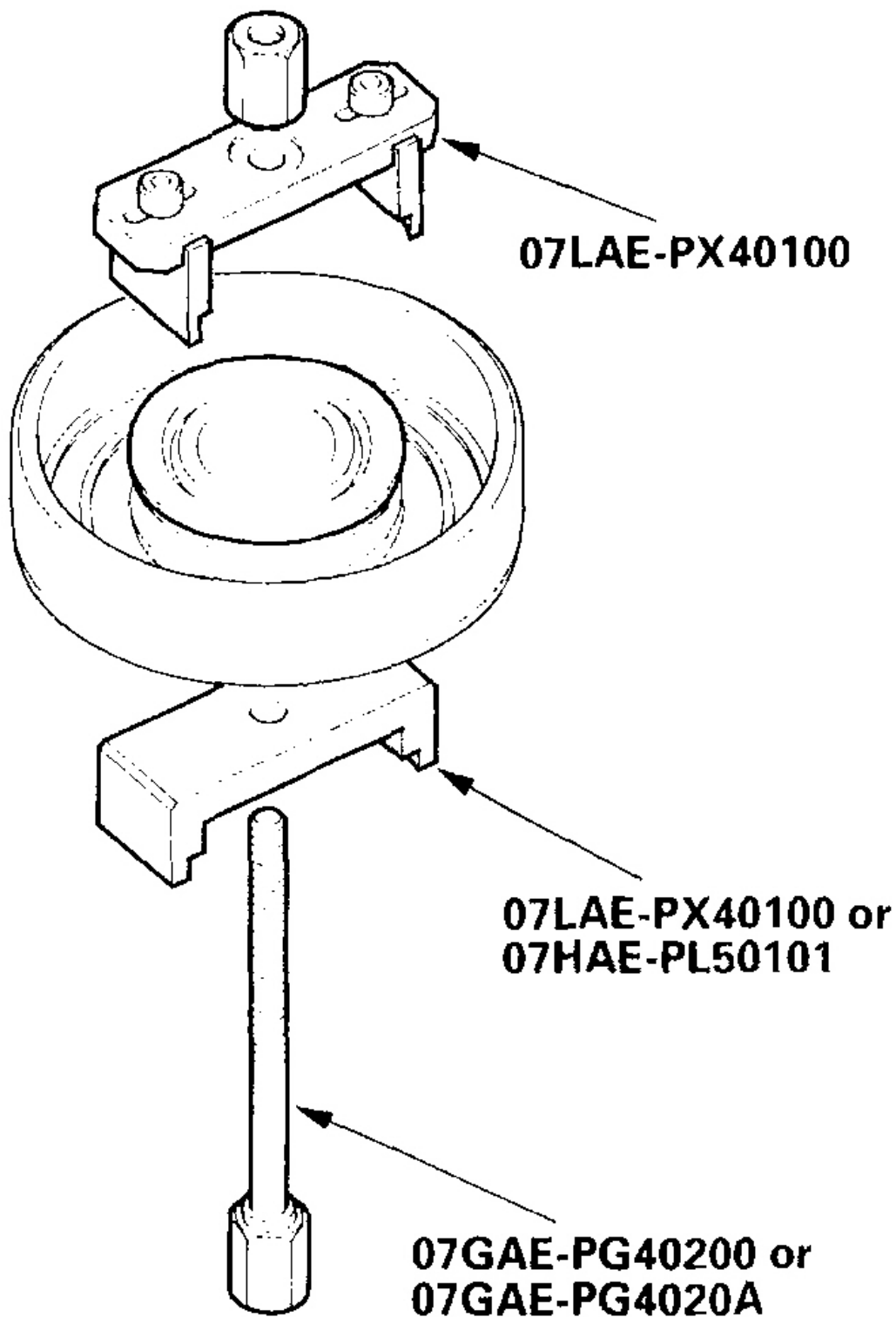


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Fig. 71: Installing Return Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

6. Install the special tool.

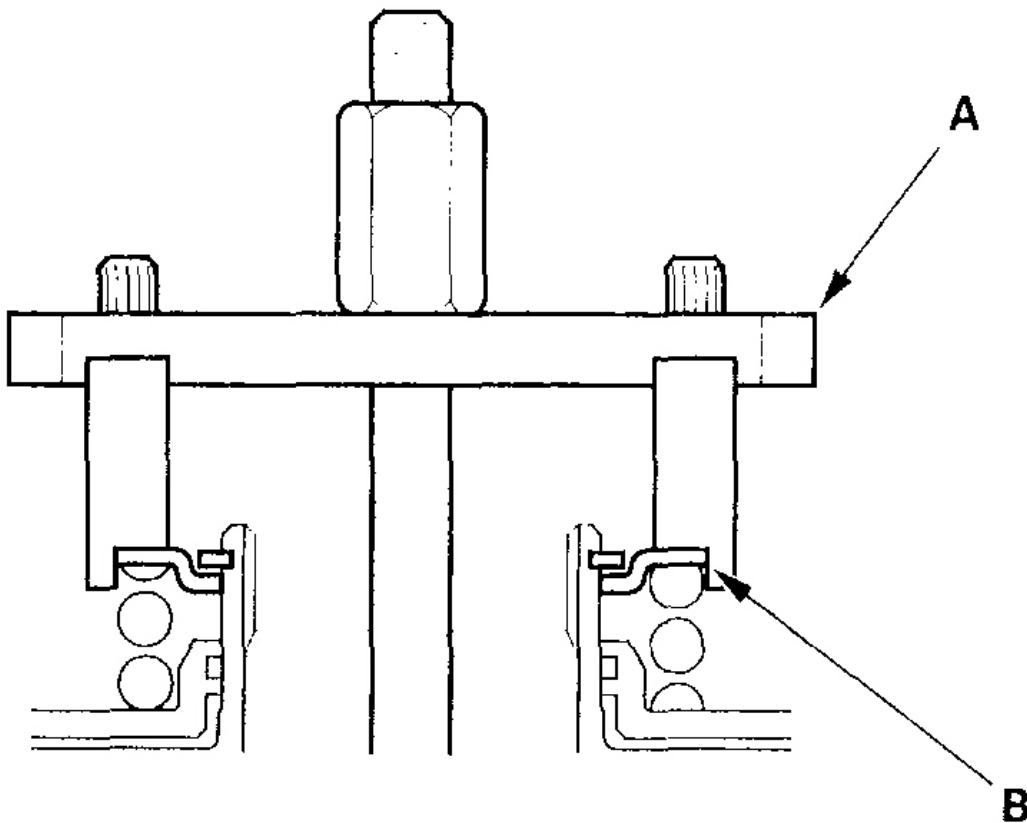


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Fig. 72: Installing Special Tool

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. Be sure the special tool (A) is adjusted to have full contact with the spring retainer (B) on the clutches.

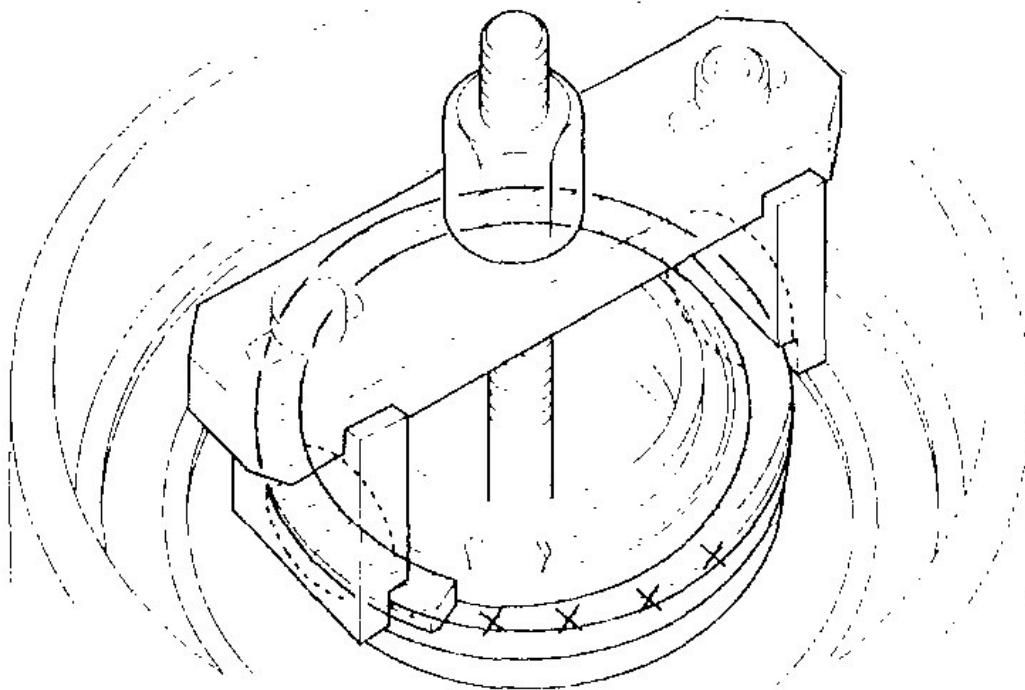


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Fig. 73: Making Sure Special Tool Is Adjusted To Have Full Contact With Spring Retainer

Courtesy of AMERICAN HONDA MOTOR CO., INC.

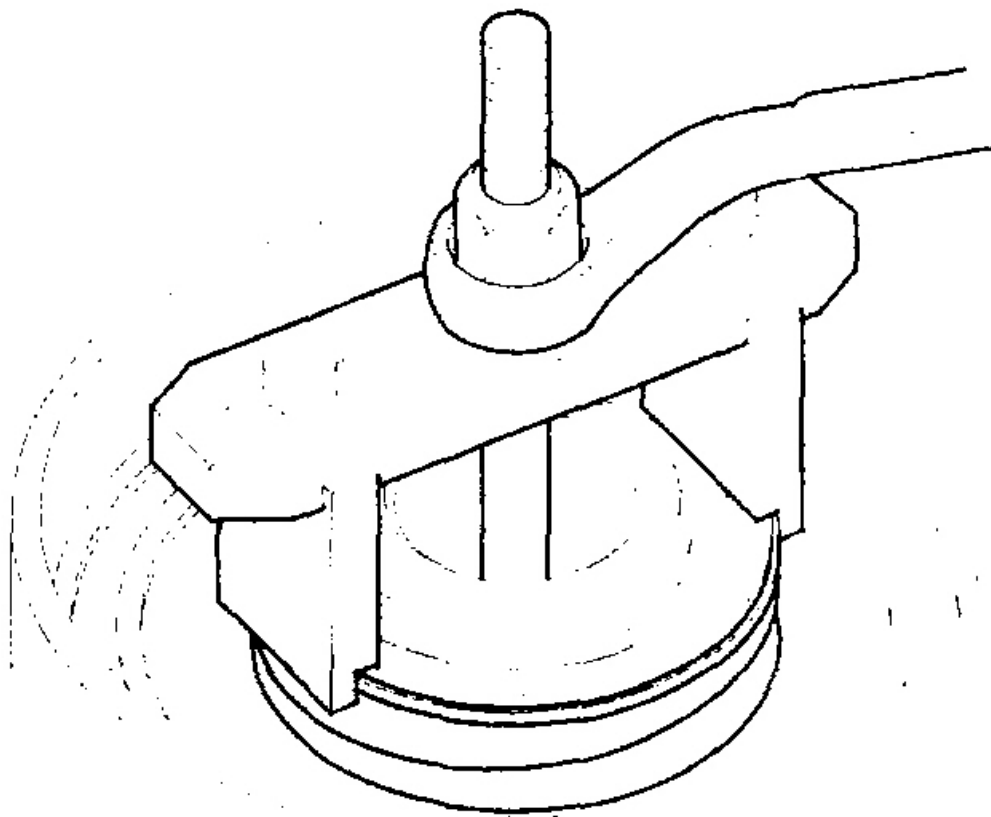
8. If either end of the special tool is set over an area of the spring retainer which is unsupported by the return spring, the retainer may be damaged.



G01398146

Fig. 74: Properly Installed Spring Compressor
Courtesy of AMERICAN HONDA MOTOR CO., INC.

9. Compress the return spring.



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Fig. 75: Compressing Return Spring
Courtesy of AMERICAN HONDA MOTOR CO., INC.

10. Install the snap ring (A).

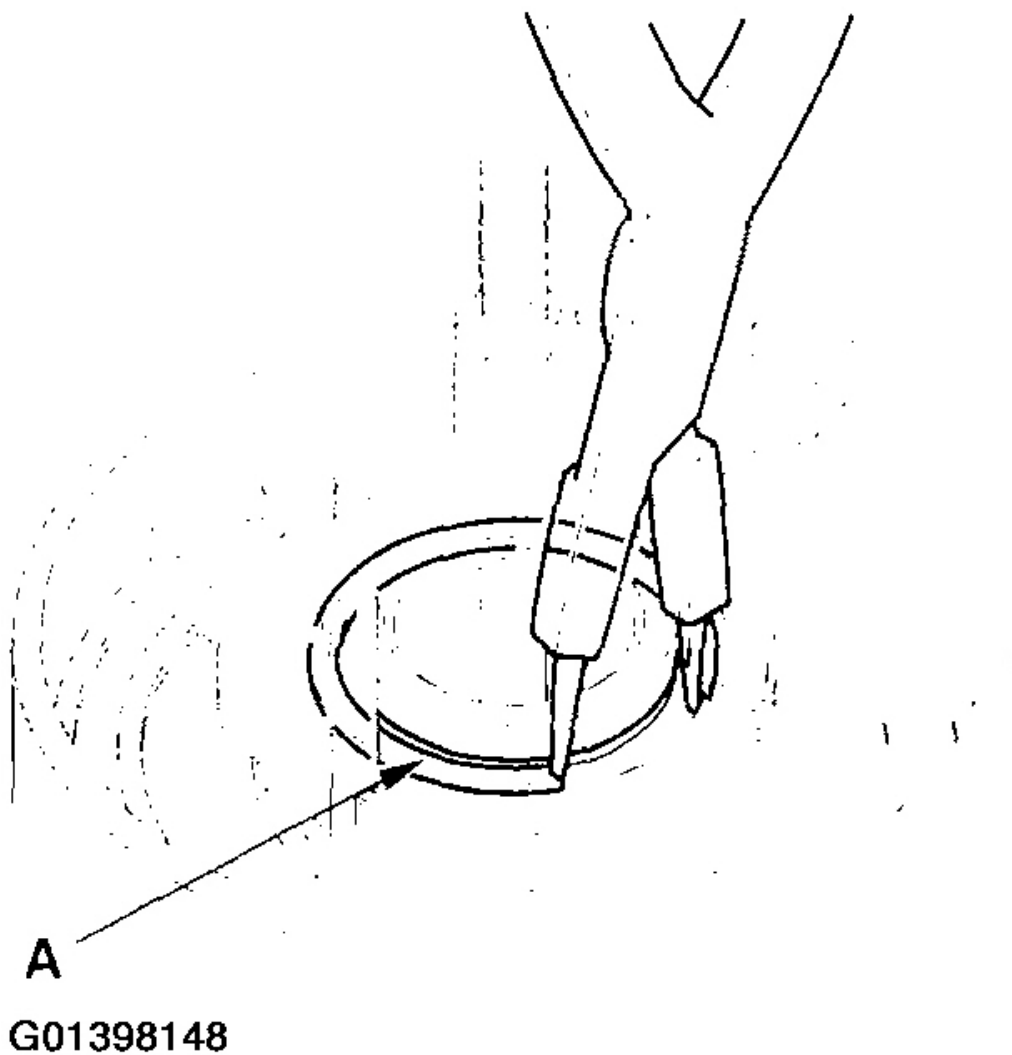
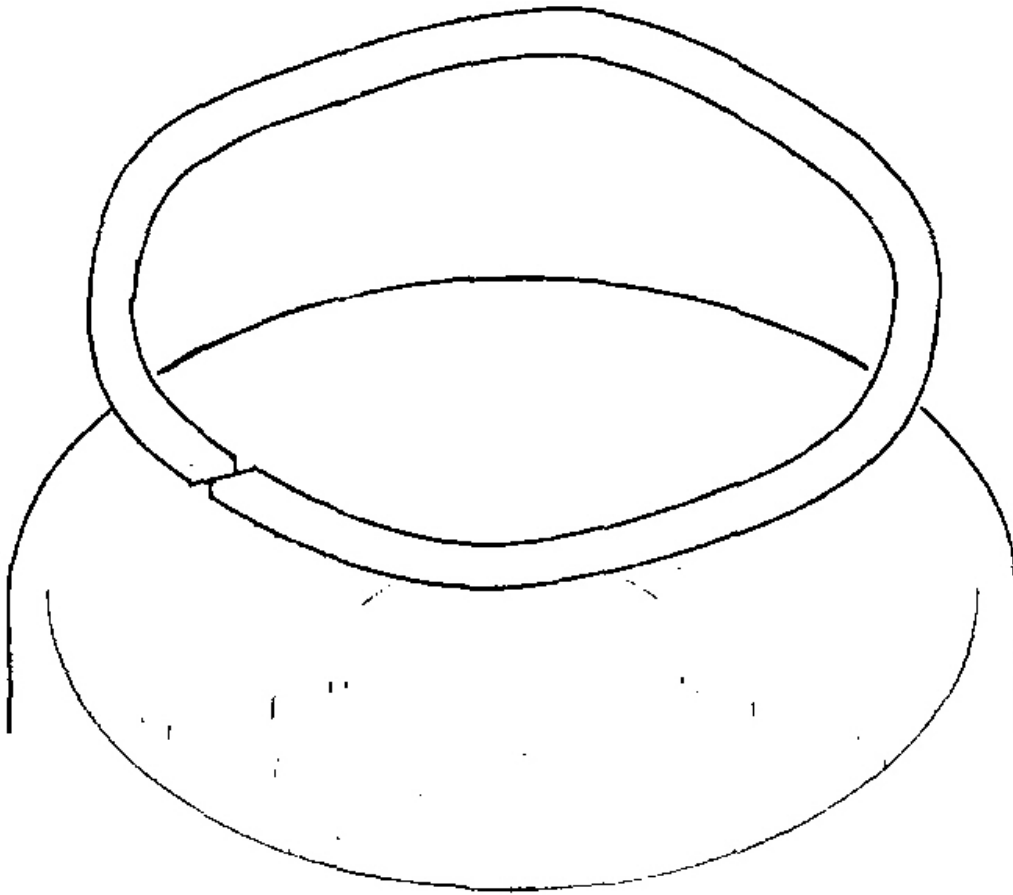


Fig. 76: Installing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Remove the special tools.
12. Install the waved spring.

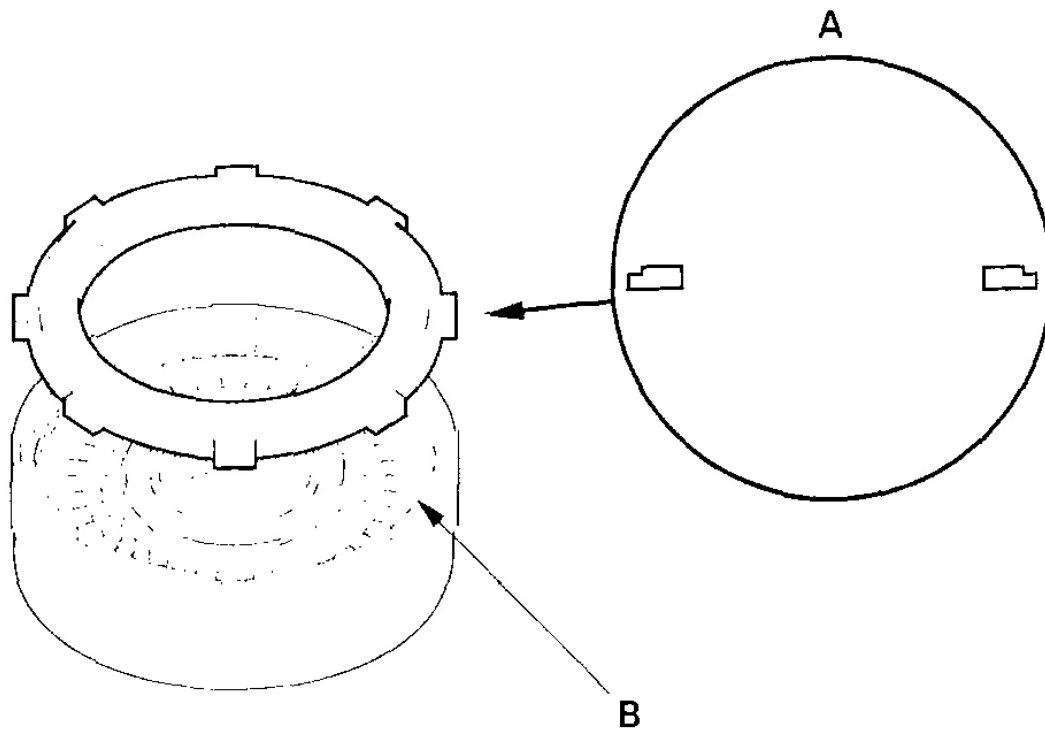


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Fig. 77: Installing Waved Spring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

13. Make sure the inside of the clutch drum is free of dirt and other foreign matter.
14. Starting with a clutch plate, alternately install the clutch plates and discs. Install the clutch end plate (A) with the flat side toward the disc (B).

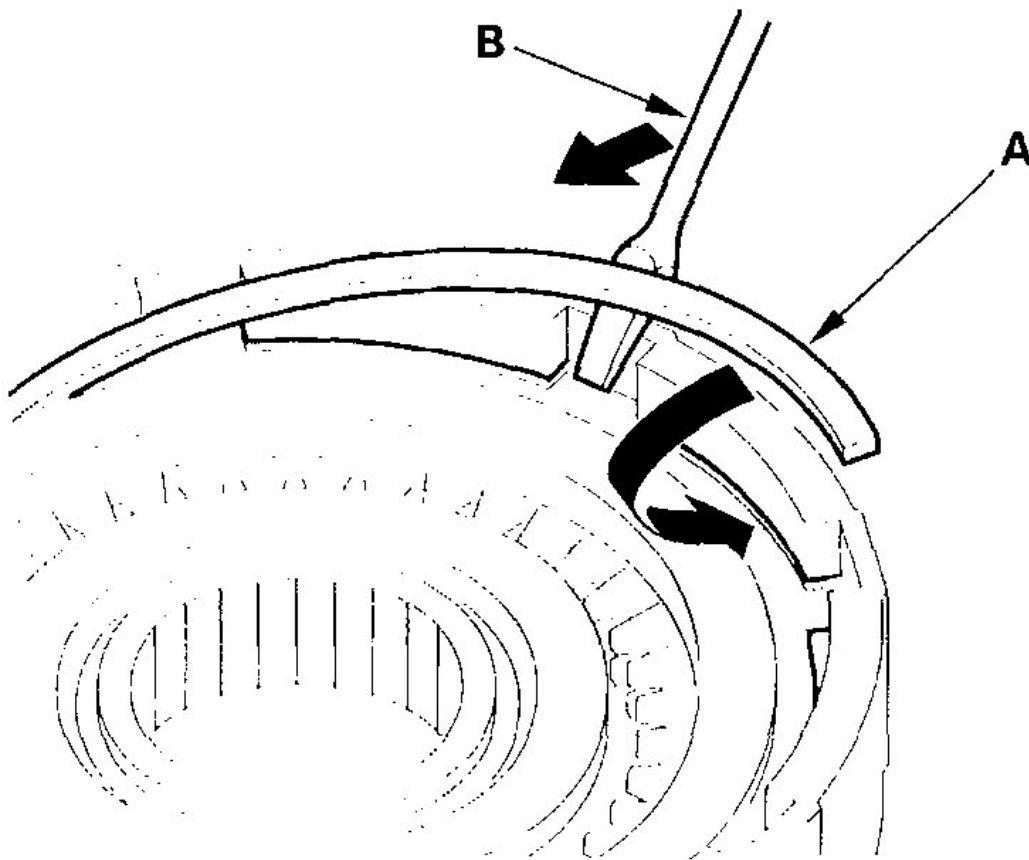


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Fig. 78: Installing Clutch End Plate

Courtesy of AMERICAN HONDA MOTOR CO., INC.

15. Install the snap ring (A) with a screwdriver (B).

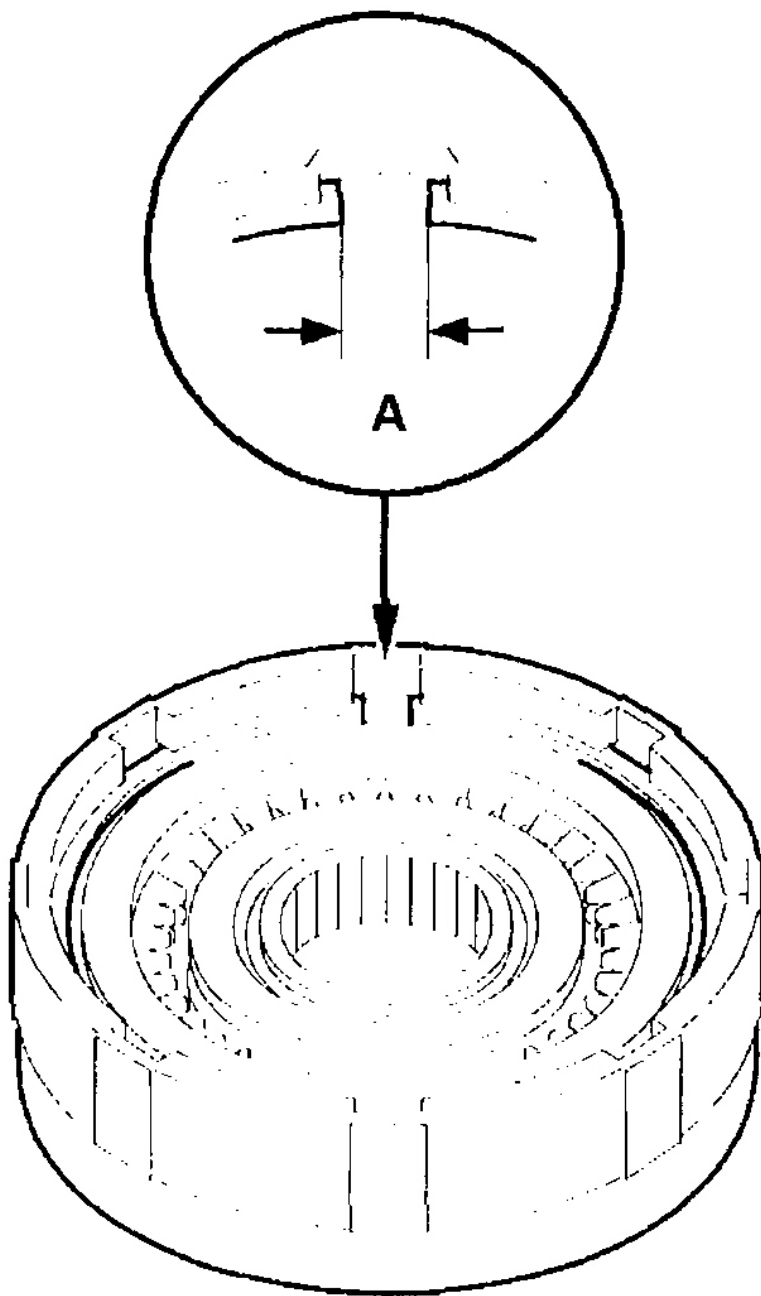


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Fig. 79: Installing Snap Ring

Courtesy of AMERICAN HONDA MOTOR CO., INC.

16. Verify that the snap ring end gap (A) is 7.9 mm (0.31 in.) and above.

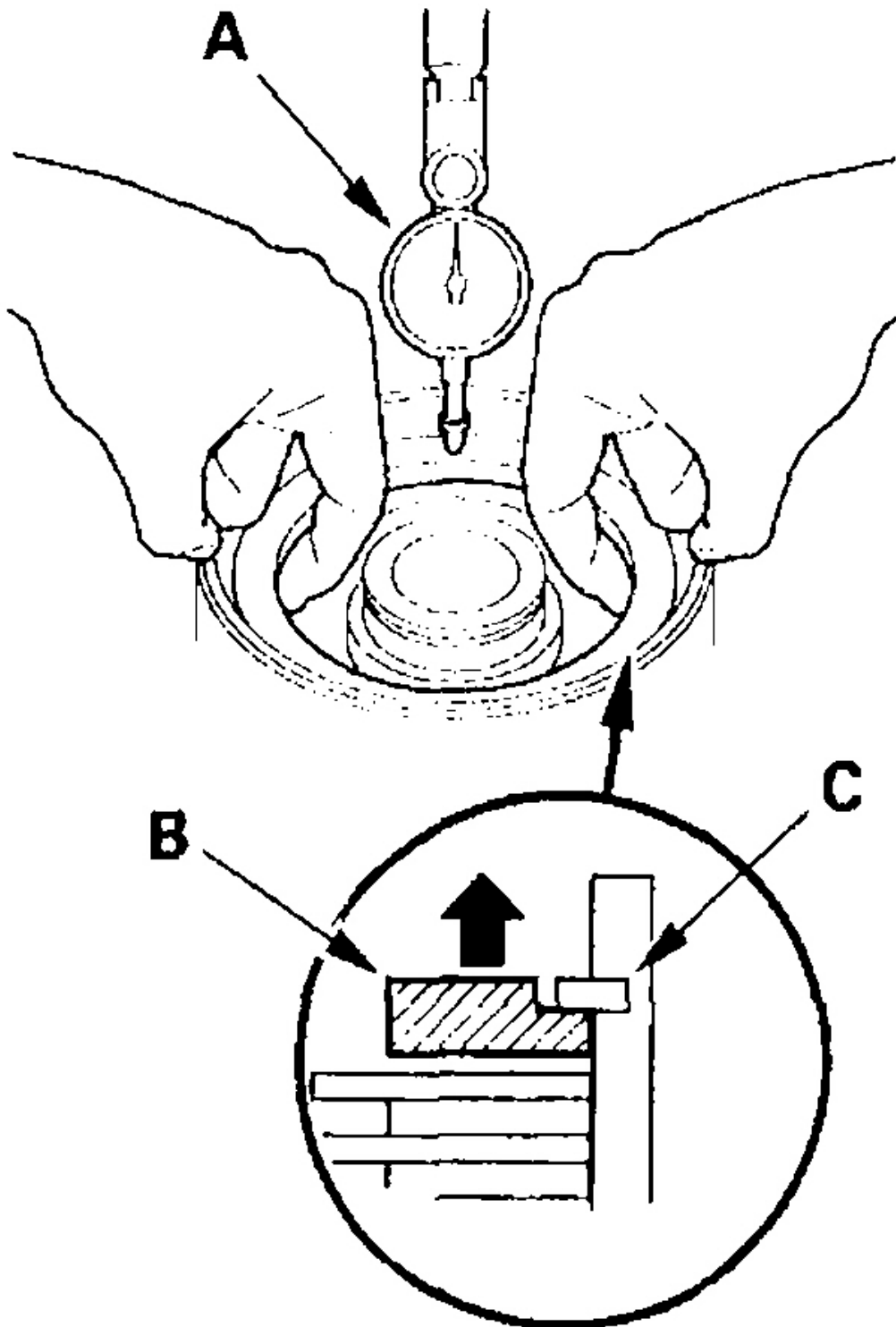


G01398152

Fig. 80: Verifying Snap Ring End Gap

Courtesy of AMERICAN HONDA MOTOR CO., INC.

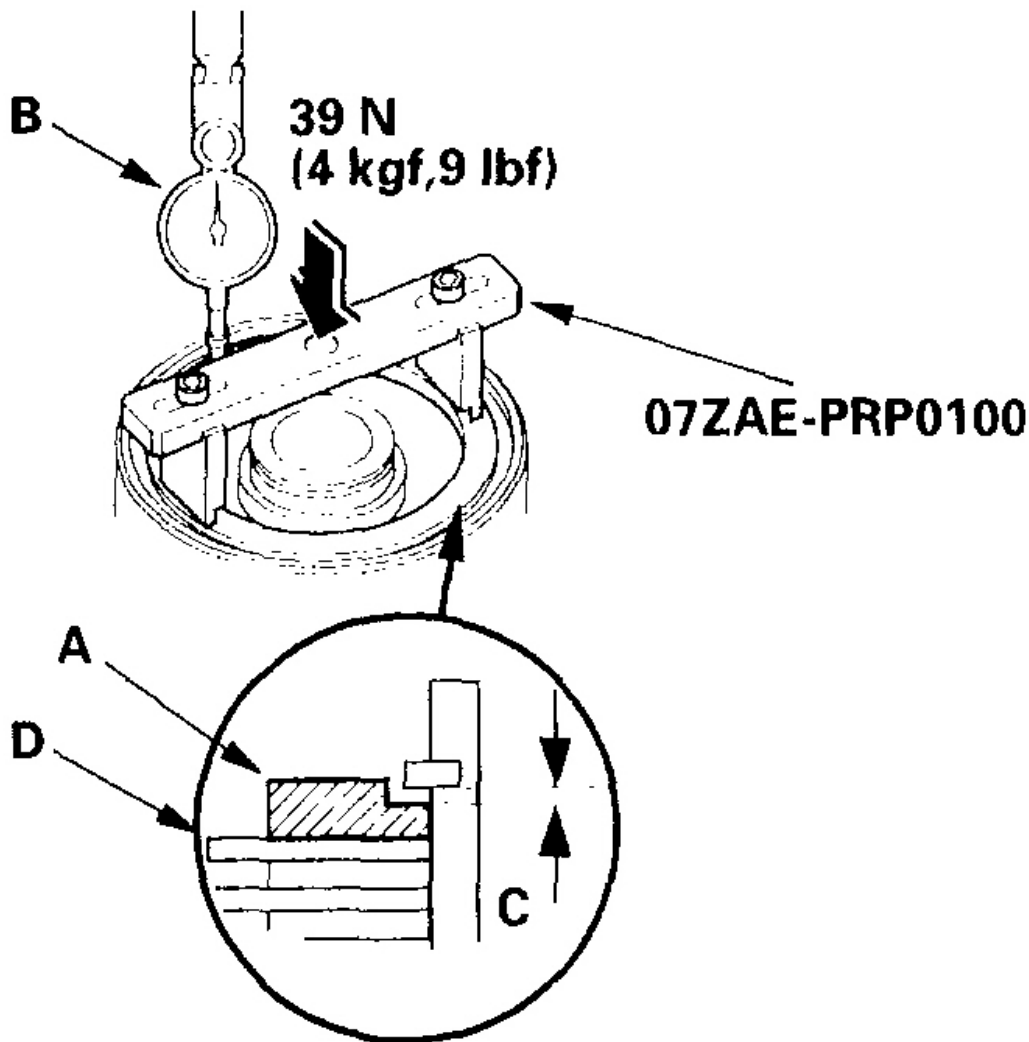
17. Set a dial indicator (A) on the clutch end plate (B).
18. Zero the dial indicator with the clutch end plate lifted up to the snap ring (C).



G01398153

Fig. 81: Setting Dial Indicator On Clutch End Plate
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

19. Release the clutch end plate to lower the clutch end plate, then put the special tool on the end plate (A).



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Fig. 82: Putting Special Tool On End Plate
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

20. Press the special tool down with 39 N (4 kgf, 9 lbf) using a force gauge, and read the dial indicator (B). The dial indicator needs the clearance (C) between the clutch end plate and top disc (D). Take

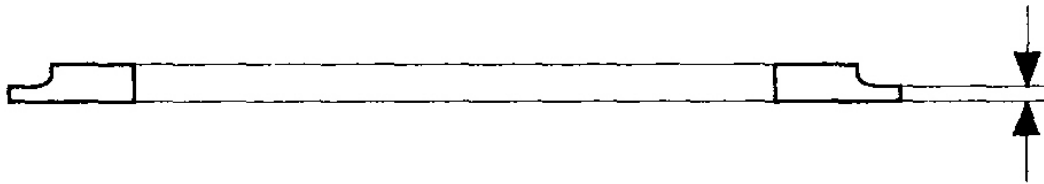
measurements in at least three places, and use the average as the actual clearance.

Clutch End Plate-to-Top Disc Clearance

Service Limit: 0.6-0.8 mm (0.024-0.031 in.)

21. If the clearance is out of the service limit, select a new clutch end plate from following table, then recheck.

NOTE: If the thickest clutch end plate is installed, but the clearance is still over the standard, replace the clutch discs and clutch plates.



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Fig. 83: End Plate Thickness

Courtesy of AMERICAN HONDA MOTOR CO., INC.

Mark	Part Number	Thickness
15	22561-P4V-003	3.5 mm (0.138 in.)
16	22562-P4V-003	3.6 mm (0.142 in.)
17	22563-P4V-003	3.7 mm (0.146 in.)
18	22564-P4V-003	3.8 mm (0.150 in.)
19	22565-P4V-003	3.9 mm (0.154 in.)
20	22566-P4V-003	4.0 mm (0.157 in.)
21	22567-P4V-003	4.1 mm (0.161 in.)
22	22568-P4V-003	4.2 mm (0.165 in.)
23	22569-P4V-003	4.3 mm (0.169 in.)
24	22570-P4V-003	4.4 mm (0.173 in.)
25	22571-P4V-003	4.5 mm (0.177 in.)
26	22572-P4V-003	4.6 mm (0.181 in.)
27	22573-P4V-003	4.7 mm (0.185 in.)
14	22574-P4V-003	3.4 mm (0.134 in.)

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Fig. 84: Forward Clutch End Plate Chart

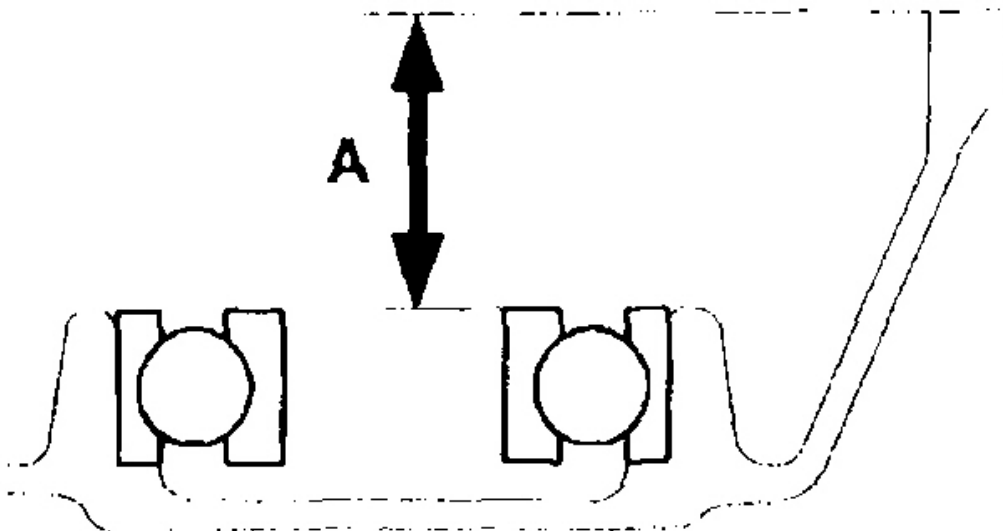
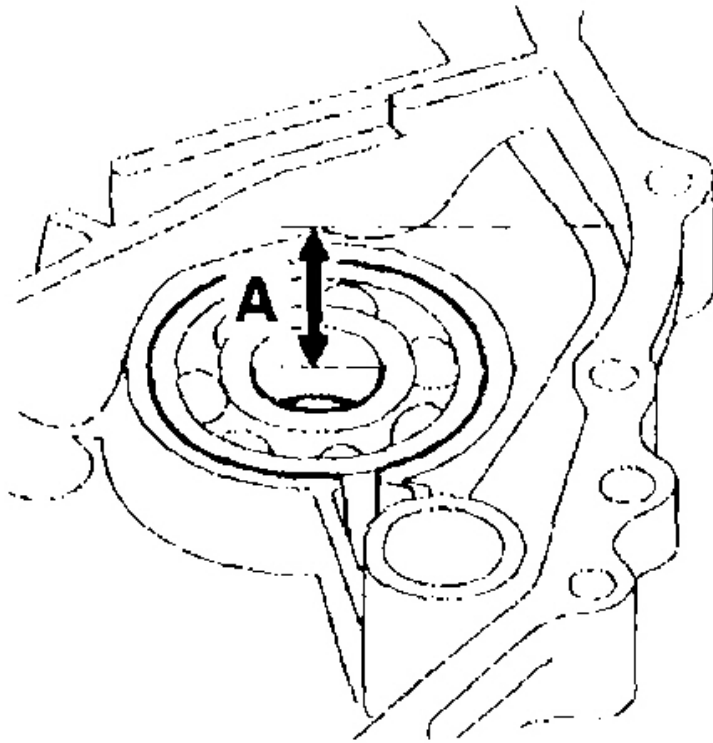
Courtesy of AMERICAN HONDA MOTOR CO., INC.

22. After replacing the clutch end plate, make sure that the clearance is within tolerance.

SECONDARY GEAR SHAFT

25 X 35 MM THRUST SHIM SELECTION

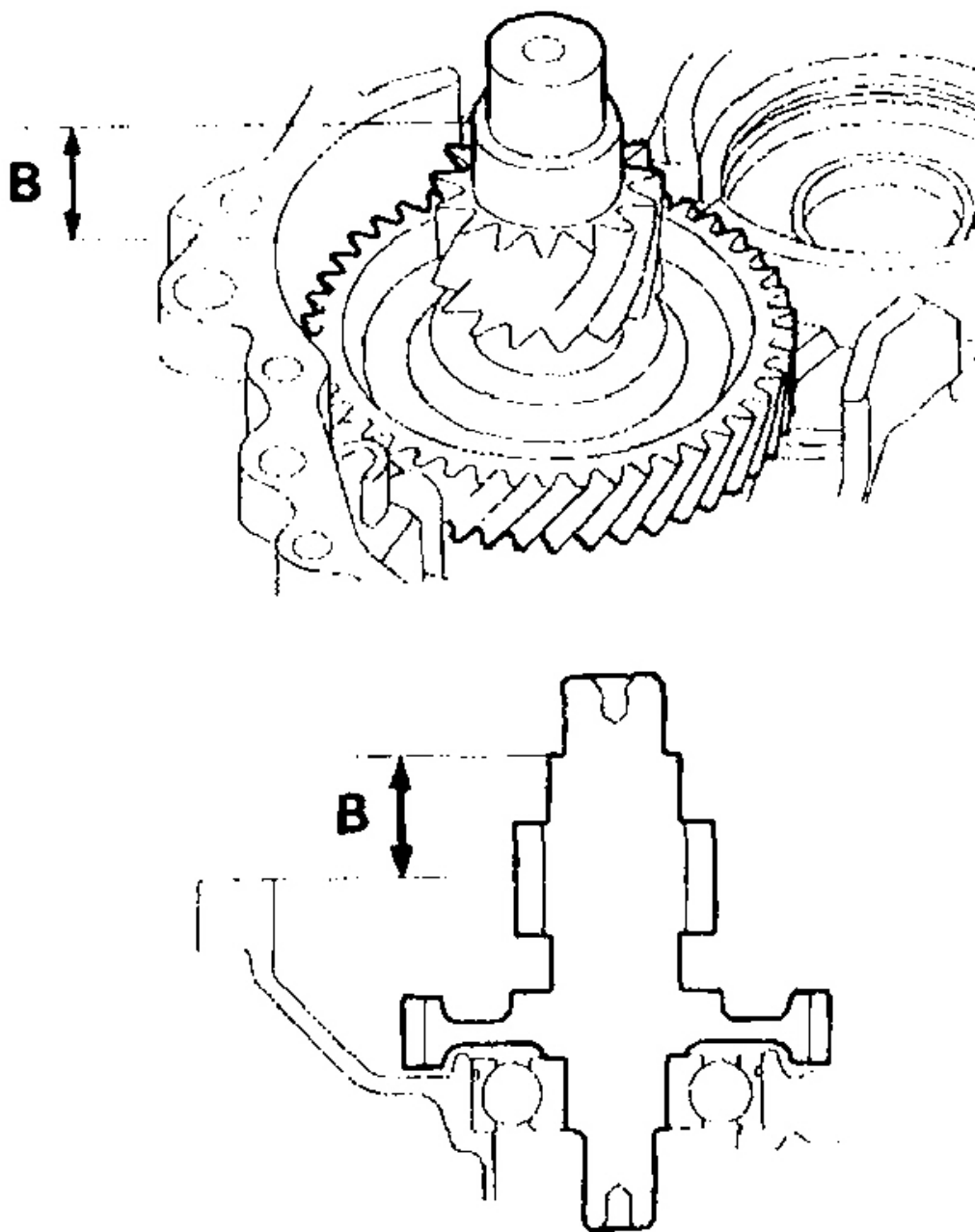
1. Measure the distance between the flywheel housing surface and the ball bearing as shown, then note the measurement (Measurement A).



G01398157

Fig. 85: Measuring Distance Between Flywheel Housing Surface & Ball Bearing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the secondary gear shaft on the transmission housing.
3. Measure the distance between the transmission housing surface and the thrust shim mounting surface of the secondary gear shaft as shown, then note the measurement (Measurement B).



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Fig. 86: Measuring Distance Between Transmission Housing Surface
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Calculate 25 x 35 mm thrust shim thickness by following formula so that the secondary gear shaft thrust clearance comes into the tolerance.

Secondary Gear Shaft Thrust Clearance

Standard: 0-0.15 mm (0-0.006 in.)

Formula

25 x 35 mm Thrust Shim Thickness:

= Measurement A - Measurement B + Flywheel

Housing Gasket Thickness: 0.5 mm (0.020 in.)

Example:

Measurement A: 32.7 mm (1.287 in.)

Measurement B: 30.1 mm (1.185 in.)

25 x 35 mm Thrust Shim Thickness

= 32.7 mm (1.287 in.) - 30.1 mm (1.185 in.)

+ 0.5 mm (0.020 in.)

= 3.1 mm (0.122 in.)

You can select the thickness between 3.1 mm (0.122 in.) and 2.95 mm (0.116 in.).

The thrust shim can be used C or D in this case.

5. Select the 25 x 35 mm thrust shim from the following table.

No.	Part Number	Thickness
A	90551-P4V-000	2.8 mm (0.110 in.)
B	90552-P4V-000	2.9 mm (0.114 in.)
C	90553-P4V-000	3.0 mm (0.118 in.)
D	90554-P4V-000	3.1 mm (0.122 in.)
E	90555-P4V-000	3.2 mm (0.126 in.)
F	90556-P4V-000	3.3 mm (0.130 in.)
G	90557-P4V-000	3.4 mm (0.134 in.)
H	90558-P4V-000	3.5 mm (0.138 in.)
I	90559-P4V-000	3.6 mm (0.142 in.)
J	90560-P4V-000	3.7 mm (0.146 in.)
K	90561-P4V-000	3.8 mm (0.150 in.)

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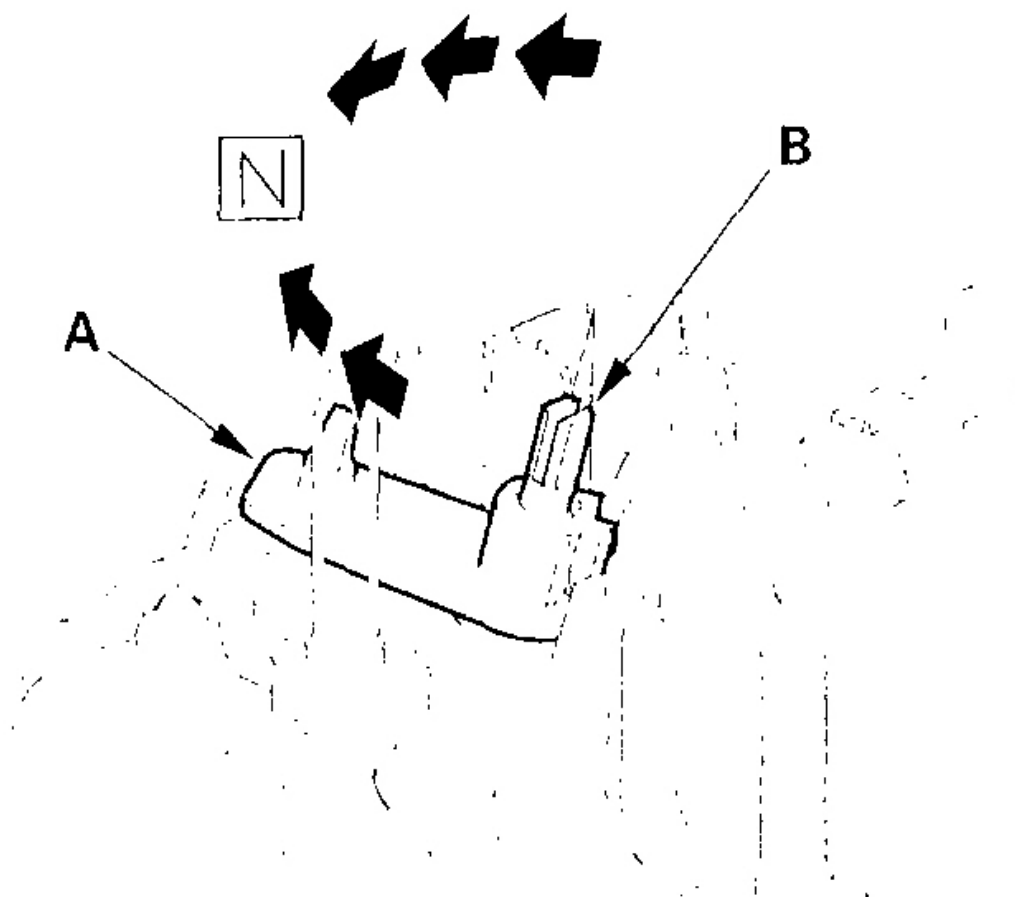
Fig. 87: Selecting Thrust Shim Chart (25 x 35 mm)
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

TRANSMISSION RANGE SWITCH

TRANSMISSION RANGE SWITCH INSTALLATION

1. Set the control lever (A) to the N position by turning it.

NOTE: Do not squeeze the end of the control shaft tips (B) together when turning into position. If the tips are squeezed together it will cause a faulty signal or position due to the play between the control shaft and the switch.



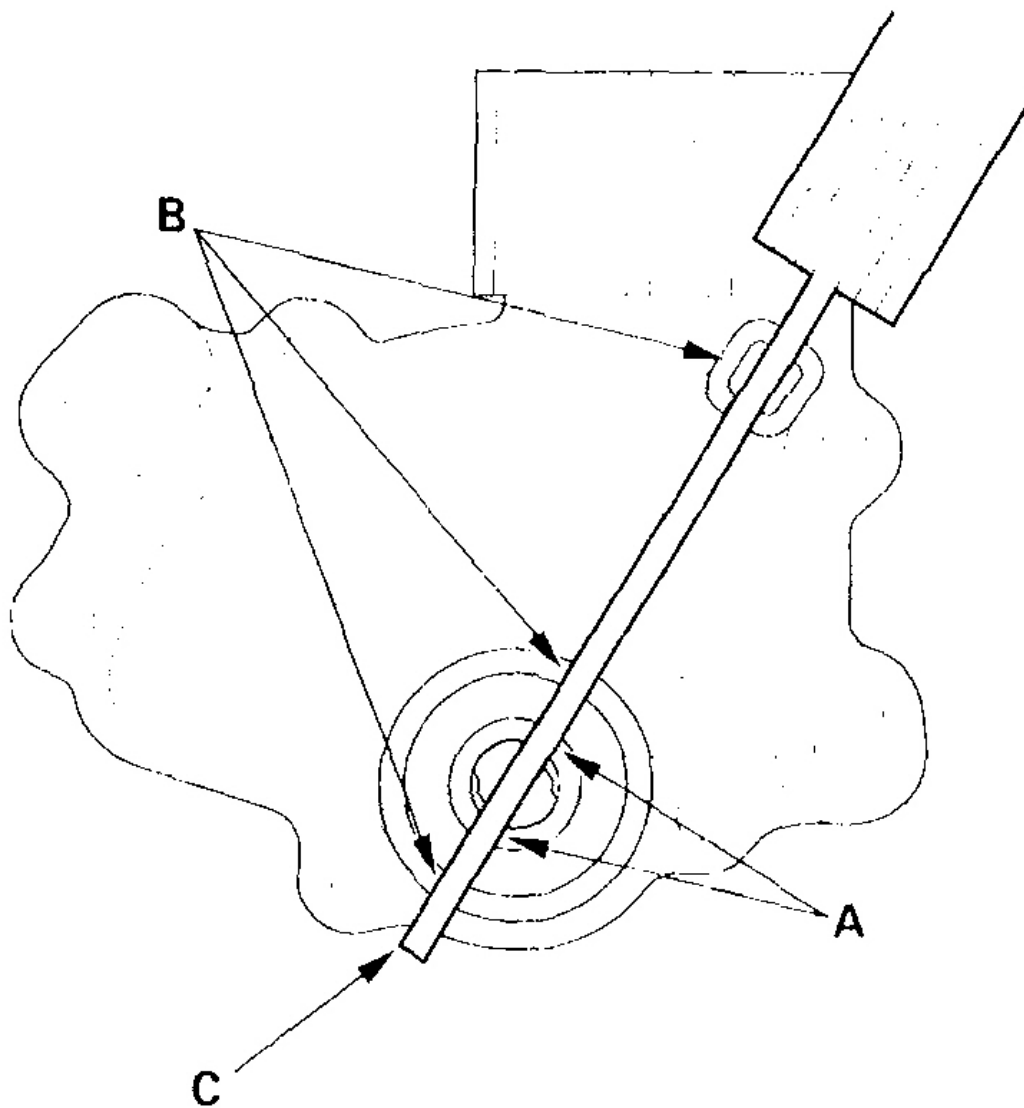
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Fig. 88: Setting Control Lever To N Position

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Align the cutouts (A) on the rotary-frame with the neutral positioning cutouts (B) on the transmission range switch, then put a 2.0 mm (0.08 in.) feeler gauge blade (C) in the cutouts to hold it in the N position.

NOTE: Be sure to use a 2.0 mm (0.08 in.) blade or equivalent to hold the switch in the N position.

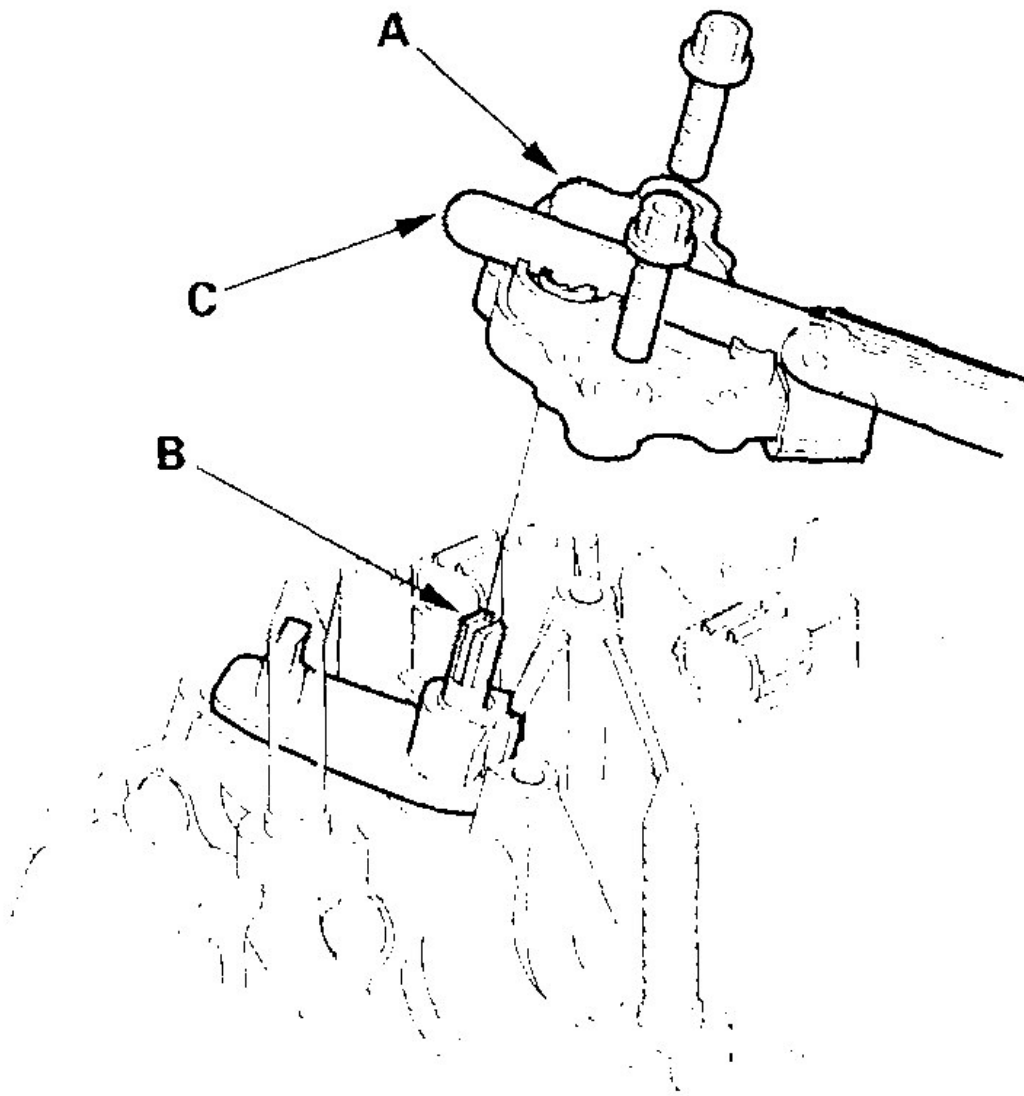


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Fig. 89: Aligning Cutouts

Courtesy of AMERICAN HONDA MOTOR CO., INC.

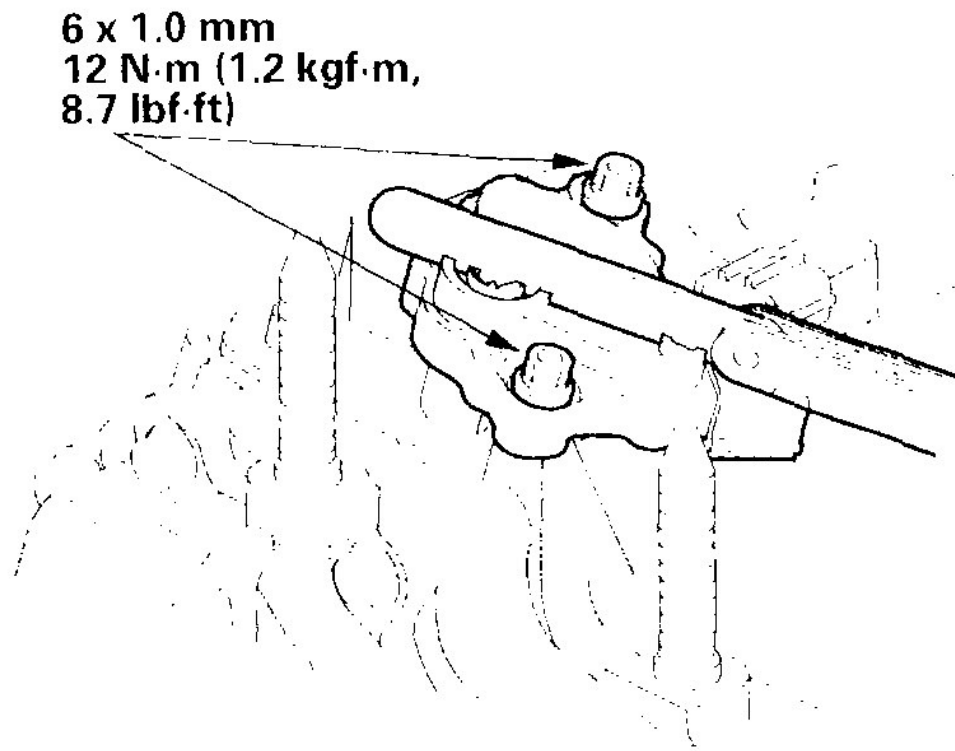
3. Install the transmission range switch (A) gently on the control shaft (B) while holding it in the N position with the 2.0 mm (0.08 in.) blade (C).



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Fig. 90: Installing Transmission Range Switch
Courtesy of AMERICAN HONDA MOTOR CO., INC.

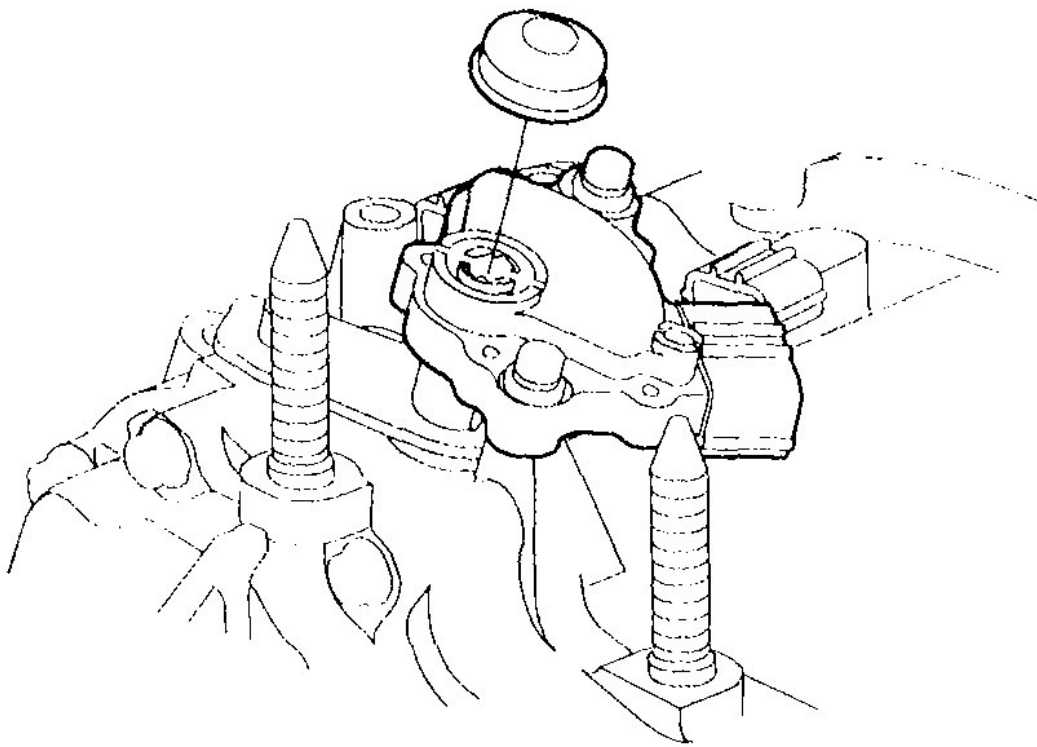
4. Tighten the bolts on the transmission range switch while you continue to hold the N position. Do not move the transmission range switch when tightening the bolts. Remove the feeler gauge.



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Fig. 91: Tightening Bolts On Transmission Range Switch While Holding N Position
Courtesy of AMERICAN HONDA MOTOR CO., INC.

5. Install the transmission range switch shaft cap.

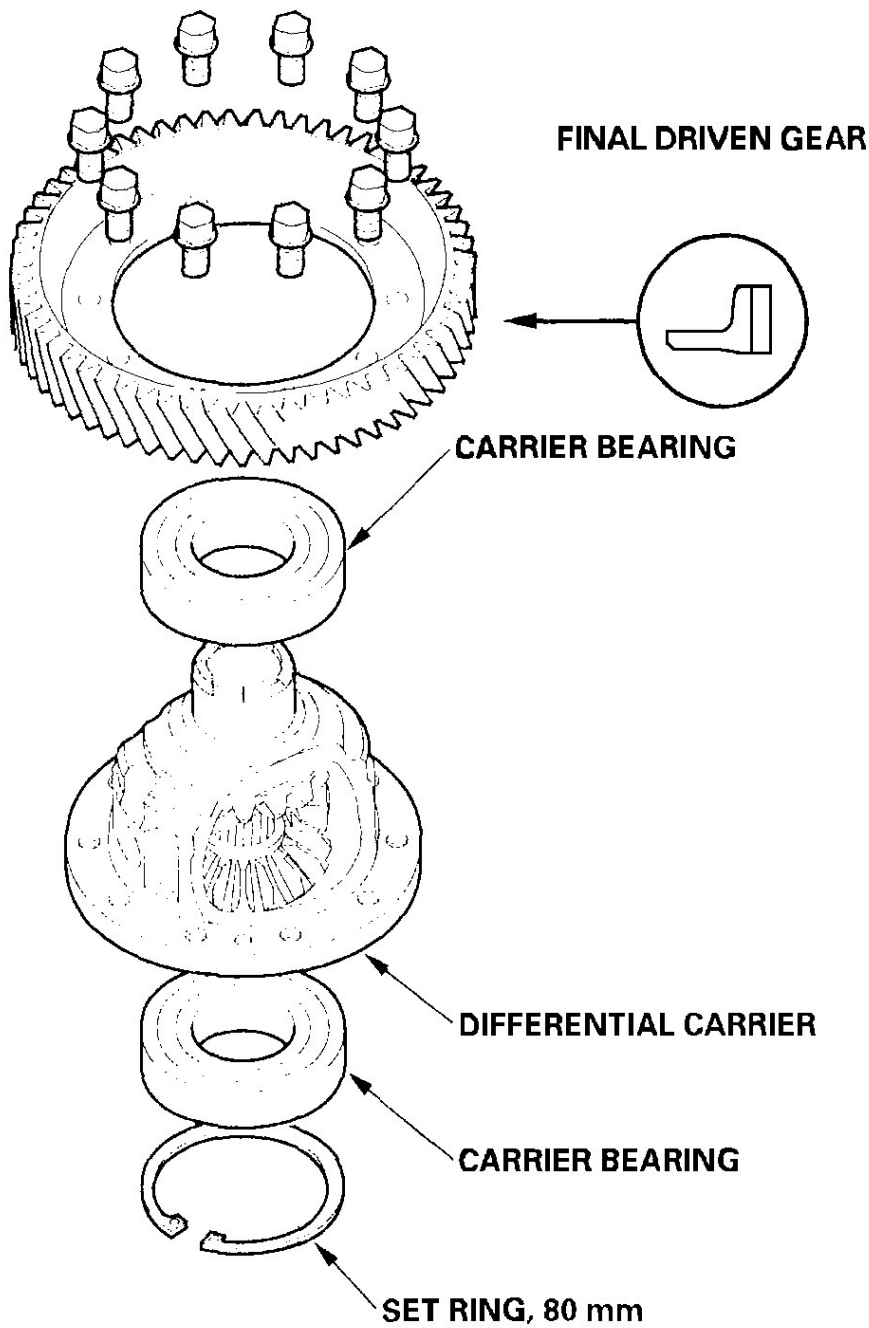


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Fig. 92: Installing Transmission Range Switch Shaft Cap
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CVT DIFFERENTIAL

COMPONENT LOCATION INDEX



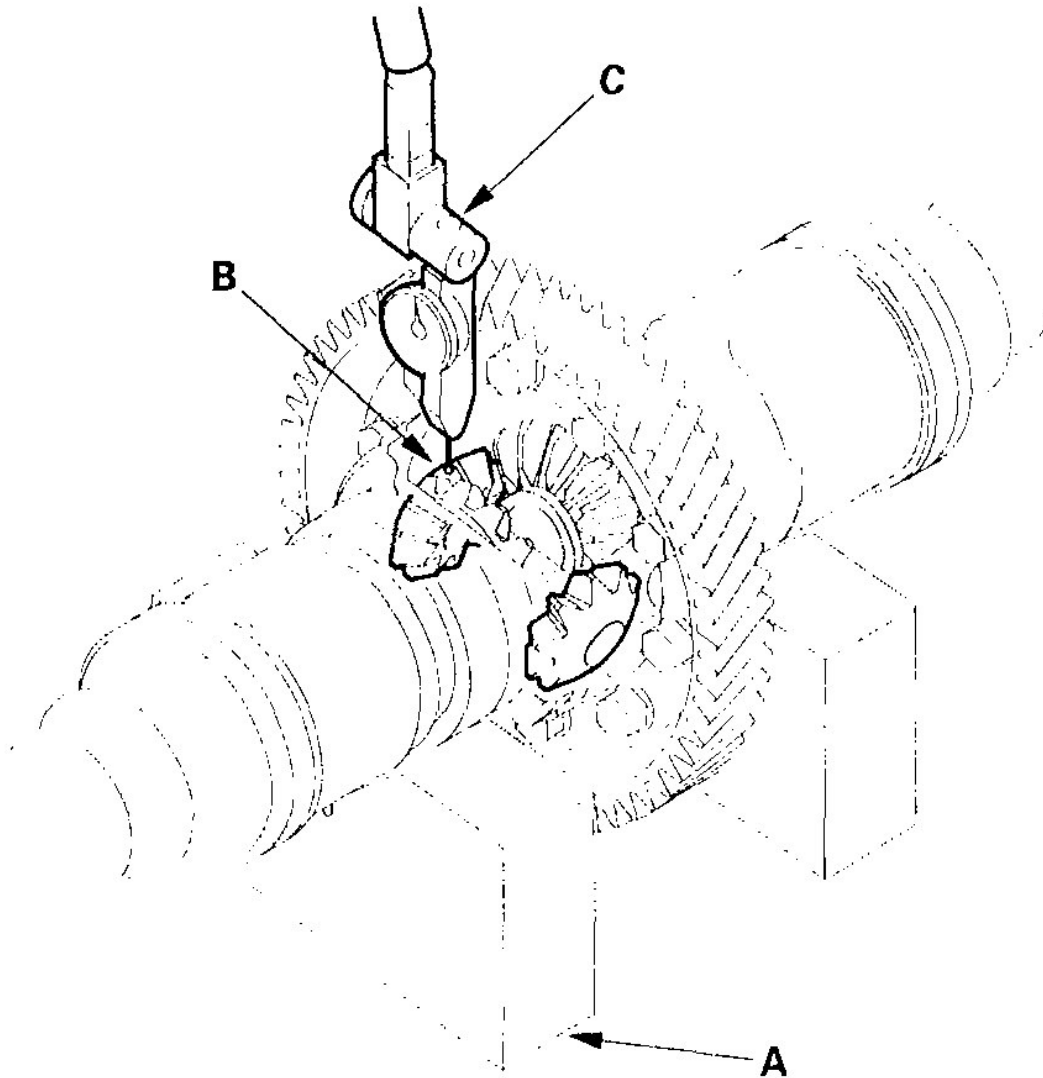
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Fig. 93: Identifying CVT Differential

Courtesy of AMERICAN HONDA MOTOR CO., INC.

BACKLASH INSPECTION

1. Install both axles in the differential, and place the differential assembly on V-blocks (A).



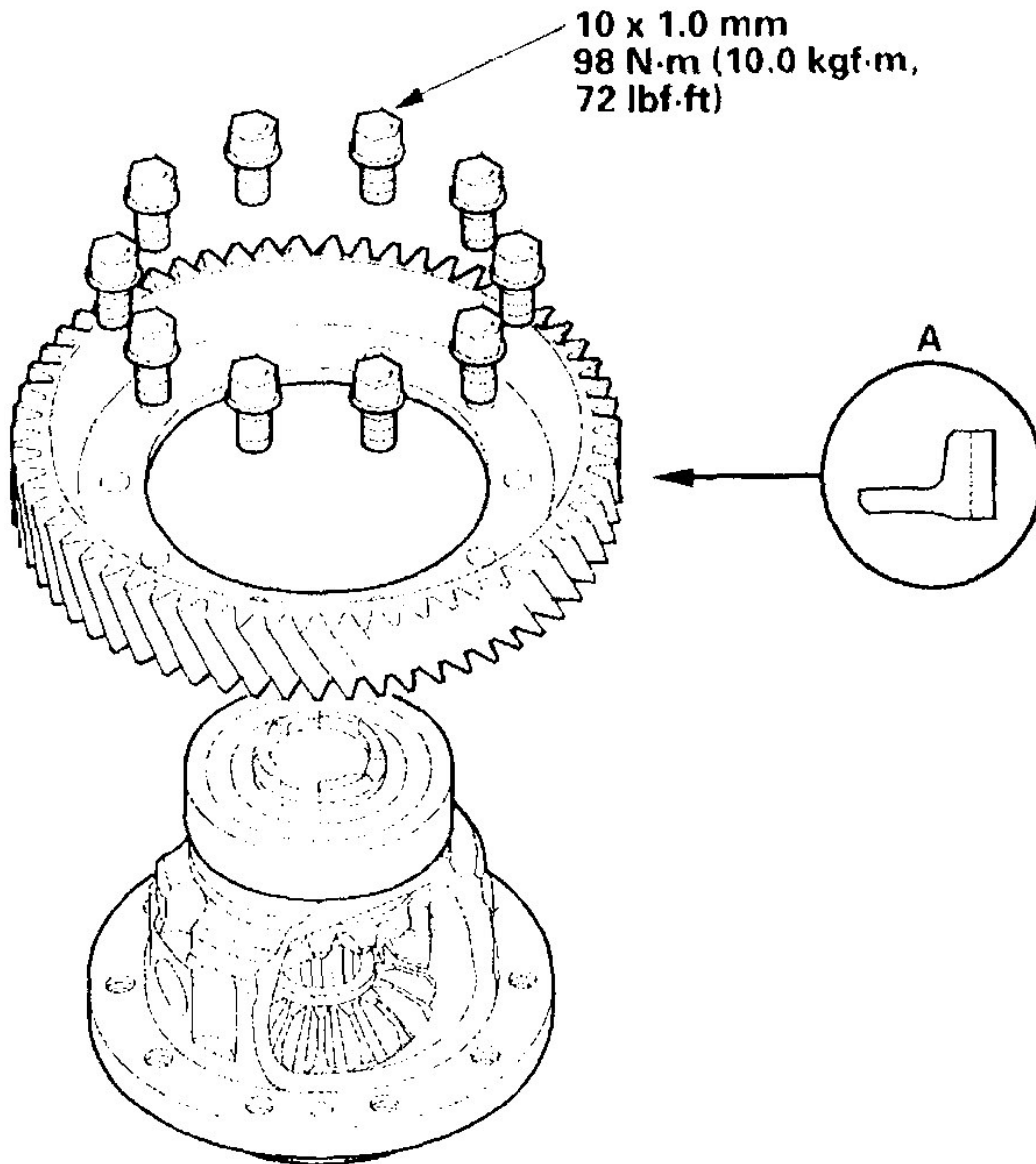
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Fig. 94: Placing Differential Assembly On V-Blocks
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Check the backlash of the pinion gears (B) with a dial indicator (C).
Standard: 0.08-0.15 mm (0.003-0.006 in.)
3. If the backlash is out of standard, replace the differential carrier.

DIFFERENTIAL CARRIER/FINAL DRIVEN GEAR REPLACEMENT

1. Remove the final driven gear from the differential carrier. The final driven gear bolts have left-hand threads.



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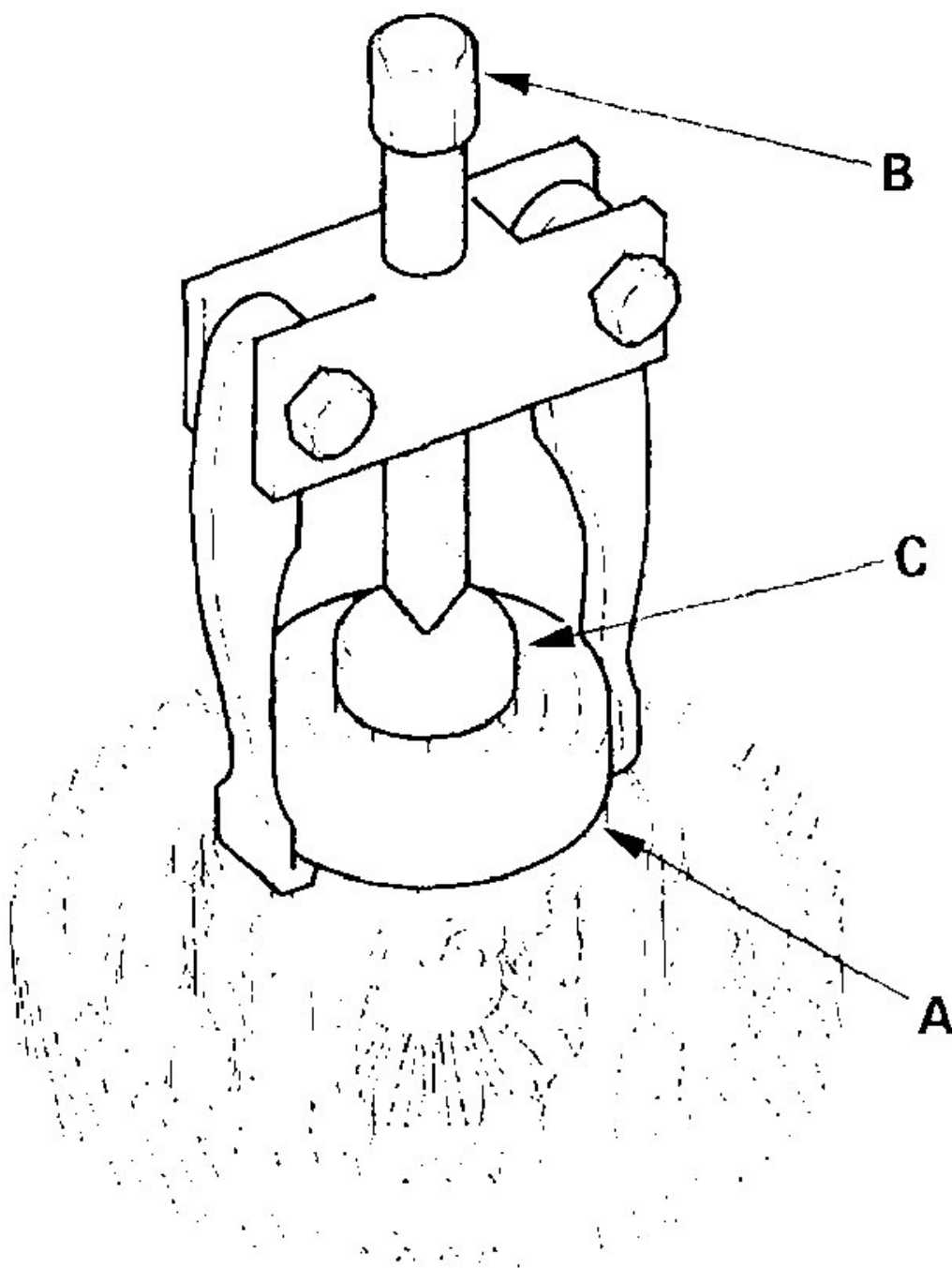
Fig. 95: Removing Final Driven Gear From Differential Carrier
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the final driven gear with the chamfered side on the inner bore (A) facing the differential carrier.
3. Tighten the bolts to 98 N·m (10.0 kgf·m, 72 lbf·ft) in a crisscross pattern.

CARRIER BEARING REPLACEMENT**Special Tools Required**

Driver, 40 mm I.D. 07746-0030100

1. Remove the bearings (A) with a commercially available bearing puller (B), and adapter (C).



G01398198

Fig. 96: Removing Bearings With Commercially Available Bearing Puller

Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Install the new bearings with the special tool and a press. Press the bearing on until it bottoms.

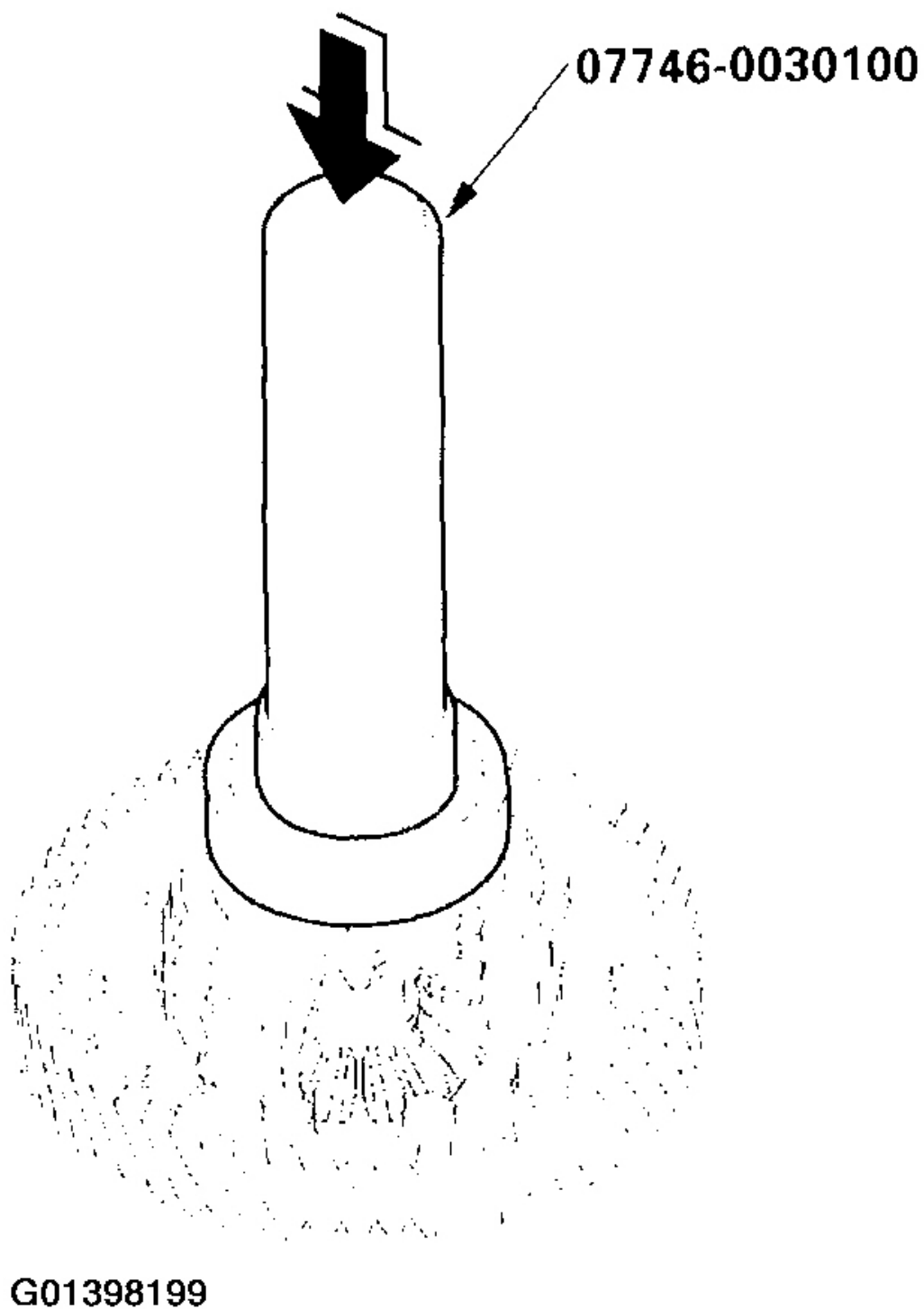


Fig. 97: Installing New Bearings

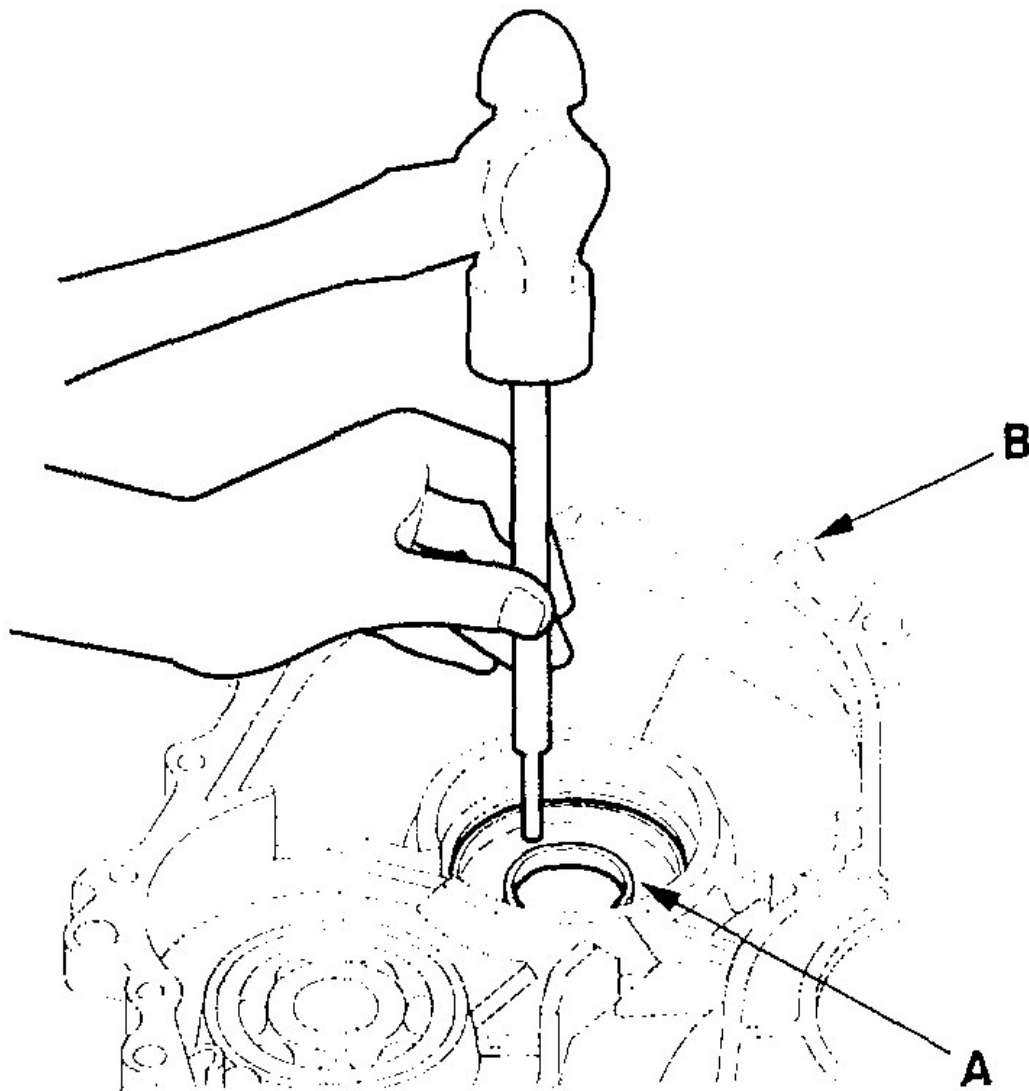
Courtesy of AMERICAN HONDA MOTOR CO., INC.

OIL SEAL REPLACEMENT

Special Tools Required

- Driver 0774-0010000
- Driver attachment, 78 x 80 mm 07NAD-PX40100
- Driver attachment, 58 mm 07JAD-PH80101

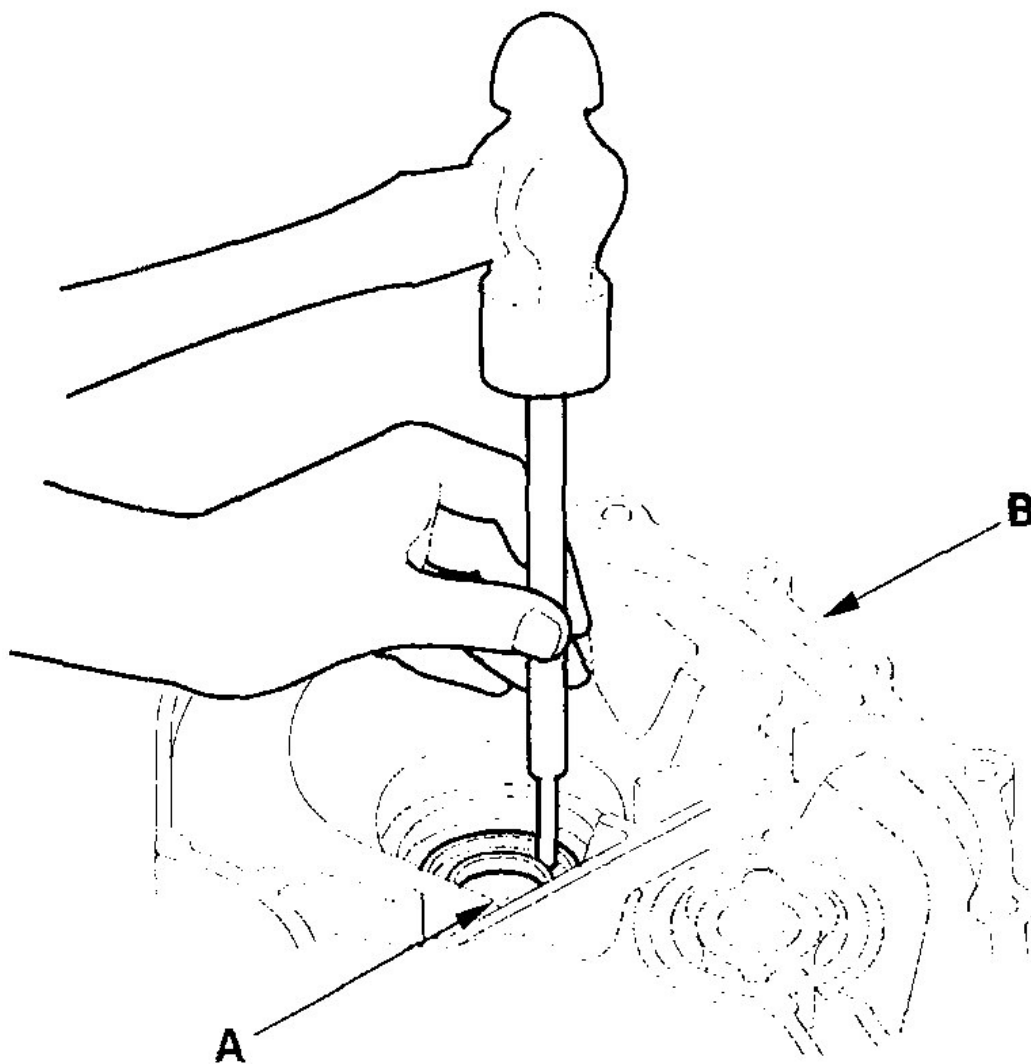
1. Remove the oil seal (A) from the transmission housing (B).



G01398200

Fig. 98: Removing Oil Seal From Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

2. Remove the oil seal (A) from the flywheel housing (B).



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Fig. 99: Removing Oil Seal From Flywheel Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

3. Install the oil seal in the transmission housing with the special tools.

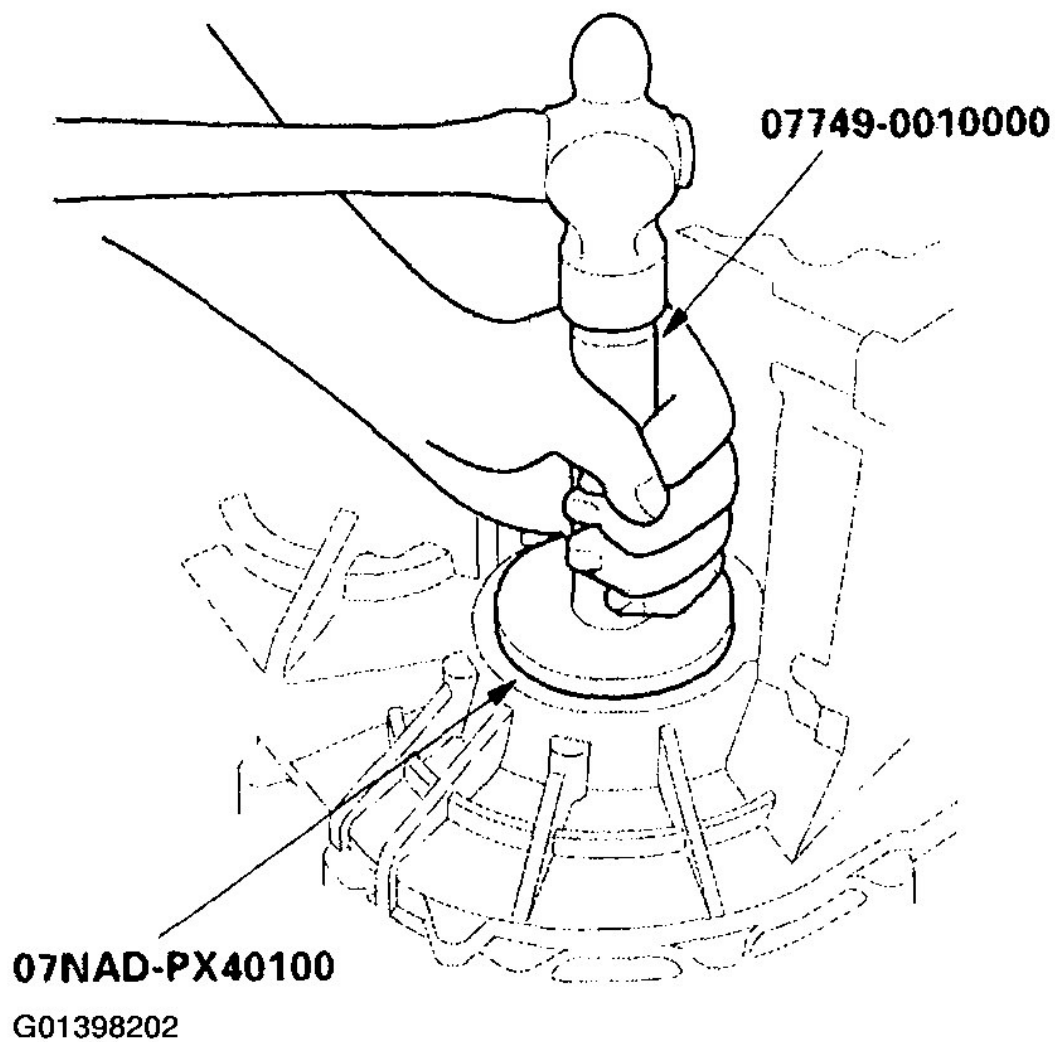


Fig. 100: Installing Oil Seal In Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Install the oil seal (A) in the torque converter housing with the special tools.

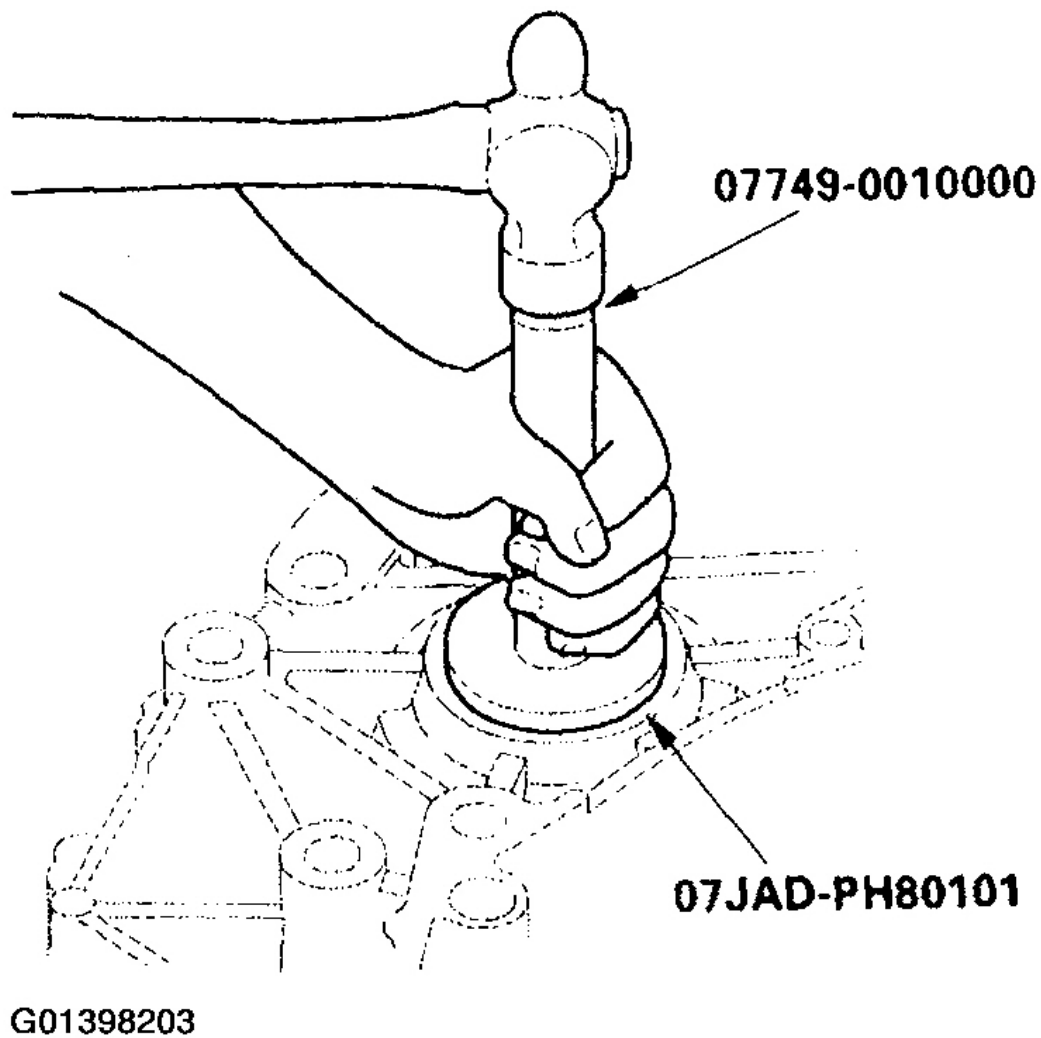


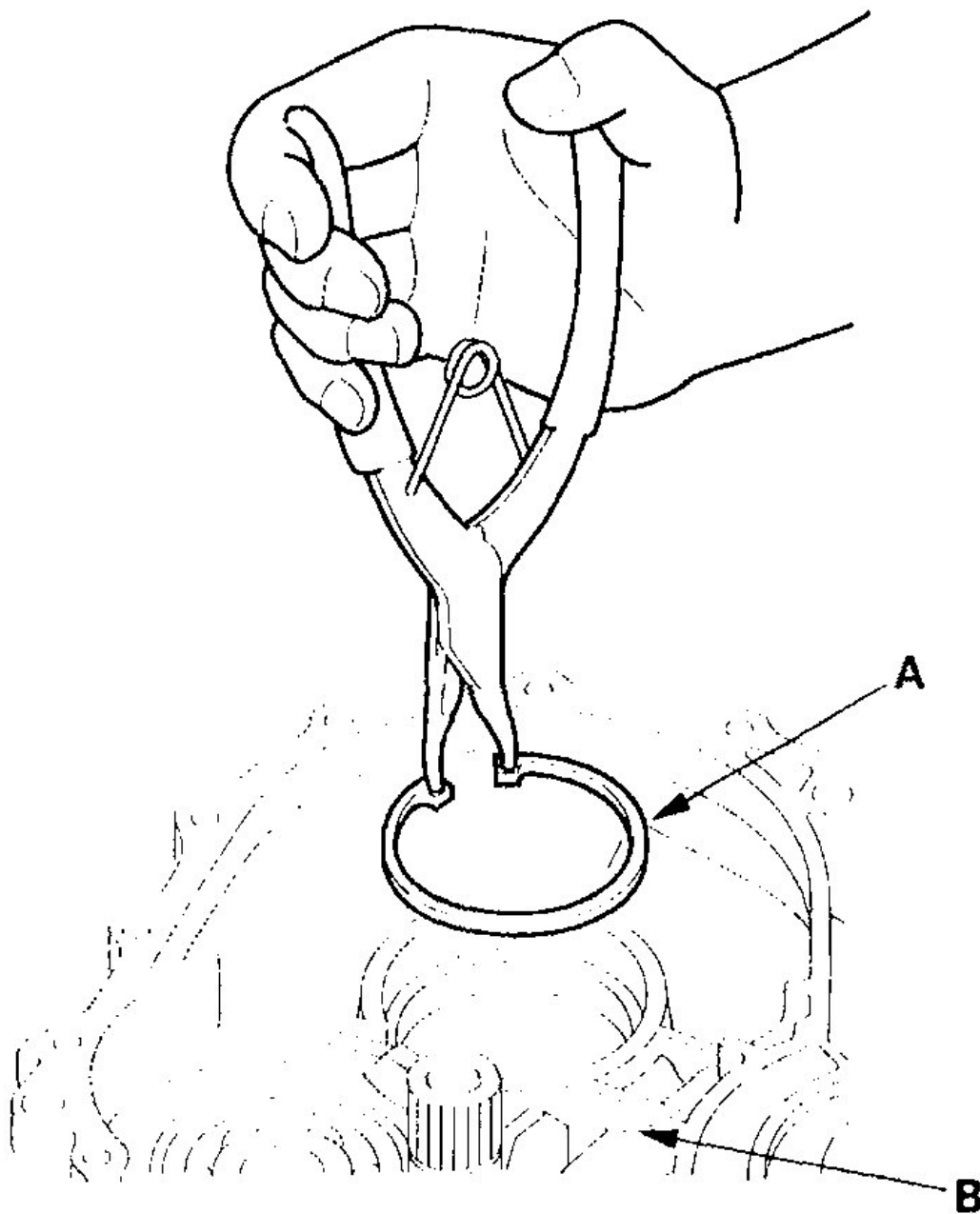
Fig. 101: Installing Oil Seal In Torque Converter Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

CARRIER BEARING SIDE CLEARANCE INSPECTION

Special Tools Required

Driver, 40 mm I.D. 07746-0030100

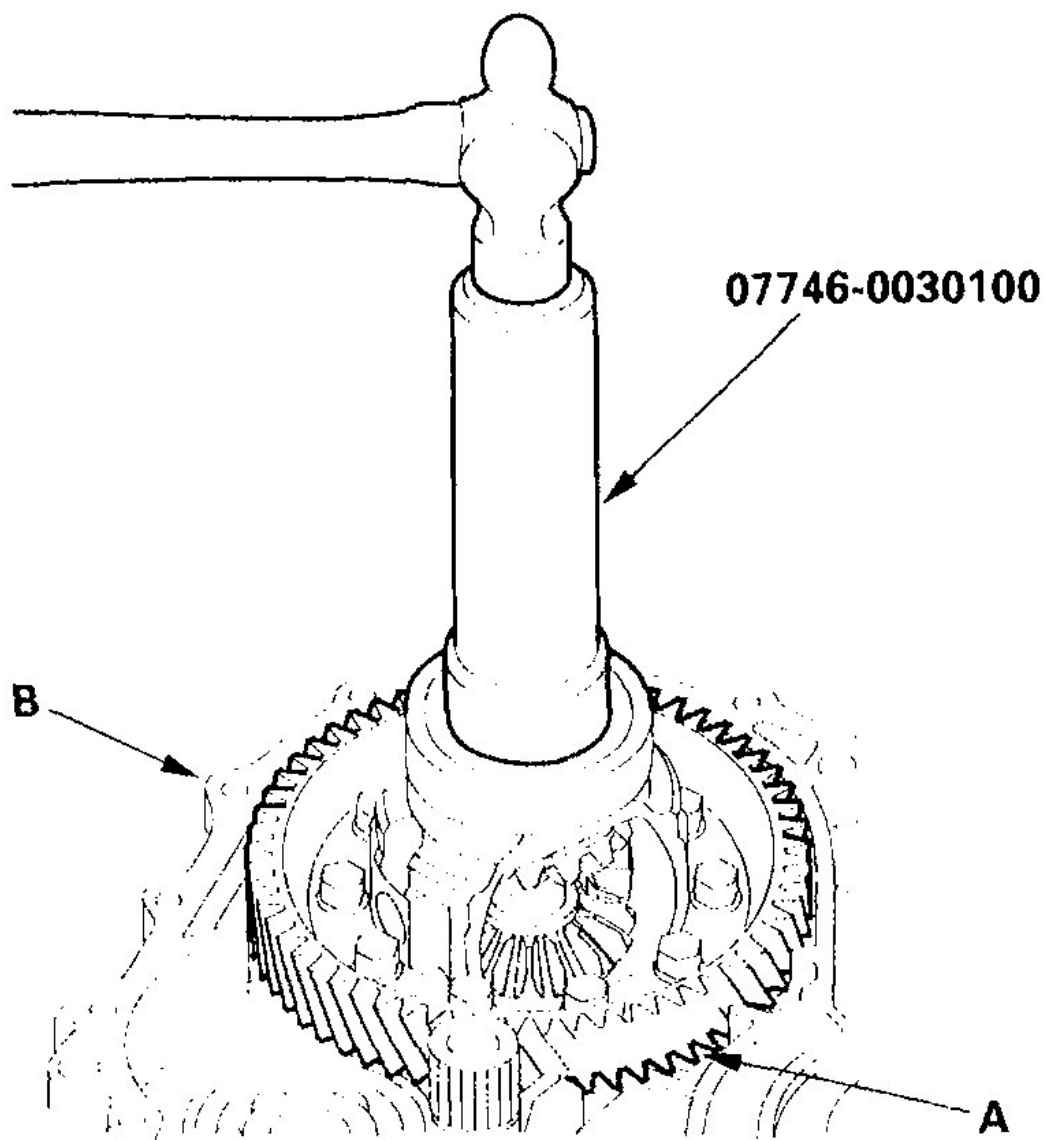
1. Install the 80 mm set ring (A) in the transmission housing (B).



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Fig. 102: Installing Set Ring In Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

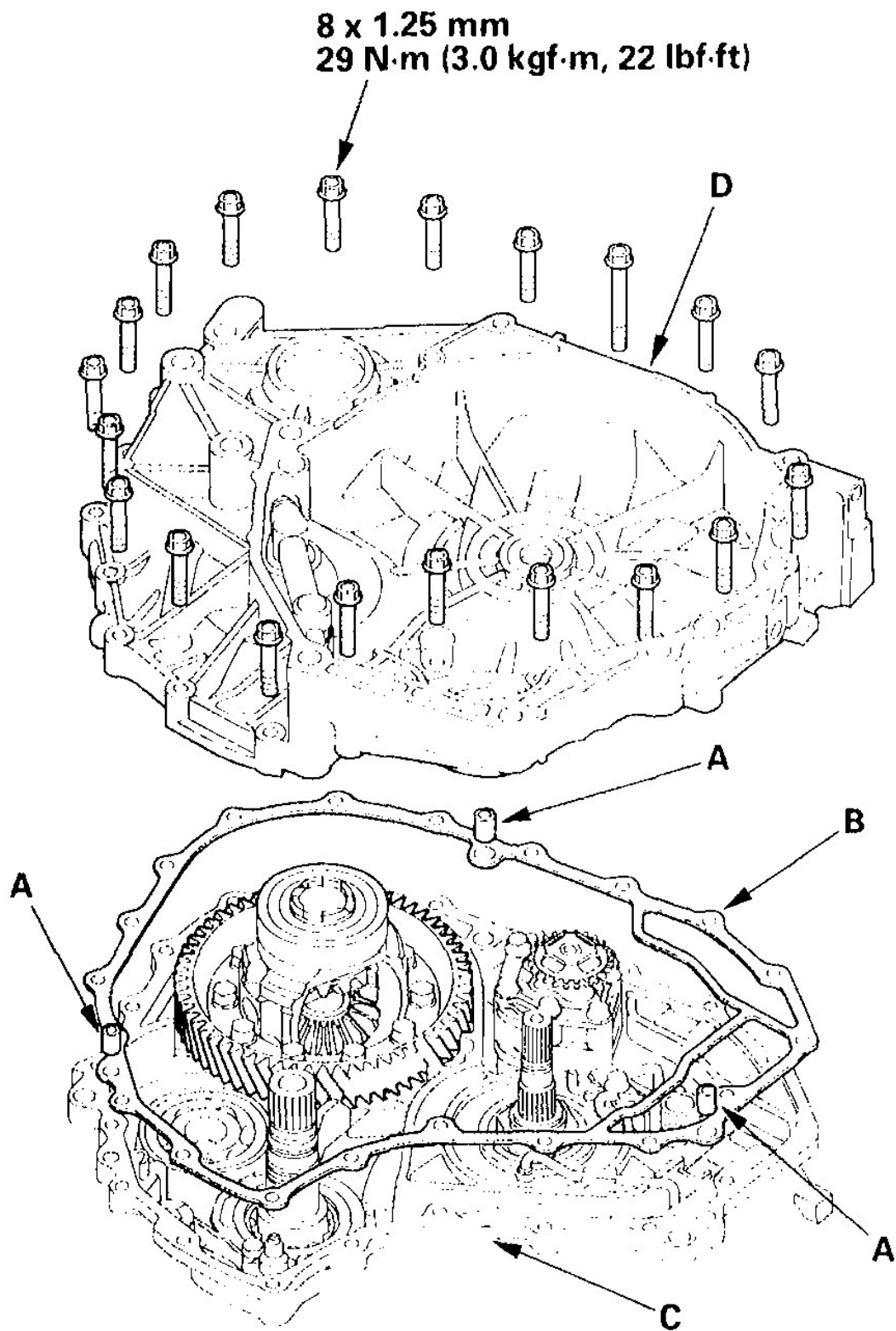
2. Install the differential assembly (A) in the transmission housing (B) using the special tool.



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Fig. 103: Installing Differential Assembly In Transmission Housing
Courtesy of AMERICAN HONDA MOTOR CO., INC.

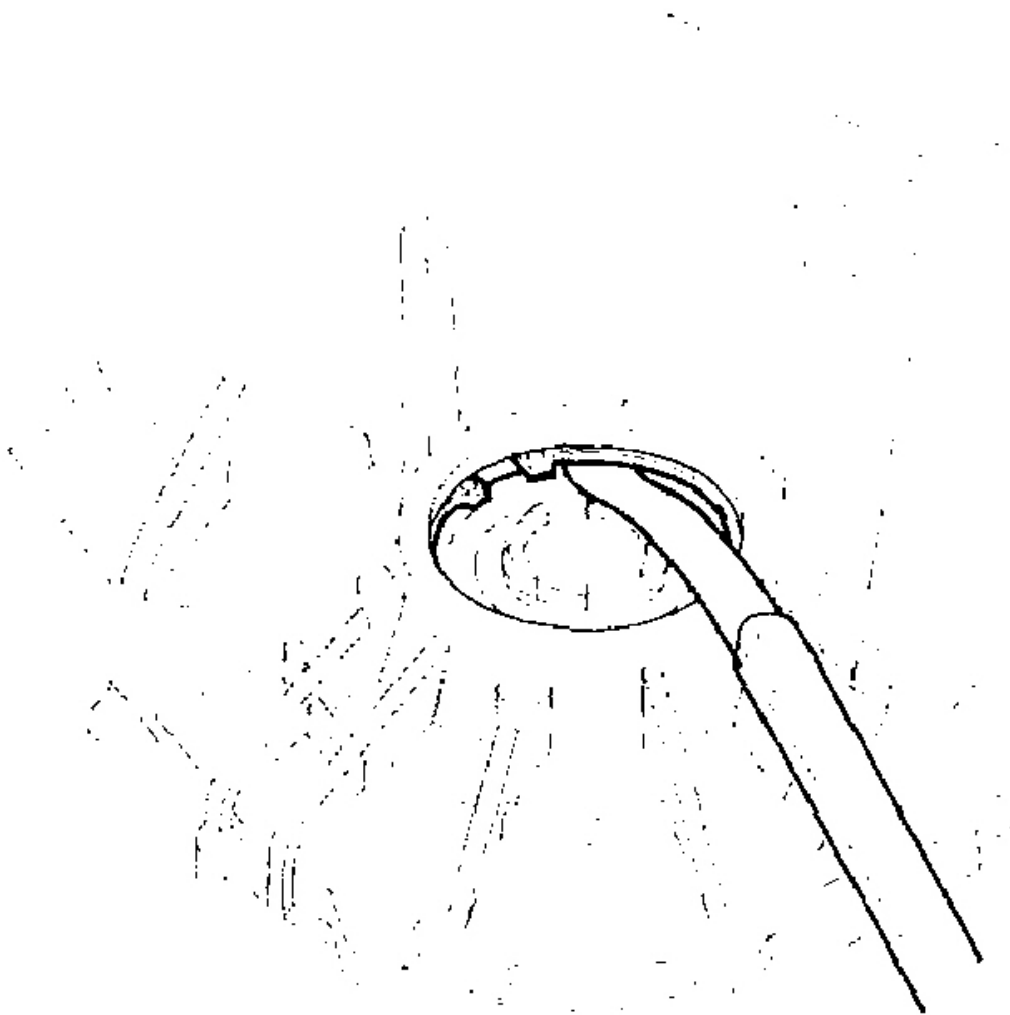
3. Install the three dowel pins (A) and the gasket (B) on the transmission housing (C).



G01398206

Fig. 104: Installing Dowel Pins**Courtesy of AMERICAN HONDA MOTOR CO., INC.**

4. Place the flywheel housing (D) on the transmission housing.
5. Install the housing bolts (20 bolts), and tighten the bolts in two or more steps to 29 N.m (3.0 kgf.m, 22 lbf.ft) in a crisscross pattern.
6. Measure the clearance between the 80 mm set ring and carrier bearing outer race with a feeler gauge.

Standard: 0-0.15 mm (0-0.006 in.)**G01398207****Fig. 105: Measuring Clearance Between Set Ring & Carrier Bearing Outer Race**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

7. If the clearance is out of standard, remove the 80 mm set ring, and measure its thickness.
8. Select and install a new set ring, then recheck the clearance and make sure it is within the standard.

No.	Part Number	Thickness
1	90414-689-000	2.50 mm (0.098 in.)
2	90415-689-000	2.60 mm (0.102 in.)
3	90416-689-000	2.70 mm (0.106 in.)
4	90417-689-000	2.80 mm (0.110 in.)
5	90418-689-000	2.90 mm (0.114 in.)
6	90419-PH8-000	3.00 mm (0.118 in.)

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Fig. 106: Selecting New Set Ring Chart (80 mm)

Courtesy of AMERICAN HONDA MOTOR CO., INC.