

2004 Cadillac SRX

2004 DRIVELINE/AXLE Transfer Case - Overhaul - BW 4476

2004 DRIVELINE/AXLE**Transfer Case - Overhaul - BW 4476****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS****Fastener Tightening Specifications**

Application	Specification	
	Metric	English
Case Bolts	22-27 N.m	16-20 lb ft
Chain Snubber Bolts	7 N.m	62 lb in
Dampener Attaching Bolts	27-35 N.m	20-26 lb ft
Drain Plug	19-30 N.m	14-22 lb ft
Fill Plug	19-30 N.m	14-22 lb ft
Propeller Shaft-to-Transfer Case Flange Bolt	30 N.m	22 lb ft
Transfer Case-to-Transmission Bolts	60 N.m	44 lb ft
Transmission Mount-to-Body Bolt	60 N.m	44 lb ft
Transmission Mount-to-Transmission Bolt	110 N.m	81 lb ft
Vent Baffle	7 N.m	62 lb in

SEALERS, ADHESIVES, AND LUBRICANTS**Sealers, Adhesives, and Lubricants**

Application	Type of Material	GM Part Number	
		United States	Canada
Chain Snubber Bolts	Threadlocker	12345382	10953489
Drain Plug	Pipe Sealant	12346004	10953480
Fill Plug	Pipe Sealant	12346004	10953480
Front Output Shaft Cup Plug	Threadlocker	12345382	10953489
Input Shaft Inside Diameter (ID)	Lubricant	1051344	993037
Rear Case Half-to-Front Case Half	RTV Sealant	12345739	10953541
Thrust Washer	Transjel Lubricant	J 36850	J 36850
Transfer Case Fluid	DEXRON(R)III	12378470	10952622
Vent Baffle Bolts	Threadlocker	12345382	10953489

CAPACITIES - APPROXIMATE FLUID

Capacities - Approximate Fluid

Application	Specification	
	Metric	English
DEXRON(R)III Fluid GM P/N 12346143 (Canadian P/N 10952622)	500 ml	0.53 quart

COMPONENT LOCATOR

TRANSFER CASE DISASSEMBLED VIEW

Fig. 1: Case Components Disassembled View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 1

Callout	Component Name
1	Case
2	Cover
3	Chain Snubber

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4	Chain Snubber Bolt
5	Locating Pin
5	Locating Pin
6	Fill Plug
7	Rear Output Seal
8	Drain Plug
9	Vent Baffle Bolt
10	Vent Baffle
11	Case Bolt
12	Locating Pin
12	Locating Pin
13	Input Shaft Seal
14	Front Output Seal
15	Vent
16	Bolts
300	Vibration Dampener - V6 Only

Fig. 2: Transfer Case Internal Components Disassembled View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 2

Callout	Component Name
100	Thrust Washer
101	Sun Gear
102	Rear Output Shaft Snap Ring
103	Rear Output Shaft Bearing
104	Rear Output Shaft Bearing
105	Rear Output Shaft Bushing

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106	Rear Output Shaft
107	Upper Sprocket
108	Upper Sprocket Bushing
109	Chain
110	Sun Gear
111	Carrier
112	Front Output Shaft
113	Front Output Shaft Bearing
114	Front Output Shaft Snap Ring
115	Lower Sprocket
116	Front Output Shaft Bearing
117	Input Shaft Bearing
118	Input Shaft

REPAIR INSTRUCTIONS

TRANSFER CASE DISASSEMBLE

Tools Required

- **J-2619-A** Slide Hammer w/Adapter. See **Special Tools and Equipment** .
- **J 8107-2** Side Bearing Puller Pilot. See **Special Tools and Equipment** .
- **J 22888-20A** Universal Two Jaw Puller. See **Special Tools and Equipment** .
- **J 29369-1** Bushing and Bearing Remover. See **Special Tools and Equipment** .

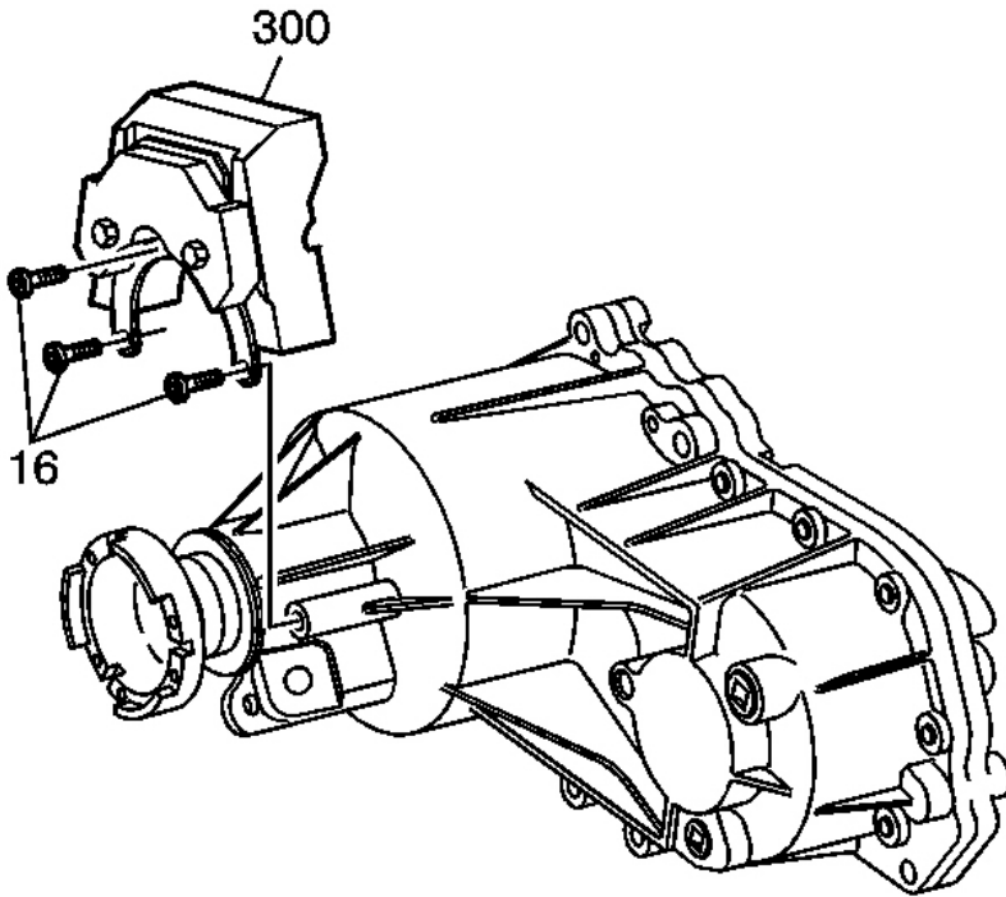


Fig. 3: View Of Dampner & Retaining Bolts
Courtesy of GENERAL MOTORS CORP.

1. Remove the bolts (16) and the dampener (300).

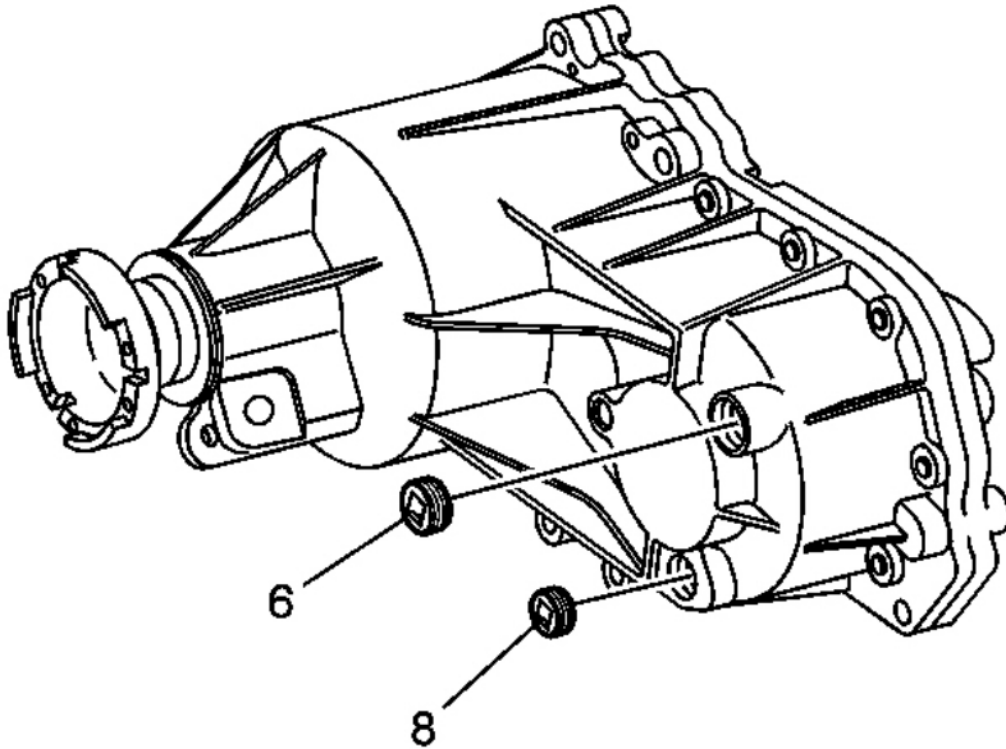


Fig. 4: Identifying Transfer Case Drain & Fill Plugs
Courtesy of GENERAL MOTORS CORP.

2. Remove the drain plug (8) and the fill plug (6). Ensure all transfer case fluid is drained out of the transfer case.

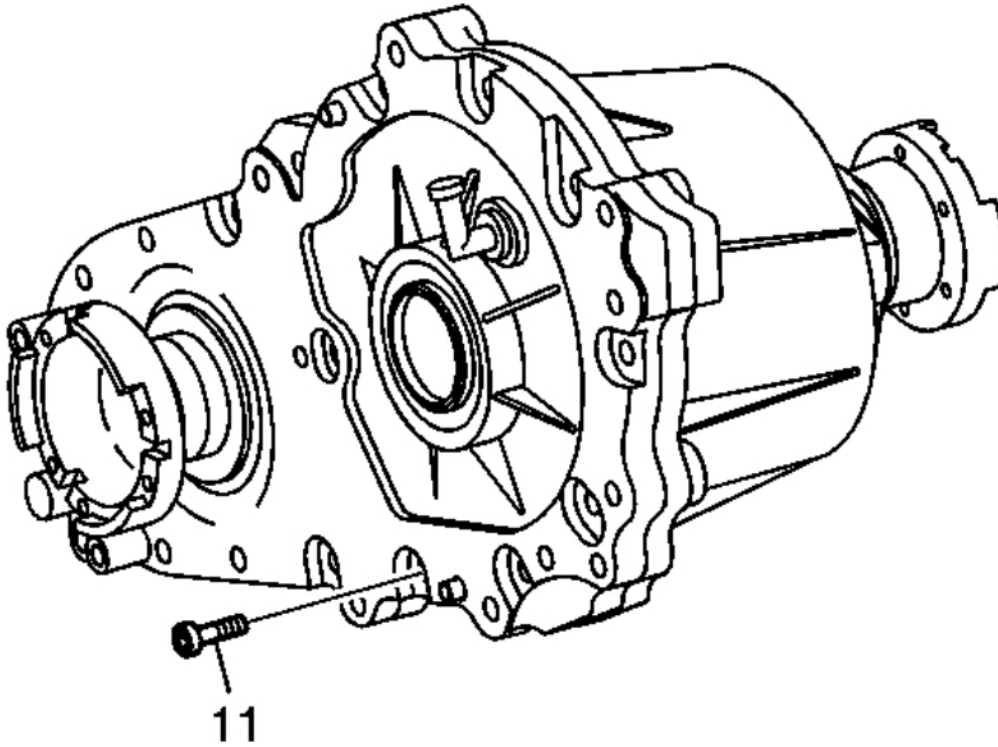


Fig. 5: Locating Case Attaching Bolts
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: To prevent thread damage, clean exposed bolt threads before removing bolts.

3. Remove the 17 case attaching bolts (11).

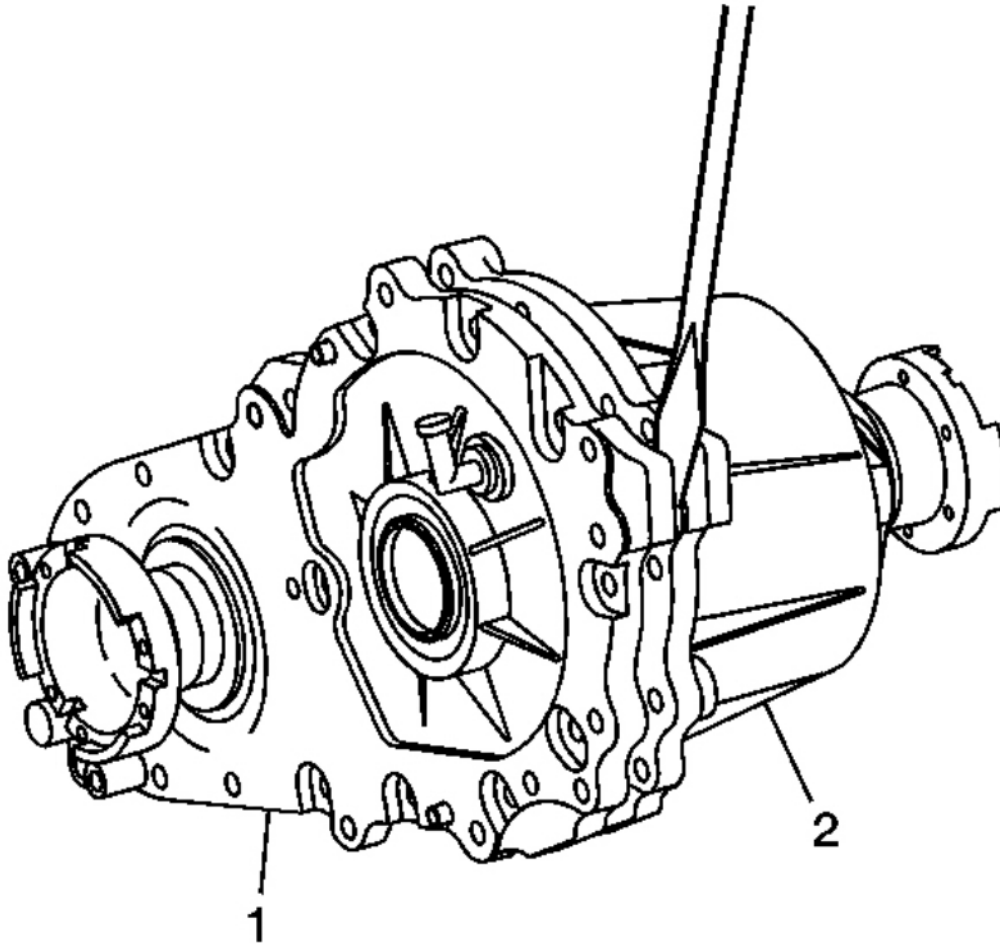


Fig. 6: Identifying Pry Points On Transfer Case
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Machined Surface Damage Notice in Cautions and Notices.

4. Using a screwdriver at the pry points located on the case (1) and cover (2), pry the case (1) and cover (2) apart.

Fig. 7: View Of Transfer Case & Cover
Courtesy of GENERAL MOTORS CORP.

5. Separate the case (1) and cover (2).

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Fig. 8: Using J 22888-20A On Lower Sprocket
Courtesy of GENERAL MOTORS CORP.

6. Use the **J 22888-20A** to remove the lower sprocket (115).

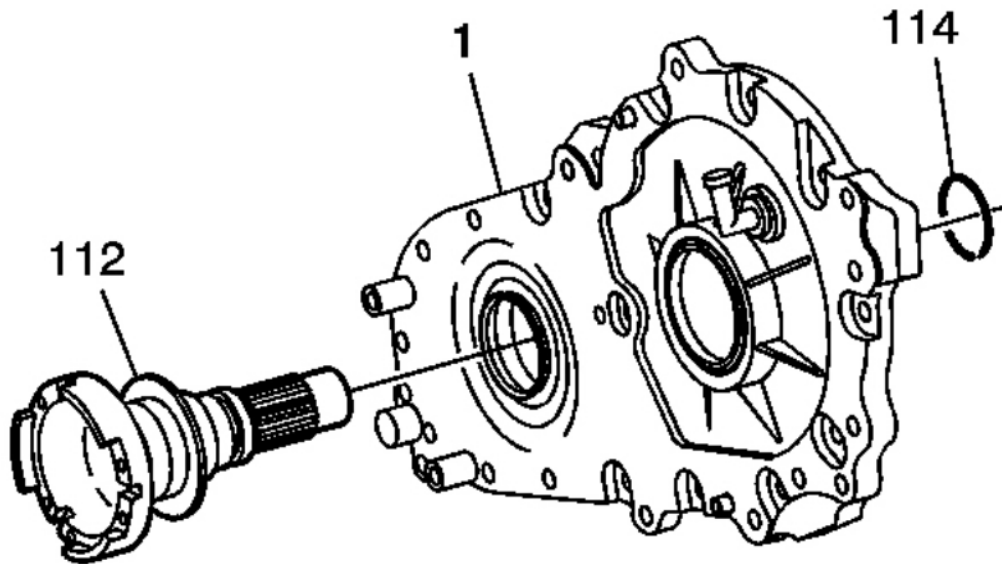


Fig. 9: Identifying Snap Ring On Front Output Shaft
Courtesy of GENERAL MOTORS CORP.

7. Remove the snap ring (114).
8. Push the front output shaft (112) from the case (1).

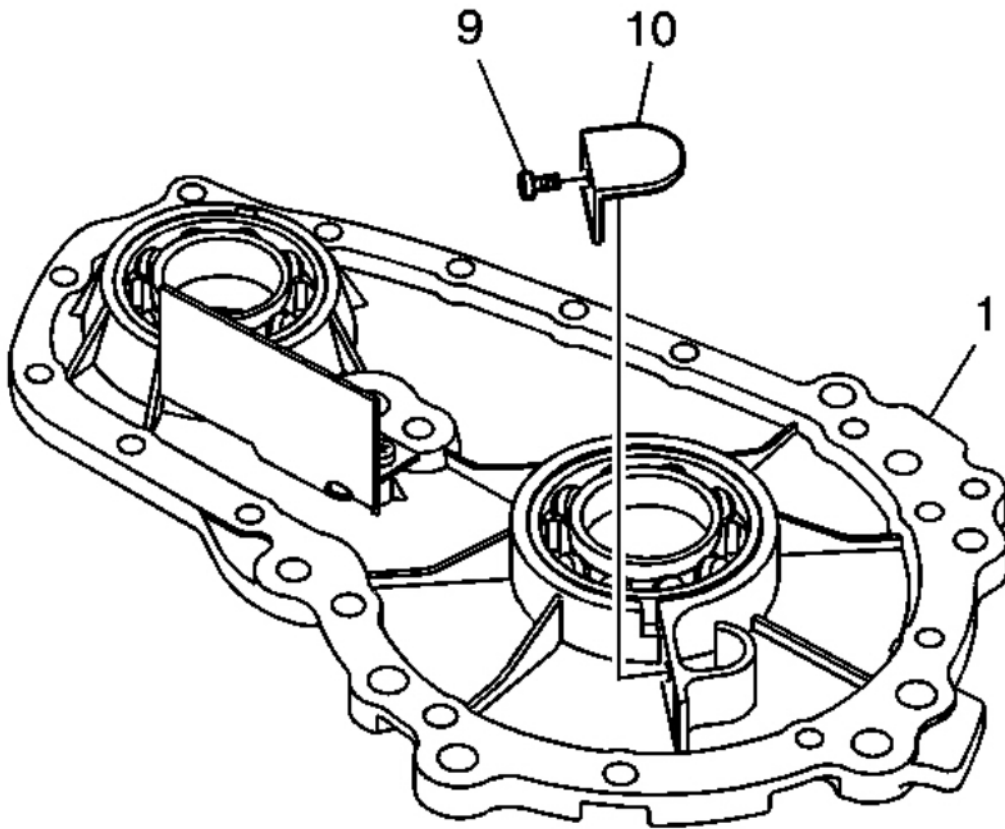


Fig. 10: View Of Vent Baffle & Bolt
Courtesy of GENERAL MOTORS CORP.

9. Remove the vent baffle bolt (9) and baffle (10) from the case (1).

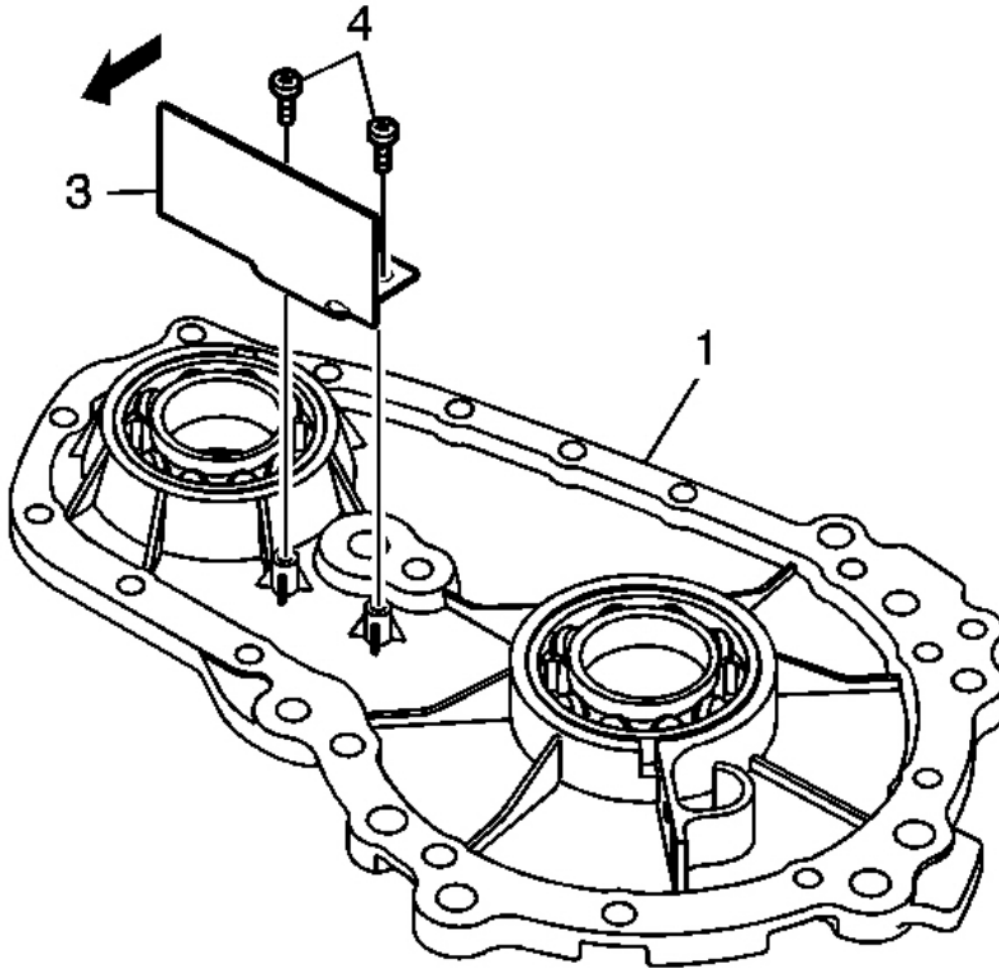


Fig. 11: Identifying Chain Snubber & Bolts
Courtesy of GENERAL MOTORS CORP.

10. Remove chain snubber bolts (4) and snubber (3) from the case (1).

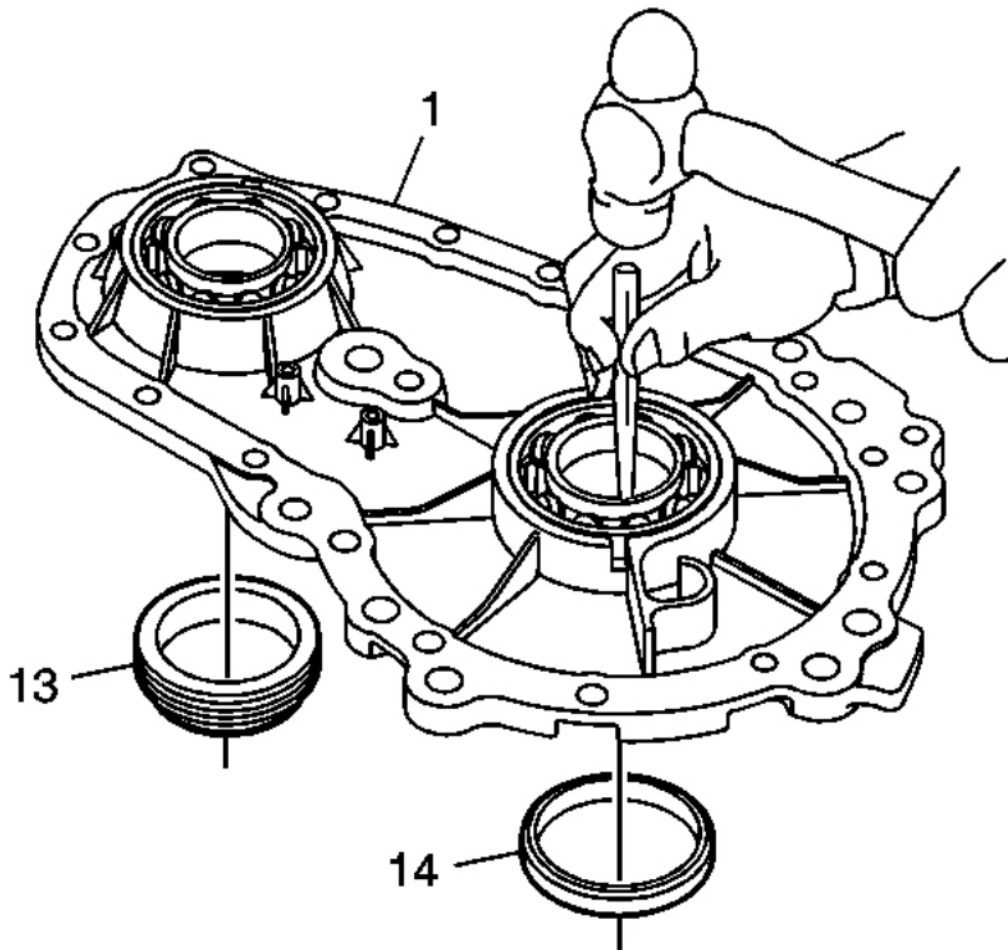


Fig. 12: View Of Front Input & Output Seals
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Transfer Case Seal Removal Notice in Cautions and Notices.

11. Using a hammer and a suitable driver, remove the front output seal (13) and input seal (14) from the case (1).

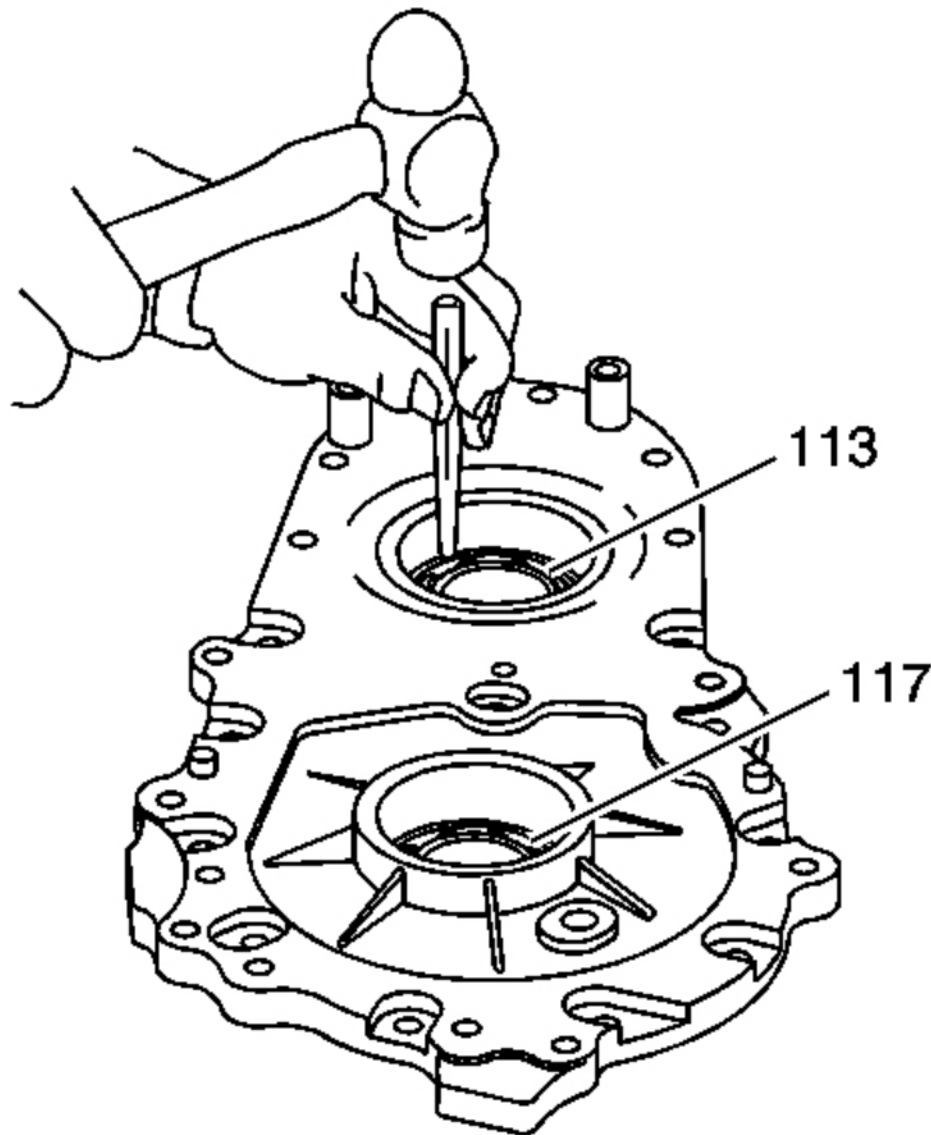


Fig. 13: Identifying Front Output & Input Bearings
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Only remove the bearings if they are to be replaced.

12. Using a hammer and a suitable punch, remove the front output bearing (113) and input

bearing (117) if they are to be replaced.

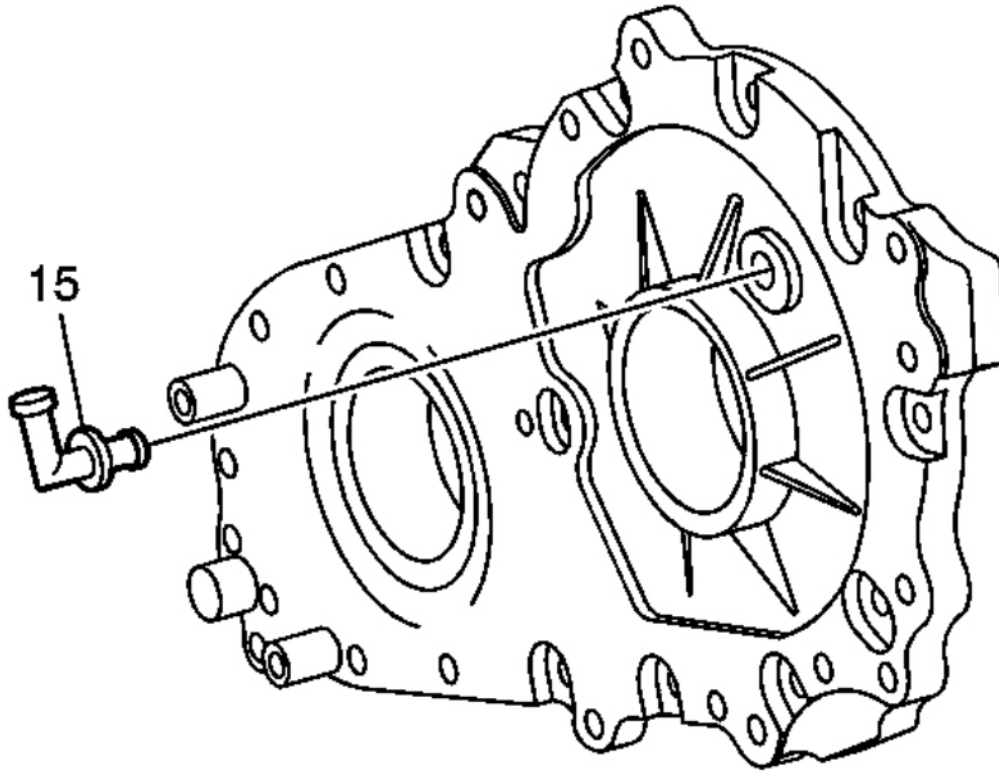


Fig. 14: Locating Vent

Courtesy of GENERAL MOTORS CORP.

13. Remove the vent (15) and discard.
14. Replace it with a NEW vent.

Fig. 15: View Of Drive Chain
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: If the chain and sprockets are to be used again, note the position of the blue chain link, in or out.

15. Remove the chain (109) from the cover (2).

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Fig. 16: Identifying Planetary Assembly And Thrust Washer
Courtesy of GENERAL MOTORS CORP.

16. Remove the planetary assembly and thrust washer (100) from the cover.

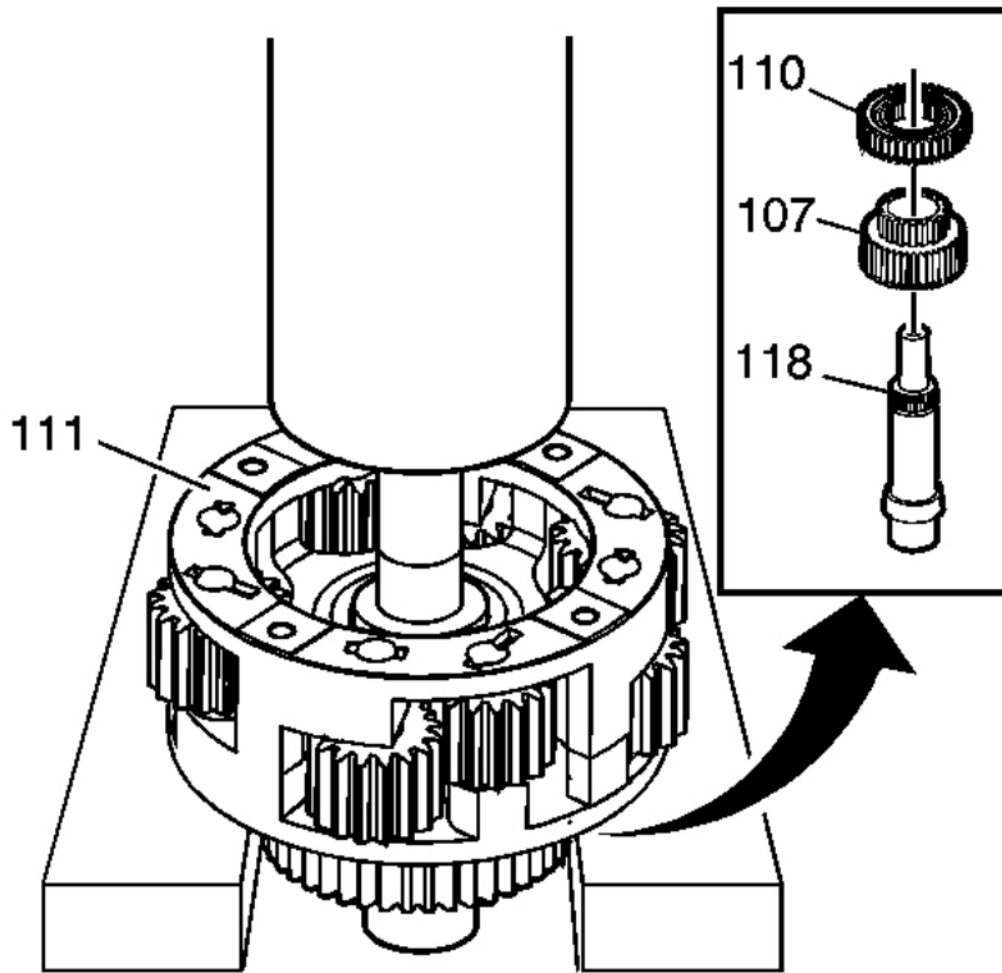


Fig. 17: Expanded View Of Input Shaft Assembly
Courtesy of GENERAL MOTORS CORP.

17. Using a press, remove the input shaft assembly (118, 107 and 110) from the carrier (111).

Fig. 18: Identifying Groove Around Splines In Carrier Assembly
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The carrier assembly (111) can be installed with the groove around the splines to the inside. This will cause the wrong torque split of 60/40.

18. Note the direction of the carrier assembly (111). The groove around the splines for 50/50 and 40/60 ratios face towards the output shaft.

Fig. 19: View Of Sun Gear & Carrier Assembly
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Mark the orientation of the sun gear. The raised lip faces out.

19. Remove the sun gear (110) and carrier assembly (111) from the cover (2).

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Fig. 20: Upper Sprocket, Sun Gear & Input Shaft
Courtesy of GENERAL MOTORS CORP.

20. Remove the upper sprocket (107) and sun gear (110) from the input shaft (118).

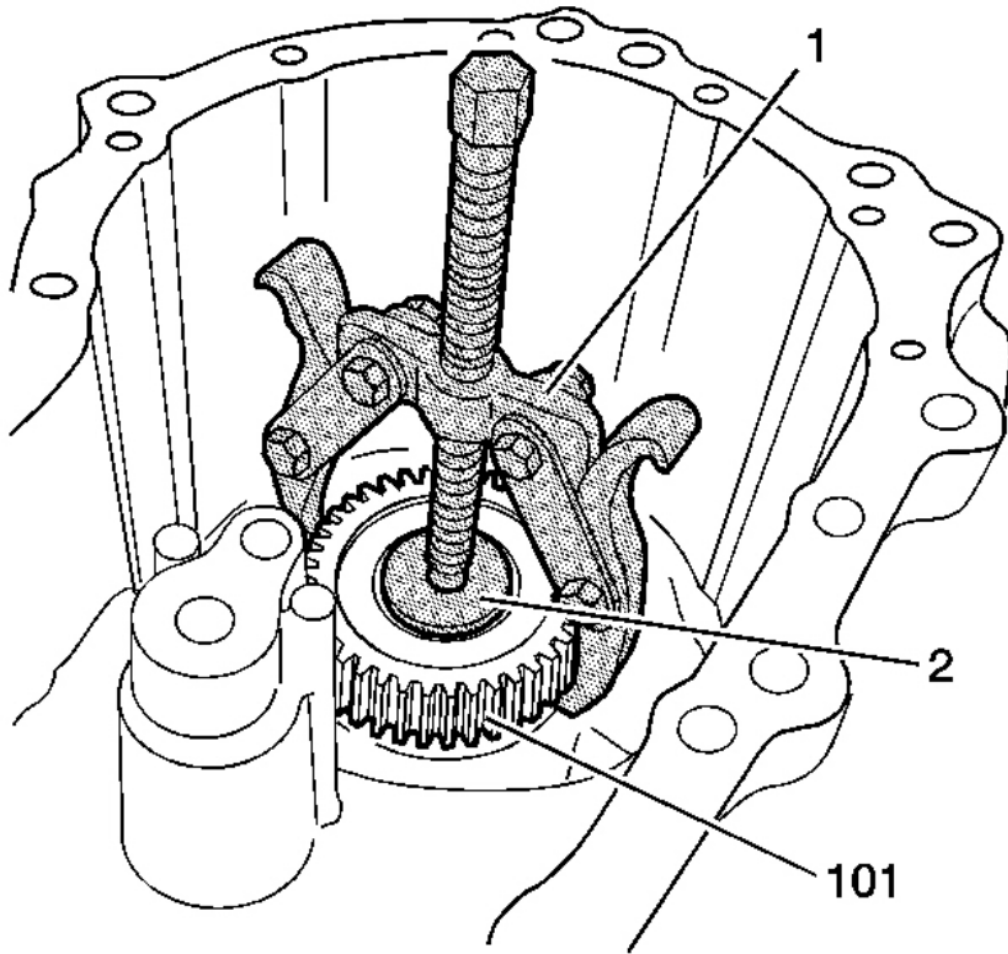


Fig. 21: Using J 22888-20A & J 8107-2 To Remove Sun Gear
Courtesy of GENERAL MOTORS CORP.

21. Using the J 22888-20A (1) and the J 8107-2 (2), remove the sun gear (101) from the rear output shaft.

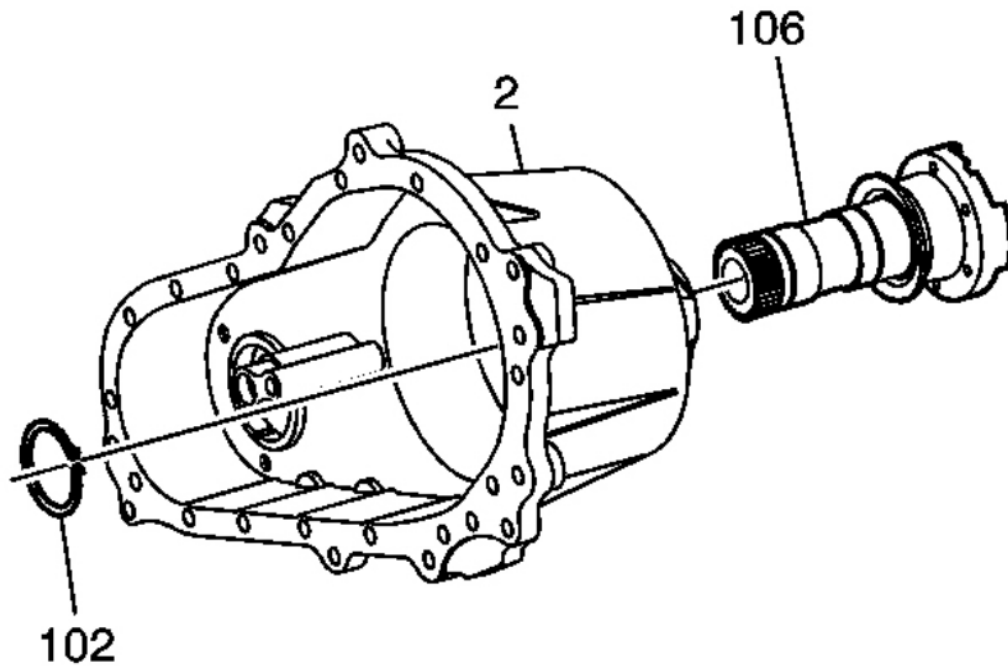


Fig. 22: Identifying Snap Ring On Output Shaft
Courtesy of GENERAL MOTORS CORP.

22. Using snap ring pliers, remove the snap ring (102) from the output shaft (106).
23. Push the output shaft (106) from the cover (2).

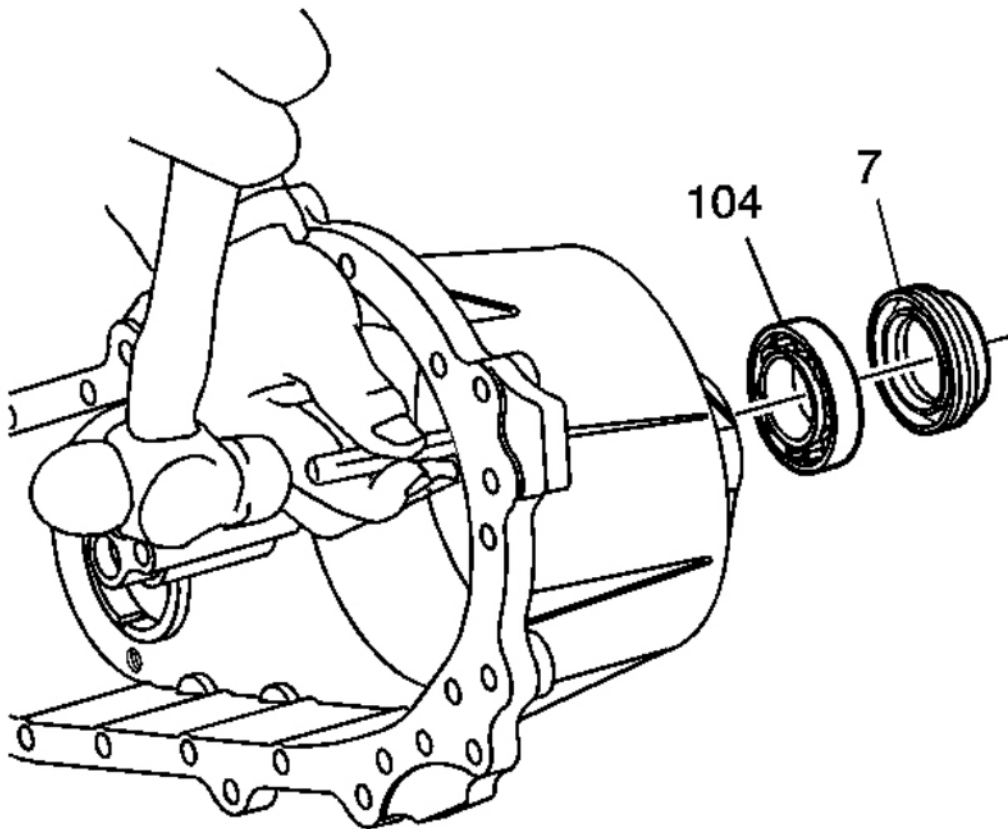


Fig. 23: Locating Rear Output Seal & Outside Output Bearing
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Transfer Case Seal Removal Notice in Cautions and Notices.

NOTE: Refer to Transfer Case Bearing Removal Notice in Cautions and Notices.

24. Using a hammer and a suitable punch, from inside the cover, drive out the rear output seal (7) and the outside output bearing (104).

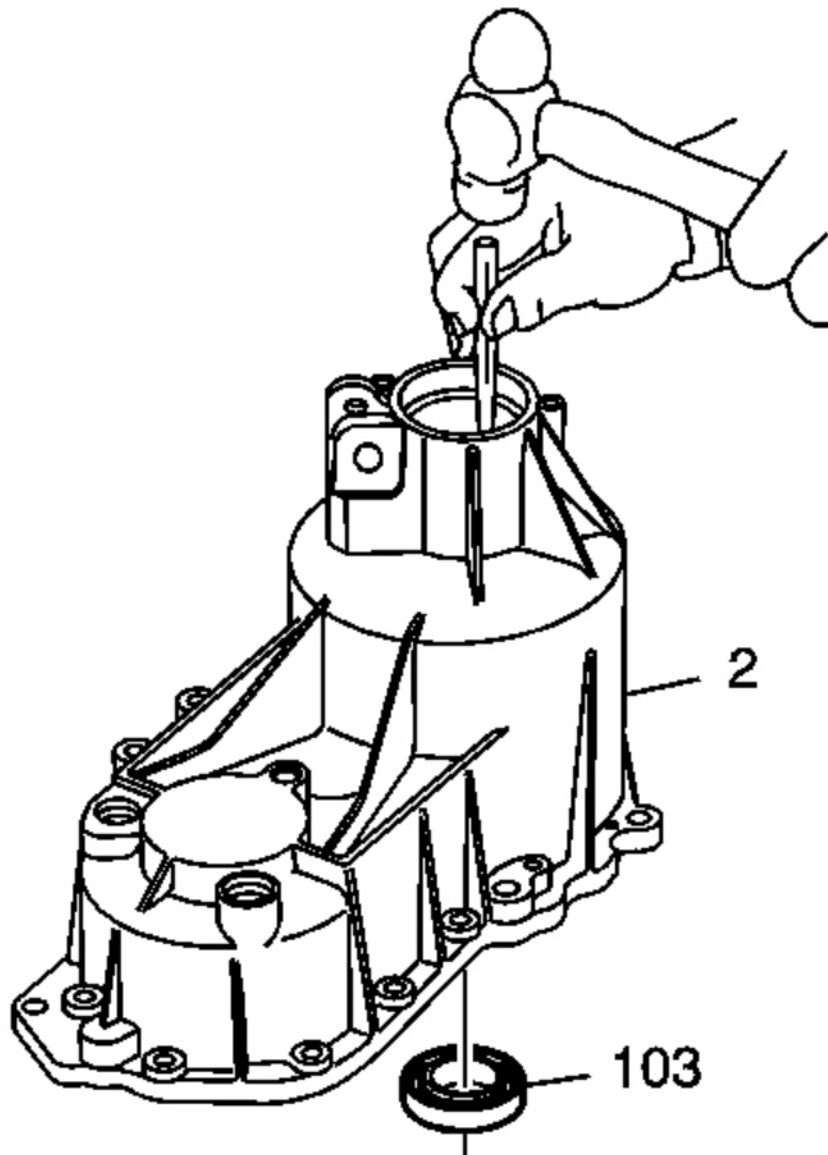


Fig. 24: Aligning Removal Tools On Inner Output Shaft Bearing
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Transfer Case Bearing Removal Notice in Cautions and Notices.

25. Using a hammer and a suitable punch, from outside the cover (2), inside the output shaft bore, drive out the inner output shaft bearing (103).

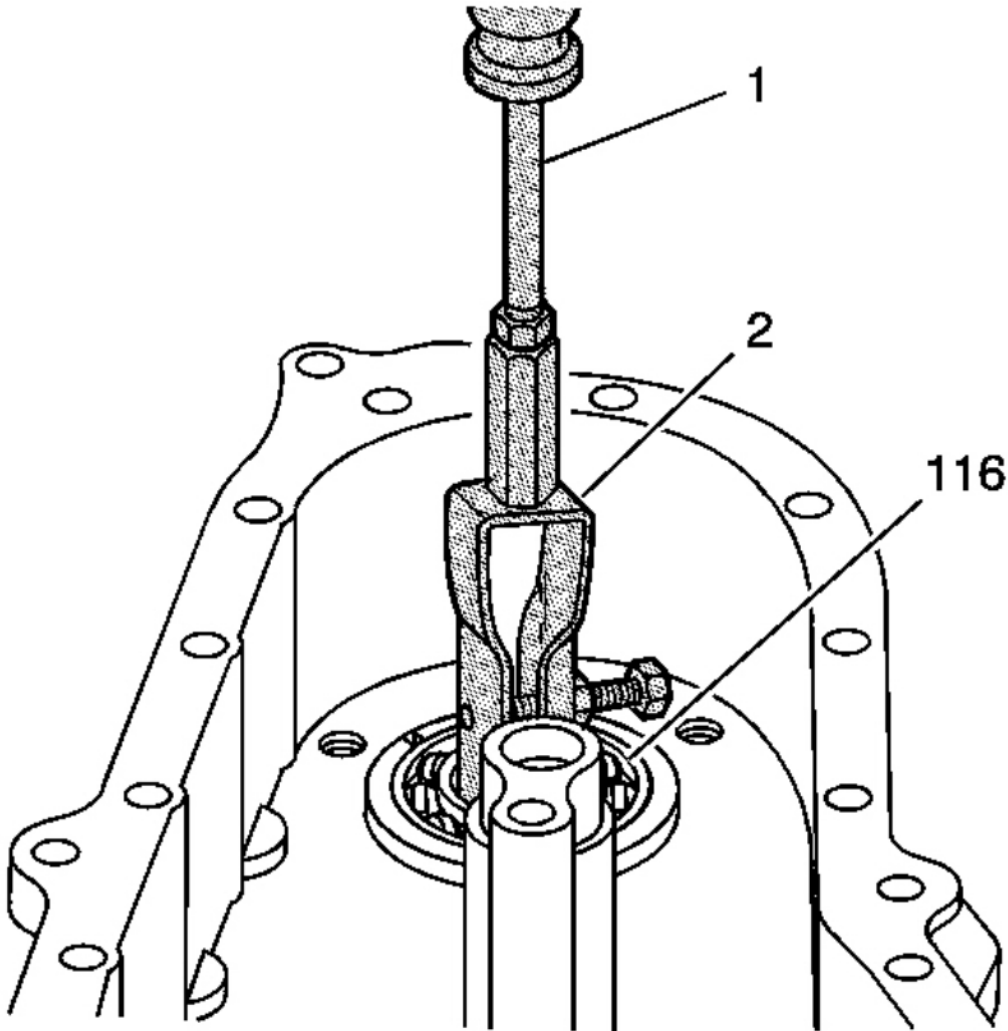


Fig. 25: Removing Output Cover Bearing From Cover
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Transfer Case Bearing Removal Notice in Cautions and Notices.

26. Using the **J-2619-A** (1) and the **J 29369-1** (2), remove the front output cover bearing (116) from the cover.

CLEANING AND INSPECTION

Case

1. Clean the front case half in cleaning solvent and air dry.

NOTE: Refer to Machined Surface Damage Notice in Cautions and Notices.

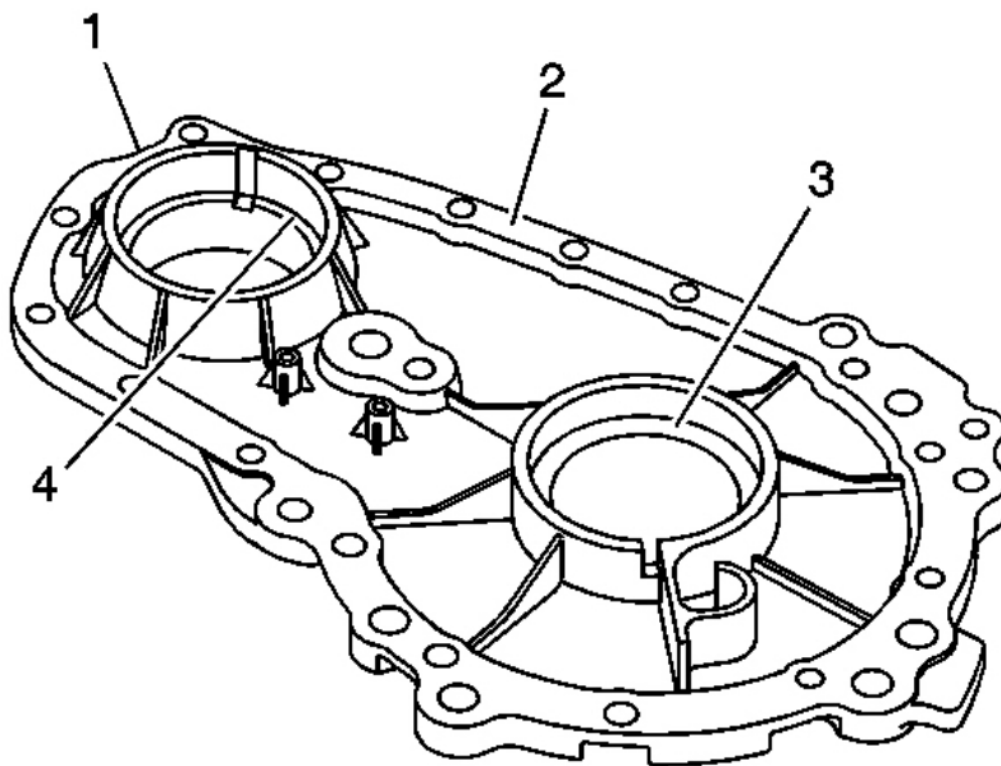


Fig. 26: Identifying Front Case Half Inspection Areas
Courtesy of GENERAL MOTORS CORP.

2. Remove the sealer from the case sealing surfaces (2).

3. Inspect the case for being broken or cracked.
4. Inspect the front output shaft front bearing bore (4) for the following conditions:
 - A spun bearing
 - Cracks
5. Inspect the input shaft bearing bore (3) for the following conditions:
 - A spun bearing
 - Cracks
6. Replace the front case half if any of the above conditions are found.
7. Inspect the sealing surfaces (2) for damage.
8. Repair small scratches or nicks with a soft stone.
9. Inspect the front case to transmission case mounting surface for damage.
10. Inspect the front output shaft front bearing and the input shaft bearing for the following conditions:
 - Roughness
 - Brinelling
 - Pitting
11. Replace the bearings if any of the above conditions are found. Refer to **Transfer Case Disassemble** and **Transfer Case Assemble** .

Cover

1. Clean the cover in cleaning solvent and air dry.

NOTE: Refer to **Machined Surface Damage Notice** in **Cautions and Notices**.

2. Remove the sealer from the case sealing surfaces.
3. Inspect the case for being broken or cracked.
4. Replace the case if it is broken or cracked.

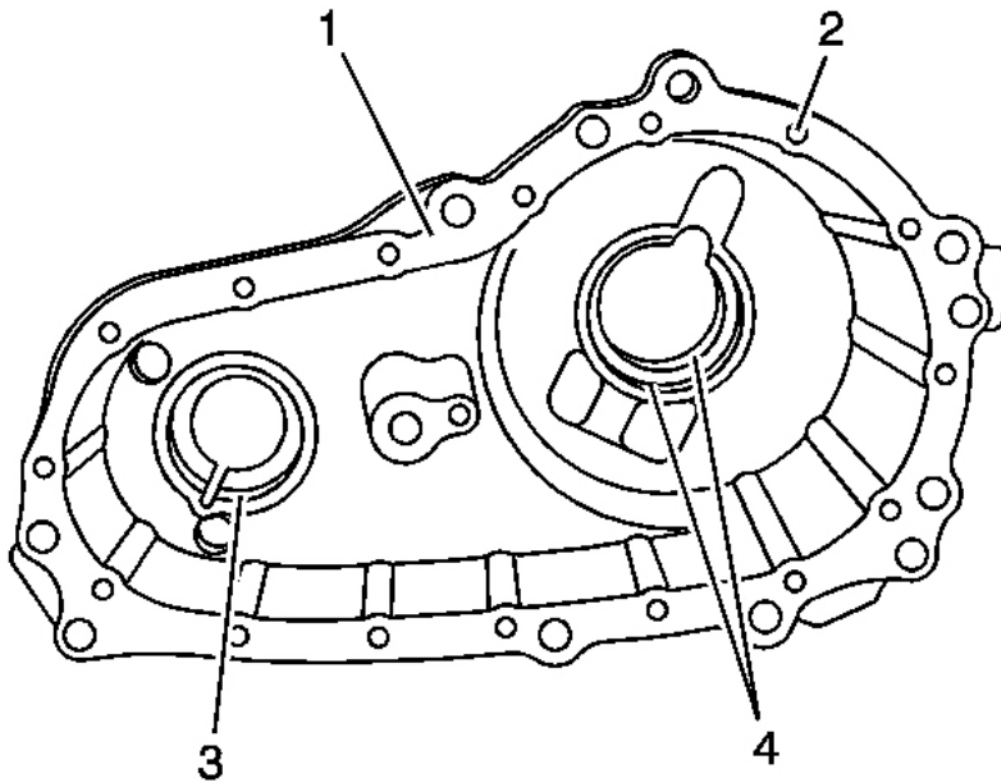


Fig. 27: View Of Inspection Areas On Cover
Courtesy of GENERAL MOTORS CORP.

5. Inspect the sealing surfaces (1) for damage.
6. Repair small scratches or nicks with a soft stone.
7. Inspect the case threaded bolt holes (2) for damage.
8. Repair any damaged threads.
9. Inspect the front output shaft rear bearing bore (3) for the following conditions:
 - Spun bearing
 - Cracks
10. Inspect the rear output shaft rear bearing bore (4) for the following conditions:
 - Spun bearing
 - Cracks

11. Replace the case if the bearing has spun. Refer to **Transfer Case Disassemble** and **Transfer Case Assemble** .

Differential Components

1. Clean the planetary differential in cleaning solvent. Do not disassemble the planetary differential.
2. Air dry and ensure all cleaning solvent is removed from the bearings in the pinion gears (3). Do not spin the pinion gears with compressed air.
3. Inspect the pinion gears for the following conditions:
 - Chipped teeth
 - Debris embedded in the root of the teeth
 - Excessive side movement from worn bushings or shafts
4. Inspect the planetary housing for cracks at the web (1) of the housing.

Fig. 28: Inspection Areas On Planetary Differential
Courtesy of GENERAL MOTORS CORP.

5. Inspect the thrust washer surface (2) for scoring or excessive wear.
6. Inspect the planetary housing for distortion.
7. Inspect the planetary housing to mainshaft splines for excessive wear.
8. Replace the planetary differential if any of the above conditions are found.
9. Inspect the planetary thrust washers for excessive wear or scoring.
10. Replace the thrust washers if they are faulty.

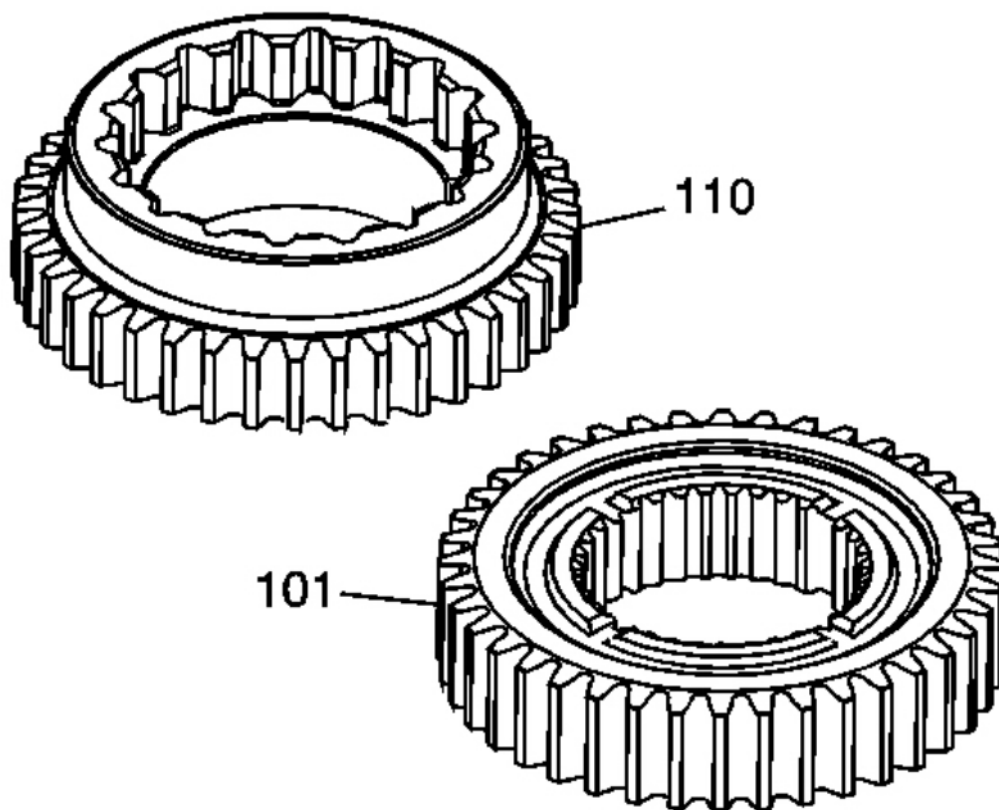


Fig. 29: Front Sun Gear & Rear Sun Gear
Courtesy of GENERAL MOTORS CORP.

1. Clean the front sun gear (110) and the rear sun gear (101) in cleaning solvent and air dry.
2. Inspect the teeth on the front sun gear (110) and the rear sun gear (101) for the following conditions:
 - Chipped teeth
 - Excessively worn gear surfaces

Slight wear marks are normal.

- Debris embedded in the root of the teeth
3. Inspect the thrust washer surfaces for excessive wear or scoring.
 4. Replace the front sun gear (110) and the rear sun gear (101) if they are faulty.

Drive Chain and Sprockets

Tools Required

J 46266 Bushing Installer. See Special Tools and Equipment .

Cleaning and Inspection Procedure

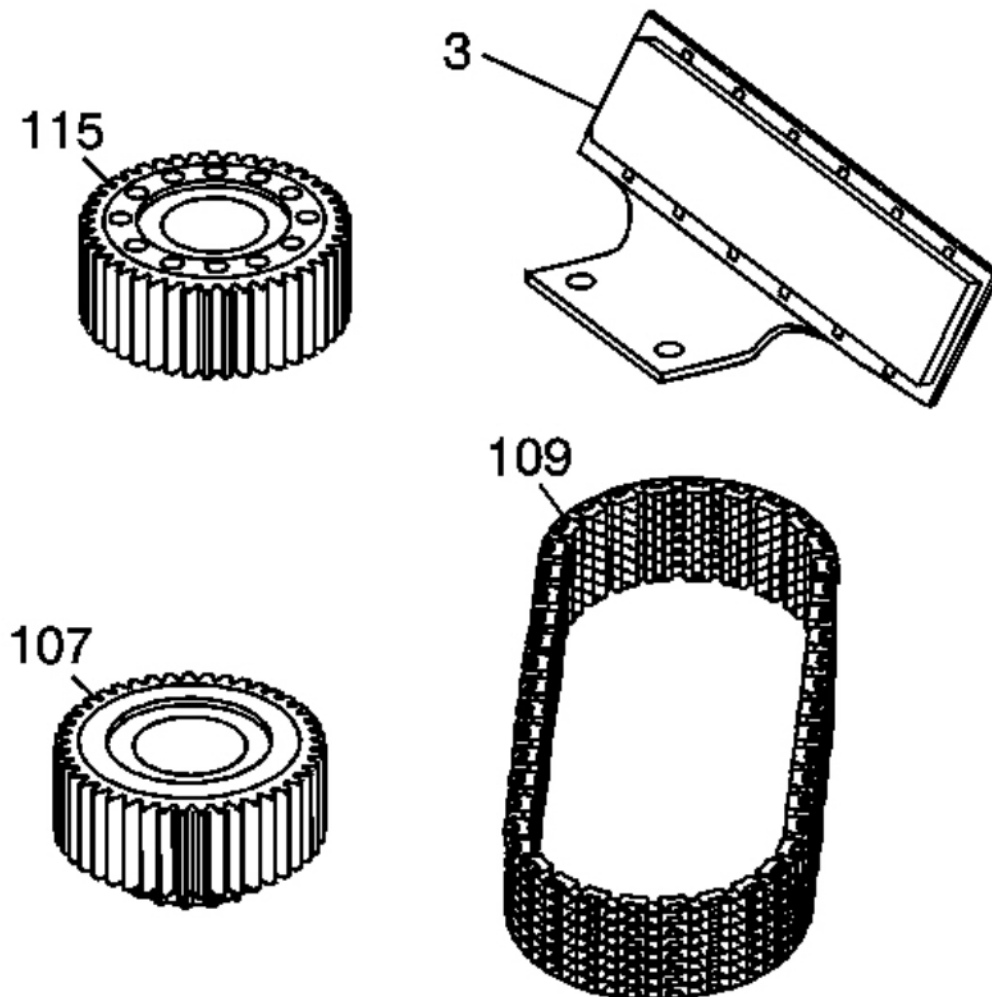


Fig. 30: Drive Chain, Drive Sprocket, Snubber & Driven Sprocket
Courtesy of GENERAL MOTORS CORP.

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1. Clean the drive chain (109), drive sprocket (107), snubber (3) and driven sprocket (115) in cleaning solvent and air dry.
2. Inspect the drive chain (109) for the following conditions:
 - Loose link pins
 - Binding or stiff links
 - Debris embedded in the links
 - Worn teeth surfaces
3. Replace the chain if any of the above conditions are found.
4. Inspect the driven sprocket (115) and the drive sprocket (107) for the following conditions:
 - Chipped teeth
 - Excessively worn gear surfaces

Slight wear marks are normal.

 - Debris embedded in the root of the teeth
5. Inspect the drive sprocket (107) and bushing (105) for the following conditions:
 - Excessive wear
 - Scoring
6. Replace the sprockets if any of the above conditions are found. The chain and sprockets may be replaced separately.
7. Inspect the snubber (3) for an excessively worn or gouged lining.

Slight wear marks are normal.
8. Inspect the chain and sprockets for the cause of the wear. Replace as required.

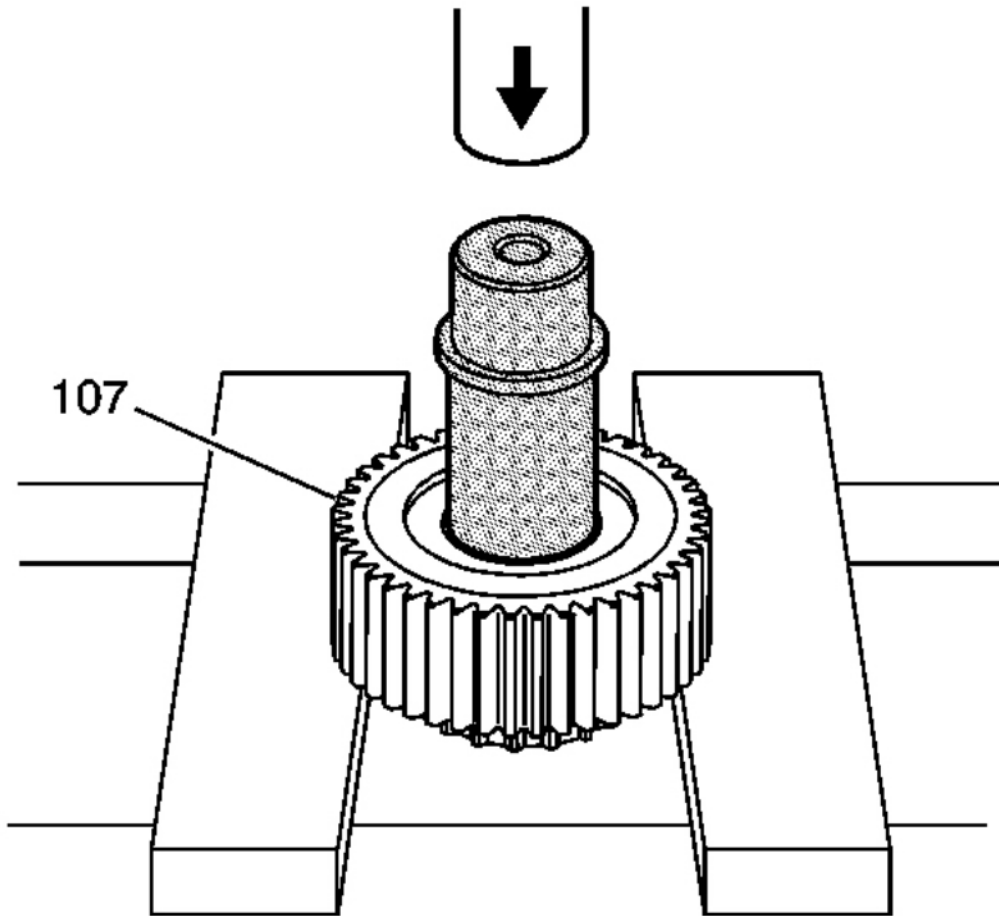


Fig. 31: View Of J 46266 Replacing Bushing In Socket
Courtesy of GENERAL MOTORS CORP.

9. If the bushing in the sprocket (107) is damaged, it can be replaced using the **J 46266** and a press to remove the bushing.
10. Clean the bushing bore with solvent.
11. Inspect the bushing bore for nicks or burrs.

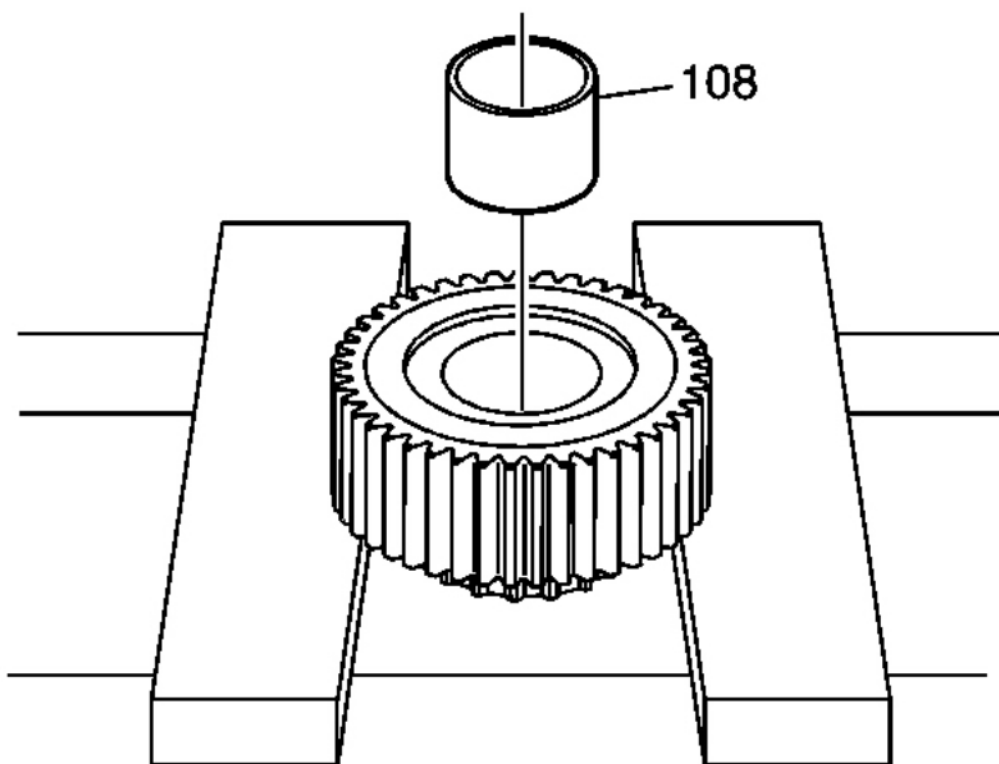


Fig. 32: View Of Sprocket Bushing
Courtesy of GENERAL MOTORS CORP.

12. Place the NEW bushing (108) in the sprocket bore.

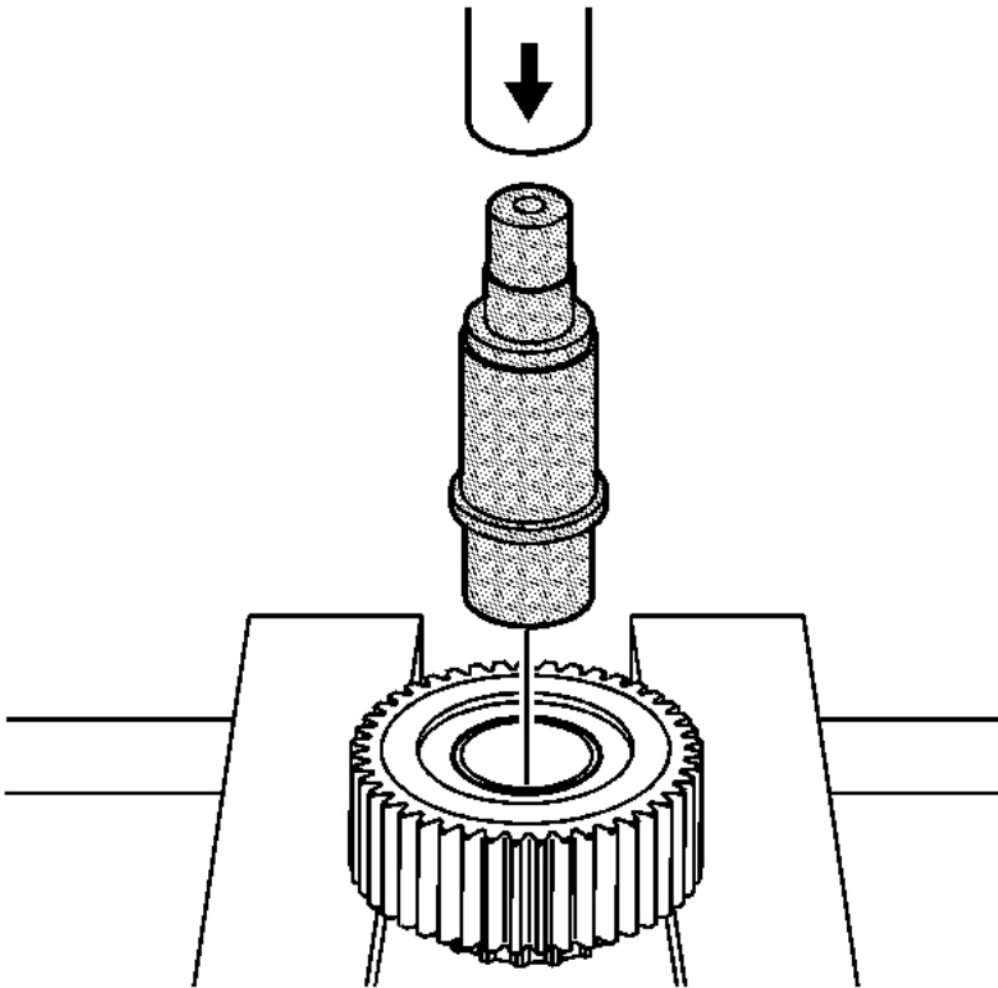


Fig. 33: Using J 46266 To Press In Bushing
Courtesy of GENERAL MOTORS CORP.

13. Use the other side of the **J 46266** and press in the NEW bushing until the tool meets the sprocket.

Input Shaft

1. Clean the input shaft in cleaning solvent.
2. Inspect the input seal surface (1) for excessive grooves or damage.

IMPORTANT: Do not attempt to smooth any roughness in the bearing journals.

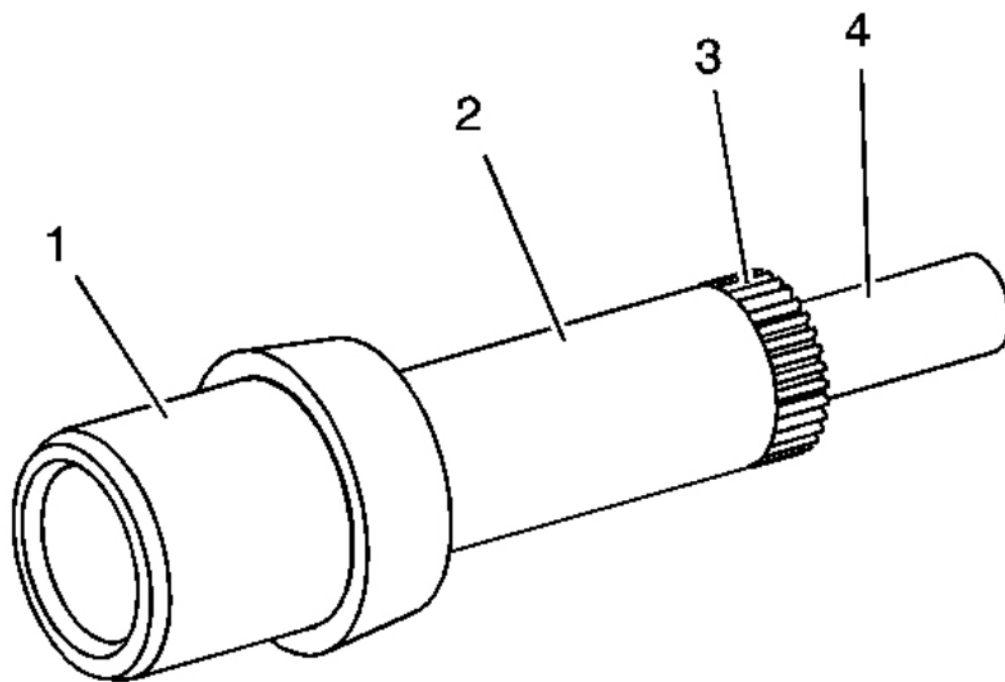


Fig. 34: Identifying Inspection Areas On Input Shaft
Courtesy of GENERAL MOTORS CORP.

3. Inspect the bearing journals on the input shaft for the following conditions:
 - The drive gear bushing (2)
 - The rear support bushing end (4)
 - Scoring
 - Pitting
 - Excessive wear
4. Inspect the input shaft planetary carrier assembly splines (3) for damage or excessive wear. Witness marks at the location of the gear is normal.
5. Replace the input shaft if any of the above conditions are found.

Front Output Shaft

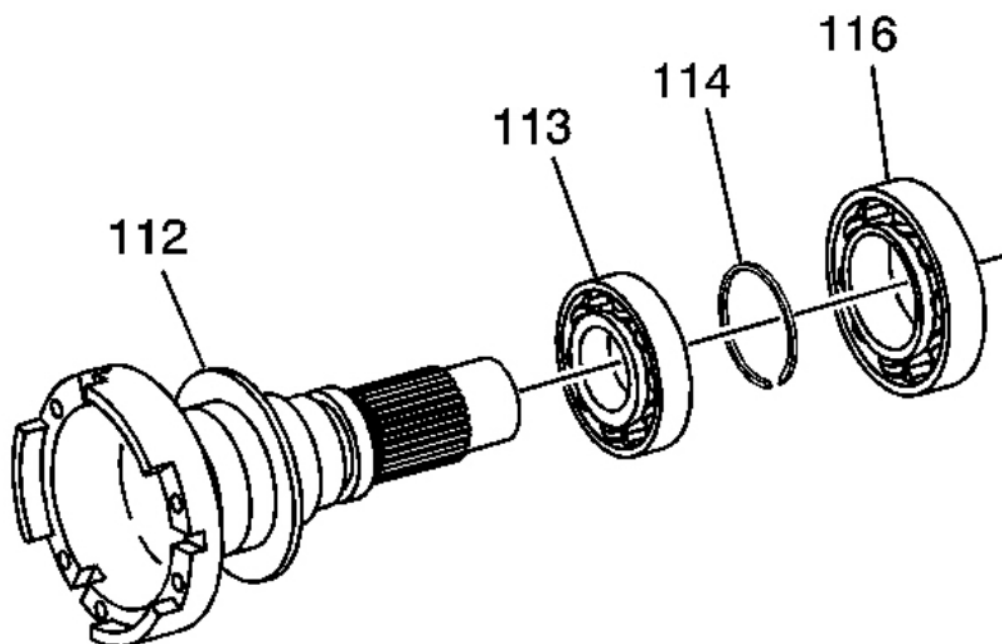


Fig. 35: Front Output Shaft Components
Courtesy of GENERAL MOTORS CORP.

1. Clean the front output shaft (112) in cleaning solvent and air dry.
2. Inspect for spun bearings at the front output shaft bearing areas.
3. Inspect the front output internal splines and driven gear splines for damage or excessive wear.
4. Replace the front output shaft if it is damaged.
5. Inspect the front output shaft bearings (113 and 116) for the following conditions:
 - Scoring
 - Pitting
 - Brinelling
 - Excessive wear
6. Replace the front output shaft bearings if they are faulty. Refer to **Transfer Case Disassemble** and **Transfer Case Assemble** .

Rear Output Shaft

Tools Required

- **J-2619-A** Slide Hammer w/Adapter. See Special Tools and Equipment .
- **J 3289-20** Holding Fixture. See Special Tools and Equipment .
- **J 45548** Mainshaft Support Bushing/Bearing Remover. See Special Tools and Equipment .
- **J 46266** Bushing Installer. See Special Tools and Equipment .

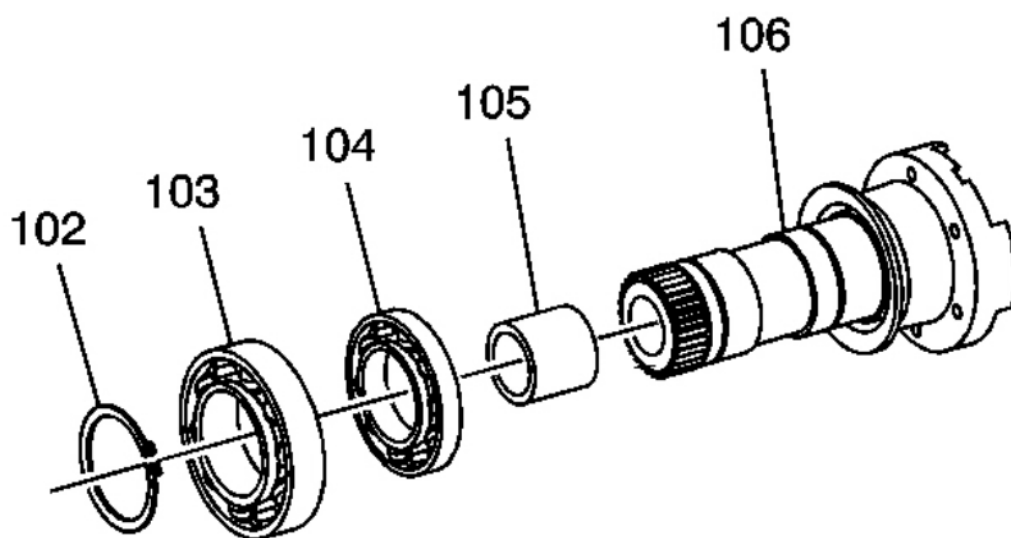


Fig. 36: View Of Rear Output Shaft Components
Courtesy of GENERAL MOTORS CORP.

1. Clean the rear output shaft (106) and rear output shaft bearings (104) in cleaning solvent.
2. Air dry and ensure all solvent is removed from the bearing.
3. Inspect the rear output shaft bearings (103 and 104) for the following conditions:
 - Scoring
 - Pitting
 - Brinelling
 - Excessive wear

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4. Replace the rear output shaft bearings if they are faulty. Refer to **Transfer Case Disassemble** and **Transfer Case Assemble** .
5. Inspect the mainshaft rear support bushing (105) for the following conditions:
 - Pitted
 - Wear
 - Corrosion
6. Replace the rear output shaft if any of the above conditions are found.
7. Inspect the rear output shaft splines for wear or damage.
8. Inspect the rear output shaft bearing area for a spun bearing.
9. If the bearing area or splines are damaged, replace the rear output shaft.

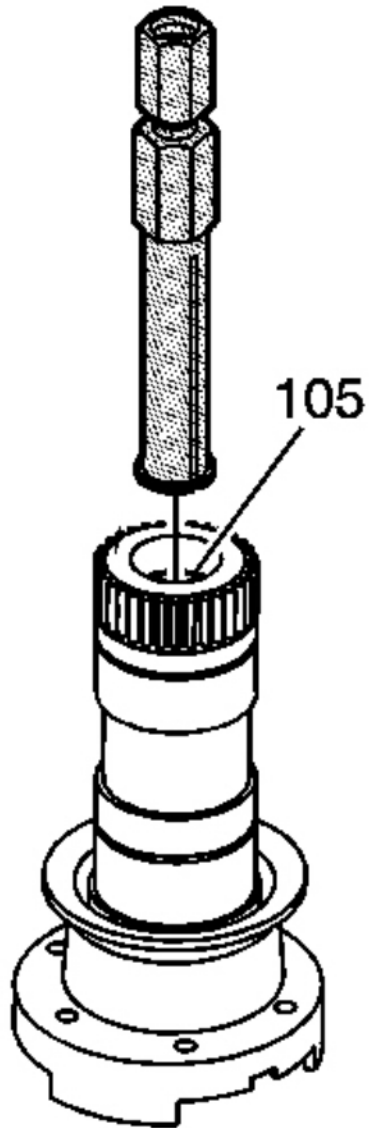


Fig. 37: Aligning J 45548 Inside Of Rear Output Shaft Bushing
Courtesy of GENERAL MOTORS CORP.

10. If the bushing (105) is damaged, it can be replaced. Place **J 45548** inside of the bushing.

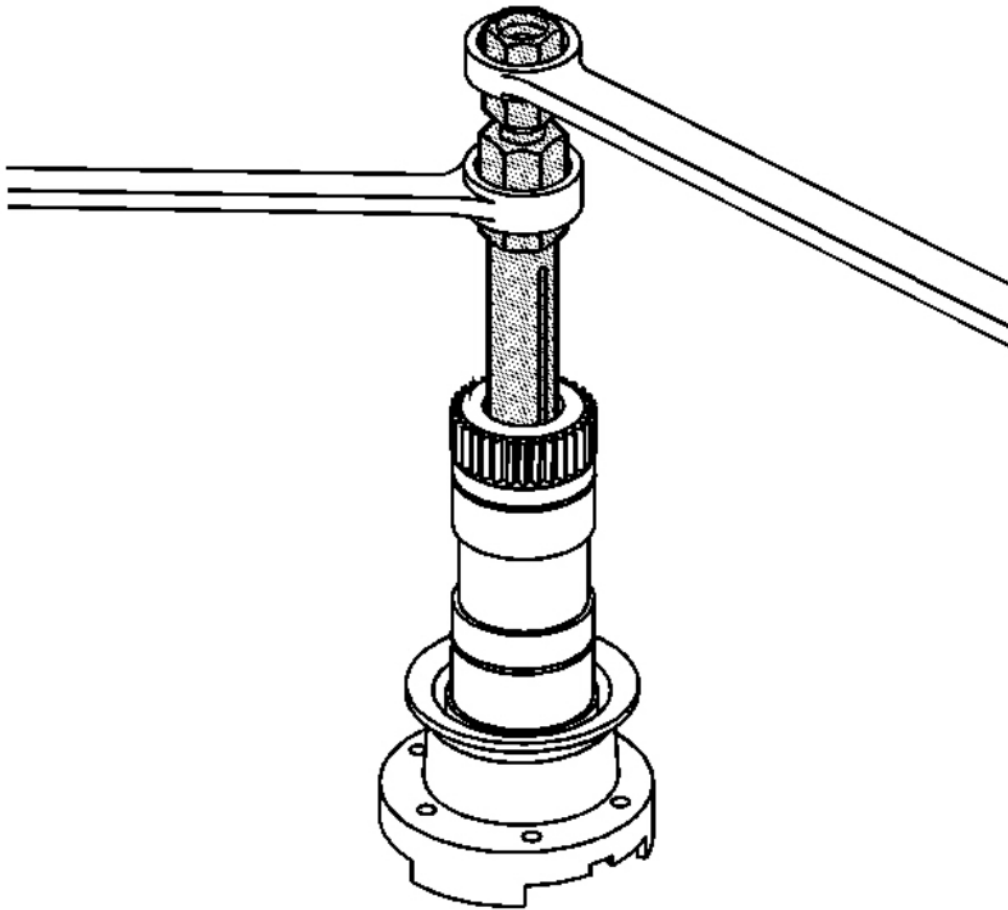


Fig. 38: Locking J 45548 Behind The Bushing
Courtesy of GENERAL MOTORS CORP.

11. With the ridge on the **J 45548** behind the bushing, tighten the center bolt of the **J 45548** in order to lock it behind the bushing.

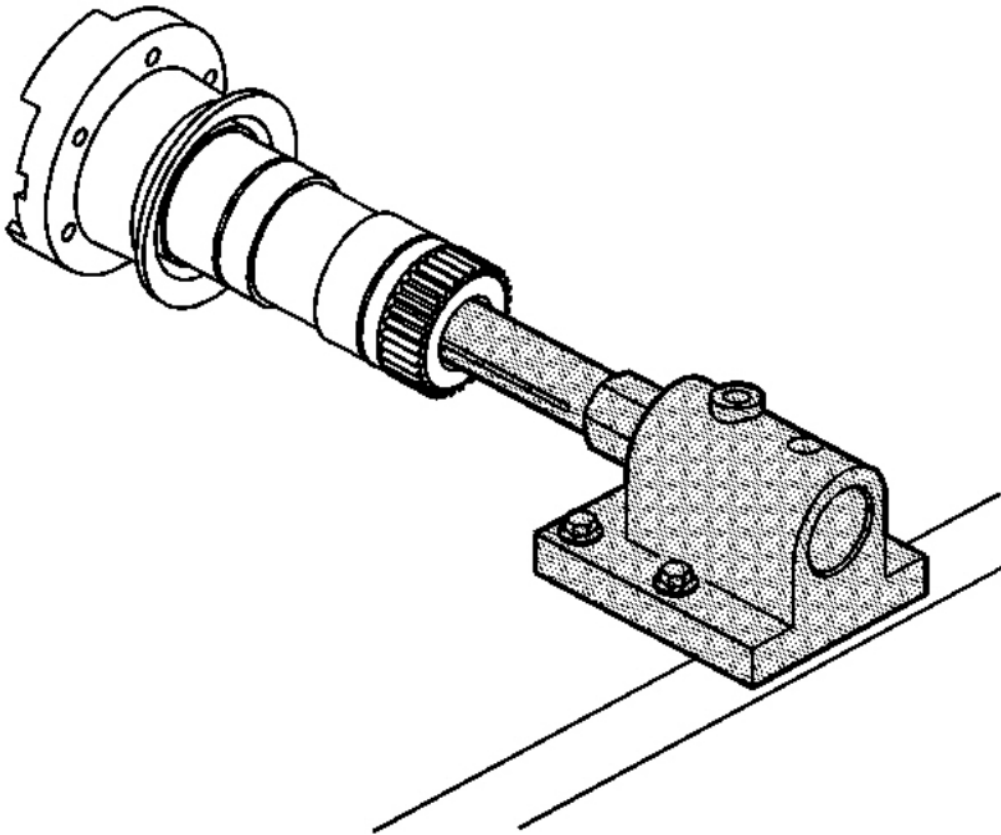


Fig. 39: Positioning Output Shaft In J 3289-20
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Do not put the output shaft in a vise.

12. With position pins removed from the J 3289-20 , place the output shaft as shown.

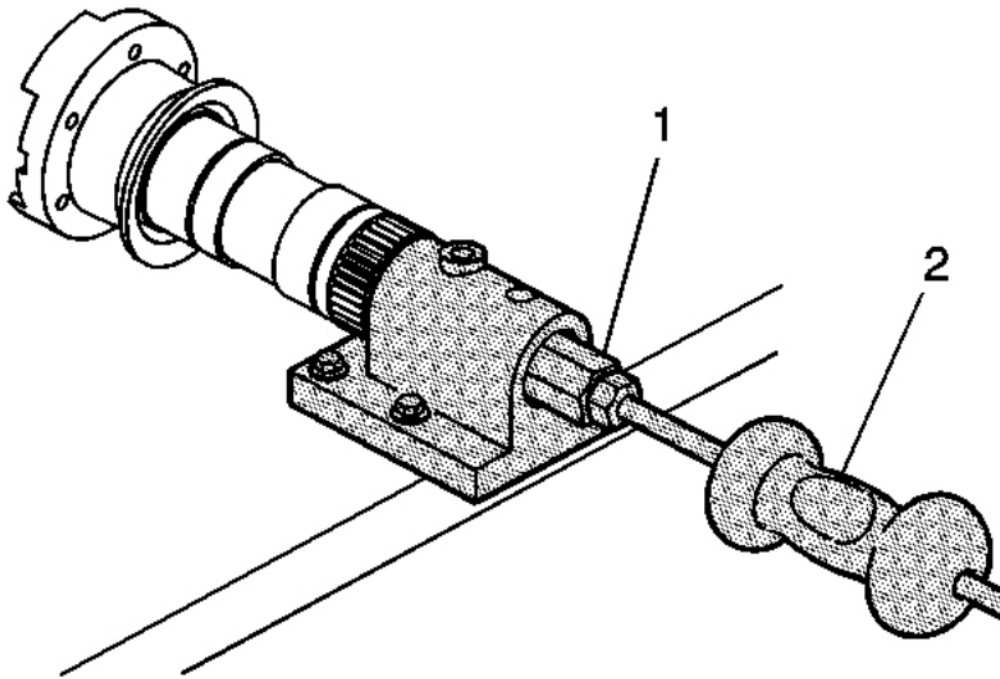


Fig. 40: Inserting J-2619-A Into J 45548
Courtesy of GENERAL MOTORS CORP.

13. Insert the **J-2619-A** (2) into the **J 45548** (1) and pull the bushing from the output shaft.

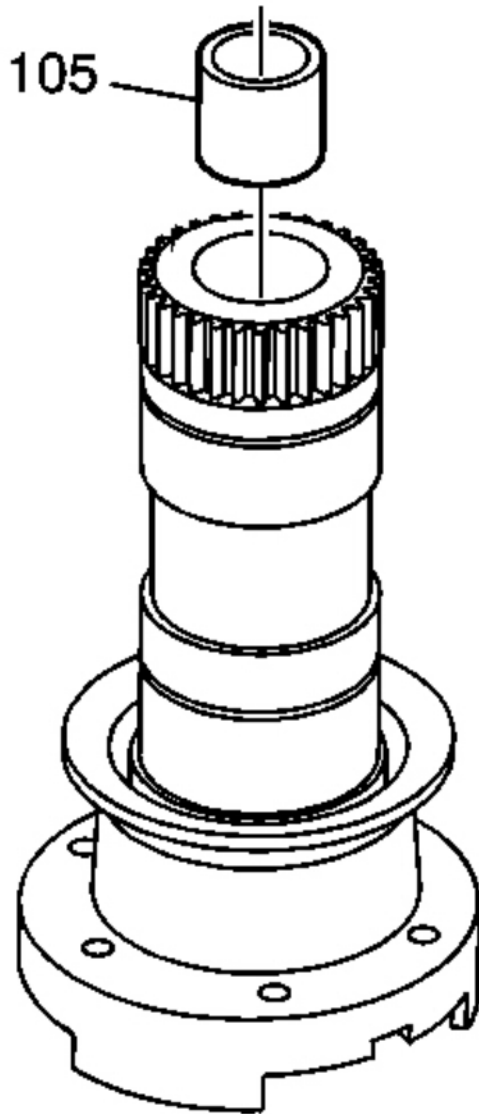


Fig. 41: Identifying Output Shaft Bushing
Courtesy of GENERAL MOTORS CORP.

14. Clean the bushing bore with solvent. Inspect for nicks and burrs.
15. Place a NEW bushing (105) in the bore.

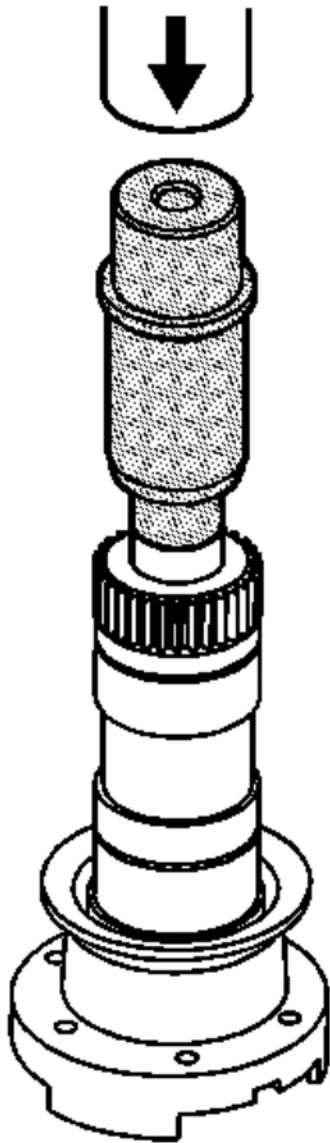


Fig. 42: Pressing Bushing Into Output Shaft
Courtesy of GENERAL MOTORS CORP.

16. Place the **J 46266** into the bushing as shown.
17. Using a press, push the bushing into the bore until the tool meets the output shaft.

TRANSFER CASE ASSEMBLE

Tools Required

- **J 5590** Pinion Bearing Race Installer - Rear. See Special Tools and Equipment .
- **J 8092** Driver Handle. See Special Tools and Equipment .
- **J 24433** Pinion Cone and Side Bearing Installer. See Special Tools and Equipment .
- **J 36850** Transjel Lubricant. See Special Tools and Equipment .
- **J 46268** Output Seal Installer. See Special Tools and Equipment .
- **J 46269** Input Seal Installer. See Special Tools and Equipment .

IMPORTANT:

- **Lubricate all bearings and bearing journals with transfer case fluid during installation.**
- **Use a hammer and a brass drift only on the outer bearing race.**
- **Ensure the bearing is kept square to the bore while installing.**

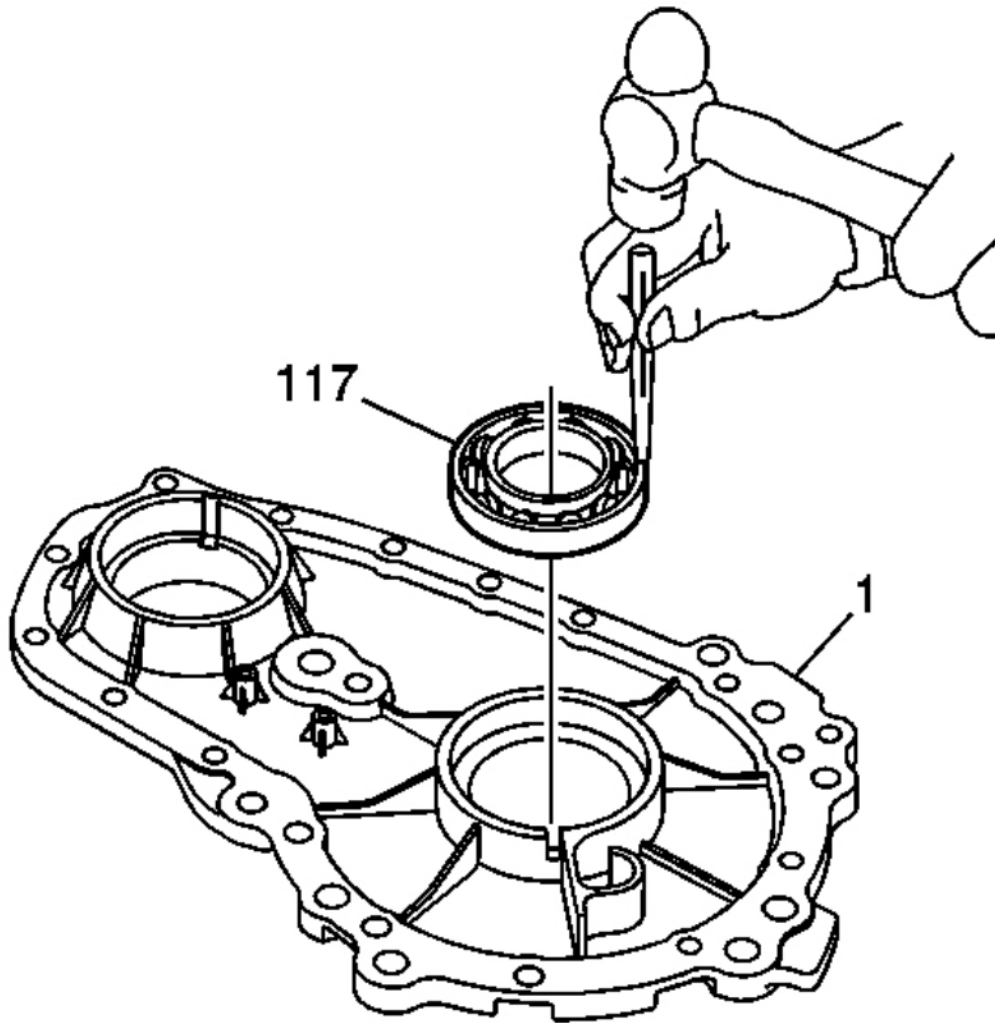


Fig. 43: Installing Input Shaft Bearing
Courtesy of GENERAL MOTORS CORP.

1. Install the input shaft bearing (117) into the case (1).

IMPORTANT:

- Use a hammer and a brass drift only on the outer bearing race.
- Ensure the bearing is kept square to the bore while installing.

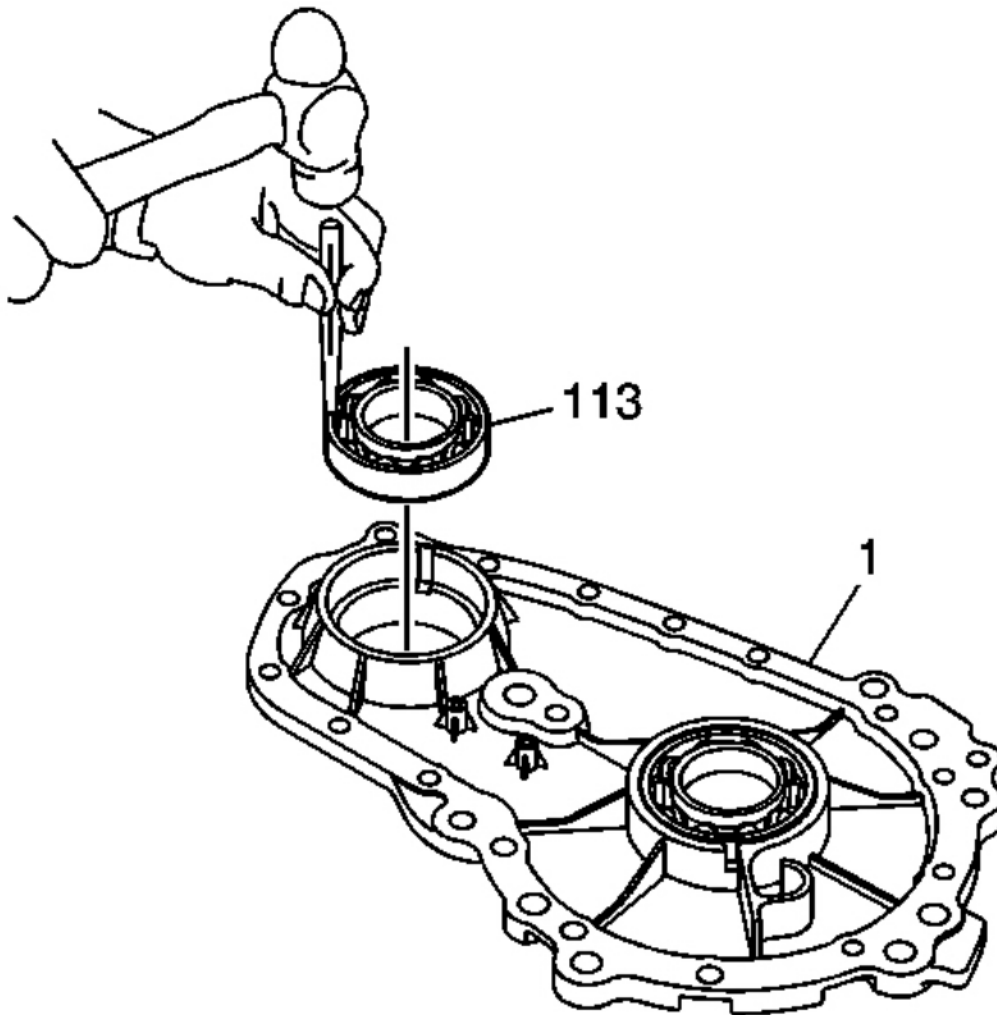


Fig. 44: Installing Front Output Shaft Bearing
Courtesy of GENERAL MOTORS CORP.

2. Install the front output shaft bearing (113) into the case (1).

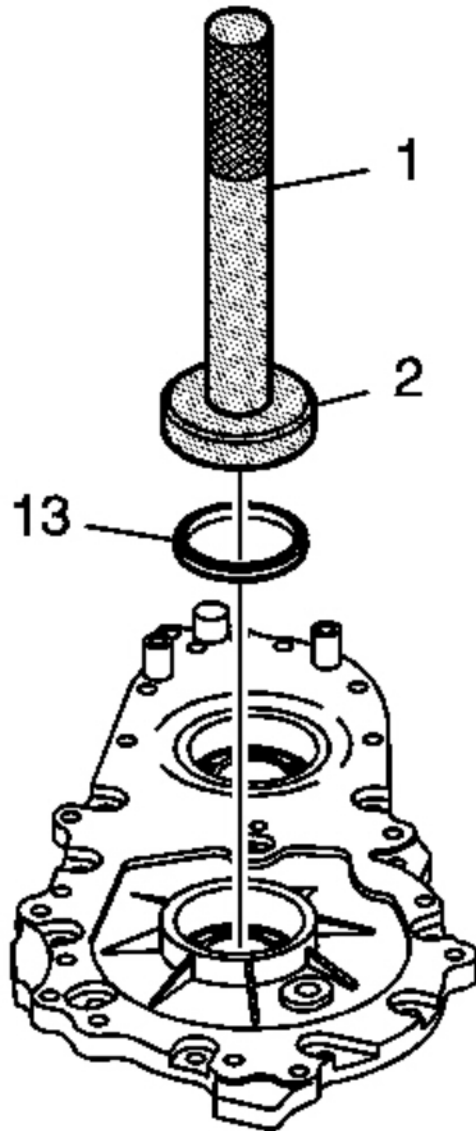


Fig. 45: Aligning J 46269 & J 8092 On Input Shaft Oil Seal
Courtesy of GENERAL MOTORS CORP.

3. Using the **J 46269** (2) and the **J 8092** (1), install the input shaft oil seal (13).

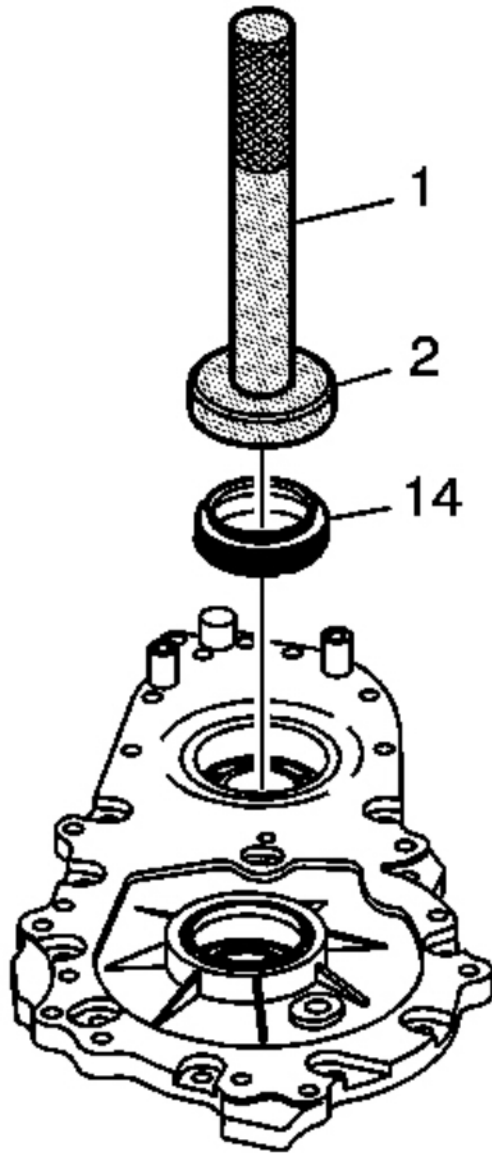


Fig. 46: Using J 46268 & J 8092 To Install Front Output Shaft Oil Seal
Courtesy of GENERAL MOTORS CORP.

4. Using the **J 46268** (2) and the **J 8092** (1), install the front output shaft oil seal (14).

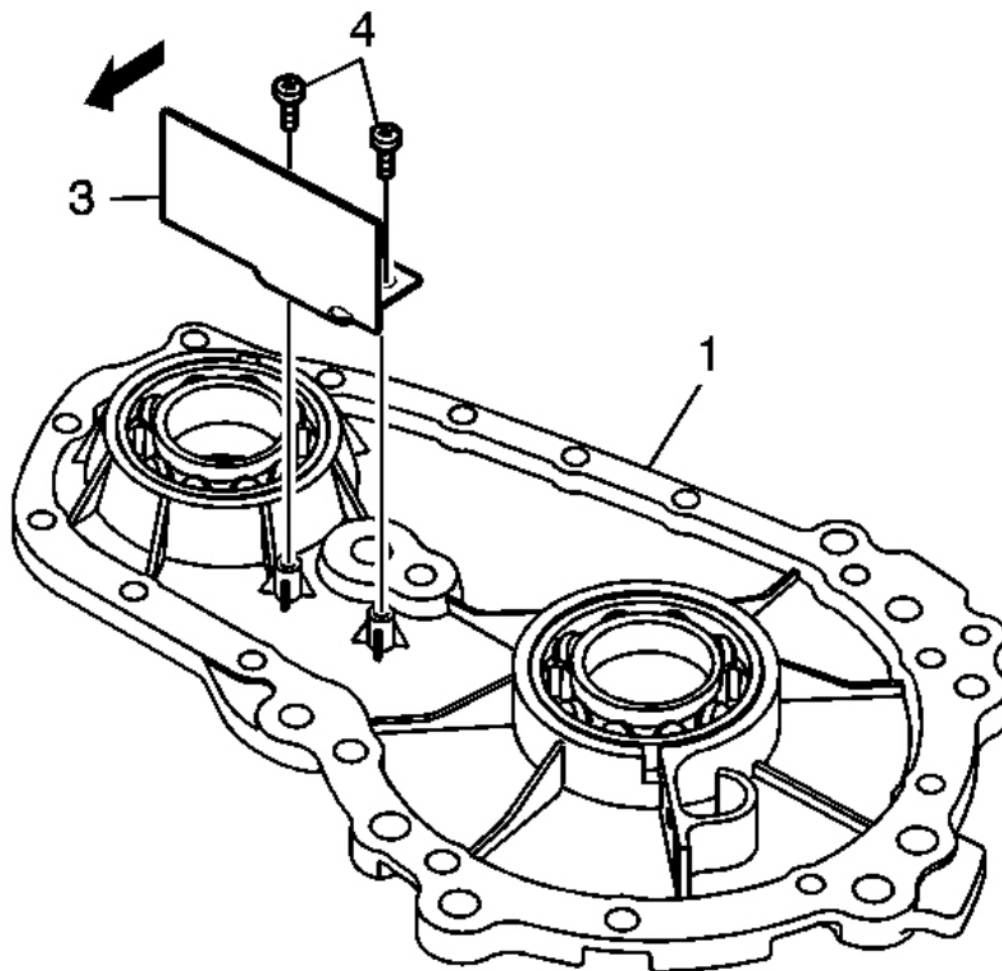


Fig. 47: Identifying Chain Snubber & Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the chain snubber (3).
6. Apply sealant GM P/N 12345382 (Canadian P/N 10953489) or equivalent to the threads of the bolts (4).

Tighten: Tighten the bolts to 7 N.m (5 lb ft).

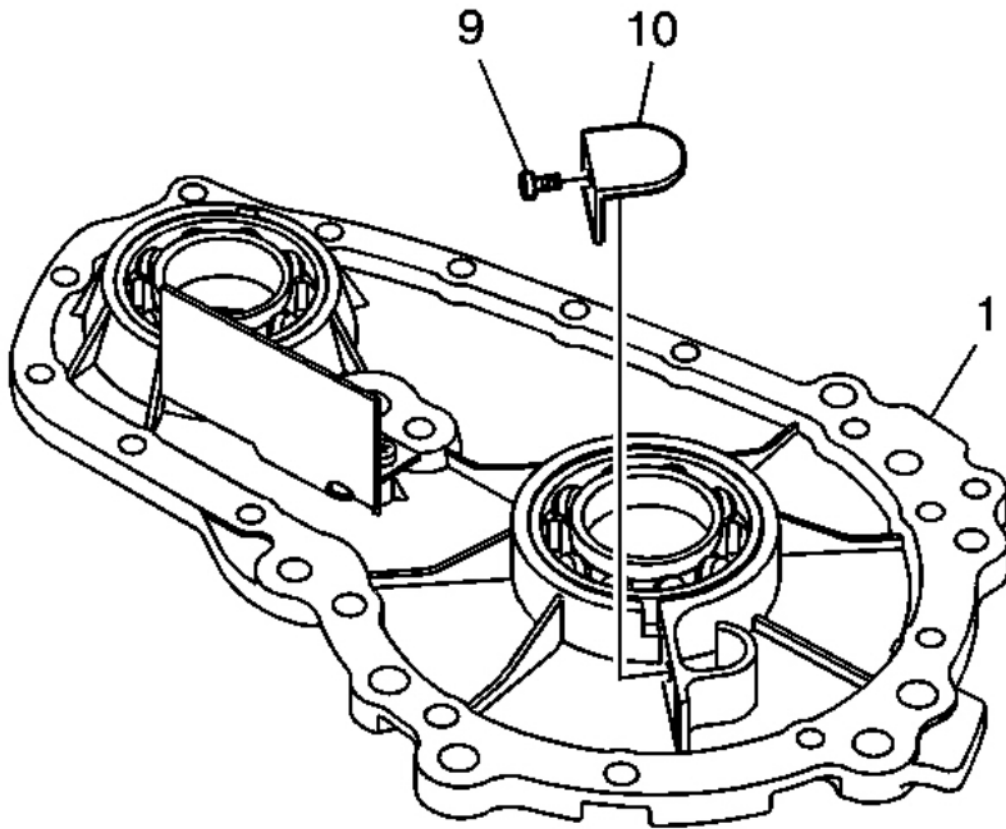


Fig. 48: View Of Vent Baffle & Bolt
Courtesy of GENERAL MOTORS CORP.

7. Install the vent baffle (10).
8. Apply sealant GM P/N 12345382 (Canadian P/N 10953489) or equivalent to the threads of the bolt (9).

Tighten: Tighten the bolt to 7 N.m (5 lb ft).

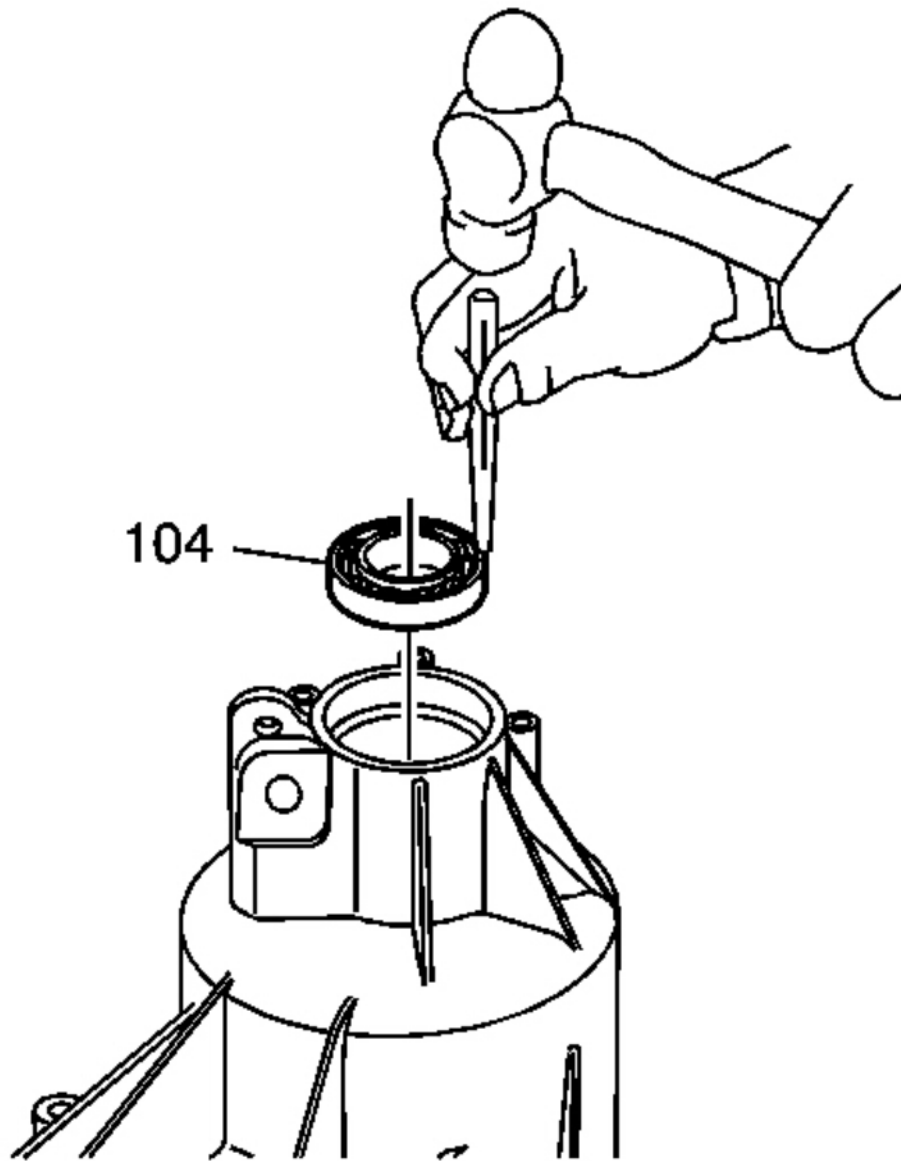


Fig. 49: Aligning Installation Tools On Outer Bearing Race
Courtesy of GENERAL MOTORS CORP.

IMPORTANT:

- Use a hammer and a brass drift only on the outer bearing race.

- **Ensure the bearing is kept square to the bore while installing.**

9. Install the rear output shaft bearing (104).

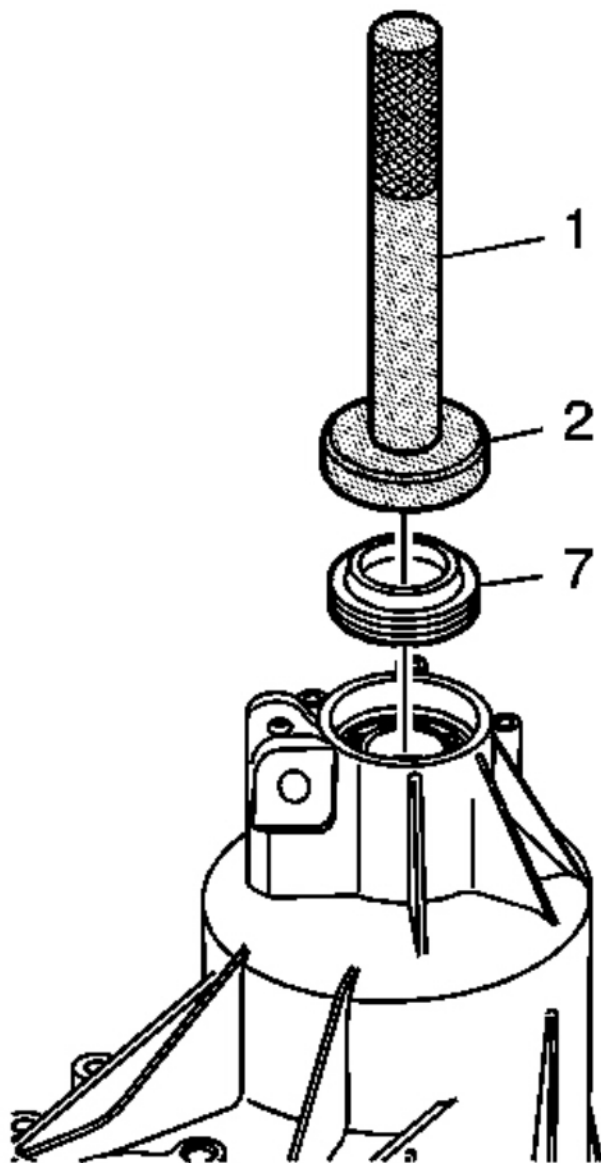


Fig. 50: Using J 46268 & J 8092 To Install Rear Output Oil Seal
Courtesy of GENERAL MOTORS CORP.

10. Using the **J 46268** (2) and the **J 8092** (1), install the rear output oil seal (7).

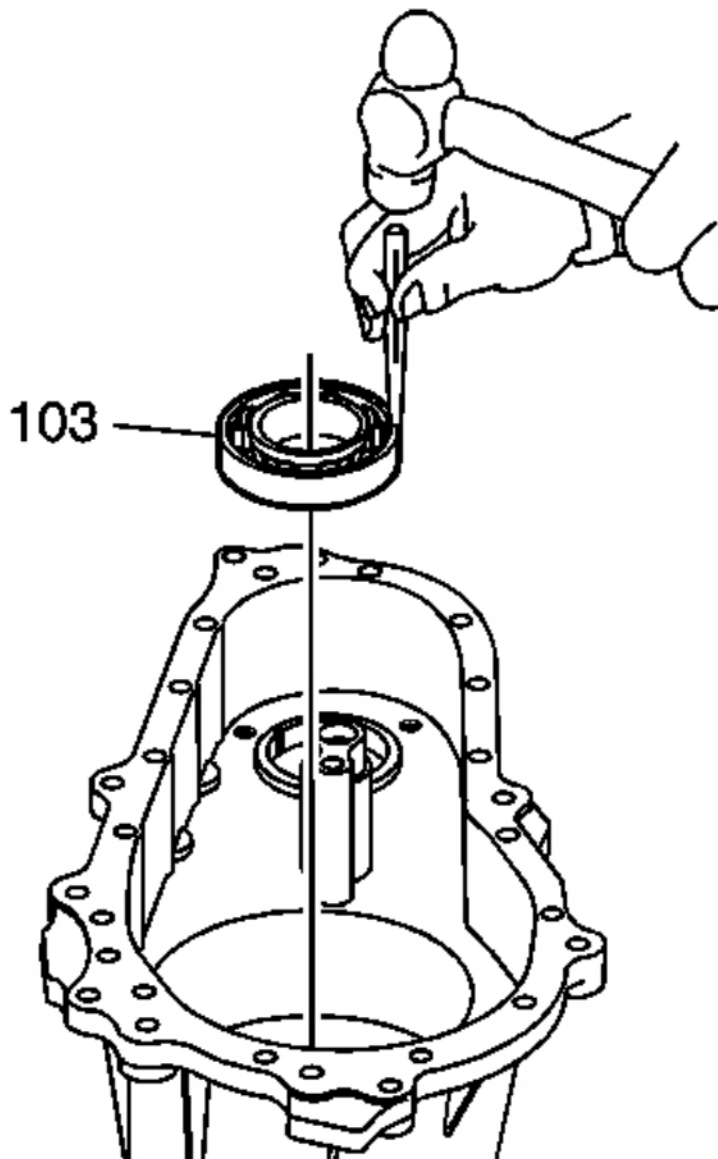


Fig. 51: Using Brass Drift To Install Inner Output Shaft Bearing

Courtesy of GENERAL MOTORS CORP.

IMPORTANT:

- Use a hammer and a brass drift only on the outer bearing race.
- Ensure the bearing is kept square to the bore while installing.

11. Install the inner output shaft bearing (103).

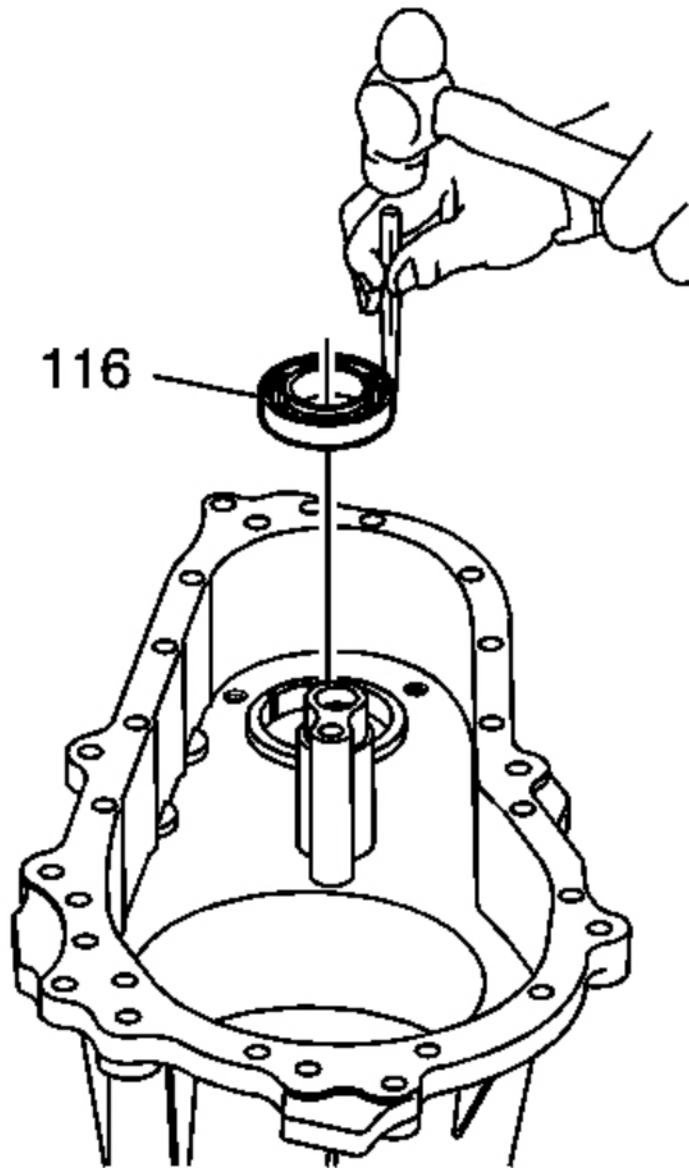


Fig. 52: Installing Front Output Shaft Inner Bearing
Courtesy of GENERAL MOTORS CORP.

IMPORTANT:

- Use a hammer and a brass drift only on the outer bearing race.

- Ensure the bearing is kept square to the bore while installing.

12. Install the front output shaft inner bearing (116).

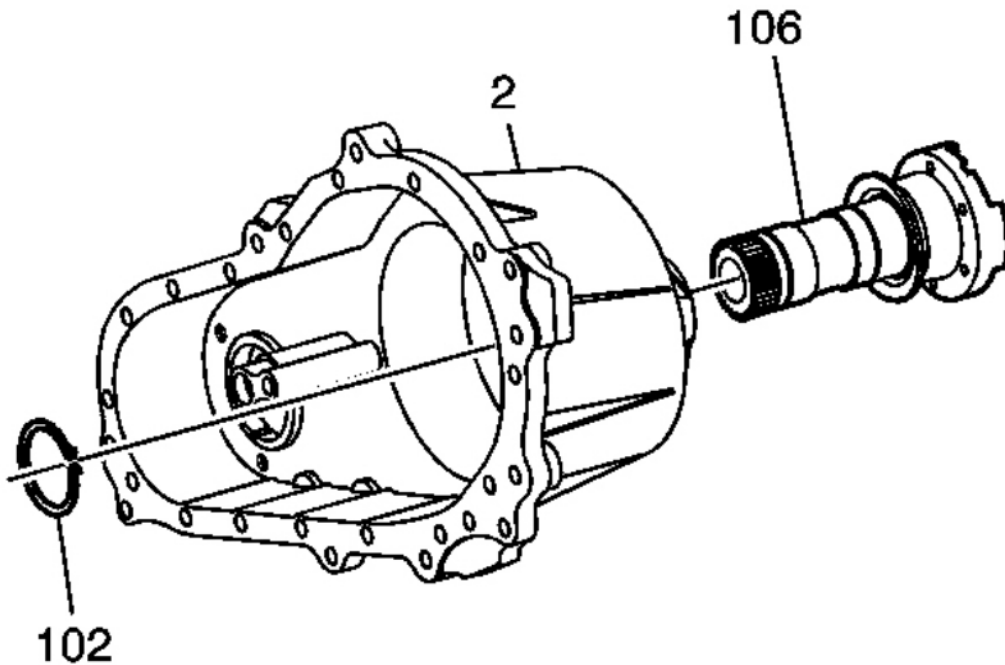


Fig. 53: Identifying Snap Ring On Output Shaft
Courtesy of GENERAL MOTORS CORP.

13. Install the rear output shaft (106) by pushing it in through the bearings.
14. Install the rear output shaft snap ring (102) in the lower groove of the output shaft (106).

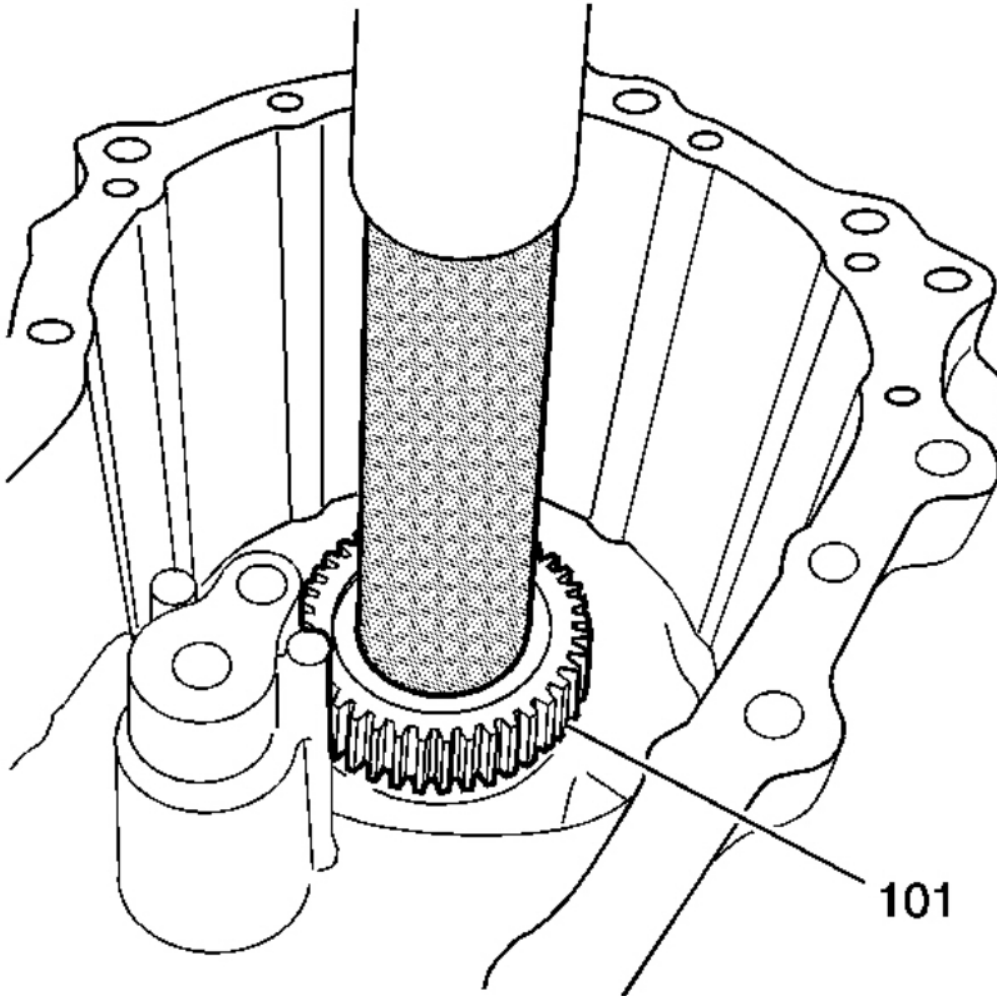


Fig. 54: Pressing Sun Gear Onto Output Shaft With J 24433
Courtesy of GENERAL MOTORS CORP.

15. Use the **J 24433** and a press to install the sun gear (101) to the output shaft.

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Fig. 55: Upper Sprocket, Sun Gear & Input Shaft
Courtesy of GENERAL MOTORS CORP.

16. Install the upper sprocket (107) and the sun gear (110) to the input shaft (118).

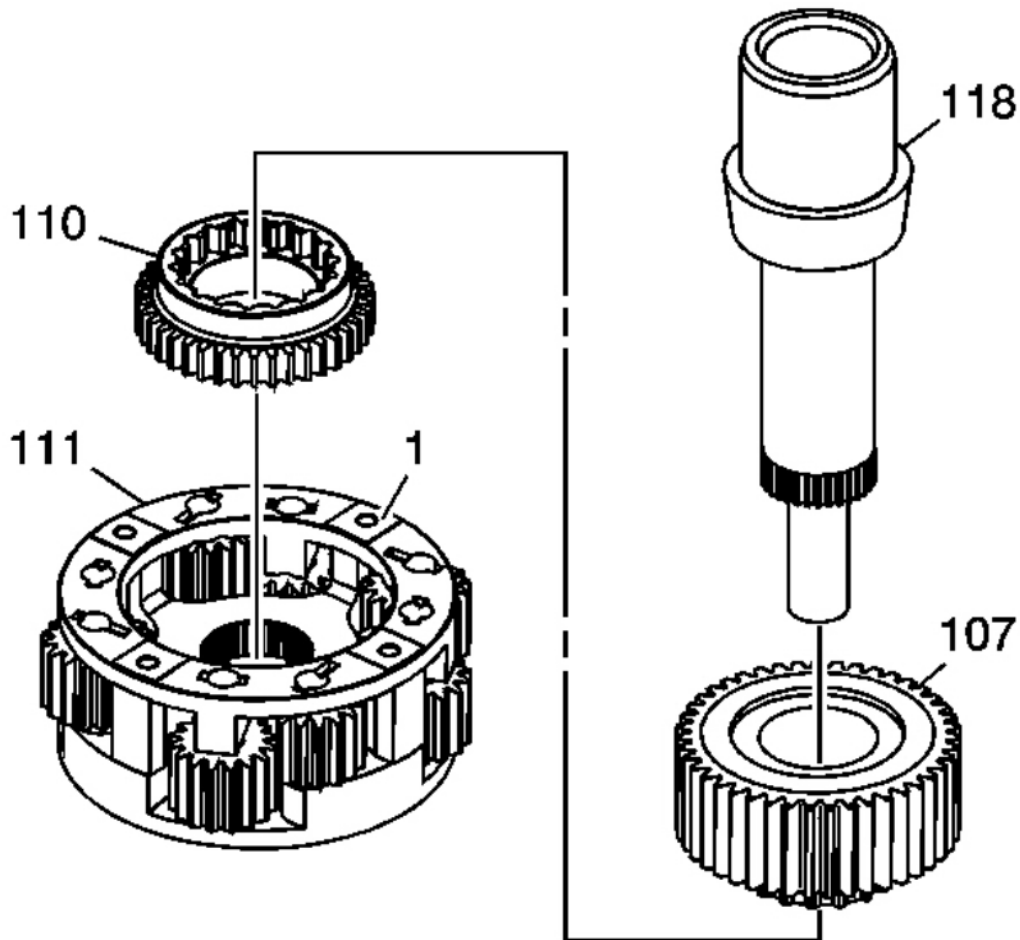


Fig. 56: View Of Input Shaft Assembly
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The carrier assembly (111) can be installed with the groove around the splines to the inside. This will cause the wrong torque split of 60/40.

17. Use a press to install the input shaft assembly to the carrier (111).

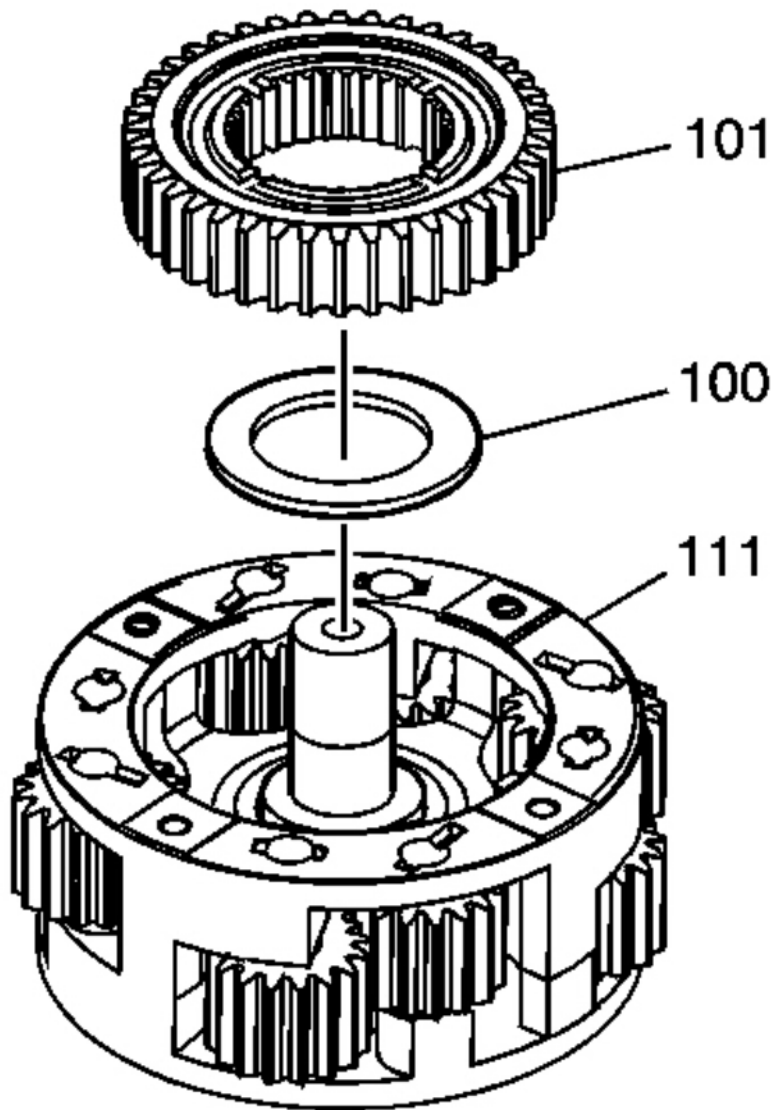


Fig. 57: Aligning Thrust Washer Over Rear Of Input Shaft
Courtesy of GENERAL MOTORS CORP.

18. Lubricate the thrust washer (100) with **J 36850** or equivalent.
19. Install the thrust washer over the rear of the input shaft, into the groove of the carrier (111).

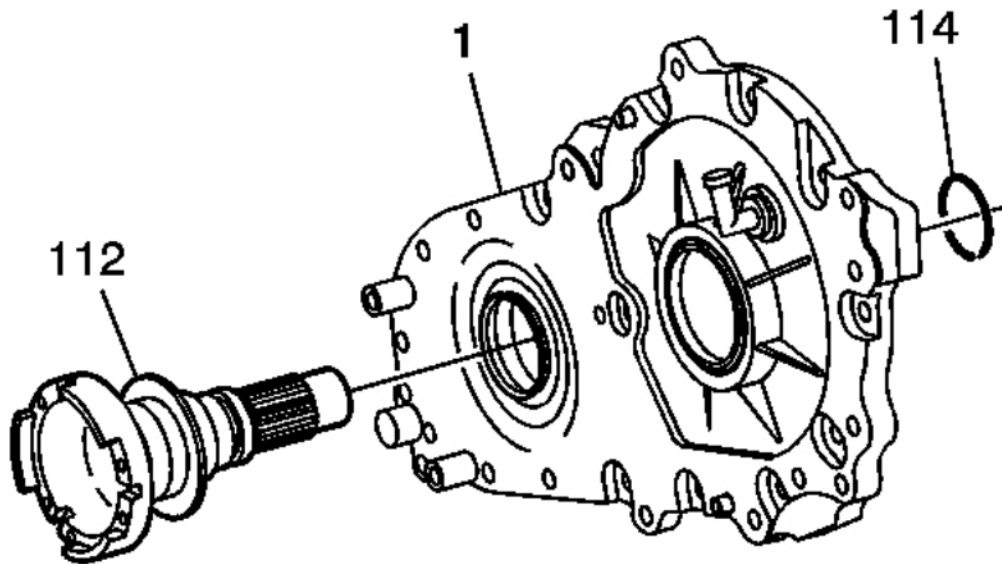


Fig. 58: Identifying Snap Ring On Front Output Shaft
Courtesy of GENERAL MOTORS CORP.

20. Assemble the front output shaft (112) to the case (1).
21. Assemble the snap ring (114).

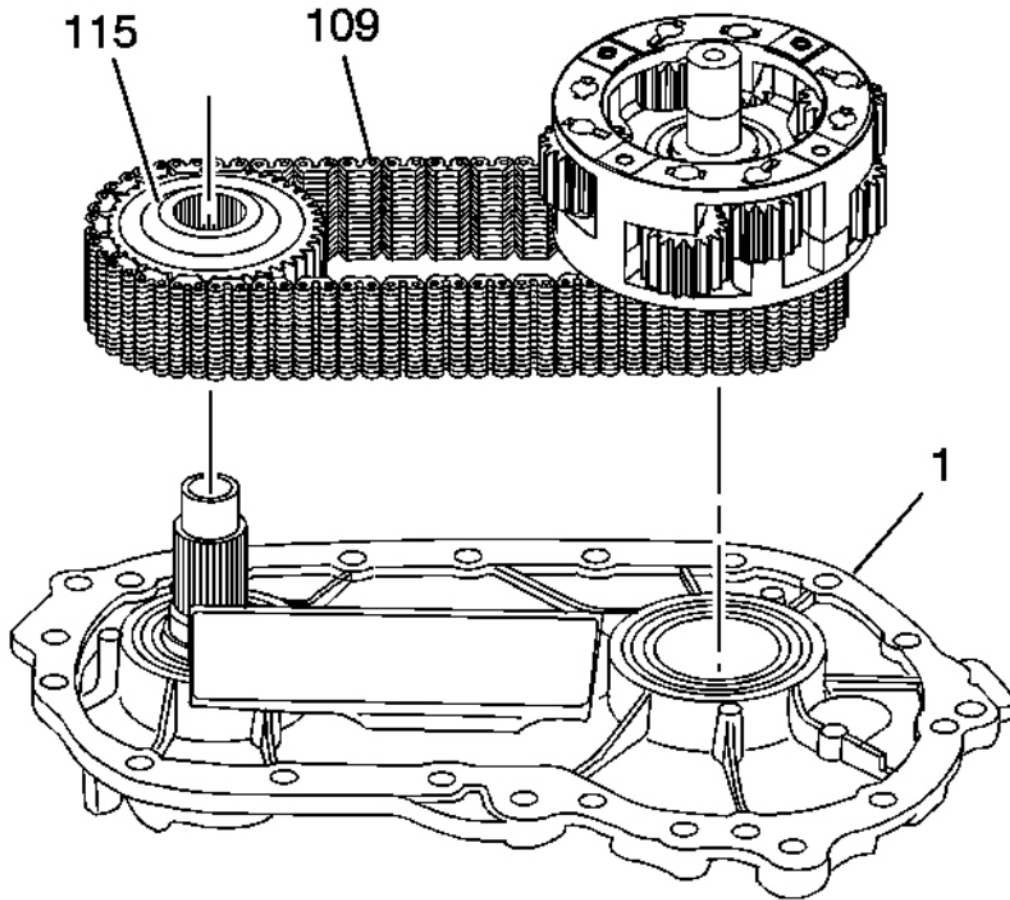


Fig. 59: Aligning Chain, Upper Gear, & Lower Sprocket To The Case
Courtesy of GENERAL MOTORS CORP.

22. Assemble the chain (109), upper gear of the planetary assembly, and lower sprocket (115) to the case (1).

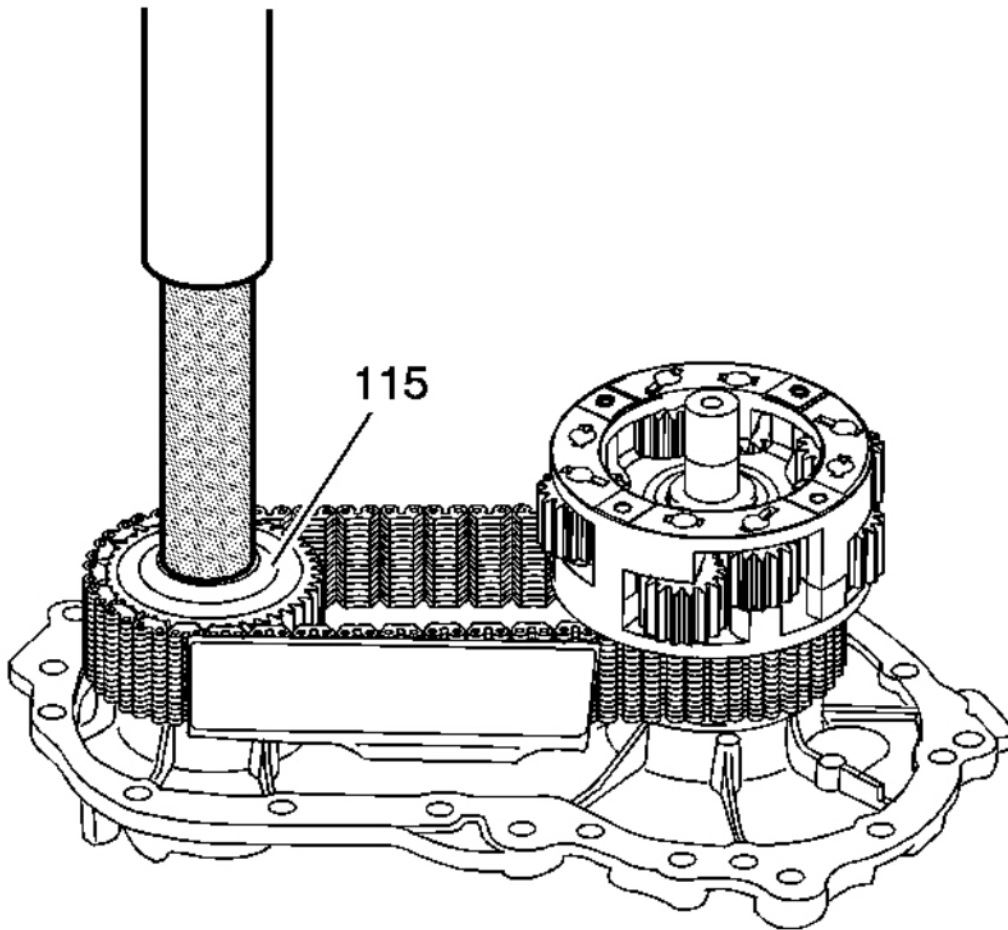


Fig. 60: Proper Location Of Lower Sprocket
Courtesy of GENERAL MOTORS CORP.

23. Use the **J 5590** and a press to fully seat the lower sprocket (115) to the front output shaft, while guiding the input shaft of the planetary assembly, until it is seated to the case.

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Fig. 61: Locating Dowel Pins In Cover
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: • Ensure both the sealing surfaces on the case and cover

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are free of dirt, oil and cleaning solvent.

- **Ensure the dowel pins (5) are installed in the cover (2).**

24. Install the dowel pins (5) into the cover (2), if necessary.
25. Apply a 3.175 mm (1/8 in) bead of RTV sealant GM P/N 12345739 (Canadian P/N 10953541) or equivalent to the mating surfaces of the cover (2).

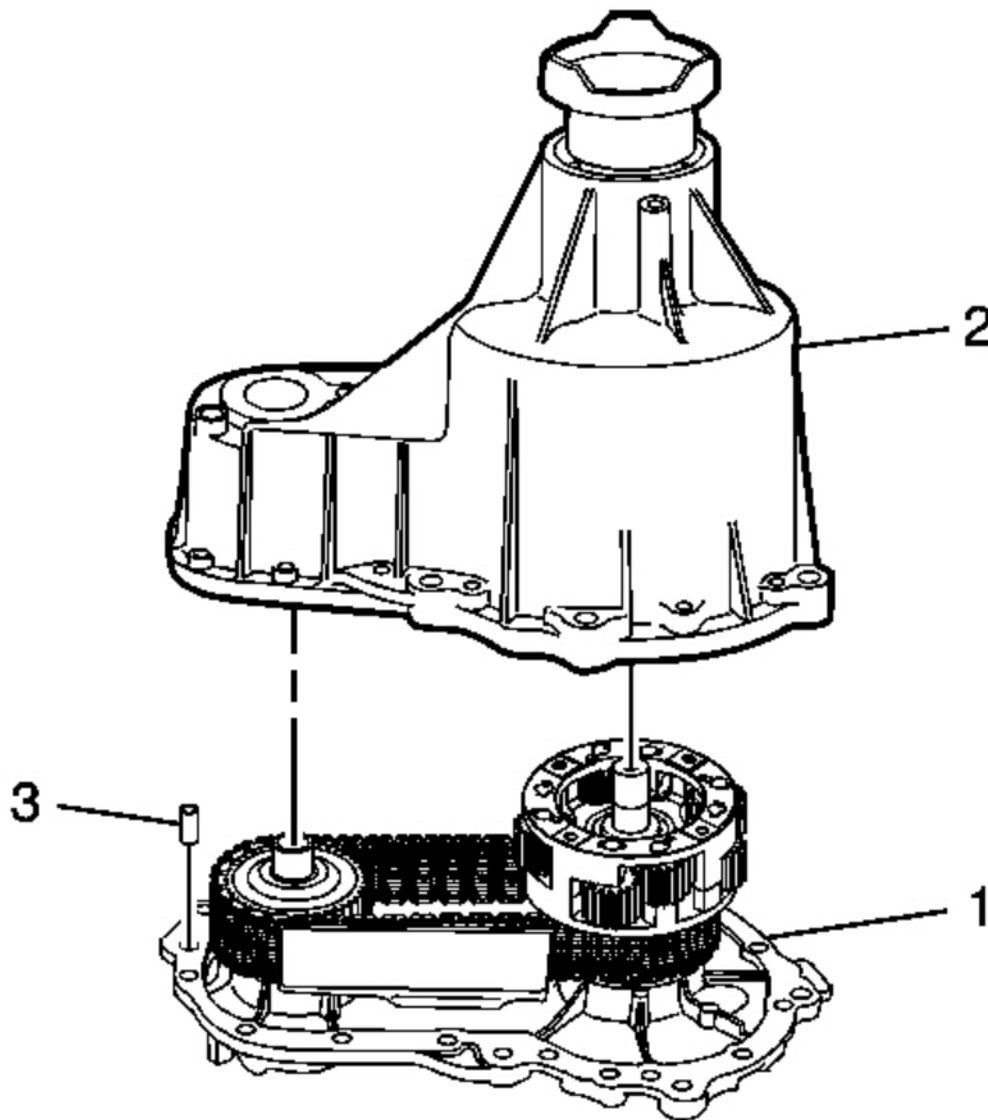


Fig. 62: Securing Cover To Case
Courtesy of GENERAL MOTORS CORP.

26. Lower the cover (2) over the case (1). Turn the rear output shaft in order to align the splines and the shaft into the bearing in the cover.

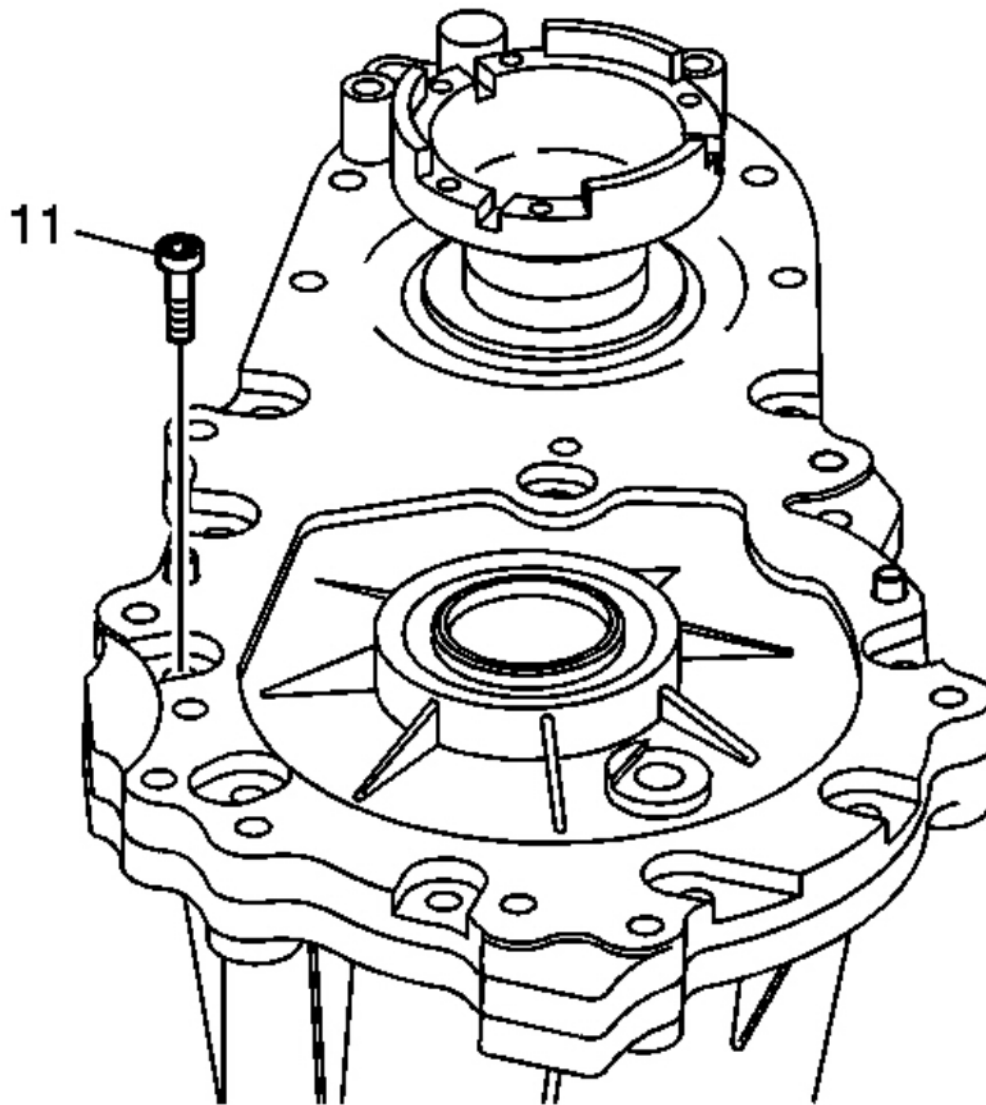


Fig. 63: Identifying Case Bolts

Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The bolts are self-tapping. They must be hand started. Do NOT use power-assisted tools to install the bolts (11).

27. Install the case bolts (11).

Tighten: Tighten the case bolts to 25 N.m (18 lb ft) in a criss-cross pattern.

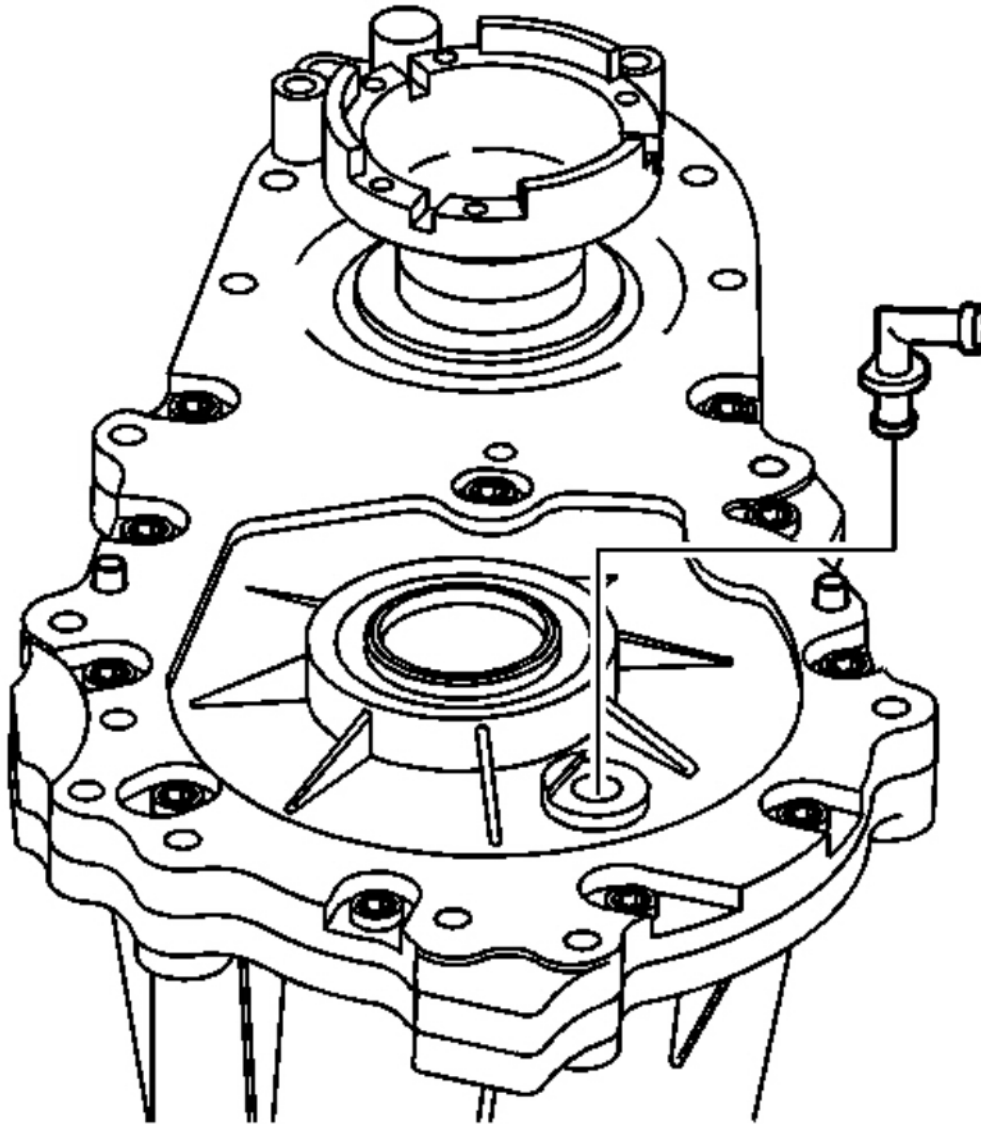


Fig. 64: Aligning Vent Breather
Courtesy of GENERAL MOTORS CORP.

28. Install the vent breather by pushing it into the hole. Align the flat on vent with the flat on the

case.

29. Lightly pull on the vent to ensure proper installation.

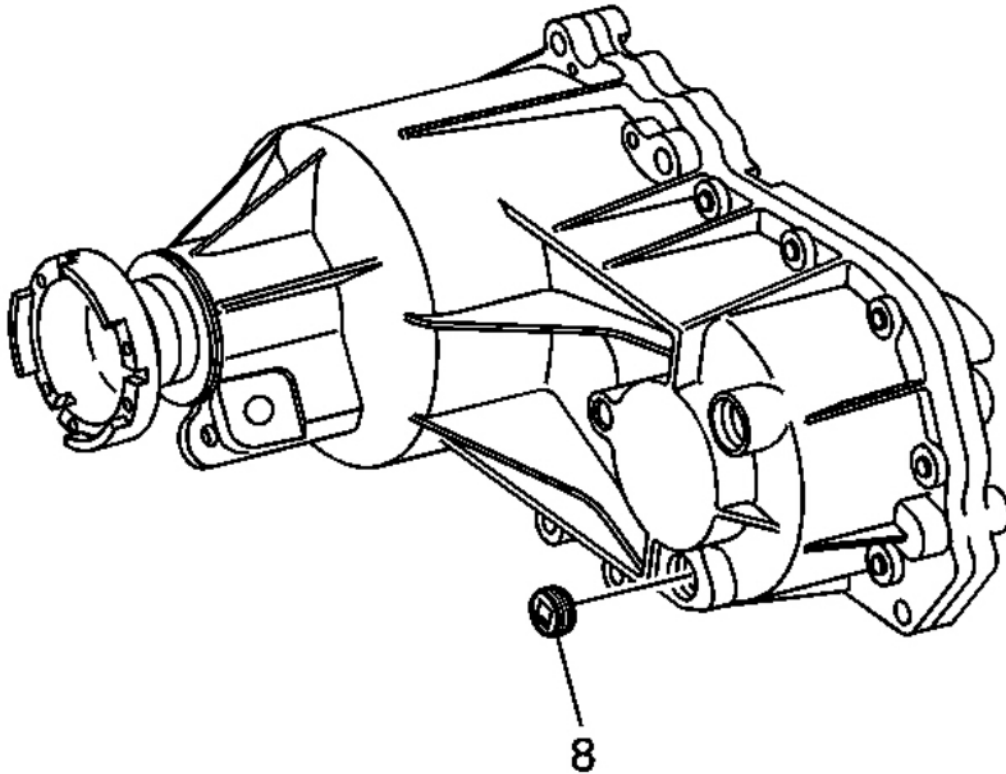


Fig. 65: View Of Drain Plug

Courtesy of GENERAL MOTORS CORP.

30. Apply pipe sealant GM P/N 12346004 (Canadian P/N 10953480) or equivalent to the threads of the drain plug (8).
31. Install the drain plug (8).

Tighten: Tighten the drain plug to 25 N.m (18 lb ft).

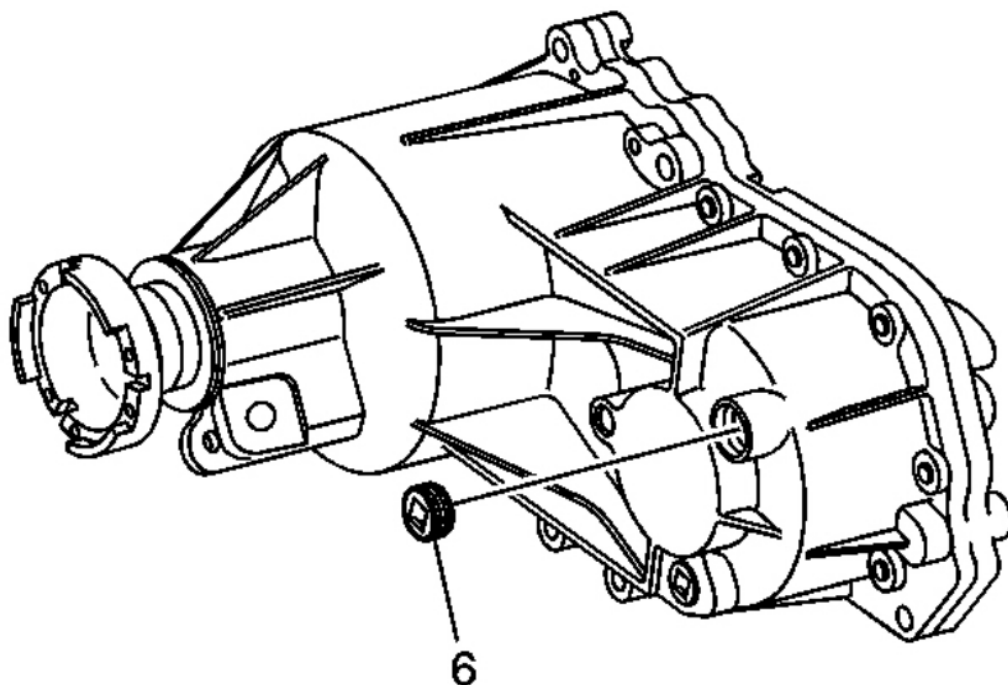


Fig. 66: Locating Fill Plug

Courtesy of GENERAL MOTORS CORP.

32. Fill the transfer case with 1.4 liter (1.5 qt) of DEXRON III(R) GM P/N 12346143 (Canadian P/N 10952622), or fill to the bottom of fill plug threads. Ensure the vehicle is on a level surface.
33. Apply pipe sealant GM P/N 12346004 (Canadian P/N 10953480) or equivalent to the threads of the fill plug.
34. Install the fill plug (6).

Tighten: Tighten the fill plug to 25 N.m (18 lb ft).

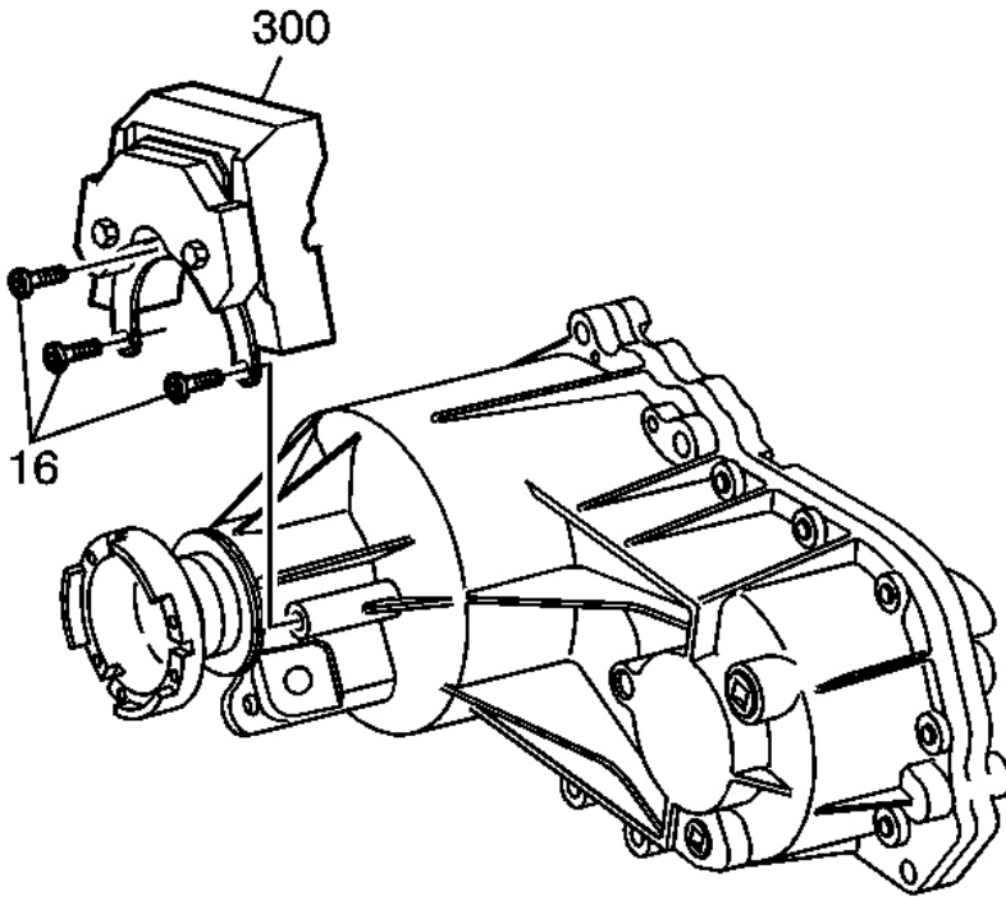


Fig. 67: View Of Dampner & Retaining Bolts
Courtesy of GENERAL MOTORS CORP.

35. Install the dampener (300) and the bolts (16).

Tighten: Tighten the bolts to 27 N.m (20 lb ft).

SPECIAL TOOLS AND EQUIPMENT

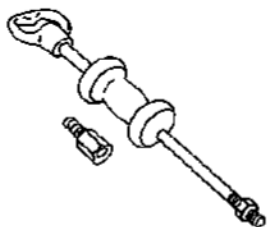
SPECIAL TOOLS

Special Tools

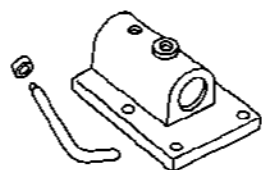
Illustration	Tool Number/Description

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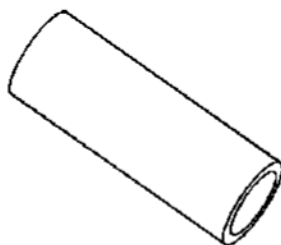
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J-2619-A
Slide Hammer w/Adapter



J 3289-20
Holding Fixture



J 5590
Pinion Bearing Race Installer - Rear

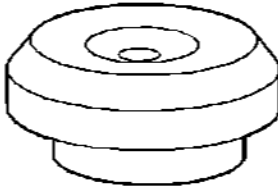


J 8092
Universal Driver Handle

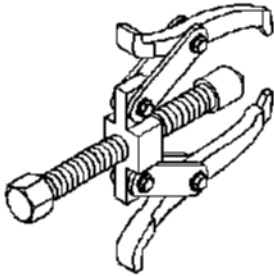
J 8107-2

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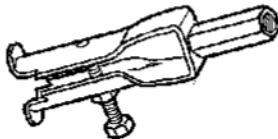
Side Bearing Puller Pilot



J 22888-20A
Universal Two Jaw Puller



J 24433
Pinion Cone and Side Bearing Installer

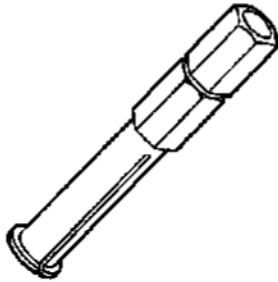


J 29369-1
Bushings and Bearing Remover

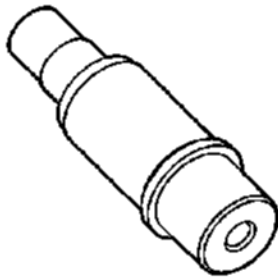
J 36850
Transjel Lubricant

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J 45548
Mainshaft Support Bushing/Bearing Remover

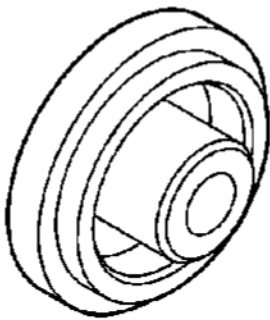
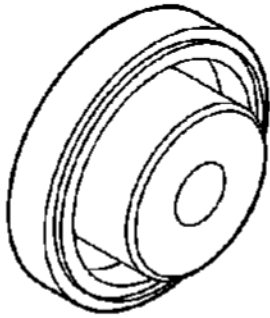


J 46266
Bushing Installer

J 46268
Output Seal Installer

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J 46269
Input Seal Installer