

2006 Chevrolet Equinox LS

2006 Driveline/Axle Rear Drive Axle - Equinox & Torrent

2006 Driveline/Axle**Rear Drive Axle - Equinox & Torrent****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS****Fastener Tightening Specifications**

Application	Specification	
	Metric	English
Center Bearing-To-Vehicle Underbody Bolts	25 N.m	18 lb ft
Clutch Cover M8 Bolts	26 N.m	19 lb ft
Drain Plug	30 N.m	22 lb in
Fill Plug	35 N.m	26 lb ft
Input Flange 3/4 x 20 Nut	203 N.m	150 lb ft
Prop Guard	24 N.m	18 lb ft
Propeller Shaft-to-Drive Shaft Flange M10 Bolts	70 N.m	52 lb ft
Rear Bracket Bushing-to-Body M12 Bolts	105 N.m	77 lb ft
Rear Bracket M12 Bolts/Nuts	105 N.m	77 lb ft
Rear Cover M10 Bolts	46 N.m	34 lb ft
Rear Cover M8 Bolts	26 N.m	19 lb ft
Ring Gear M8 Bolts	54 N.m	40 lb ft
Side Bracket Bushing-to-Body M12 Bolts	105 N.m	77 lb ft
Vent Fitting	24 N.m	18 lb ft

REAR AXLE SPECIFICATIONS**Rear Axle Specifications**

Application	Specification	
	Metric	English
Gear Ratio 3.4L LNJ	2.53	2.53
Pinion to Ring Gear Backlash	0.125-0.225 mm	0.005-0.009 in
Rear Differential Fill Quantity	750 ml	25.4 oz

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

Application	Type of Material	GM Part Number
Clutch Housing to Differential Housing Sealing Surfaces	Sealant	12346286 (Canadian P/N 10953482)

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Drain Plug Threads	Sealant	12346004 (Canadian P/N 10953480)
Fill Plug Threads	Sealant	12346004 (Canadian P/N 10953480)
GM Versatrak Fluid	Synthetic Gear Oil	12378514 (Canadian P/N 88901045)
Propeller Shaft Mounting Bolts	Threadlocker	89021297 (Canadian P/N 10953488)
Rear Cover to Differential Housing Sealing Surfaces	Sealant	12346286 (Canadian P/N 10953482)

COMPONENT LOCATOR

REAR AXLE DISASSEMBLED VIEWS

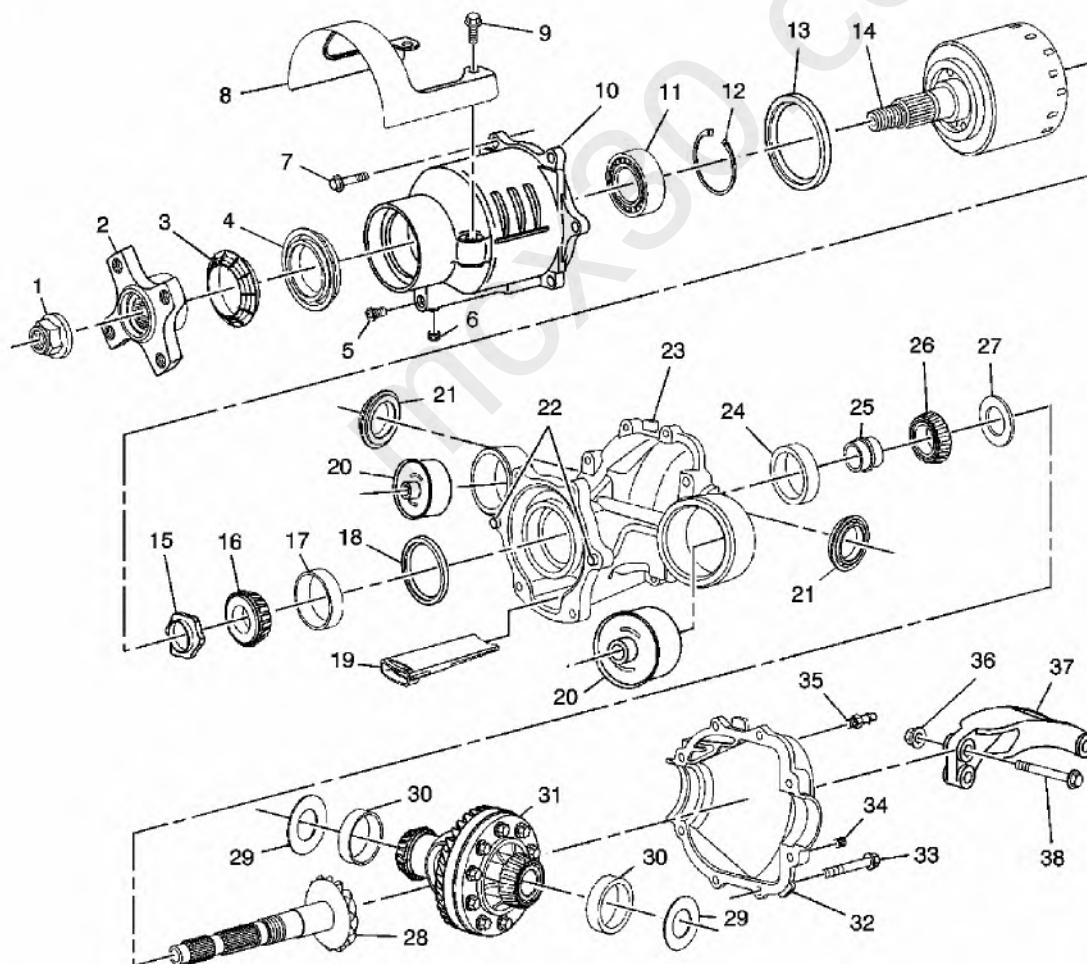


Fig. 1: Rear Axle Disassembled View
Courtesy of GENERAL MOTORS CORP.

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Callouts For Fig. 1

Callout	Component Name
1	Nut
2	Input Flange
3	Dust Shield
4	Oil Seal
5	Drain Plug
6	Plug
7	Bolt
8	Shield
9	Bolt
10	Clutch Cover
11	Bearing
12	Snap Ring
13	Seal
14	Clutch Drum
15	Pinion Nut
16	Bearing
17	Cup
18	Seal
19	Filter
20	Mount
21	Axle Seals
22	Hollow Dowel
23	Differential Carrier
24	Cup
25	Collapsible Spacer
26	Bearing
27	Shim
28	Pinion Gear
29	Shim
30	Cup
31	Differential Carrier Assembly
32	Cover
33	Bolt
34	Fill Plug
35	Vent
36	Nut

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37	Bracket
38	Bolt

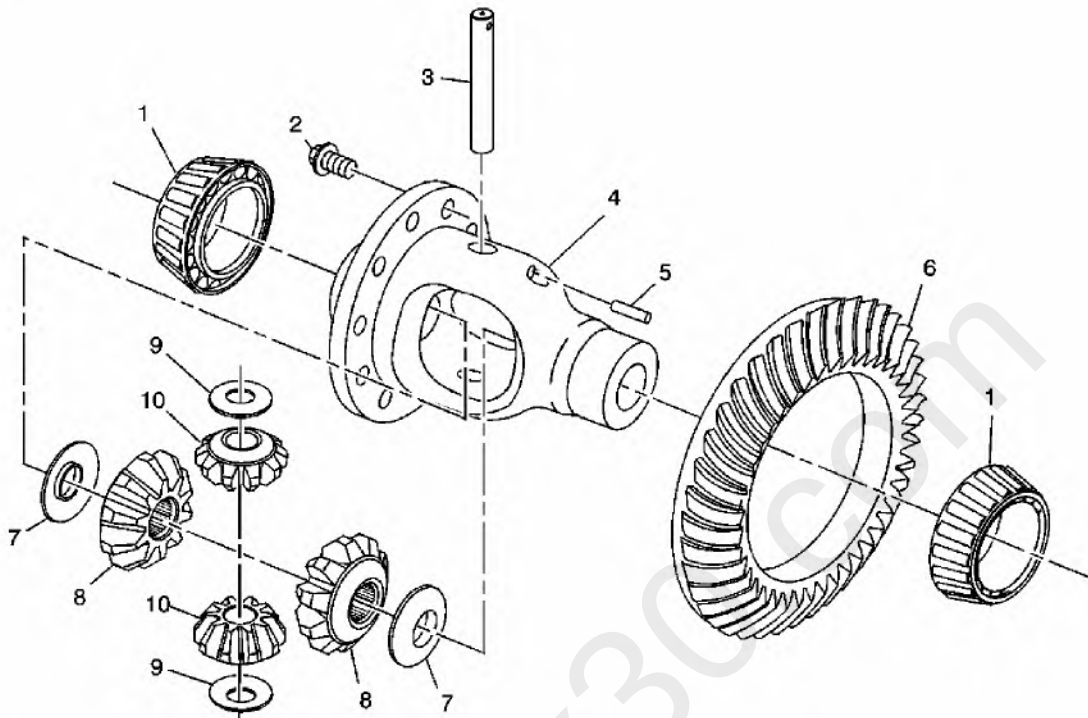


Fig. 2: Differential Carrier Components
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 2

Callout	Component Name
1	Bearing
1	Bearing
2	Bolt
3	Pinion Shaft Pin
4	Differential Case
5	Pinion Shaft Lock Pin
6	Ring Gear
7	Washer
7	Washer
8	Axle Side Gear
8	Axle Side Gear
9	Washer
9	Washer
10	Pinion Gears

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - REAR DRIVE AXLE

Begin the system diagnosis by reviewing the Rear Axle Disassembled Views, Rear Drive Axle Description and Operation, and Transfer Case Description and Operation in Transfer Case - NVG900. Reviewing the description and operation information will help you determine the correct symptom diagnostic procedure when a malfunction exists. Reviewing the description and operation information will also help you determine if the condition described by the customer is normal operation. Refer to Symptoms - Rear Drive Axle procedure for diagnosing the system.

SYMPTOMS - REAR DRIVE AXLE

Strategy Based Diagnostics

Review the system in order to familiarize yourself with the system functions. Refer to Rear Axle Disassembled Views, Rear Drive Axle Description and Operation, and Transfer Case Description and Operation in Transfer Case - NVG900. All diagnosis on a vehicle should follow a logical process. Strategy based diagnostics is a uniform approach for repairing all systems. The diagnostics flow may always be used in order to resolve a system problem. The diagnostic flow is the place to start when repairs are necessary. For a detailed explanation, refer to Strategy Based Diagnosis.

Visual/Physical Inspection

- Inspect for aftermarket devices, which could affect the operation of the vehicle. Refer to Checking Aftermarket Accessories in Wiring Systems.
- Inspect the easily accessible or visible system components for obvious damage or a condition which could cause the symptom.
- Check for correct lubricant level and proper viscosity.
- Verify the exact operating conditions under which the concerns exist. Note factors such as speed, road conditions, ambient temperature, and other specifics.
- Compare the driving characteristics or sounds, if applicable, to a known good vehicle and make sure you are not trying to correct a normal condition.

NOTE: Do not exceed more than 5 seconds of parking brake application. RDM damage may result.

- Rear axle activation and operation may be checked by positioning the four wheels off the ground, starting the vehicle, and selecting the drive position. A properly operating rear axle and transfer case will rotate all four wheels at equal RPM. Fully apply the

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parking brake, the rear will stop turning. Apply the throttle while watching the rear wheels. They will rotate slightly as the driveline winds-up. This indicates the AWD is functioning.

- Factors that may contribute to an inoperative rear axle include:
 - A low gear oil level
 - A mini spare or different size tires
 - A fluid over-temperature condition
 - A defective rear axle assembly
 - An inoperative transfer case assembly
 - The wrong fluid type

Intermittent

Test the vehicle under the same conditions that the customer reported in order to verify the system is operating properly.

Noise Acceptability

A gear driven unit will produce a certain amount of noise. Some noise is acceptable and audible at certain speeds, or under various driving conditions, such as a newly-paved blacktop road. Slight noise is not detrimental to the operation of the axle and is considered normal.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **Noisy in Drive**
- **Noisy When Coasting**
- **Intermittent Noise**
- **Constant Noise**
- **Noisy on Turns**
- **Rear Axle Lubricant Leak Diagnosis**

NOISY IN DRIVE

Noisy in Drive

Cause	Correction
Inspect for proper gear oil levels prior to performing system diagnosis.	
Loose propeller shaft mounting bolts	Tighten the bolts as required. Refer to Fastener Tightening Specifications in

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	Propeller Shaft.
Worn propeller shaft constant velocity joint	Replace the propeller shaft assembly. Refer to Propeller Shaft Replacement in Propeller Shaft. A worn propeller shaft constant velocity joint may create a clicking, grinding, or snapping type noise.
Worn or loose center bearing assembly	Replace the center bearing assembly as required. A worn center bearing may cause vehicle vibration or a grinding, squealing type of noise. Refer to Center Bearing Removal in Propeller Shaft.
Worn universal joints	Replace the universal joints as required. A worn universal joint may create a clicking or snapping type of noise. Refer to Universal Joint Replacement - External Snap Ring in Propeller Shaft.
Worn axle shaft constant velocity joints	Replace/repair the constant velocity joints as required. A worn axle shaft constant velocity joint may create a clicking, grinding, or snapping type of noise. Refer to Symptoms - Rear Drive Axle .
Transfer case noise	Refer to Diagnostic Starting Point-Transfer Case procedure in Power Take-Off Unit.
Worn or damaged axle mounting bushings (side)	Replace bushings as required. A worn bushing may create a clunk type of noise during acceleration or deceleration. Refer to Differential Housing Support Bushing Replacement .
Worn or damaged axle mounting bushing (rear)	Replace bushings as required. A worn bushing may create a clunk type of noise during acceleration or deceleration. Check bushing orientation; the tuning slots must be in proper position.
Loose rear mounting bracket	Tighten the bracket bolts as required. Refer to Fastener Tightening Specifications .
Loose or damaged prop guard	Repair or replace as required. A loose dust shield may contact the propeller shaft assembly and create a scraping or grinding type of noise.

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Bearing noise within axle assembly	A grinding roar type of noise will increase or decrease relative to the vehicle speed. 1. Check for proper fluid level. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. 2. If the noise continues, repair or replace the unit as required.
Gear set whine noise within axle assembly	A whine type of noise will increase or decrease relative to the vehicle speed (approximately 80-90 km/h (50-56 mph)). 1. Check for the proper fluid level. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. 2. Repair or replace the unit as required.
Shutter or moan at slow speeds or slow turns	A shutter or moan type of noise in slow sharp turns. 1. RDM could be contaminated with the wrong fluid type/water. 2. Replace the fluid; fill as required and retest under conditions. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. 3. Replace the drum.

NOISY WHEN COASTING

Noisy When Coasting

Cause	Correction
Inspect for proper gear oil levels prior to performing system diagnosis.	
Loose propeller shaft mounting bolts	Tighten the bolts as required. Refer to <u>Fastener Tightening Specifications</u> in Propeller Shaft.
Worn propeller shaft constant velocity joint.	Replace the propeller shaft assembly. Refer to <u>Propeller Shaft Replacement</u> in Propeller Shaft. A worn propeller shaft constant velocity joint may create a clicking, grinding, or snapping type of noise.
	Replace the center bearing assembly as

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Worn or loose center bearing assembly	required. A worn center bearing assembly may cause vehicle vibration or a grinding or squealing type of noise.
Worn universal joints	Replace the universal joints as required. A worn universal joint may create a clicking or a snapping type of noise. Refer to Universal Joint Replacement - External Snap Ring in Propeller Shaft.
Worn axle shaft constant velocity joints.	Replace or repair the constant velocity joints as required. A worn axle shaft constant velocity joint may create a clicking, grinding, or snapping type of noise. Refer to Symptoms - Rear Drive Axle .
Transfer case noise	Refer to Symptoms - Transfer Case .
Worn or damaged axle mounting bushings (Side)	Check the bushing position and replace the bushings as required. A worn bushing may create a clunk type of noise during acceleration or deceleration or wrong orientation. Refer to Differential Housing Support Bushing Replacement .
Worn or damaged axle mounting bushings (Rear)	Replace the bushings as required. A worn bushing may create a clunk type of noise during acceleration or deceleration. Refer to Differential Housing Support Bushing Replacement .
Loose rear mounting bracket	Tighten the bracket bolts as required. Refer to Fastener Tightening Specifications .
Loose or damaged prop guard	Repair or replace as required. A loose dust shield may contact the propeller shaft assembly and create a scraping or grinding type of noise.
Bearing noise within axle assembly	A grinding or roar type of noise will increase or decrease relative to vehicle speed. 1. Check for the proper fluid level. Refer to Lubricant Replacement - Rear Drive Axle .

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	2. If the noise continues, repair or replace the unit as required.
Gear set whine noise within axle assembly created by incorrect gear backlash	A whine type of noise will increase or decrease relative to vehicle speed. 1. Check for the proper fluid level. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. 2. Repair or replace the unit as required.

INTERMITTENT NOISE

Intermittent Noise

Cause	Correction
Inspect for proper gear oil levels prior to performing system diagnosis.	
Low gear oil levels	Fill axle to the recommended level. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. A low level may create intermittent or incomplete clutch park engagement.
Incorrect gear oil	Replace with gear oil, GM P/N 12378514 (Canadian P/N 88901045). Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. Incorrect gear oil may create improper clutch pack engagement or a slippage condition.
Worn clutch pack oil pump	Replace the clutch pack assembly.
Worn clutch pack friction discs	Replace the clutch pack assembly.

CONSTANT NOISE

Constant Noise

Cause	Correction
Inspect for proper gear oil levels prior to performing system diagnosis.	
Low gear oil levels	Faulty oil seal or other types of leaks may contribute to lower than required fluid levels. Refer to <u>Rear Axle Lubricant Leak Diagnosis</u>. Fill to the proper level with gear oil, GM P/N 12378514 (Canadian P/N 88901045).

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	Refer to <u>Lubricant Replacement - Rear Drive Axle</u> .
Worn or loose axle mounts	Repair or replace axle mounts as required. Refer to <u>Differential Housing Support Bushing Replacement</u> .
Worn propeller shaft constant velocity or universal joints	Replace the universal joints as required. Refer to <u>Universal Joint Replacement - External Snap Ring</u> in Propeller Shaft. If constant velocity joint is damaged, replace the propeller shaft. Refer to <u>Propeller Shaft Replacement</u> in Propeller Shaft.
Worn propeller shaft center bearing assembly	Replace the center bearing assembly. Refer to <u>Center Bearing Removal</u> in Propeller Shaft.
Bearing noise within axle assembly	This type of noise will decrease or increase relative to the vehicle speed. 1. Check for the proper fluid level. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. 2. Repair or replace the unit as required.
Gear set whine noise within the carrier assembly caused by incorrect backlash	A whine type of noise will increase or decrease relative to the vehicle speed. 1. Check for the proper fluid level. Refer to <u>Lubricant Replacement - Rear Drive Axle</u>. 2. Repair or replace the unit as required.

NOISY ON TURNS**Noisy on Turns**

Cause	Correction
Inspect for proper gear oil levels prior to performing system diagnosis. Operate the vehicle turning in tight circles, in both left and right directions. Moan, groan, chatter, or a pulsing type concern may indicate a pump or clutch park problem within the axle assembly.	
Worn or loose rear axle mounts	Repair or replace as required.
Worn axle shaft constant velocity joints	Replace the constant velocity joints as required.
Worn wheel bearings	Replace the wheel bearings as required.

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Incorrect gear oil	Replace with gear oil, GM P/N 12378514 (Canadian P/N 88901045). Refer to Lubricant Replacement - Rear Drive Axle .
Worn differential side and/or idler gears and worn cross-pin	Replace gears and pin as required.
Worn clutch plates	Replace clutch drum.

REAR AXLE LUBRICANT LEAK DIAGNOSIS

Rear Axle Lubricant Leak Diagnosis

Cause	Correction
Restricted or damaged ventilation tube assembly	Replace the ventilation tube as required.
Leaking fill or drain plug	Install sealant, GM P/N 12346004 (Canadian P/N 10953480) or equivalent onto threads of plugs and tighten. Refer to Fastener Tightening Specifications .
Leaking input flange seal	1. Inspect the input flange surface for excessive wear or damage. 2. Inspect the front bearing for wear or damage. A worn bearing may allow excessive movement of the clutch pack input shaft. 3. Replace the components as required.
Leaks at the housing sealing surfaces	Disassemble the axle and reseal the sealing surfaces as required - clutch drum cover only. Refer to Differential Clutch Drum Assembly Replacement .
Worn or damages axle shaft oil seals	Replace the axle shaft oil seals as required.
Axle housing porosity	Replace the housing(s) as required. Refer to Rear Axle Shaft Seal Replacement - Left and Rear Axle Shaft Seal Replacement - Right .

REPAIR INSTRUCTIONS

LUBRICANT LEVEL INSPECTION - REAR DRIVE AXLE

Inspection Procedure

IMPORTANT: In order to obtain an accurate indication of the fluid level, the rear drive module priming procedure must be performed prior to fluid level inspection.

1. Prime the rear drive module in the service stall:

1. Raise and support the vehicle so that all wheels are off of the ground. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Start the engine and place transmission in a forward gear.
3. Slowly apply the park brake until the rear wheels stop rotating.
4. Carefully accelerate the engine until the rear wheels begin to rotate.

IMPORTANT: Do not exceed 5 seconds of park brake apply while vehicle is in gear and the engine is running to avoid overheating of the rear drive module.

5. Continue allowing the rear wheels to rotate for 5 seconds.
 6. Release the accelerator and apply the brakes.
 7. Place transmission in park or neutral and turn the engine OFF.
 8. Release the park brake.
 9. Raise the vehicle fully.
2. Alternatively, prime the rear drive module by driving the vehicle on a flat, paved surface in a tight, 360 degree circle for 3 consecutive revolutions at 8 km/h (5 mph).
3. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.

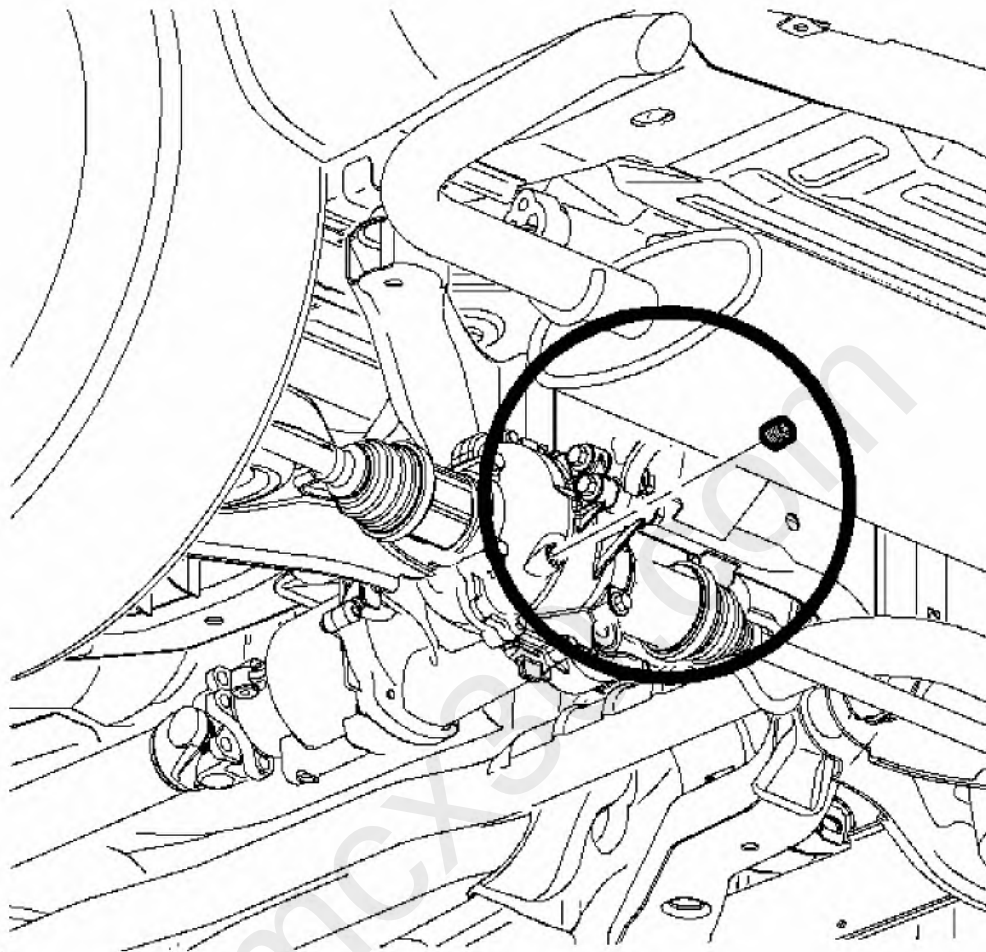


Fig. 3: Removing/Installing Fluid Fill Plug
Courtesy of GENERAL MOTORS CORP.

4. Clean the area around the fluid fill plug.
5. Remove the fluid fill plug.

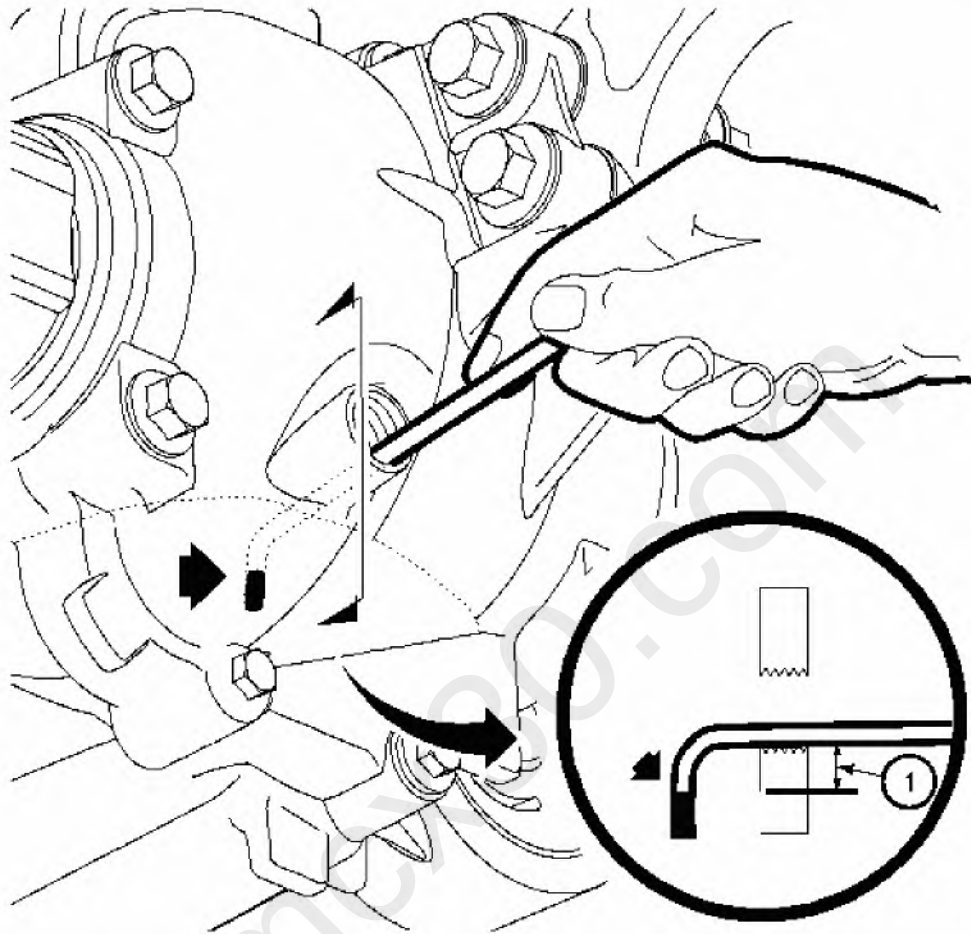


Fig. 4: Removing Wire & Measure The Distance Between The Bend & The Fluid Level

Courtesy of GENERAL MOTORS CORP.

6. Using a length of heavy mechanics wire or equivalent, position a 90 degree bend approximately 25 mm (1 in) from the end of the wire.
7. Place the angled end of the wire into the fluid fill plug hole.
8. Rest the wire squarely on the threads of the fill plug hole.
9. Remove the wire and measure the distance between the bend and the fluid level as indicated by the witness mark.

Specification: The distance from the bend to the witness mark should be 8-17 mm (0.32-0.68 in).

10. Adjust the fluid level as required by adding or removing fluid GM P/N 12378514 (Canadian P/N 88901045).
11. Thoroughly clean the fill plug threads and apply sealer GM P/N 12346004 (Canadian P/N 10953480) to the threads.
12. Install the rear drive module fill plug.

Tighten: Tighten the fill plug to 35 N.m (26 lb ft).

13. Lower the vehicle.

LUBRICANT REPLACEMENT - REAR DRIVE AXLE

Draining Procedure

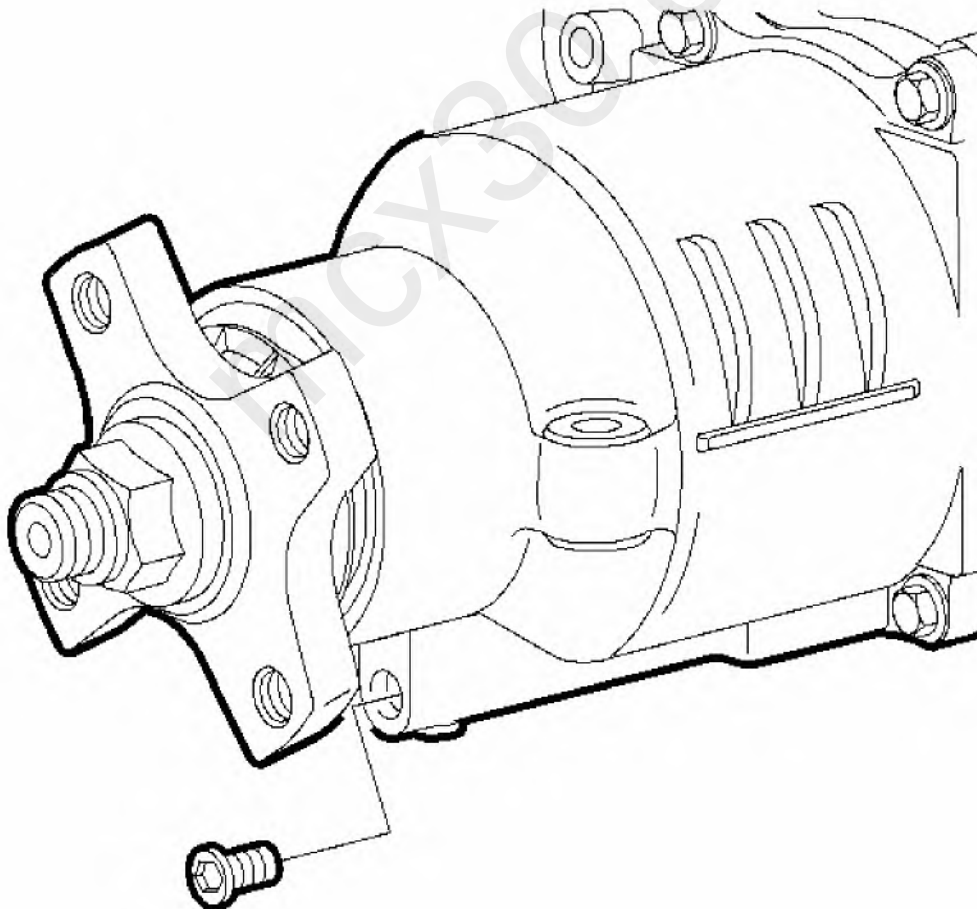


Fig. 5: View Of Rear Drive Axle

Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Place a drain pan below the rear drive module.
3. Remove the drain plug from the front of the rear drive module, below the input flange.
4. Drain the fluid.

Filling Procedure

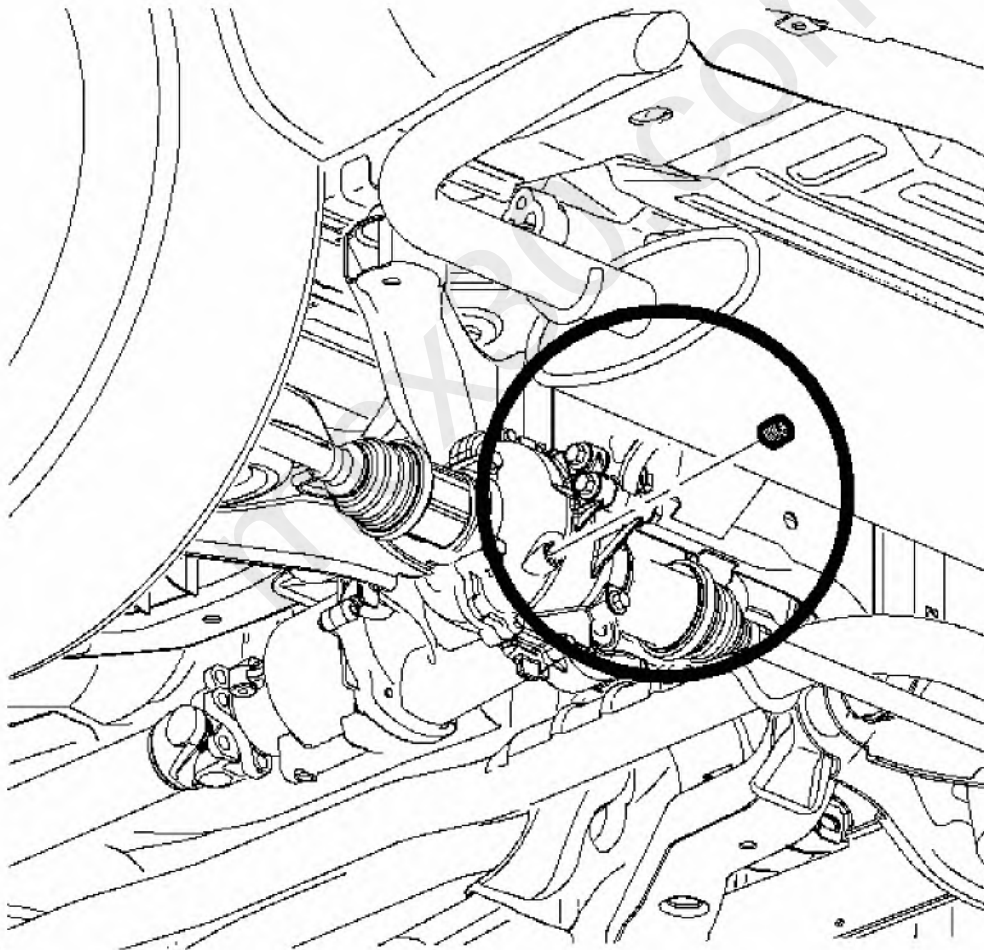


Fig. 6: Removing/Installing Fluid Fill Plug
Courtesy of GENERAL MOTORS CORP.

1. Thoroughly clean the threads of the drain plug.

2. Apply sealer GM P/N 12346004 (Canadian P/N 10953480) to the drain plug threads.

NOTE: Refer to Fastener Notice in **Cautions and Notices**.

3. Install the drain plug to the rear drive module.

Tighten: Tighten the drain plug to 30 N.m (22 lb ft).

4. Remove the rear drive module fill plug.
5. Fill the rear drive module with fluid GM P/N 12378514 (Canadian P/N 88901045).

Specification: Fill initially with 750 ml (25.4 oz) of fluid.

6. Inspect the fluid level. Refer to Lubricant Level Inspection - Rear Drive Axle.
7. Thoroughly clean the threads of the fill plug.
8. Apply sealer GM P/N 12346004 (Canadian P/N 10953480) to the fill plug threads.
9. Install the fill plug to the rear drive module.

Tighten: Tighten the fill plug to 35 N.m (26 lb ft).

10. Lower the vehicle.

DIFFERENTIAL CLUTCH DRUM ASSEMBLY REPLACEMENT

Tools Required

- **J-08614-A** Pinion Flange Holder and Remover. See Special Tools.
- **J 8092** Driver Handle. See Special Tools.
- **J 46607** Alignment Tool. See Special Tools.
- **J 44852** Front Clutch Drum Seal Installer. See Special Tools.
- **J 44853** Rear Clutch Drum Seal Installer. See Special Tools.
- **J-44873-2** Shoulder Bolts. See Special Tools.

Removal Procedure

1. Raise and support the vehicle. Refer to Lifting and Jacking the Vehicle in General Information.

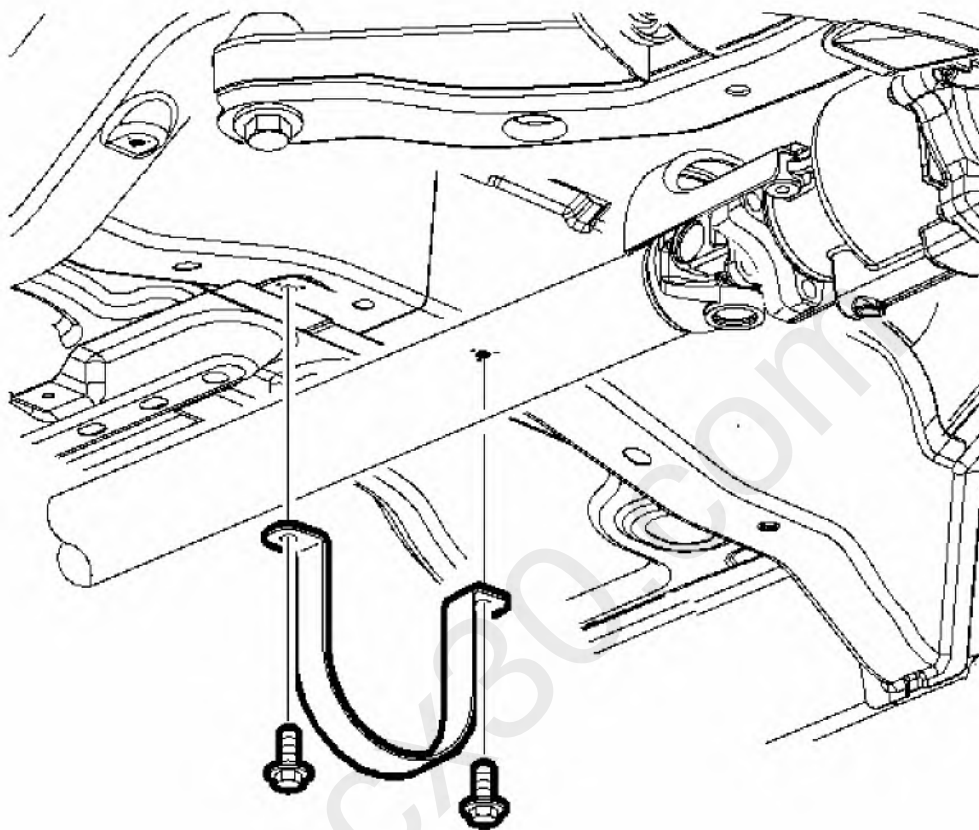


Fig. 7: View Of Propeller Shaft
Courtesy of GENERAL MOTORS CORP.

2. Remove the propeller shaft underbody guard loop bolts.
3. Remove the guard loop.

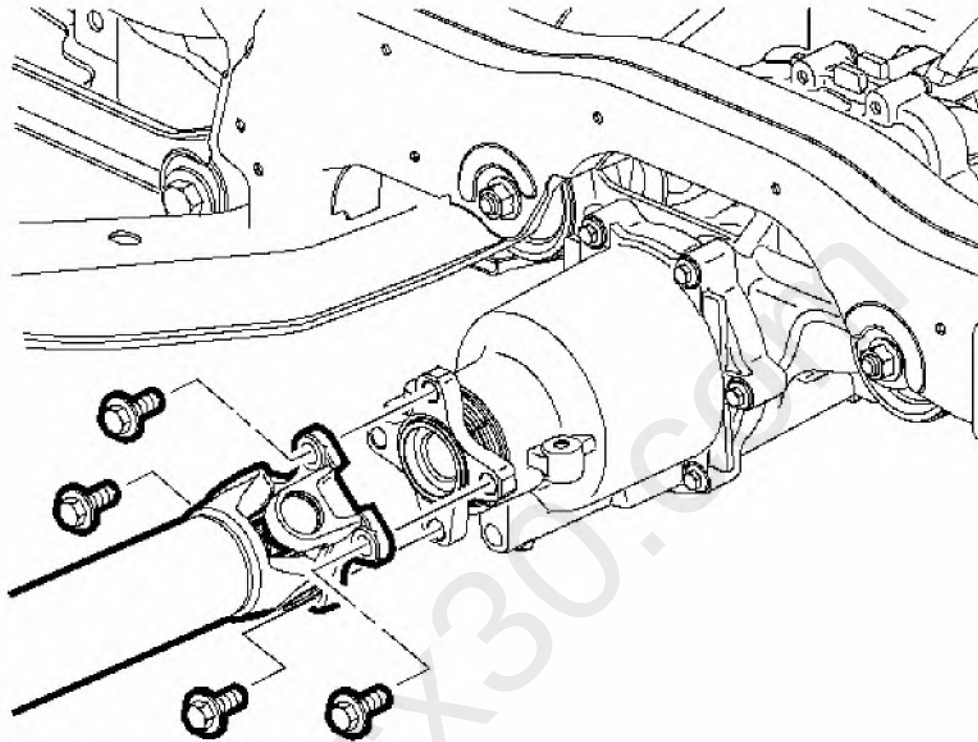


Fig. 8: Removing/Installing Propeller Shaft Flange Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

4. Reference mark the propeller shaft flange-to-pinion flange relationship at the rear drive module (RDM).
5. Remove the propeller shaft flange mounting bolts at the RDM pinion flange.
6. Position the end of the propeller shaft away from the RDM and secure with heavy mechanics wire, or equivalent.

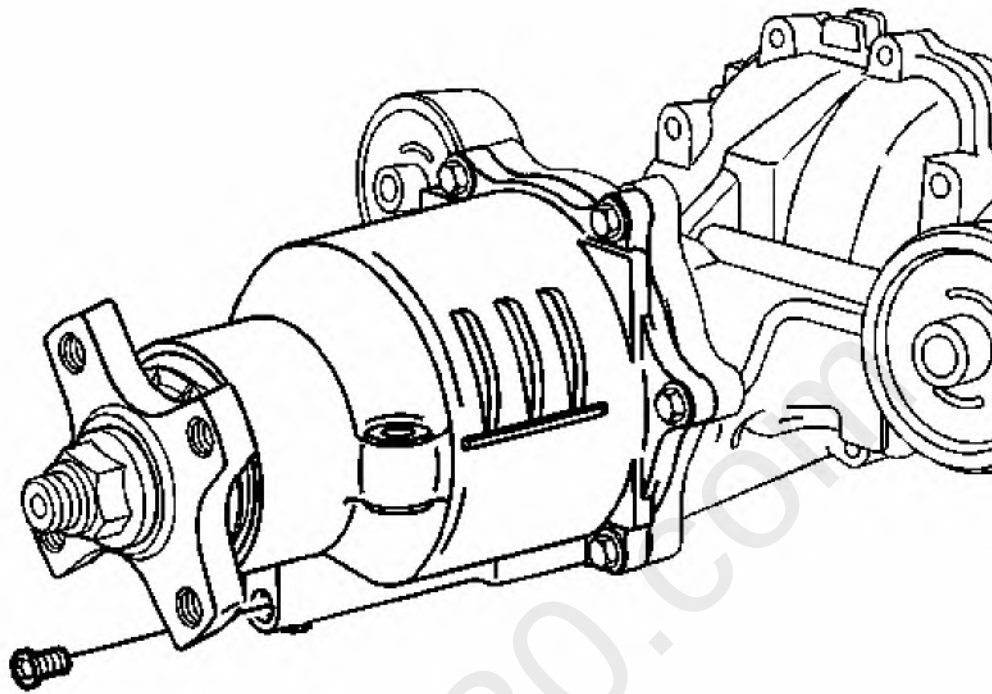


Fig. 9: Removing/Installing RDM Drain Plug
Courtesy of GENERAL MOTORS CORP.

7. Place a container under the RDM housing.
8. Remove the RDM drain plug.
9. Drain the RDM fluid.

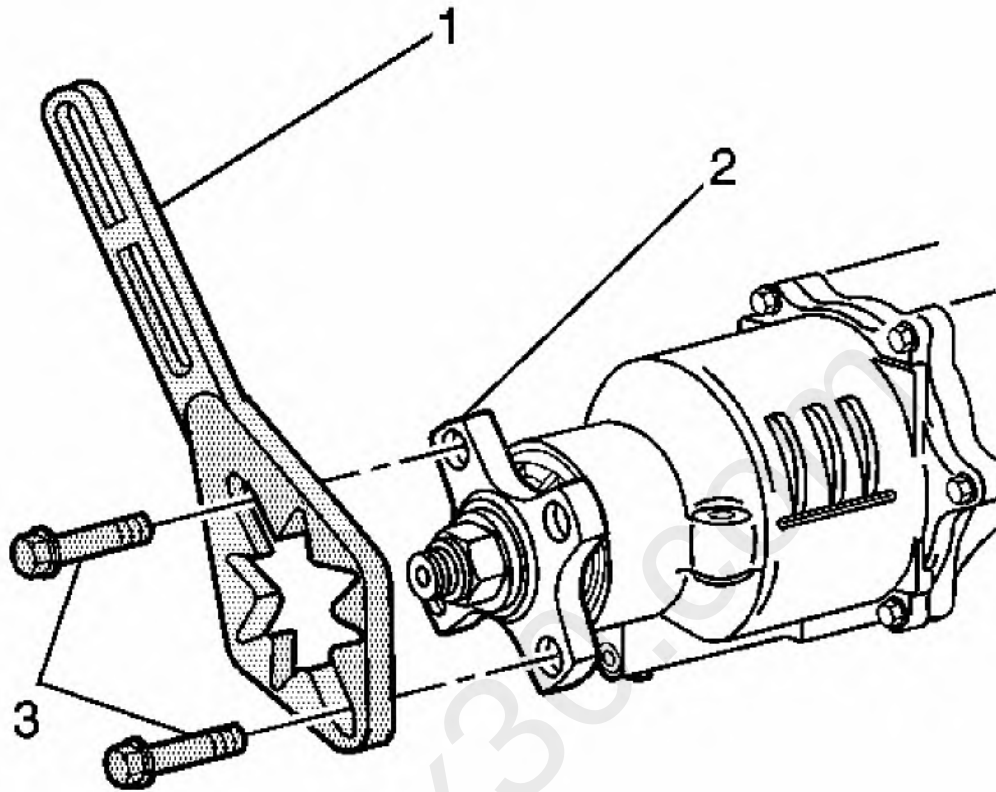


Fig. 10: Special Tool J 08614-A
Courtesy of GENERAL MOTORS CORP.

10. Install the **J-08614-A** (1) to the pinion flange (2) using the **J-44873-2** (3). See **Special Tools**.
11. Hold **J-08614-A** and use a breaker bar and 27 mm (1 1/16 in) socket. See **Special Tools**.
12. Loosen the pinion flange nut.

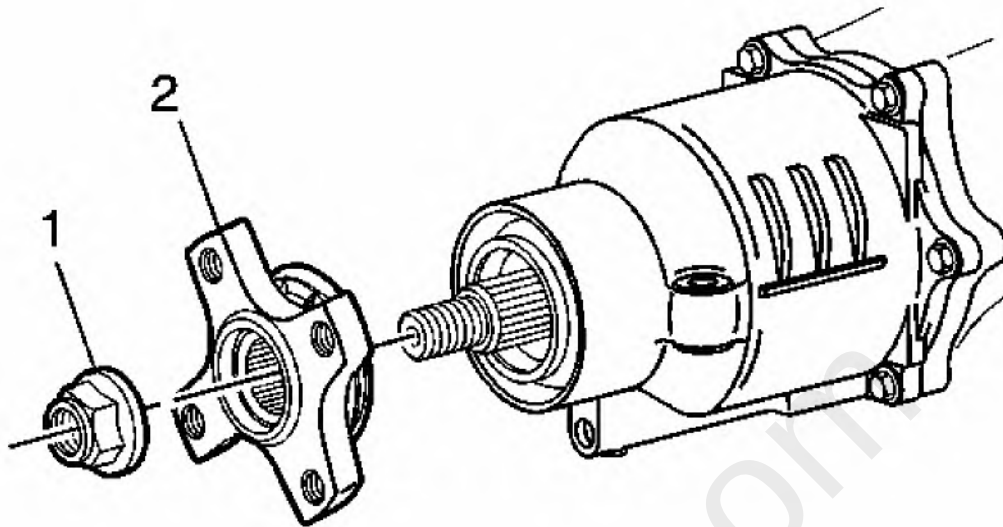


Fig. 11: Removing/Installing Input Flange On The Clutch Shaft
Courtesy of GENERAL MOTORS CORP.

13. Remove and discard the pinion flange nut (1).
14. Remove the pinion flange (2).

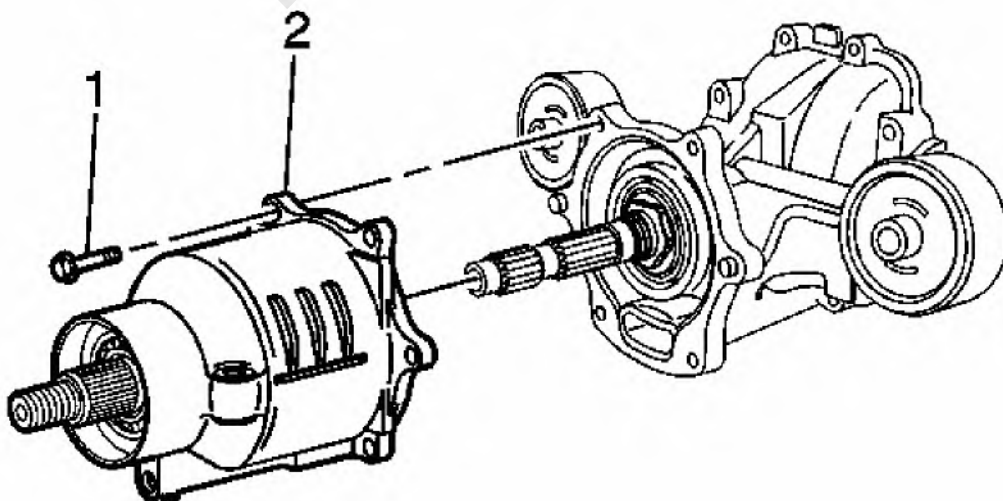


Fig. 12: Removing Bolts & The Clutch Cover From The Differential Housing

Courtesy of GENERAL MOTORS CORP.

15. Remove the RDM housing cover bolts (1).
16. Carefully remove the housing cover (2) from the RDM.

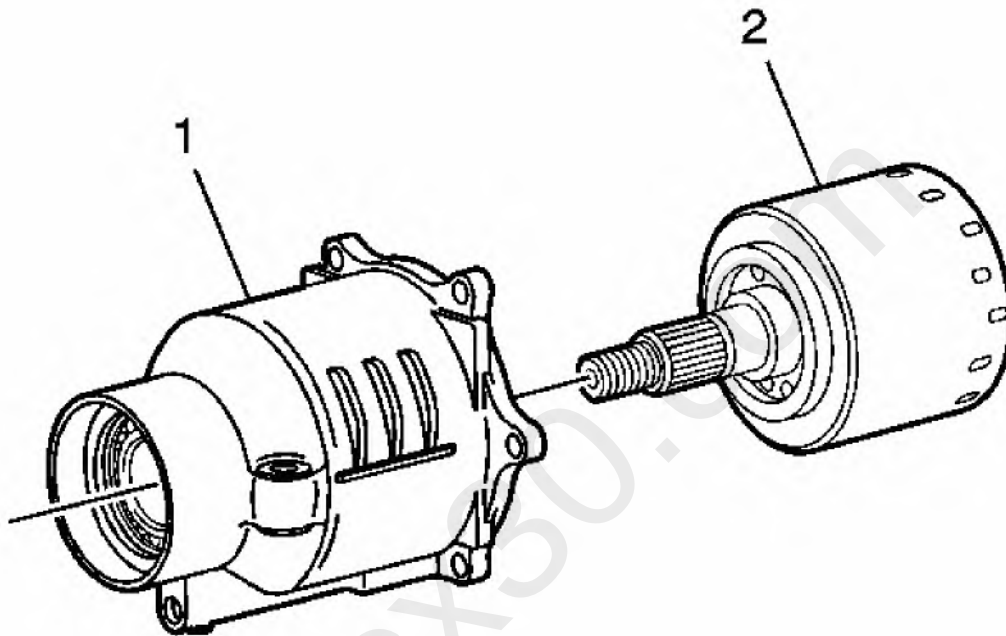


Fig. 13: Removing Clutch Drum From The Housing Cover
Courtesy of GENERAL MOTORS CORP.

17. Remove the clutch drum (2) from the housing cover (1).

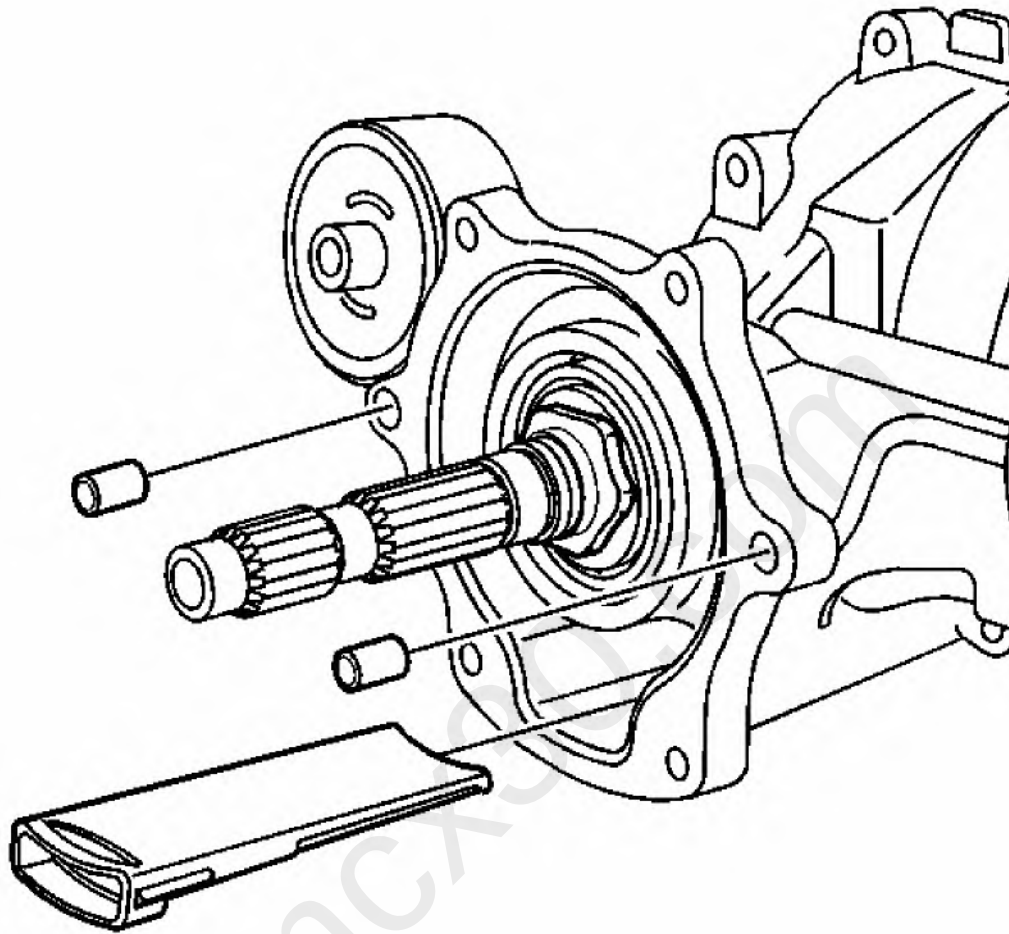


Fig. 14: Removing/Installing Filter Assembly
Courtesy of GENERAL MOTORS CORP.

18. Remove the filter assembly.
19. Remove the locating pins.

IMPORTANT: Do not gouge the housing cover and RDM sealing surfaces.

20. Remove all traces of sealer from the housing cover and RDM sealing surfaces.
21. Clean the housing cover and RDM sealing surfaces with denatured alcohol or equivalent, and dry with a clean, lint free cloth.

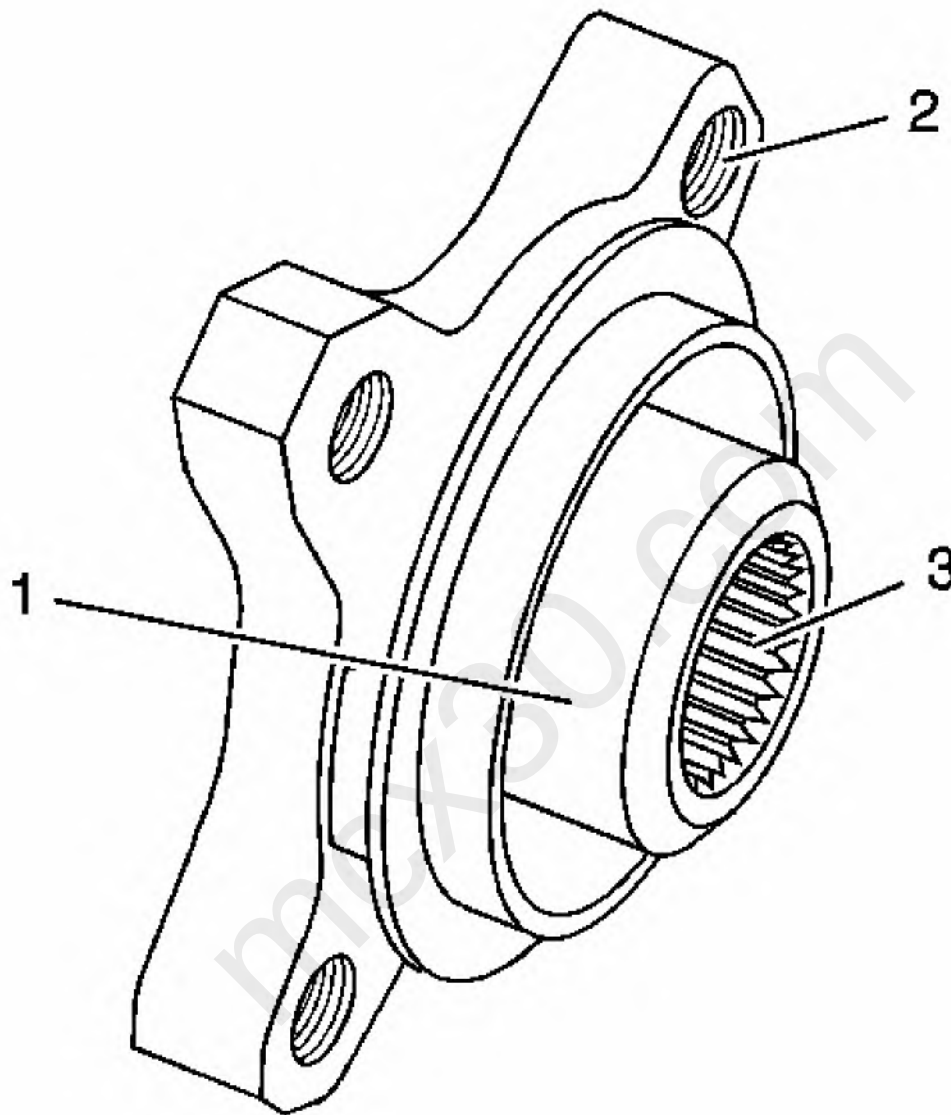


Fig. 15: Inspecting Pinion Flange Sealing Surface
Courtesy of GENERAL MOTORS CORP.

22. Check the pinion flange sealing surface (1) for wear or gouges, the bolt threads (2) for damage and the pinion splines (3) for worn or damaged splines.

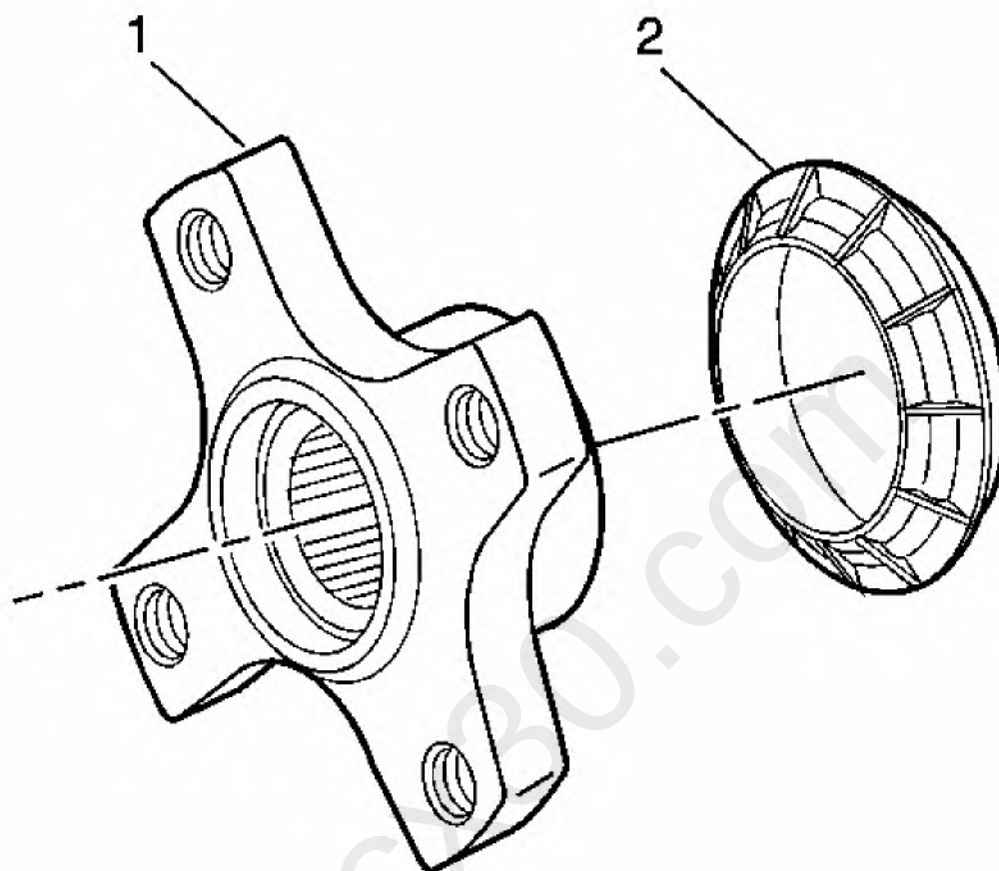


Fig. 16: Inspecting Dust Deflector For Cracks
Courtesy of GENERAL MOTORS CORP.

23. Inspect the dust deflector (2) for cracks.

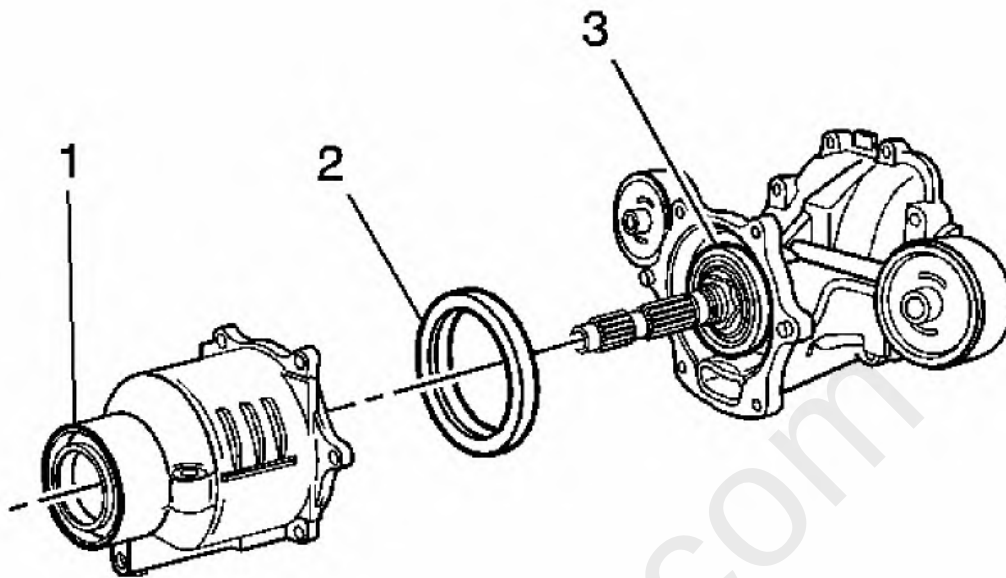


Fig. 17: Inspecting Pinion Flange Seal
Courtesy of GENERAL MOTORS CORP.

24. Inspect the pinion flange seal (1), the front seal (2) and the rear seal (3) for tears, cuts, and gouges on the seals and sealing surfaces.

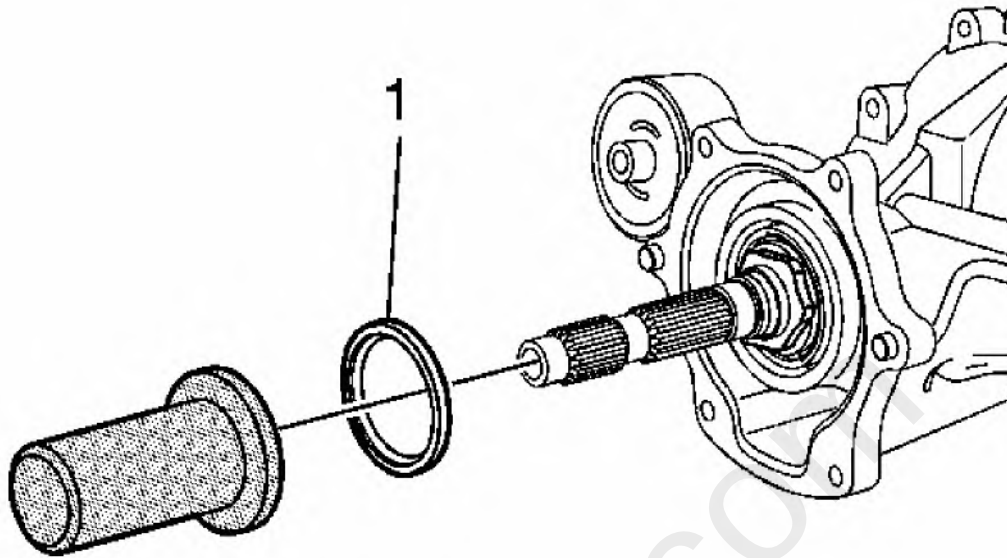


Fig. 18: Installing Clutch Drum Rear Oil Seal Using J44853
Courtesy of GENERAL MOTORS CORP.

25. If the rear seal (1) is damaged, replace using **J 44853** . See **Special Tools**. Install the clutch drum rear oil seal (1) to the differential housing.

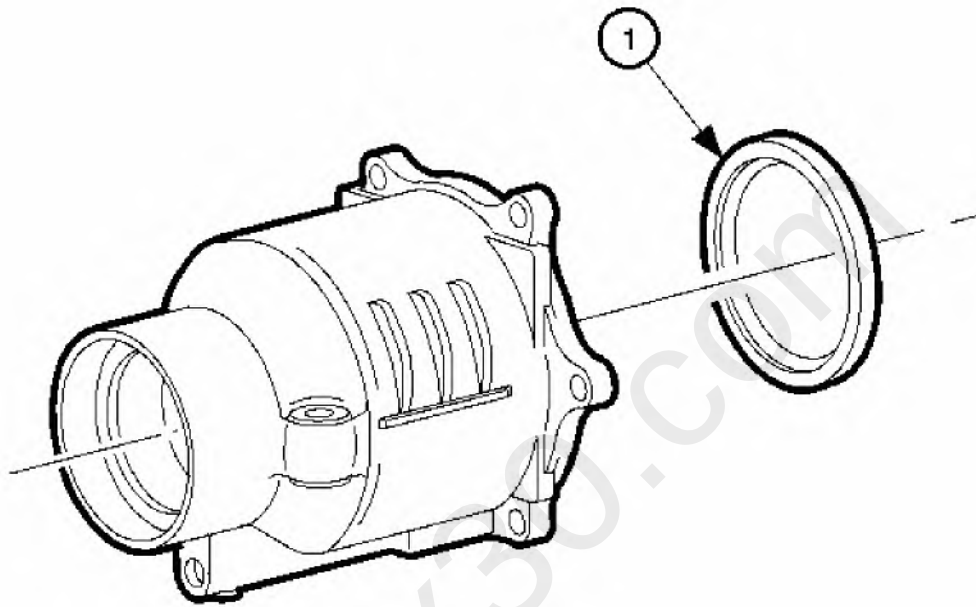


Fig. 19: Removing Clutch Drum Rear Oil Seal
Courtesy of GENERAL MOTORS CORP.

26. Inspect the clutch cover oil seal (1). It is recessed into the clutch cover. Inspect for tears, cuts, and gouges on the seals and sealant surfaces.

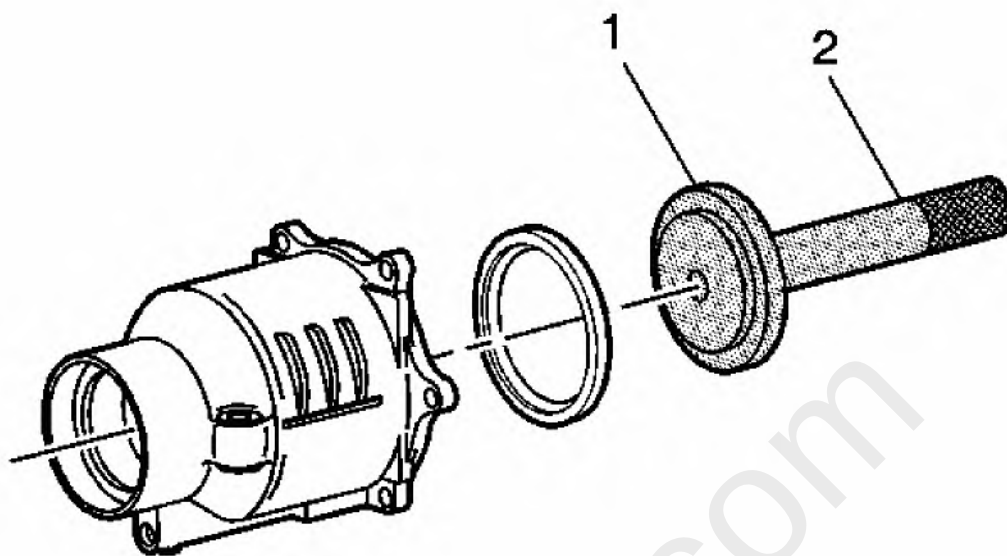


Fig. 20: Installing Front Clutch Drum Oil Seal
Courtesy of GENERAL MOTORS CORP.

27. If the front seal is damaged, replace using **J 44852** (1) and **J 8092** (2). See **Special Tools**. Install the front oil seal into the clutch cover.

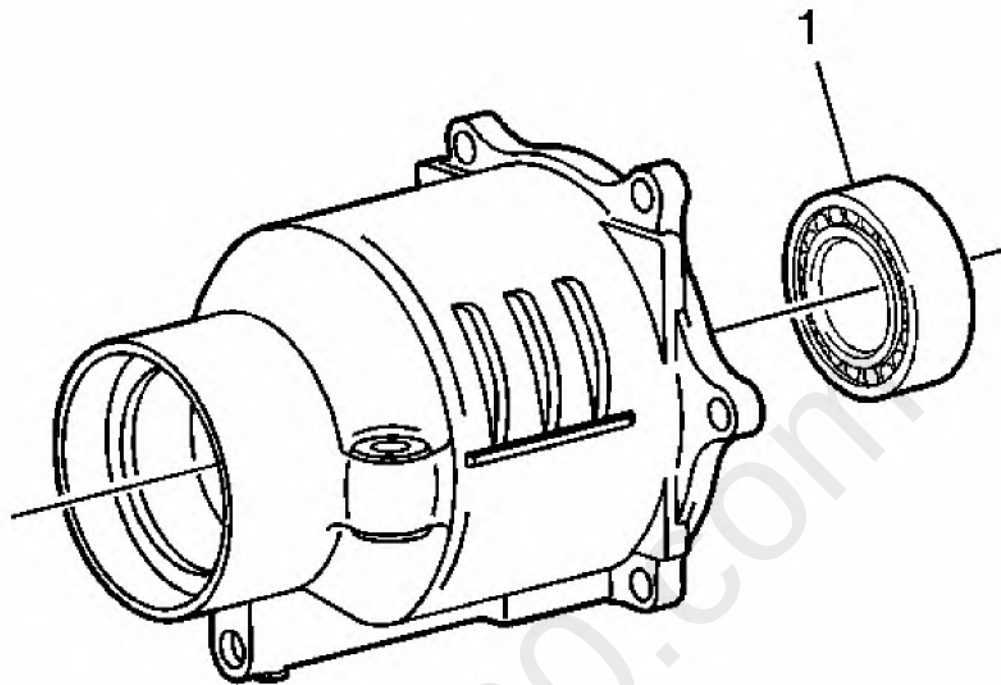


Fig. 21: Remove Bearing If It's Going To Be Replaced
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The bearing must be replaced, if removed.

28. Inspect the clutch cover bearing (1) for roughness and excessive play. It is recessed into the clutch cover.

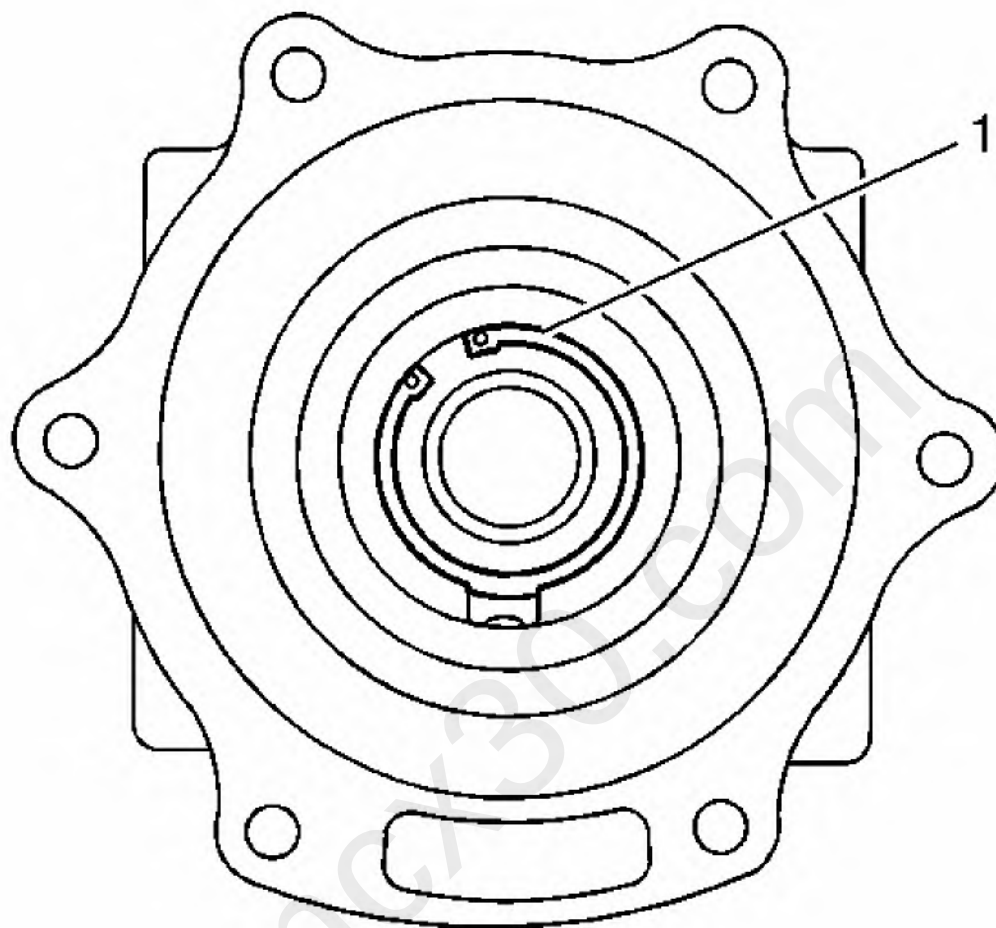


Fig. 22: Removing Snap Ring From The Clutch Cover
Courtesy of GENERAL MOTORS CORP.

29. Remove the snap ring (1).

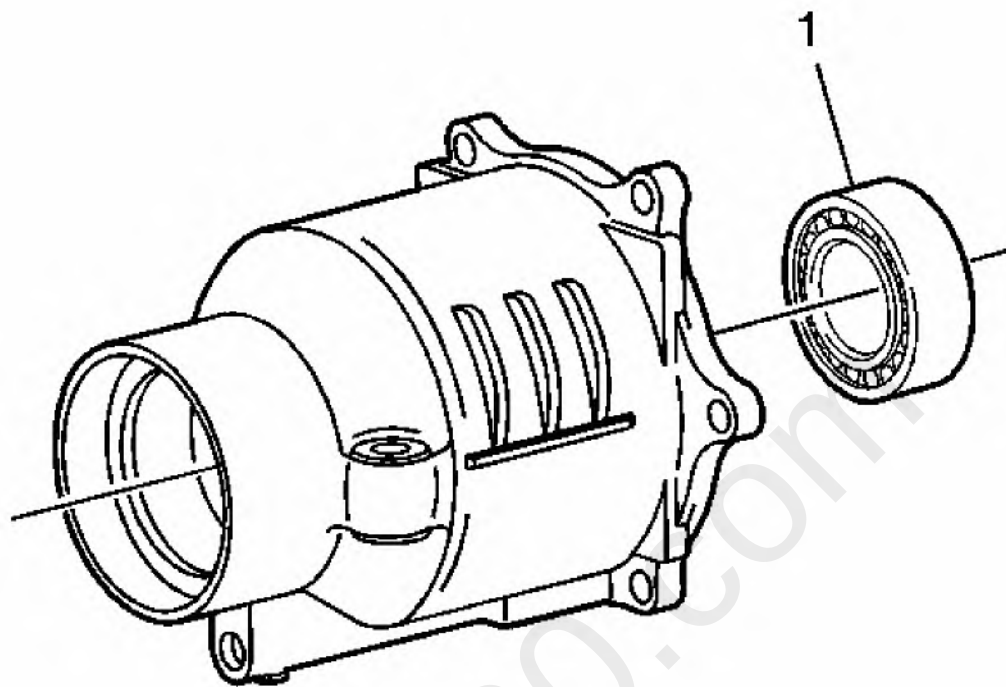


Fig. 23: Remove Bearing If It's Going To Be Replaced
Courtesy of GENERAL MOTORS CORP.

30. Drive the bearing (1) out from the inner race.

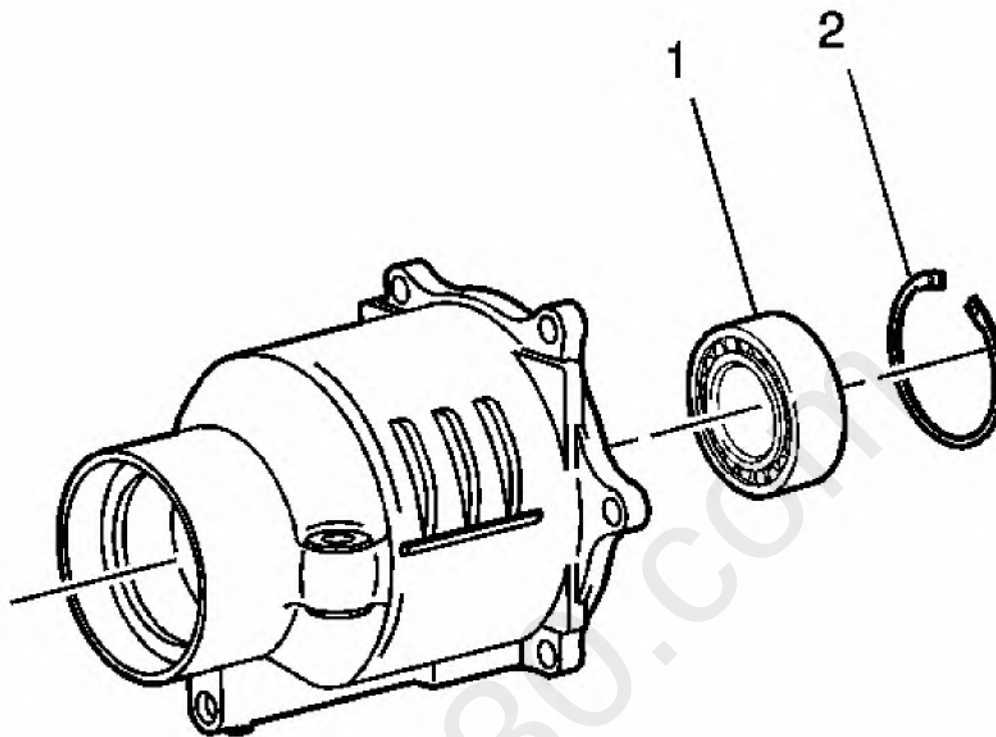


Fig. 24: Installing Bearing & Snap Ring On The Clutch Cover
Courtesy of GENERAL MOTORS CORP.

31. Install the bearing (1) into the clutch over from the outer race with a suitable driver.
32. Install the snap ring (2) into the groove.

Installation Procedure

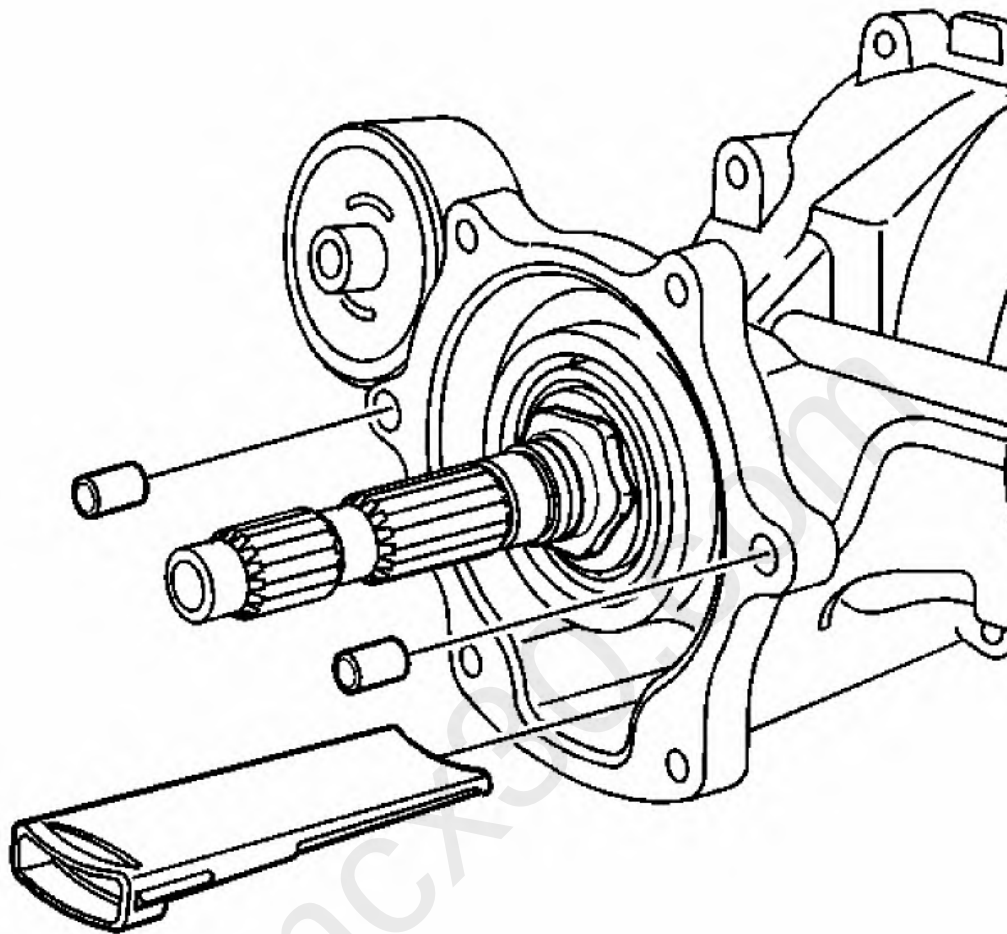


Fig. 25: Removing/Installing Filter Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install a new filter assembly.
2. Install the locating pins.

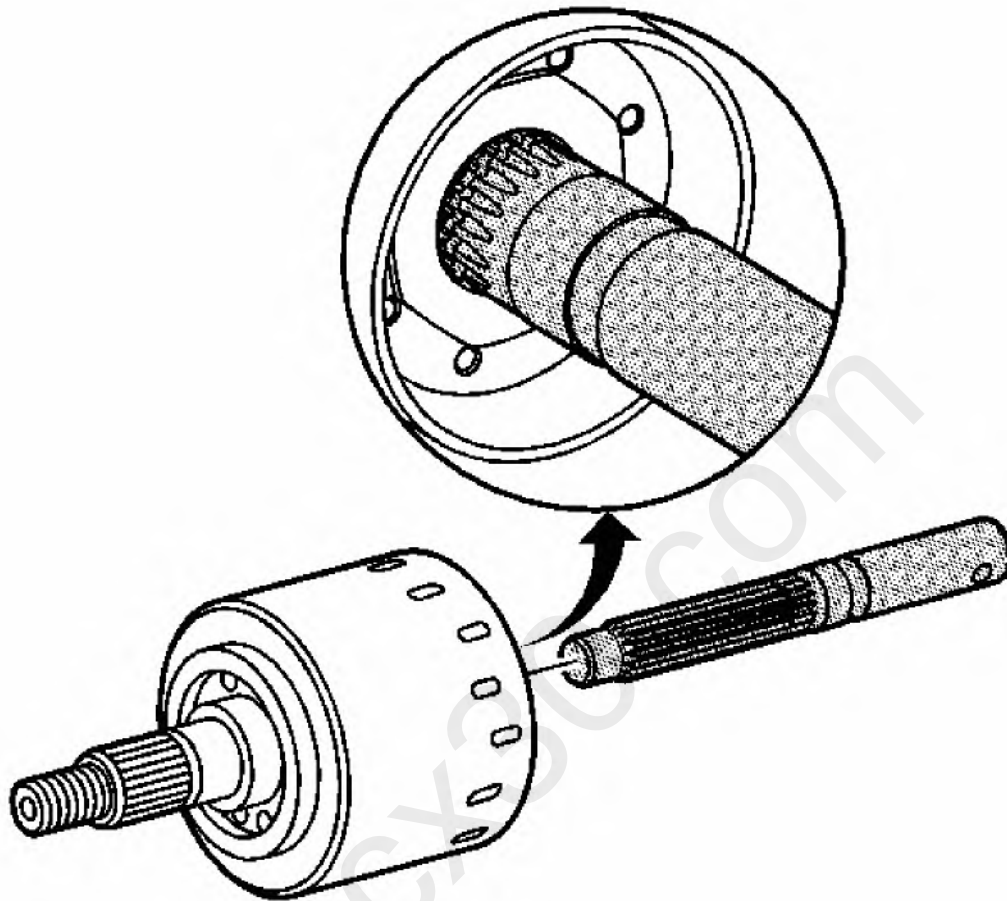


Fig. 26: Aligning Clutch With The Pump & Pump Bushing
Courtesy of GENERAL MOTORS CORP.

3. Align the clutch with the pump and pump bushing. Place the **J 46607** in the splines of the clutch. See **Special Tools**. Twist alignment tool back and forth to align the pump and bushing. With a properly aligned clutch, the groove on the **J 46607** will be flush with the drum as shown. See **Special Tools**. Remove the tool by pulling straight out.

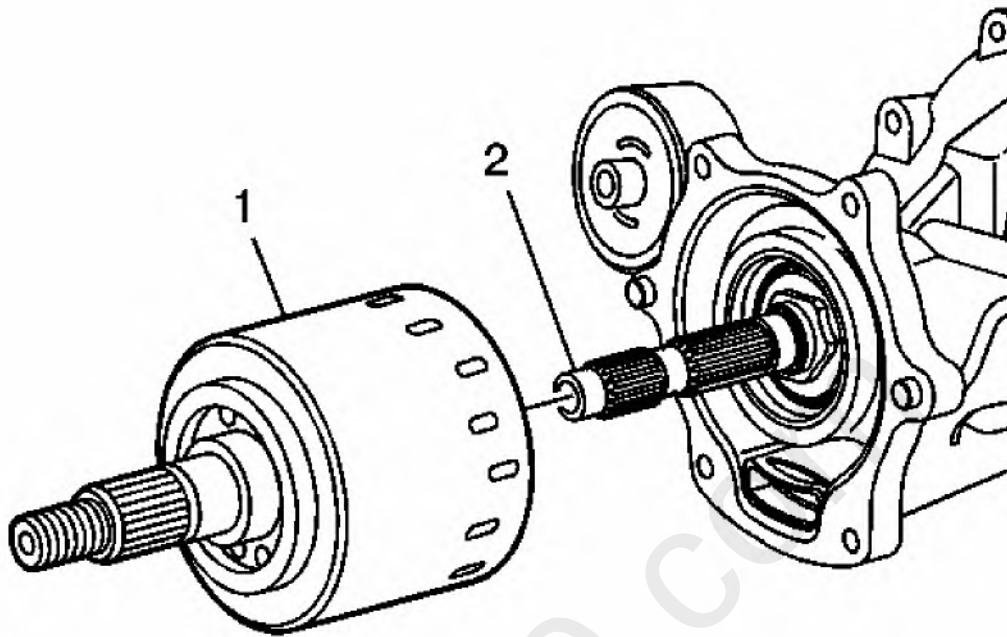


Fig. 27: Installing Clutch Drum On The Pinion Shaft
Courtesy of GENERAL MOTORS CORP.

NOTE: Do not submerge the clutch drum in solvent. This will damage friction material and geroter pump.

IMPORTANT: The clutch drum may require some slight rotational movement to install completely. If the clutch is not fully seated, the clutch housing may break when tightening bolts.

4. Install the clutch drum (1) to the pinion shaft (2).

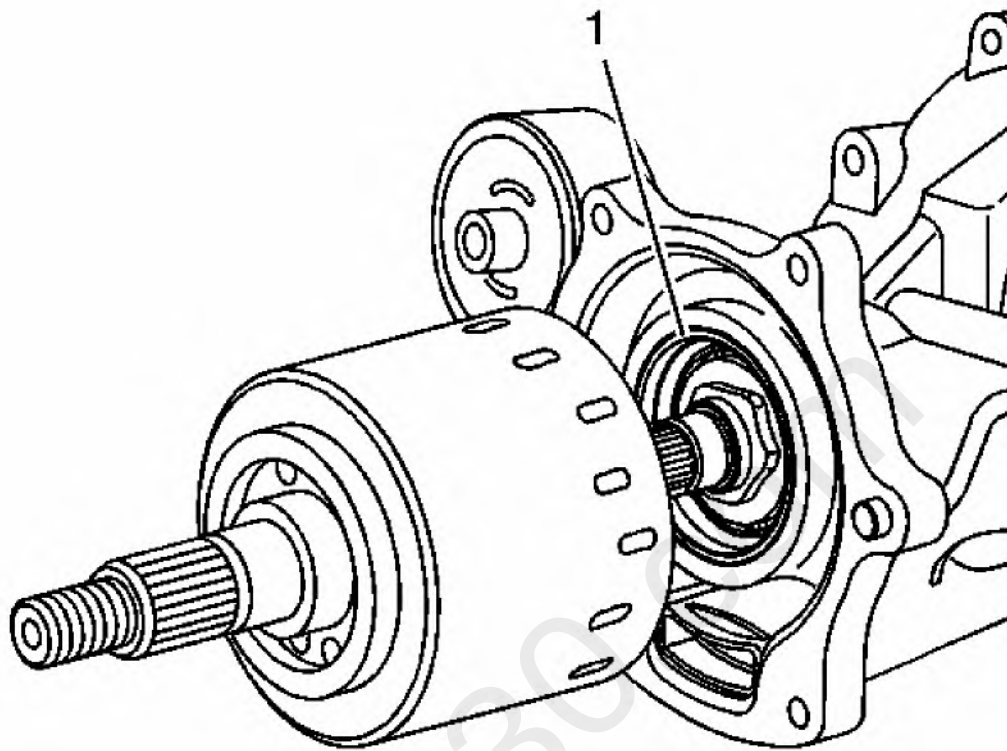


Fig. 28: Clutch Drum Oil Seal
Courtesy of GENERAL MOTORS CORP.

5. When properly engaged, the clutch drum will be fully seated against the clutch drum oil seal (1).

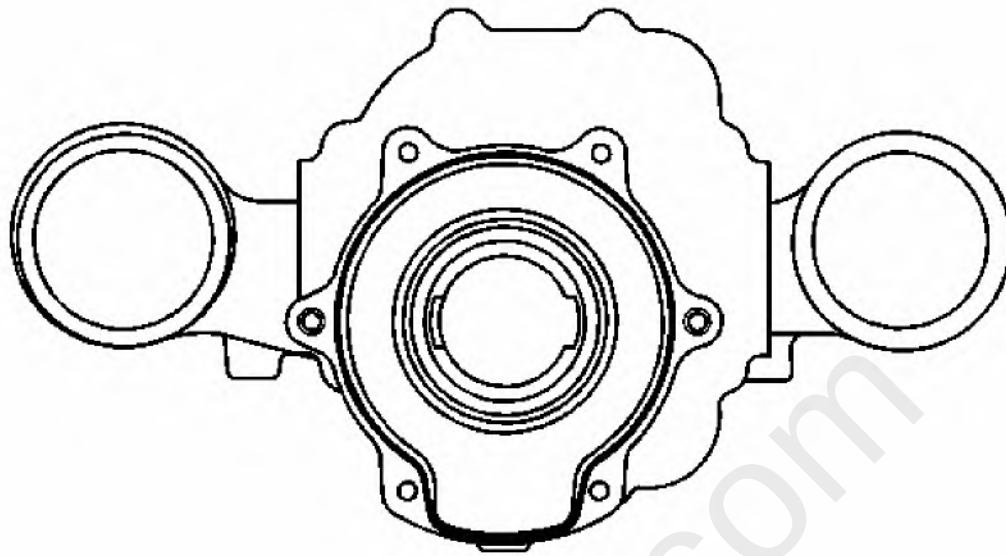


Fig. 29: RDM Housing Sealing Surface
Courtesy of GENERAL MOTORS CORP.

6. Apply a continuous bead of sealer, GM P/N 12346286 (Canadian P/N 10953482) of equal height and width to the RDM housing sealing surface.

Specification: Apply sealer to a height and width of 2.5 mm (0.098 in).

NOTE: The clutch cover housing must be fully seated to the rear drive module (RDM). Do Not use the mounting bolts to draw the cover to the RDM. If the cover does not fully seat to the RDM, the clutch drum assembly splines must be realigned to the pinion shaft splines before proceeding. Failure to follow these instructions will result in damage to the clutch assembly.

IMPORTANT: Do not disturb the sealer bead applied to the RDM sealing surface.

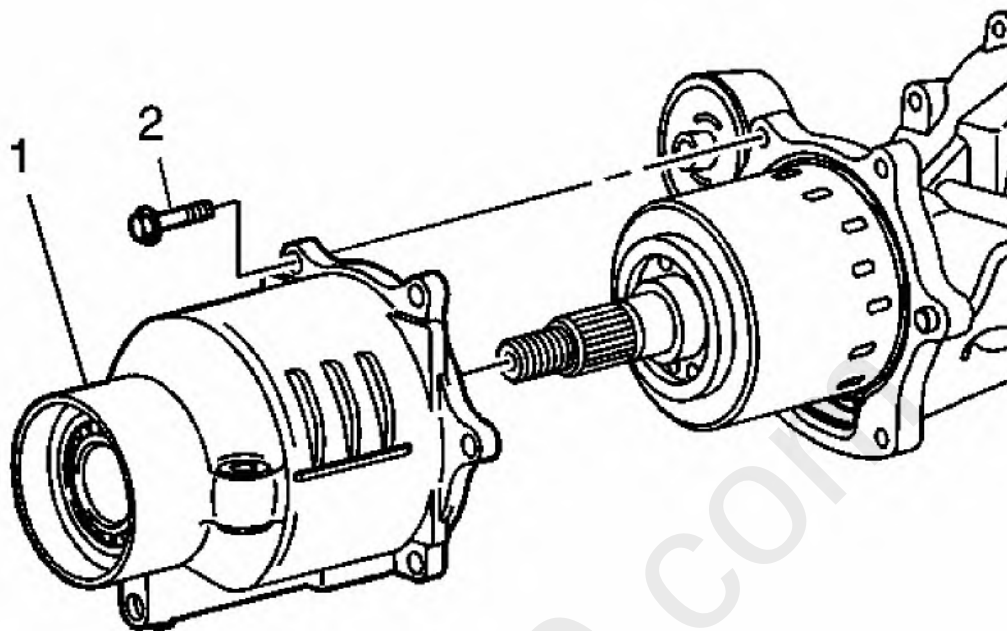


Fig. 30: Installing Clutch Housing Cover On The RDM
Courtesy of GENERAL MOTORS CORP.

7. Install the clutch housing cover (1) to the RDM.

NOTE: Refer to Fastener Notice in Cautions and Notices.

8. Hand install the clutch housing cover bolts (2).

Tighten: Tighten the bolts to 26 N.m (19 lb ft).

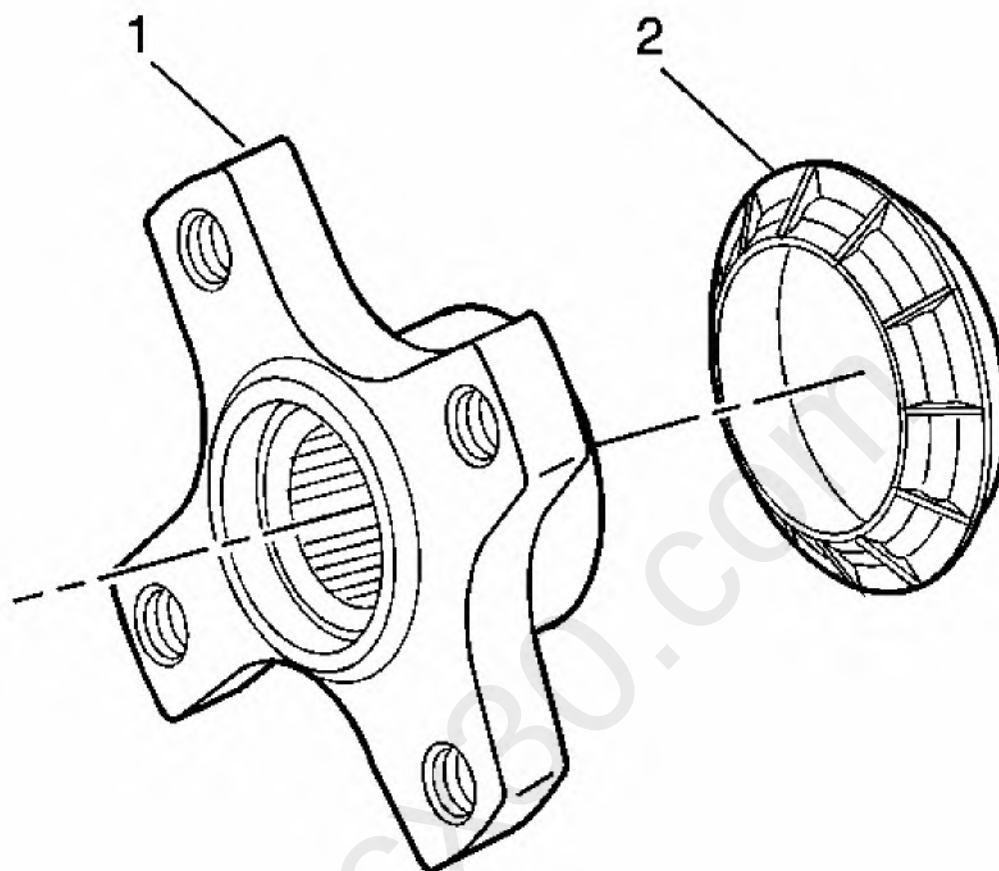


Fig. 31: Inspecting Dust Deflector For Cracks
Courtesy of GENERAL MOTORS CORP.

9. Install the dust deflector (2) to the input flange (1) if removed.

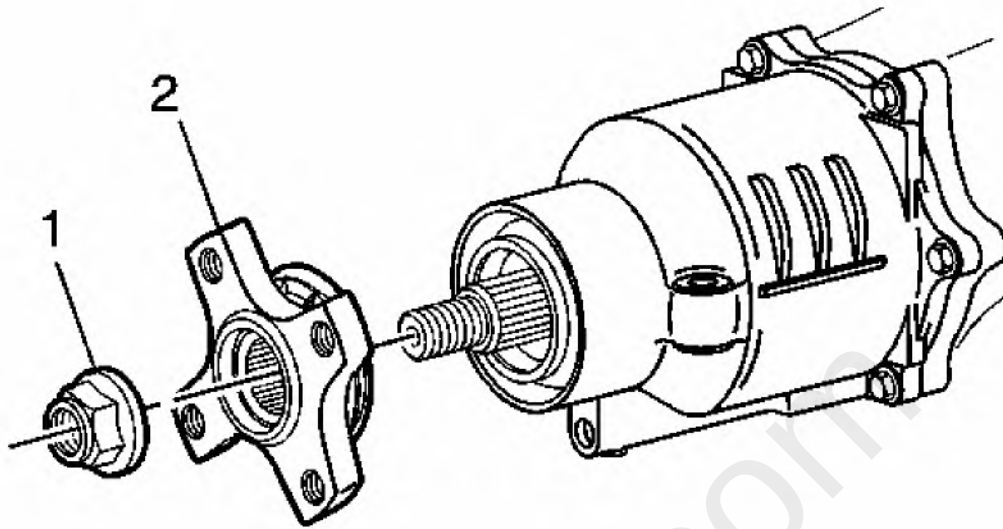


Fig. 32: Removing/Installing Input Flange On The Clutch Shaft
Courtesy of GENERAL MOTORS CORP.

10. Install the input flange (2) to the clutch shaft.
11. Hand install a new input flange nut (1) to the clutch shaft.

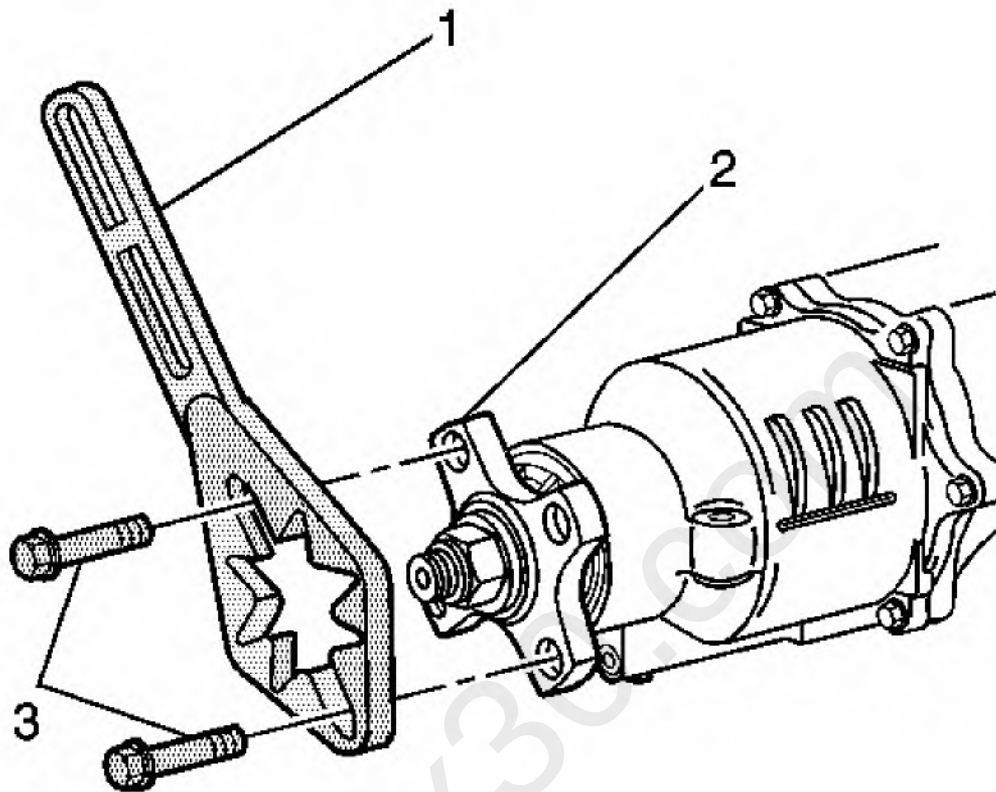


Fig. 33: Special Tool J 08614-A
Courtesy of GENERAL MOTORS CORP.

12. Install the **J-08614-A** (1) to the pinion flange (2) using **J-44873-2** (3). See **Special Tools**.
13. Tighten the pinion nut.

Tighten: Tighten the nut to 203 N.m (150 lb ft).

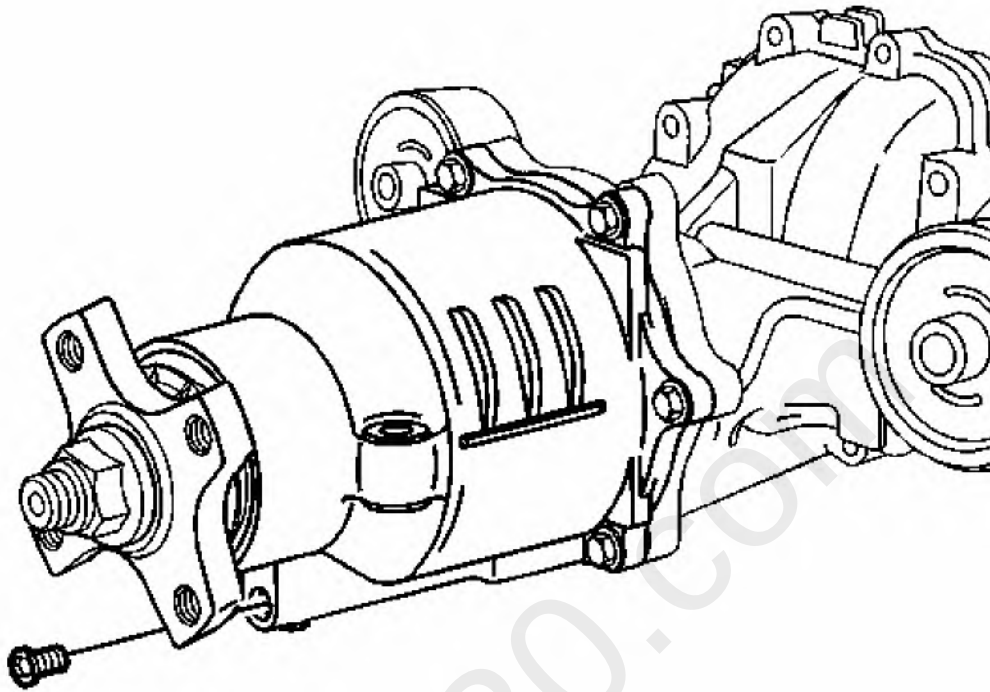


Fig. 34: Removing/Installing RDM Drain Plug
Courtesy of GENERAL MOTORS CORP.

14. Thoroughly clean the drain plug threads and apply thread sealer, GM P/N 12346004 (Canadian P/N 10953480), to the plug threads.
15. Install the RDM drain plug.

Tighten: Tighten the plug to 30 N.m (22 lb ft).

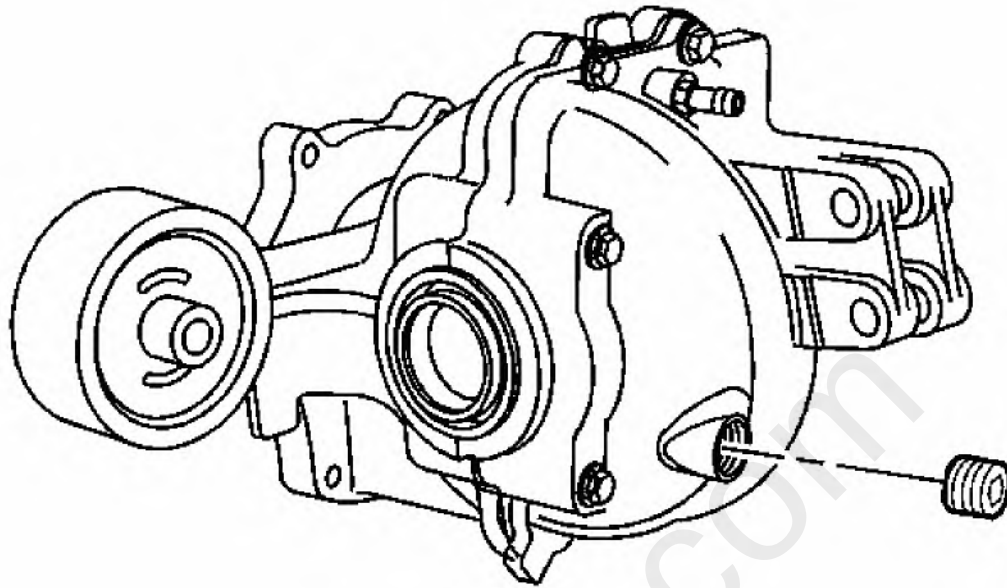


Fig. 35: Removing/Installing Fill Plug
Courtesy of GENERAL MOTORS CORP.

16. Remove the RDM fill plug.
17. Thoroughly clean the fill plug threads and apply thread sealer, GM P/N 12346004 (Canadian P/N 10953480), to the plug threads.
18. Fill the RDM with lubricant. Refer to **Lubricant Replacement - Rear Drive Axle**.
19. Install the fill plug.

Tighten: Tighten the plug to 35 N.m (26 lb ft).

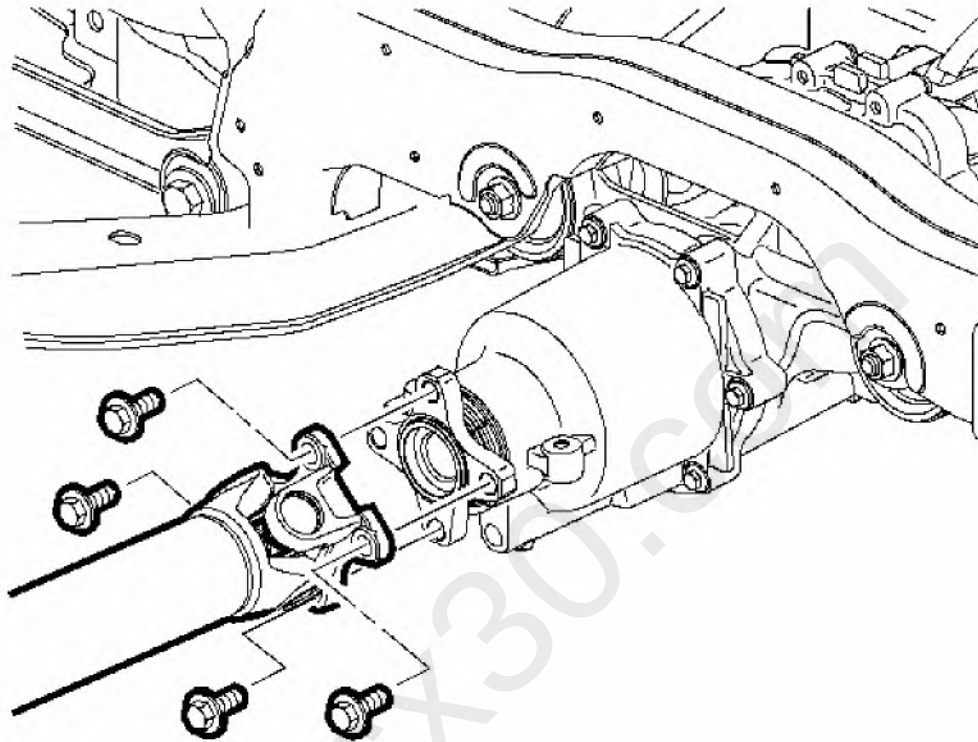


Fig. 36: Removing/Installing Propeller Shaft Flange Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

20. Thoroughly clean and apply threadlocker, GM P/N 89021297 (Canadian P/N 10953488) to the propeller shaft flange mounting bolt threads.
21. Align the reference marks on the propeller shaft flange and the RDM input flange.
22. Install the propeller shaft flange mounting bolts.

Tighten: Tighten the bolts to 50 N.m (37 lb ft).

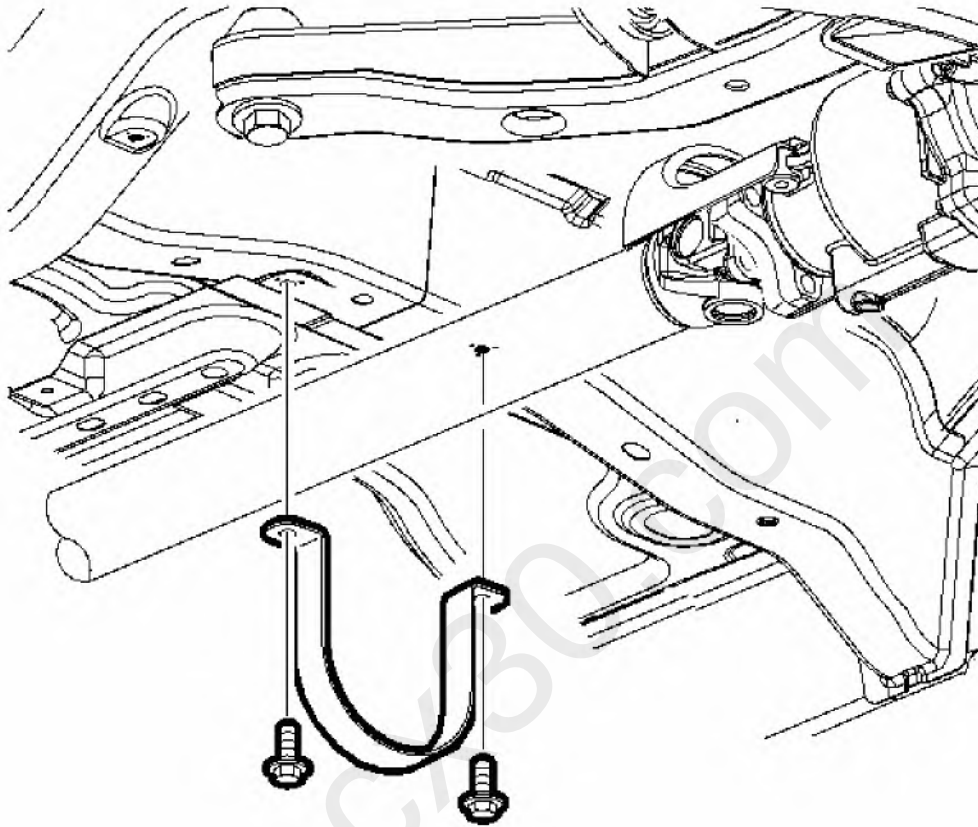


Fig. 37: View Of Propeller Shaft
Courtesy of GENERAL MOTORS CORP.

23. Install the propeller shaft underbody guard loop.
24. Install the propeller shaft underbody guard loop bolts.

Tighten: Tighten the bolts to 24 N.m (18 lb ft).

25. Lower the vehicle.

DIFFERENTIAL CARRIER ASSEMBLY MOUNT REPLACEMENT

Tools Required

J 44866 Support Bushing Remover and Installer. See **Special Tools**.

Removal Procedure

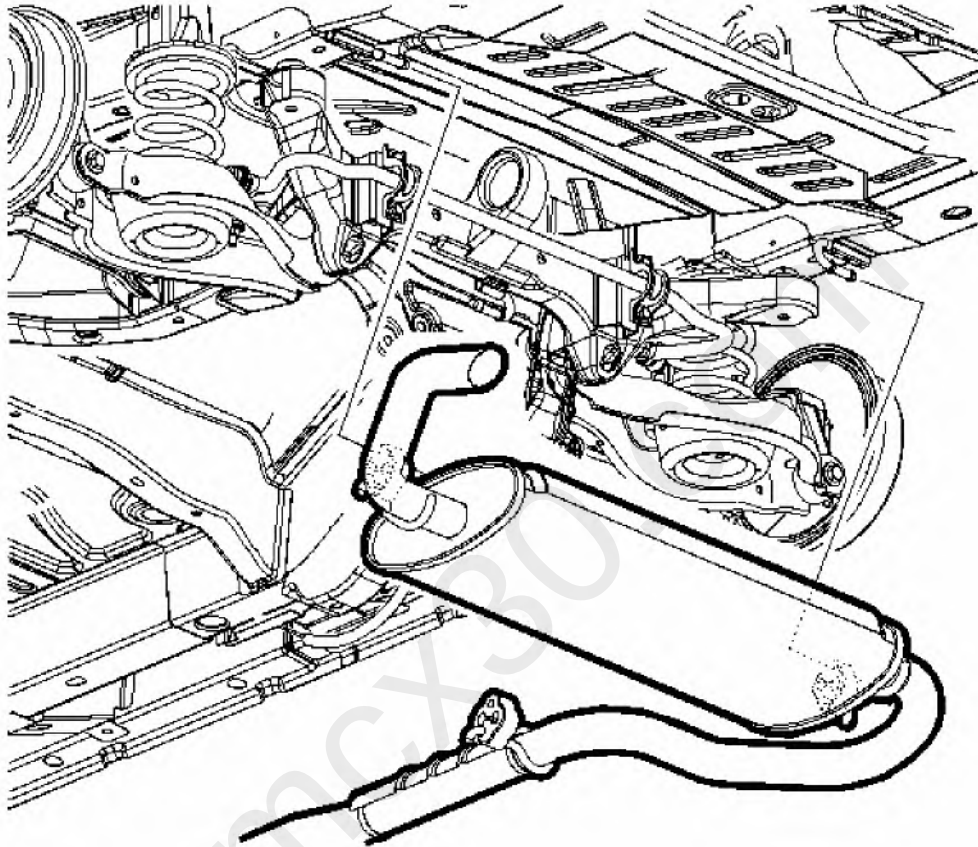


Fig. 38: Removing/Installing Intermediate Pipe & Muffler Assembly
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Disconnect the intermediate exhaust pipe from the front pipe and remove the intermediate pipe and muffler assembly. Refer to **Exhaust System Replacement** in Engine Exhaust.
3. Place a support stand under the rear drive module (RDM) and support the RDM.

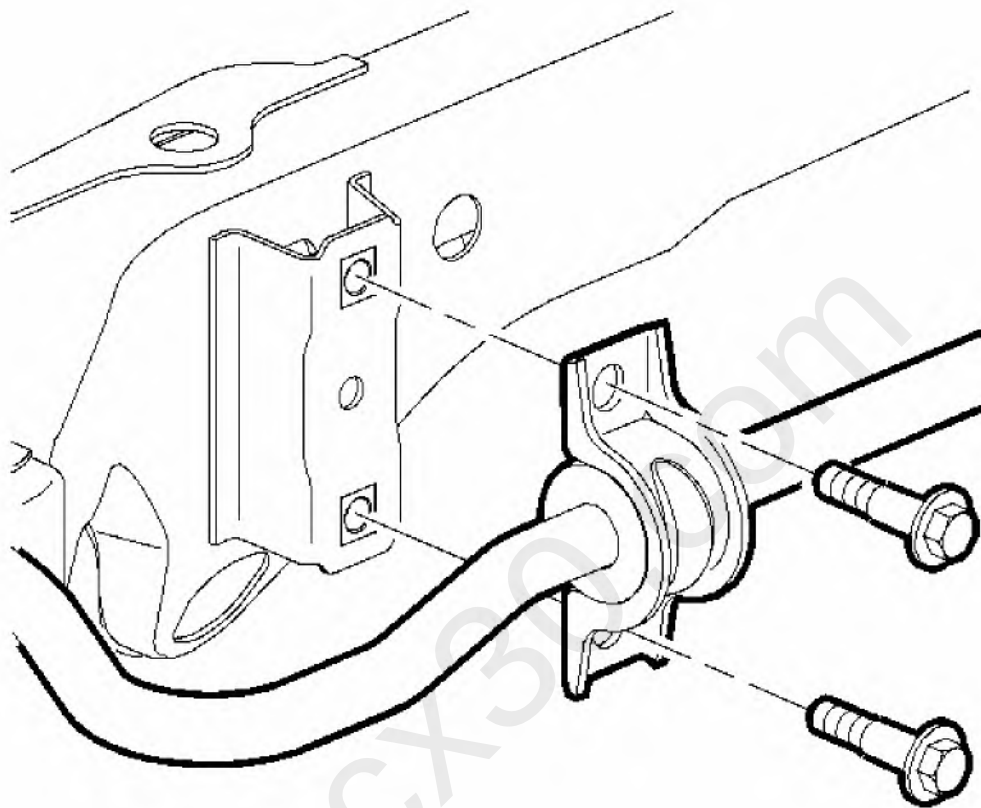


Fig. 39: View Of Stabilizer Bar Clamp & Bolts
Courtesy of GENERAL MOTORS CORP.

4. Remove the rear stabilizer bar. Refer to **Stabilizer Shaft Replacement** in Rear Suspension.

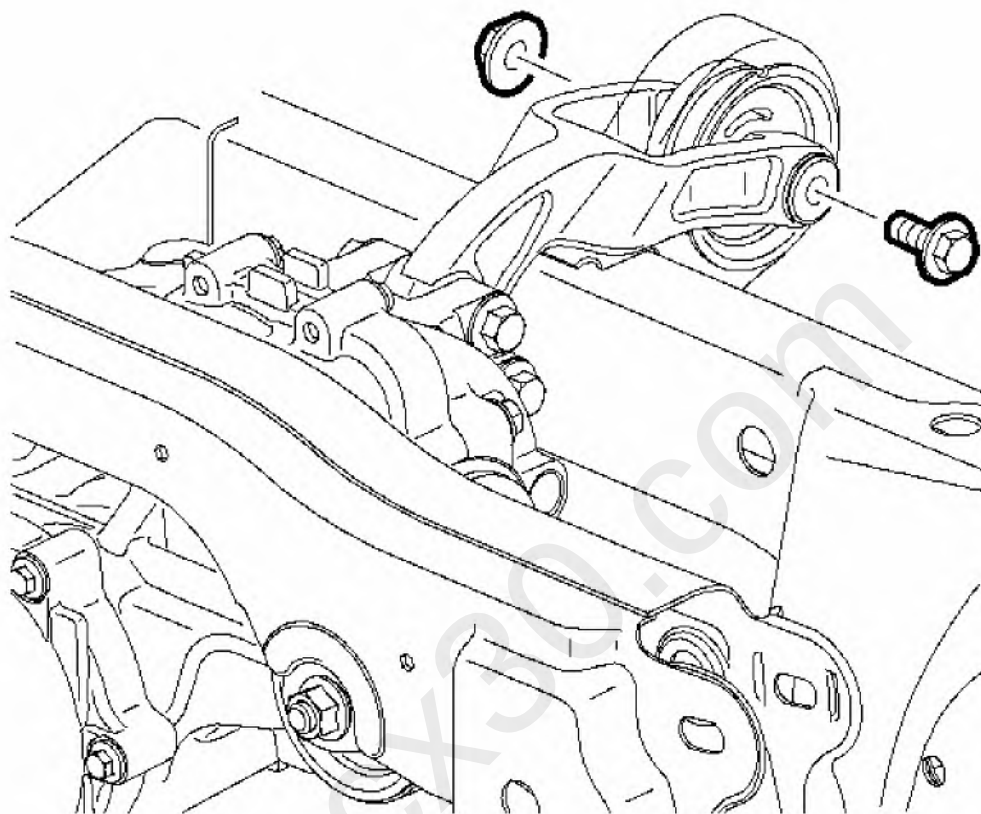


Fig. 40: Removing/Installing RDM Rear Mounting Bracket
Courtesy of GENERAL MOTORS CORP.

5. Remove the RDM bracket-to-bushing mounting nut and bolt.

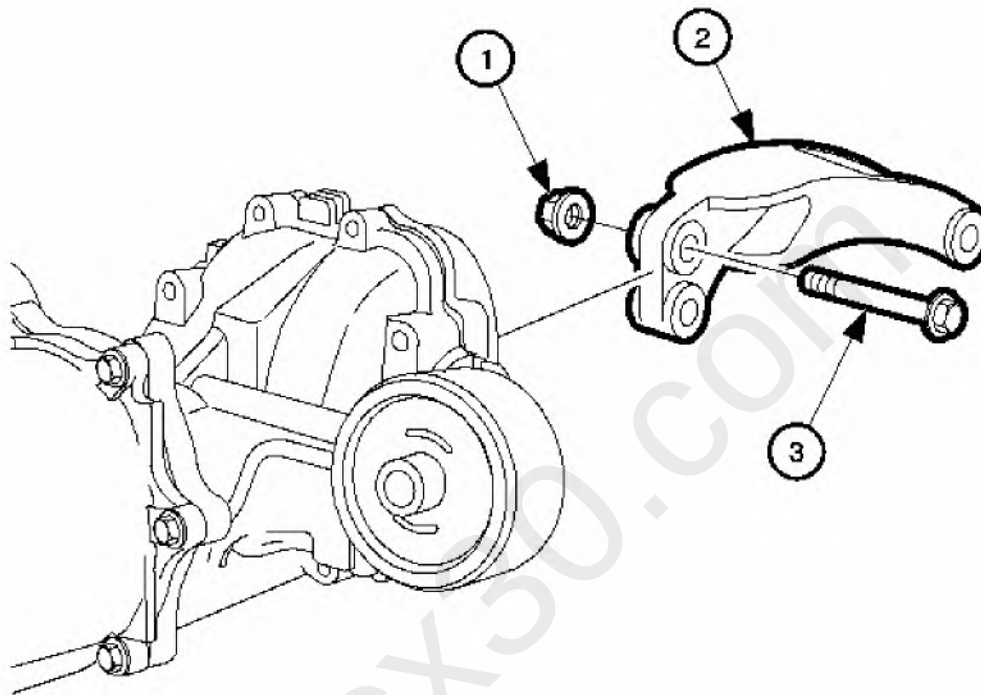


Fig. 41: Removing/Installing Nut & Bolt From The RDM Mounting Bracket
Courtesy of GENERAL MOTORS CORP.

6. Remove the nut (1) and bolt (3) from the mounting RDM mounting bracket (2) and remove the bracket.

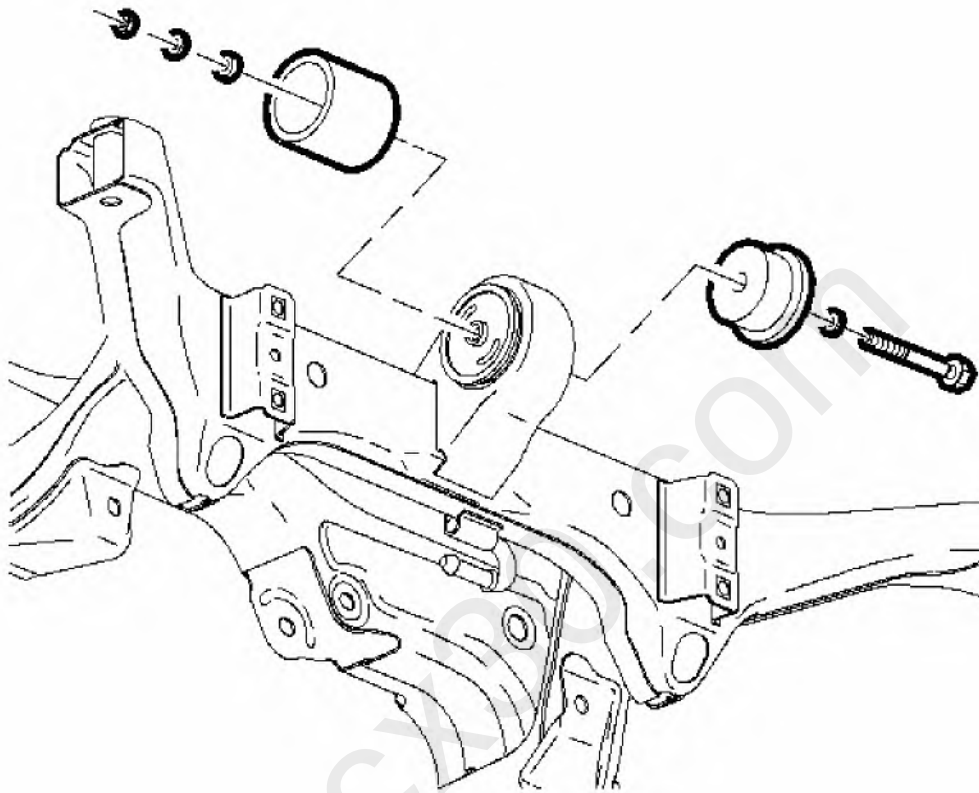


Fig. 42: Installing Bolt & Washer Through The Driver, Bushing, & Receiver
Courtesy of GENERAL MOTORS CORP.

7. Place the open receiver end of the **J 44866** over the flanged side of the bushing and against the vehicle frame. See **Special Tools**.
8. Position the driver portion of the **J 44866** with the smaller diameter of the driver against the bushing. See **Special Tools**.
9. Install the bolt and washer through the driver, bushing, and receiver.
10. Install the nut to the bolt.
11. Slowly tighten the bolt and nut until the bushing is driven out of the vehicle frame and into the receiver.
12. Disassemble the **J 44866** and remove the bushing. See **Special Tools**.

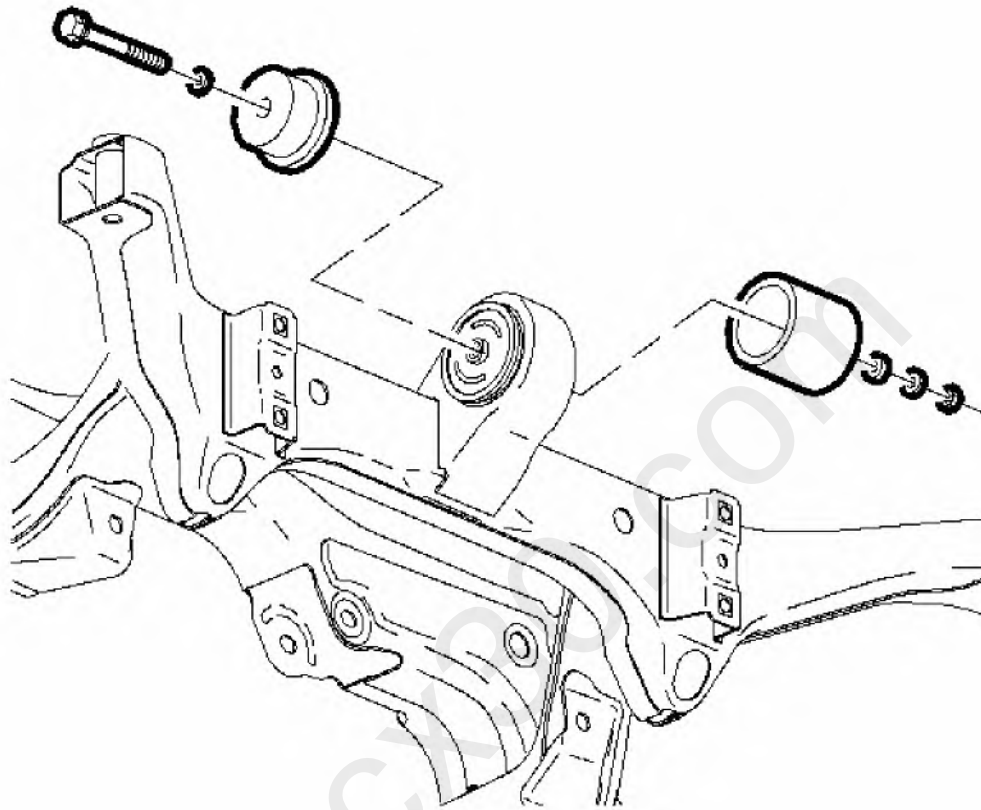


Fig. 43: Positioning RDM Support Bushing On The Vehicle Frame
Courtesy of GENERAL MOTORS CORP.

1. Position the RDM support bushing to the vehicle frame with the slotted portions of the bushing at the 6 o'clock and 12 o'clock positions.
2. Install the receiver end of the **J 44866** against the vehicle frame opposite the bushing. See **Special Tools**.
3. Place the large diameter face of the **J 44866** driver against the flanged portion of the bushing. See **Special Tools**.
4. Install the bolt and washer through the driver, bushing, and receiver.
5. Install the nut to the bolt.
6. Slowly tighten the bolt and nut until the bushing is drawn into the vehicle frame and the flange is seated squared against the vehicle frame.

7. Remove the **J 44866** . See Special Tools.

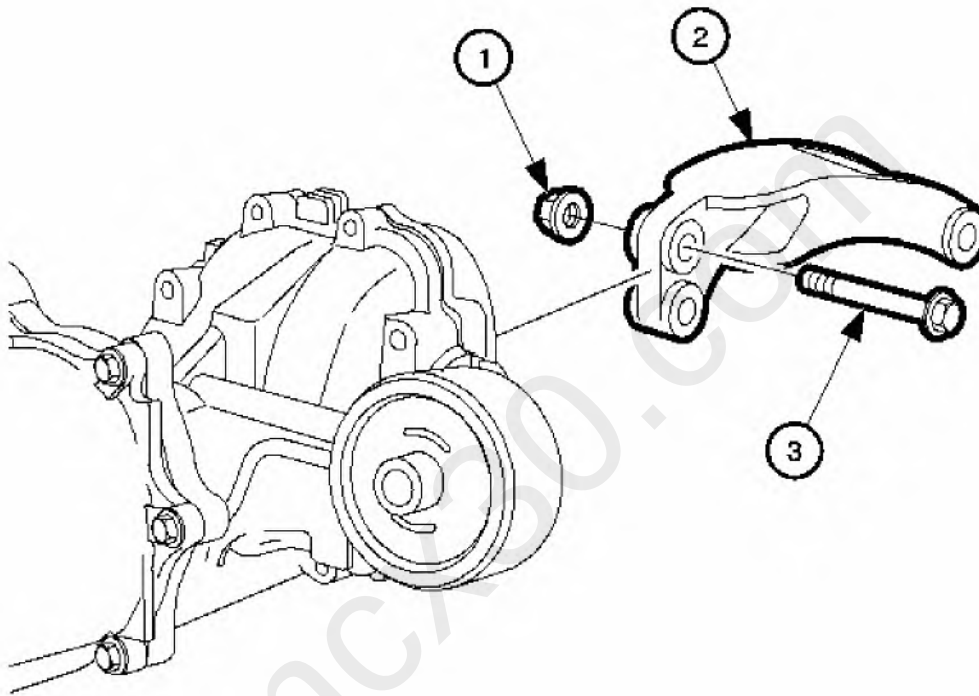


Fig. 44: Removing/Installing Nut & Bolt From The RDM Mounting Bracket
Courtesy of GENERAL MOTORS CORP.

8. Install the support bracket (2) to the RDM.
9. Install the bolt (3) and nut (1) to the bracket.

NOTE: Refer to Fastener Notice in Cautions and Notices.

10. Tighten the support bracket nut and bolt.

Tighten: Tighten the bolt and nut to 105 N.m (77 lb ft).

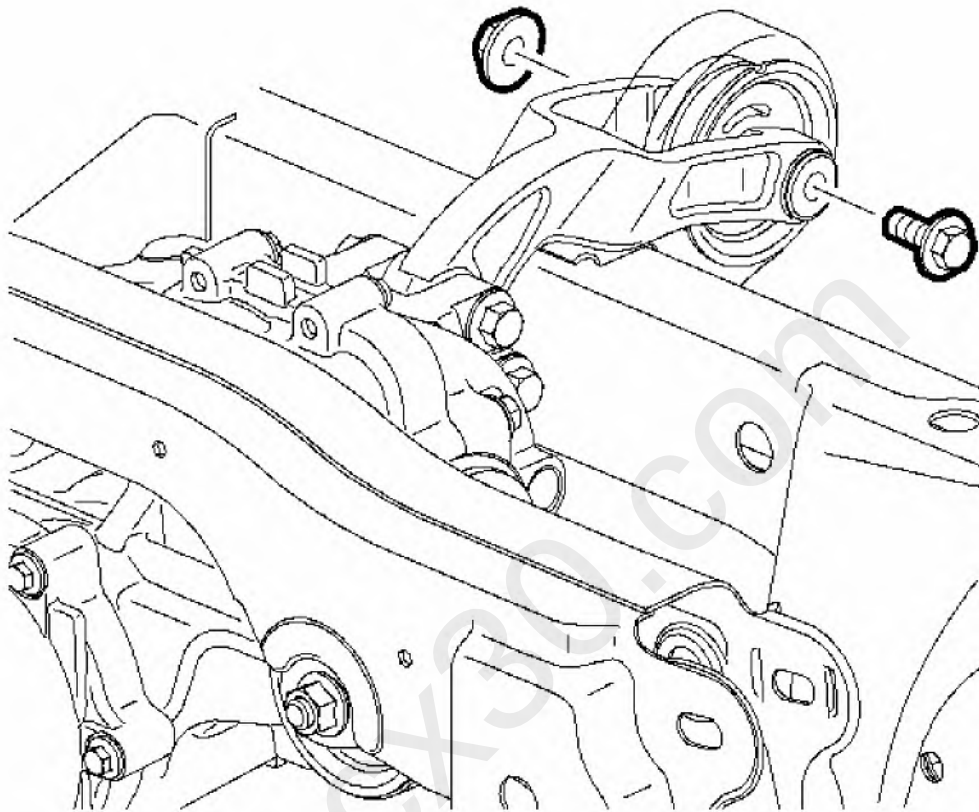


Fig. 45: Removing/Installing RDM Rear Mounting Bracket
Courtesy of GENERAL MOTORS CORP.

11. Install the bracket-to-bushing bolt and nut.

Tighten: Tighten the bolt and nut to 105 N.m (77 lb ft).

12. Remove the support stand from under the RDM.

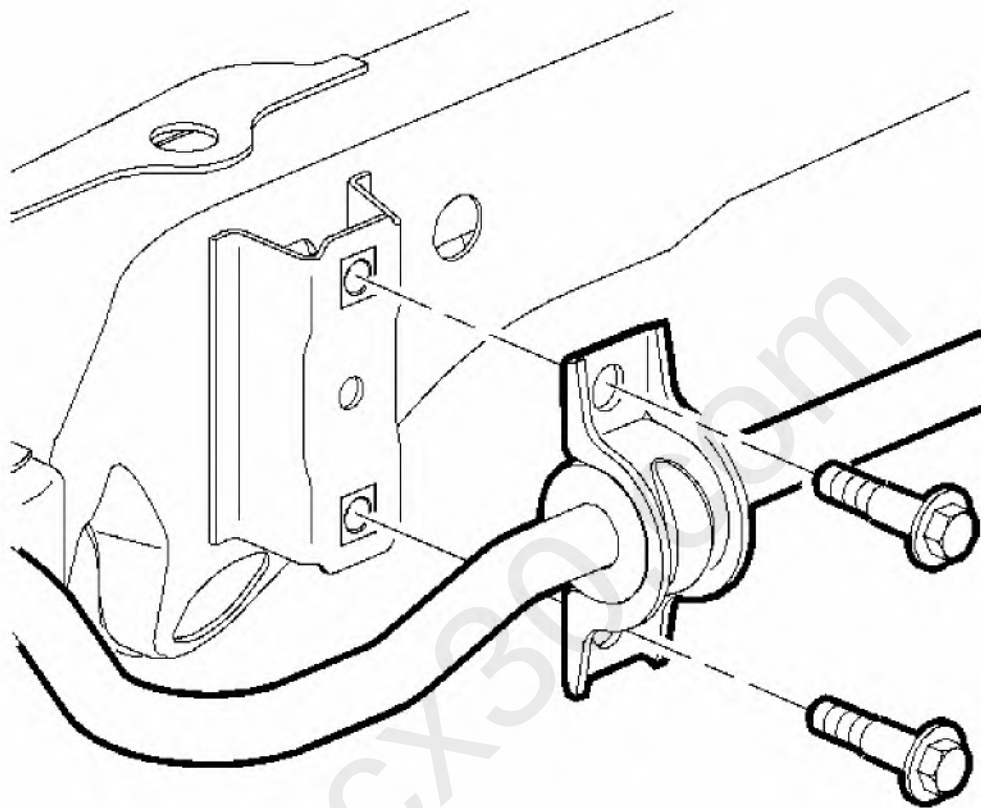


Fig. 46: View Of Stabilizer Bar Clamp & Bolts
Courtesy of GENERAL MOTORS CORP.

13. Install the rear stabilizer bar to the vehicle. Refer to **Stabilizer Shaft Replacement** in Rear Suspension.

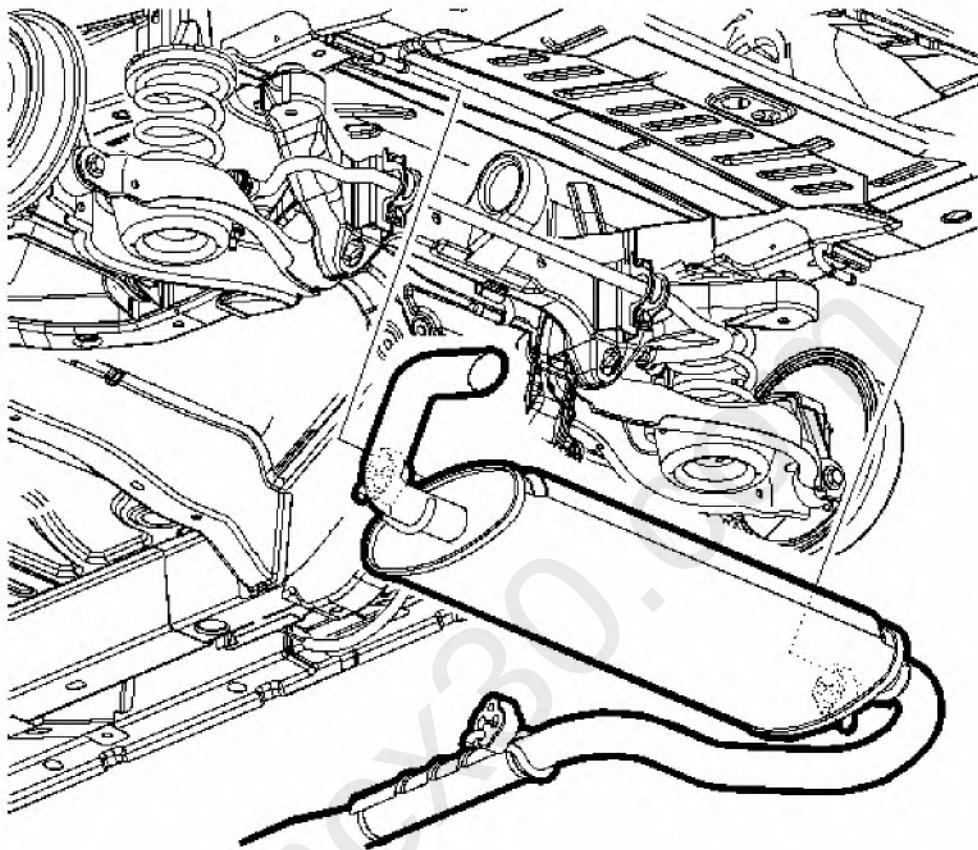


Fig. 47: Removing/Installing Intermediate Pipe & Muffler Assembly
Courtesy of GENERAL MOTORS CORP.

14. Install the intermediate pipe and muffler assembly. Refer to **Exhaust System Replacement** in Engine Exhaust.
15. Lower the vehicle.

VENT HOSE REPLACEMENT

Removal Procedure

IMPORTANT: Make note of the routing in order to aid in reassembly.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.

2. Remove the right rear tire and wheel assembly. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.

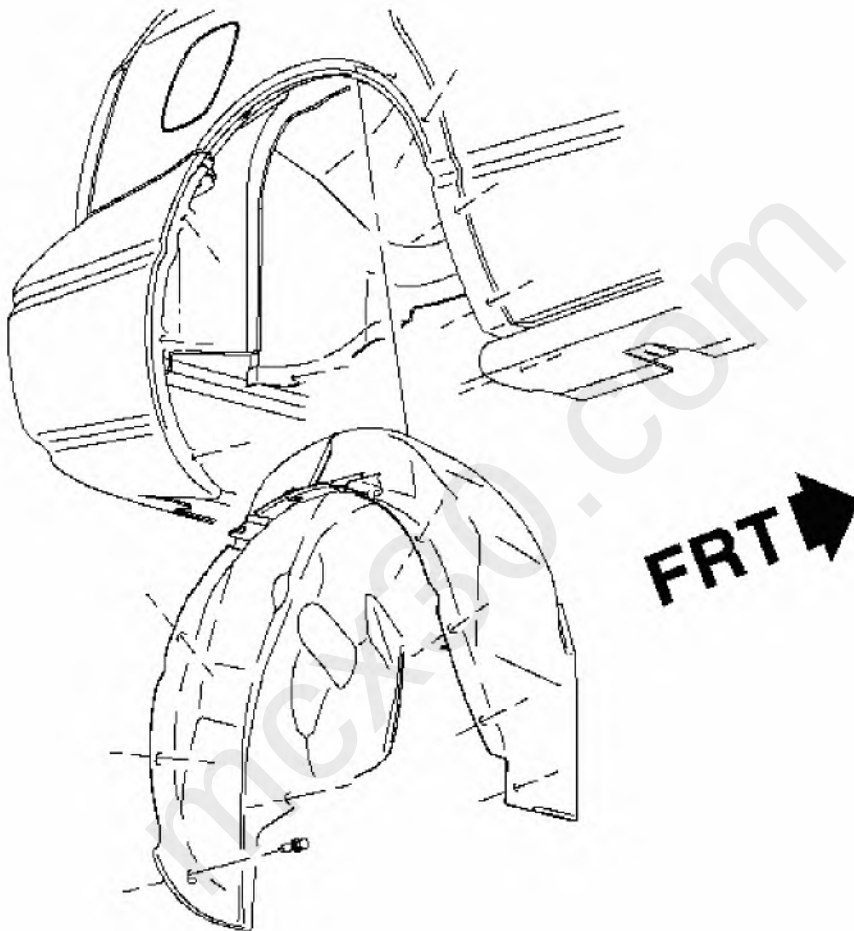


Fig. 48: Wheelhouse Liner & Pushpin Retainers
Courtesy of GENERAL MOTORS CORP.

3. Release the pushpin retainers from the right rear wheelhouse liner and remove the liner.

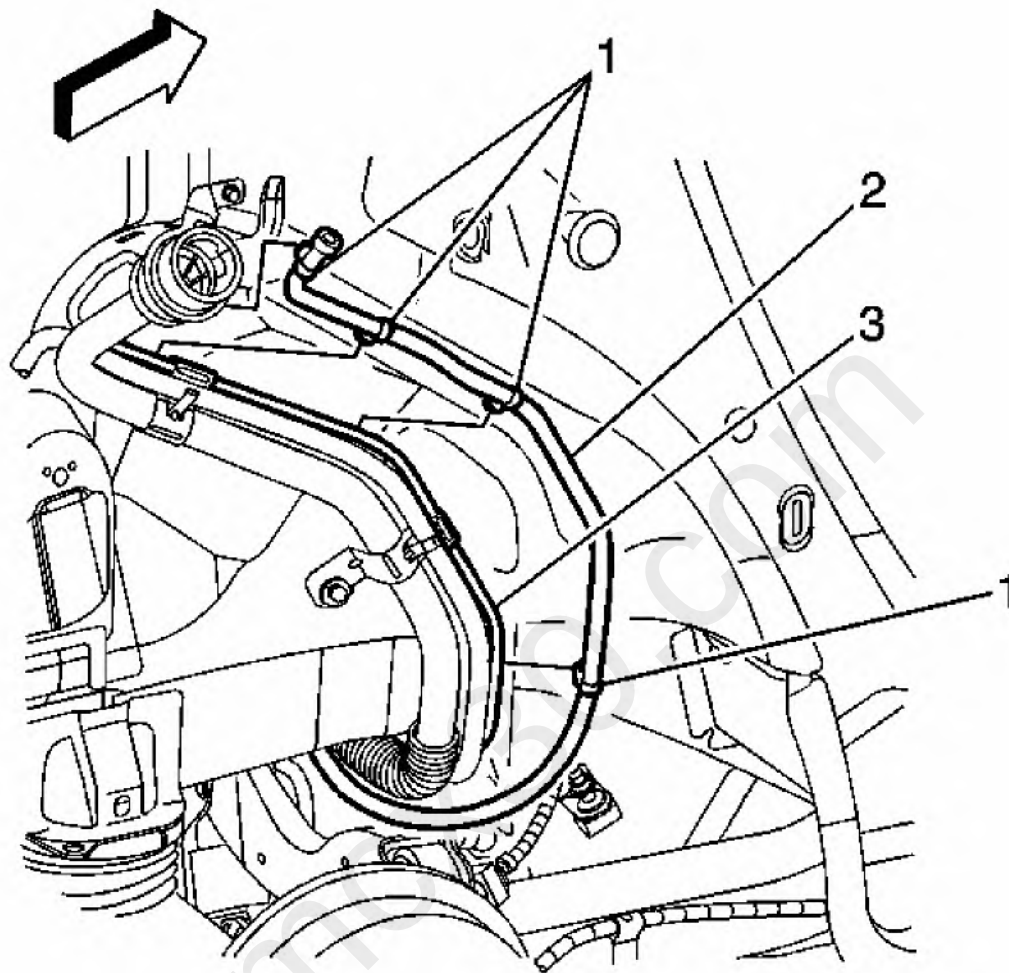


Fig. 49: Releasing Vent Hose Clips From The Fuel Vent Pipe
Courtesy of GENERAL MOTORS CORP.

4. Release the vent hose clips (2) from the fuel vent pipe (1).

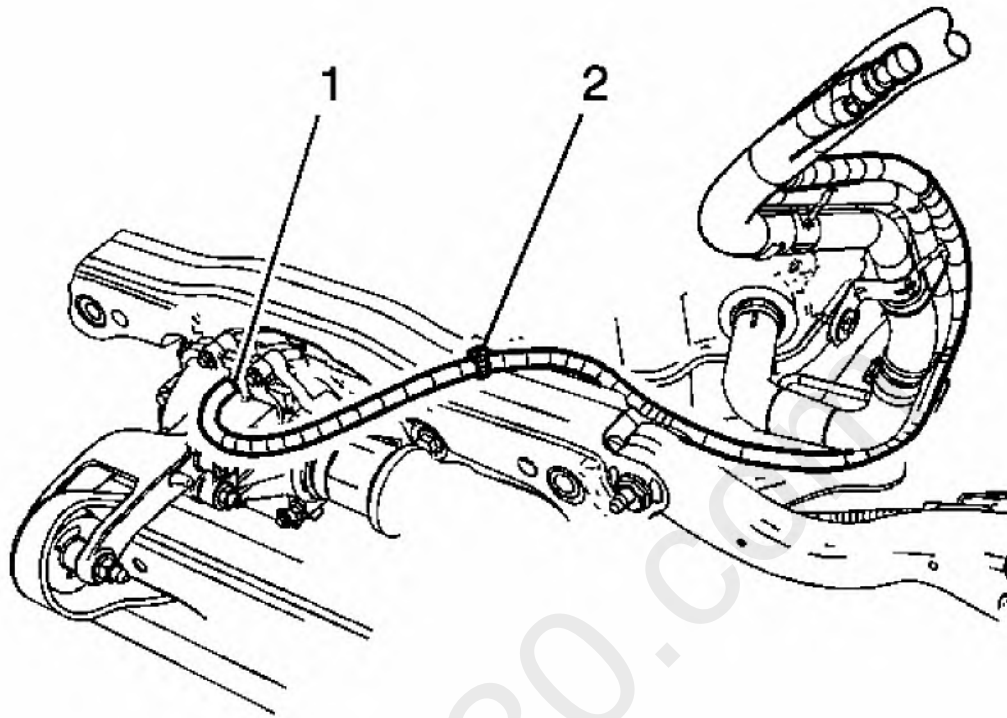


Fig. 50: Removing/Installing Vent Hose On The Differential Assembly
Courtesy of GENERAL MOTORS CORP.

5. Release the retaining clip (2) securing the vent hose along the top of the rear suspension crossmember.
6. Remove the vent hose (1) from the differential assembly by carefully twisting the hose off of the barbed fitting.

Installation Procedure

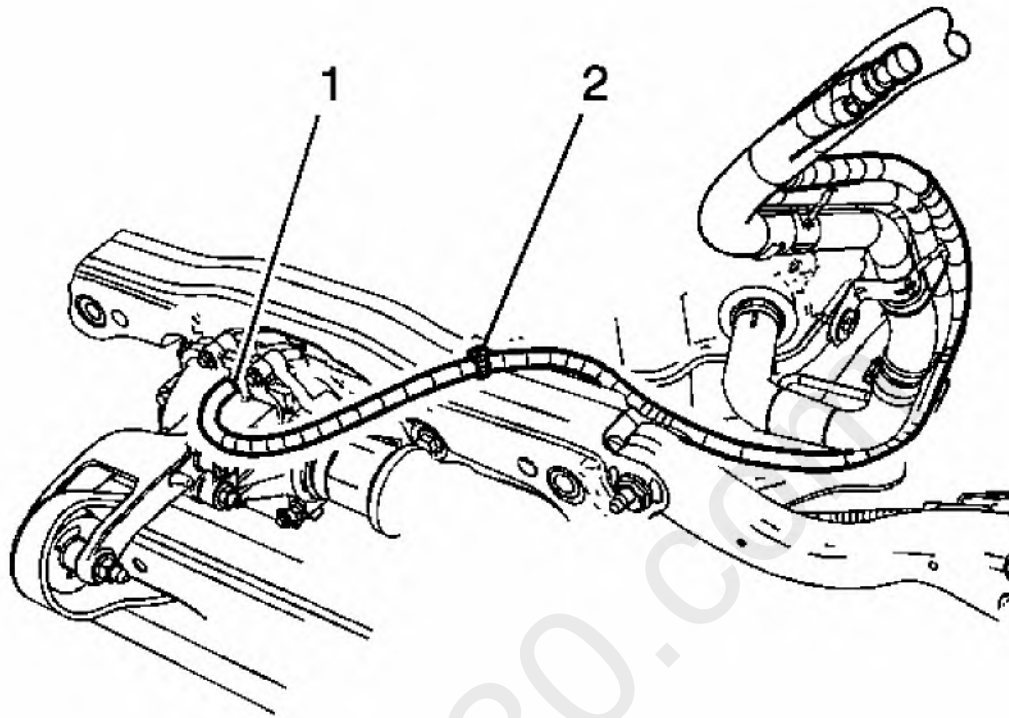


Fig. 51: Removing/Installing Vent Hose On The Differential Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the vent hose (1) to the differential assembly by pushing the vent hose over the barbed fitting. Ensure the vent hose is fully seated on the fitting.
2. Secure the vent hose retaining clip (2) along the top of the rear suspension crossmember.

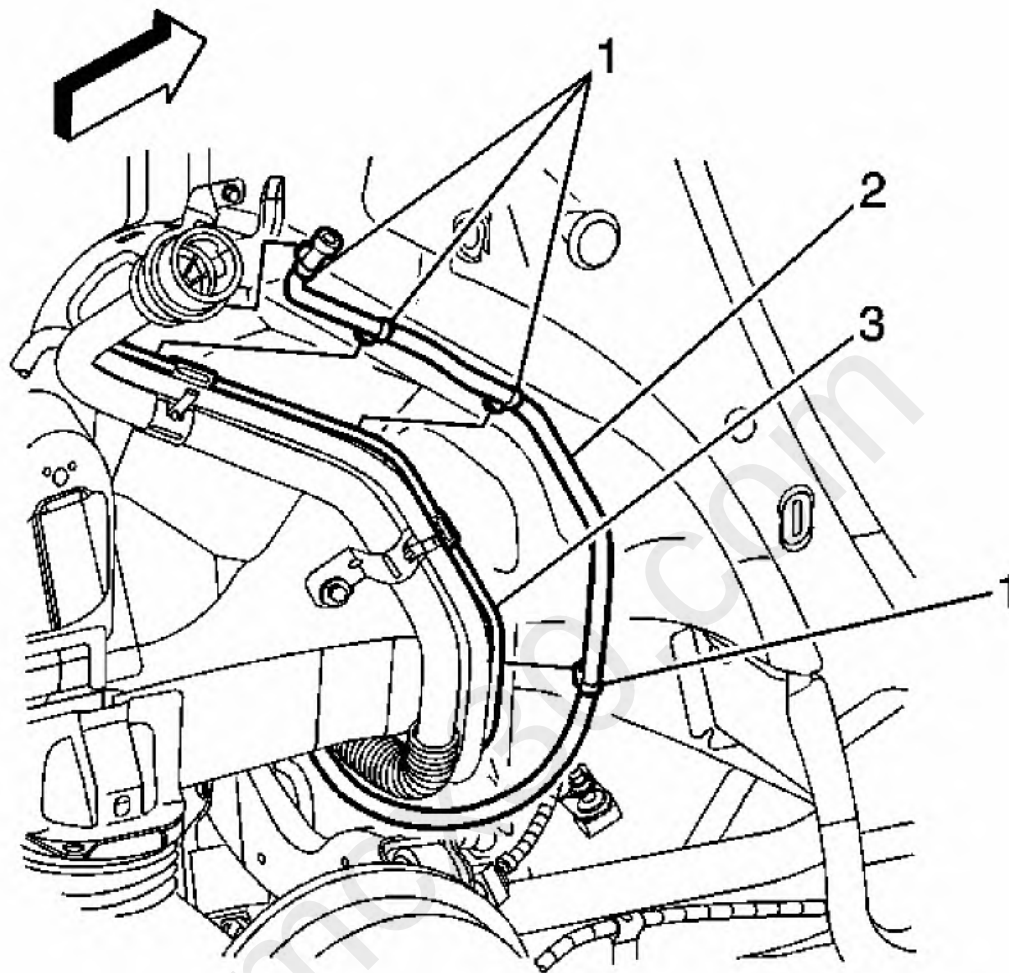


Fig. 52: Releasing Vent Hose Clips From The Fuel Vent Pipe
Courtesy of GENERAL MOTORS CORP.

3. Secure the vent hose clips (2) to the fuel vent pipe (3).

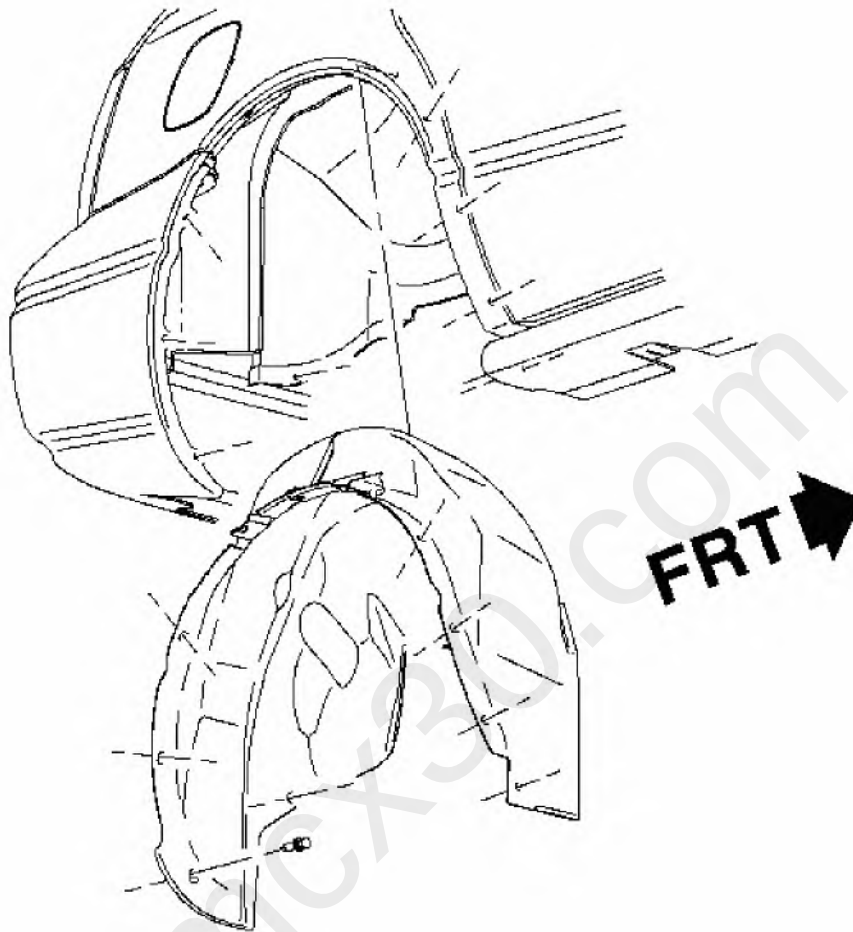


Fig. 53: Wheelhouse Liner & Pushpin Retainers
Courtesy of GENERAL MOTORS CORP.

4. Position the wheelhouse liner to the vehicle and install the pushpin retainers.
5. Install the wheel and tire assembly. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
6. Lower the vehicle.

REAR AXLE SHAFT SEAL REPLACEMENT - LEFT

Tools Required

J 44809 Output Shaft Seal Installer. See **Special Tools**.

Removal Procedure

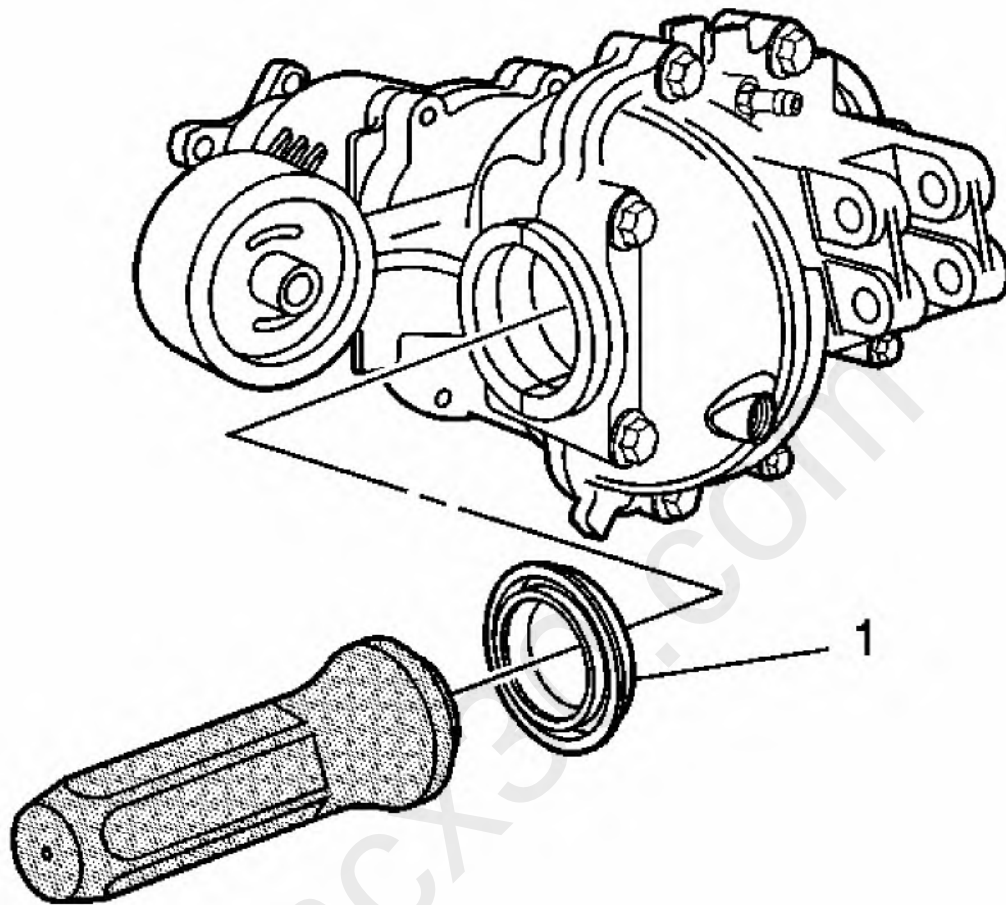


Fig. 54: Removing/Installing Left Rear Wheel & Tire Assembly
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the left rear wheel and tire assembly. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
3. Remove the left rear wheel drive shaft. Refer to **Wheel Drive Shaft Replacement - Rear** in Wheel Drive Shafts.
4. Carefully pry out the output shaft seal and discard.

Installation Procedure

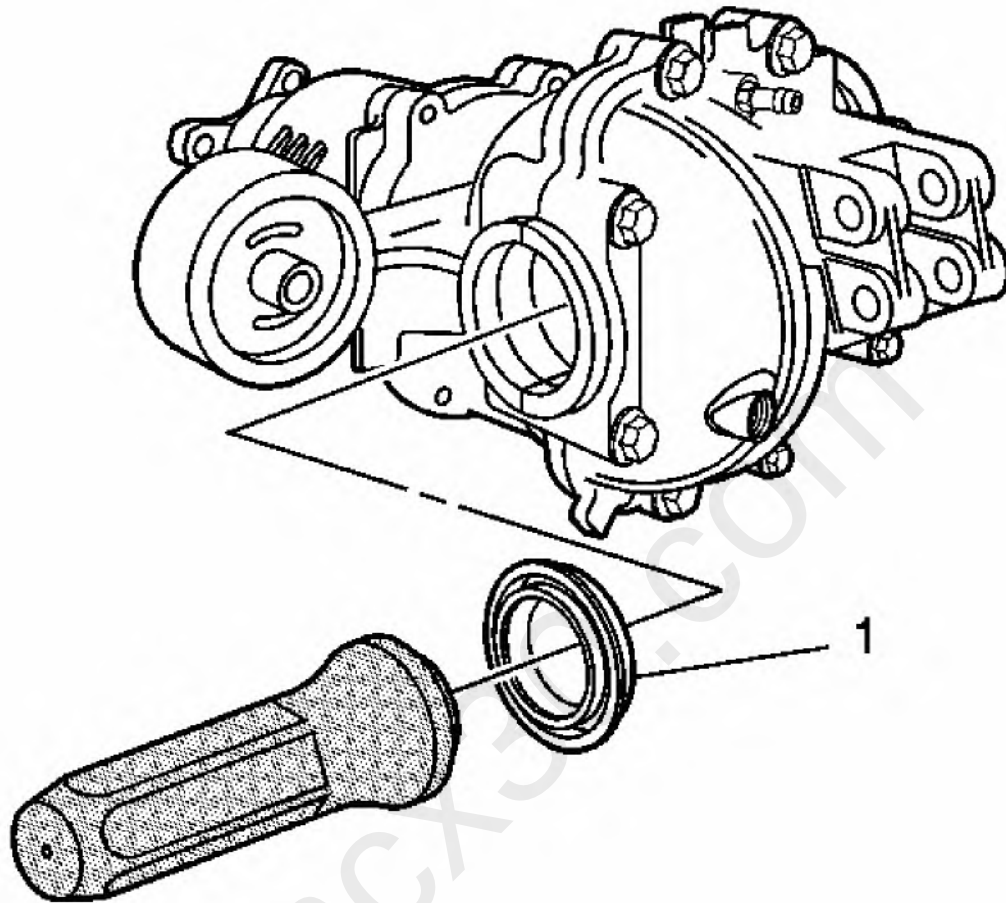


Fig. 55: Removing/Installing Left Rear Wheel & Tire Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the new output shaft seal using the **J 44809** . See **Special Tools**.
2. Install the left rear wheel drive shaft. Refer to **Wheel Drive Shaft Replacement - Rear** in Wheel Drive Shafts.
3. Inspect the rear drive module fluid level. Refer to **Lubricant Level Inspection - Rear Drive Axle**.
4. Install the left rear wheel and tire assembly. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
5. Lower the vehicle.

REAR AXLE SHAFT SEAL REPLACEMENT - RIGHT

Tools Required

J 44809 Output Shaft Seal Installer. See **Special Tools**.

Removal Procedure

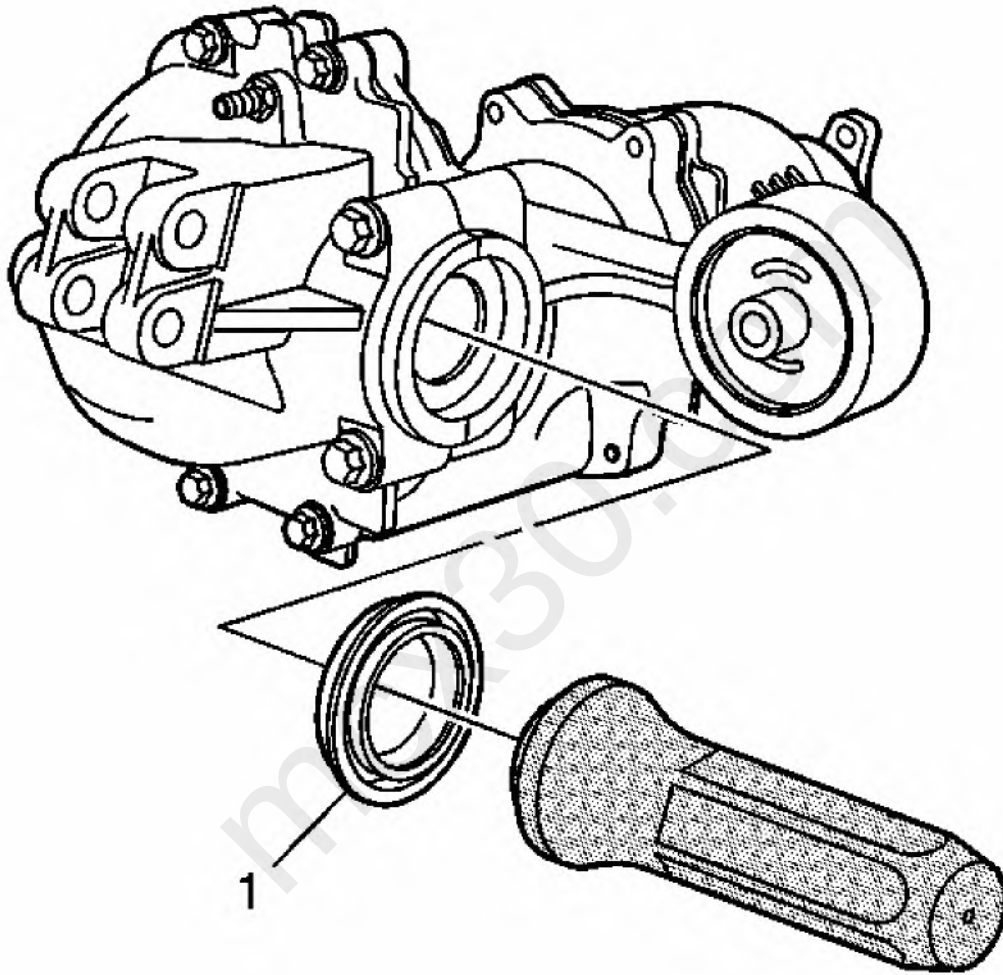


Fig. 56: Removing/Installing Right Rear Wheel & Tire Assembly
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Remove the right rear wheel and tire assembly. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
3. Remove the right rear wheel drive shaft. Refer to **Wheel Drive Shaft Replacement - Rear** in Wheel Drive Shafts.
4. Carefully pry out the output shaft seal and discard.

Installation Procedure

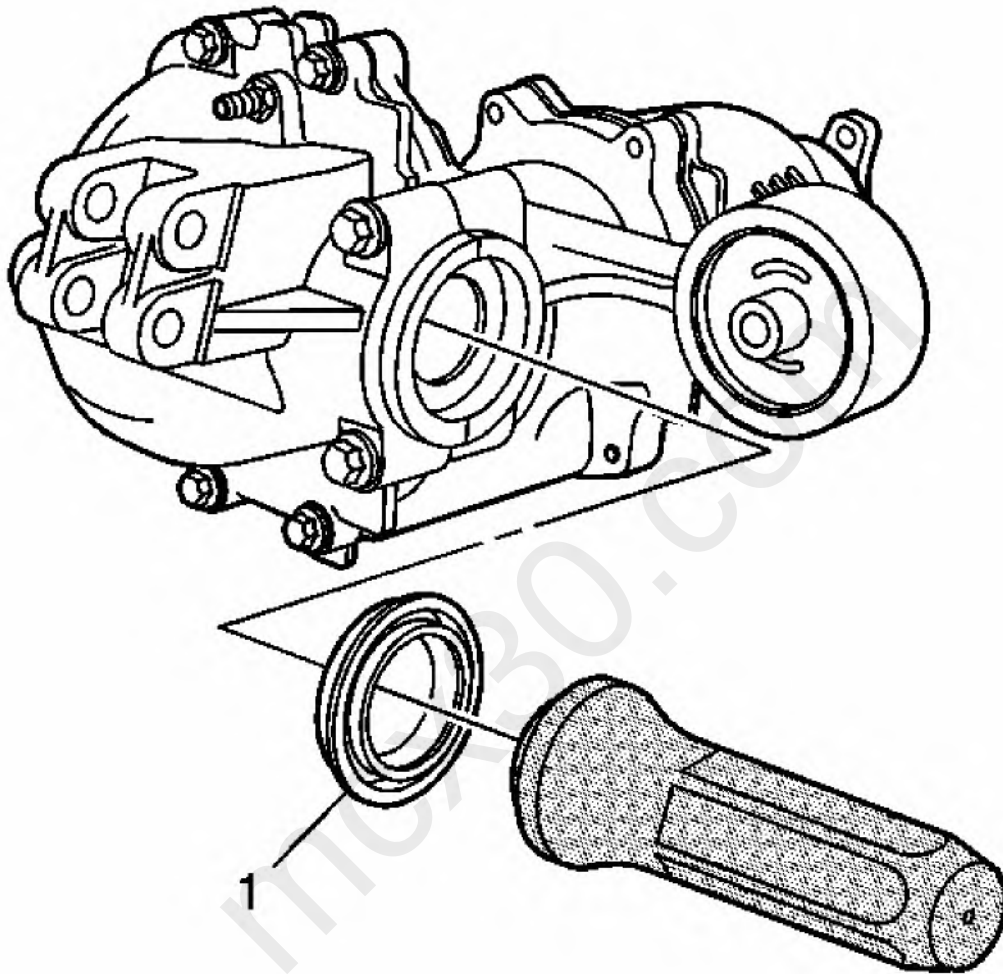


Fig. 57: Removing/Installing Right Rear Wheel & Tire Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the new output shaft seal using the **J 44809** . See **Special Tools**.
2. Install the right rear wheel drive shaft. Refer to **Wheel Drive Shaft Replacement - Rear** in Wheel Drive Shafts.
3. Inspect the rear drive module fluid level. Refer to **Lubricant Level Inspection - Rear Drive Axle**.
4. Install the right rear wheel and tire assembly. Refer to **Tire and Wheel Removal and Installation** in Tires and Wheels.
5. Lower the vehicle.

DRIVE PINION FLANGE/YOKE AND/OR OIL SEAL REPLACEMENT

Tools Required

- **J-08614-A** Pinion Flange Holder and Remover. See **Special Tools**.
- **J 44851** Pinion Seal Installer. See **Special Tools**.
- **J 44873** Shoulder Bolts. See **Special Tools**.

Removal Procedure

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Index mark the propeller shaft at the power take-off unit (PTU) output flange and at the rear drive module input flange.
3. Place an adjustable support at the front and the rear of the propeller shaft.

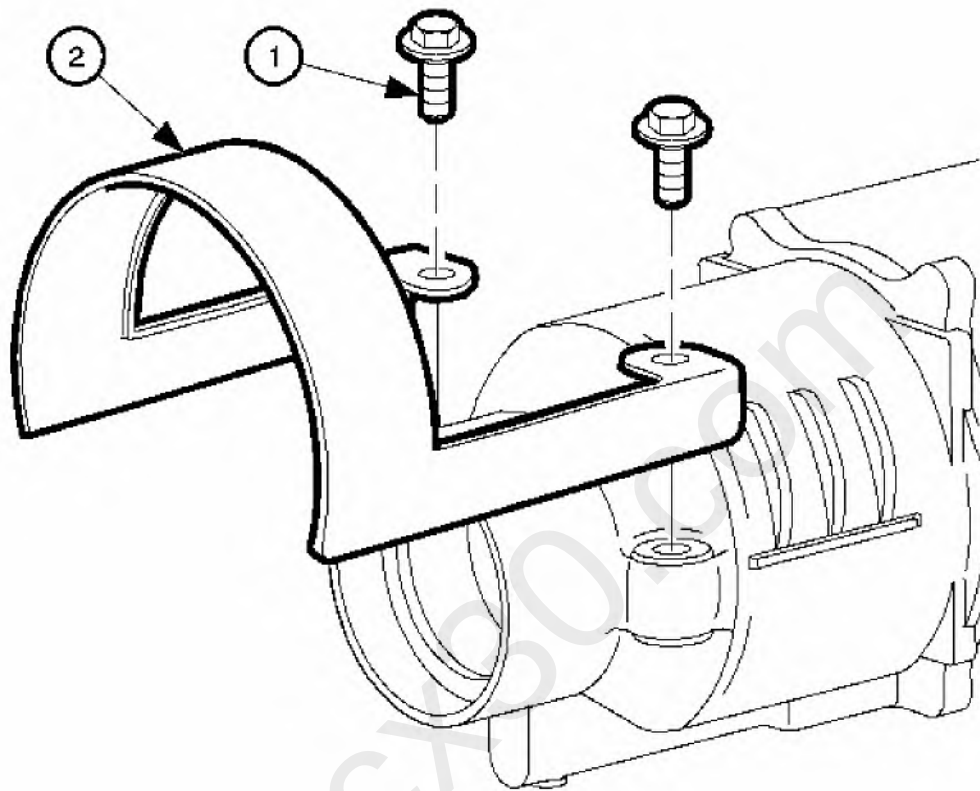


Fig. 58: Removing/Installing Rear Drive Module (RDM) Propeller Shaft Guard
Courtesy of GENERAL MOTORS CORP.

4. Remove the rear drive module (RDM) propeller shaft guard (2) mounting bolts (1).

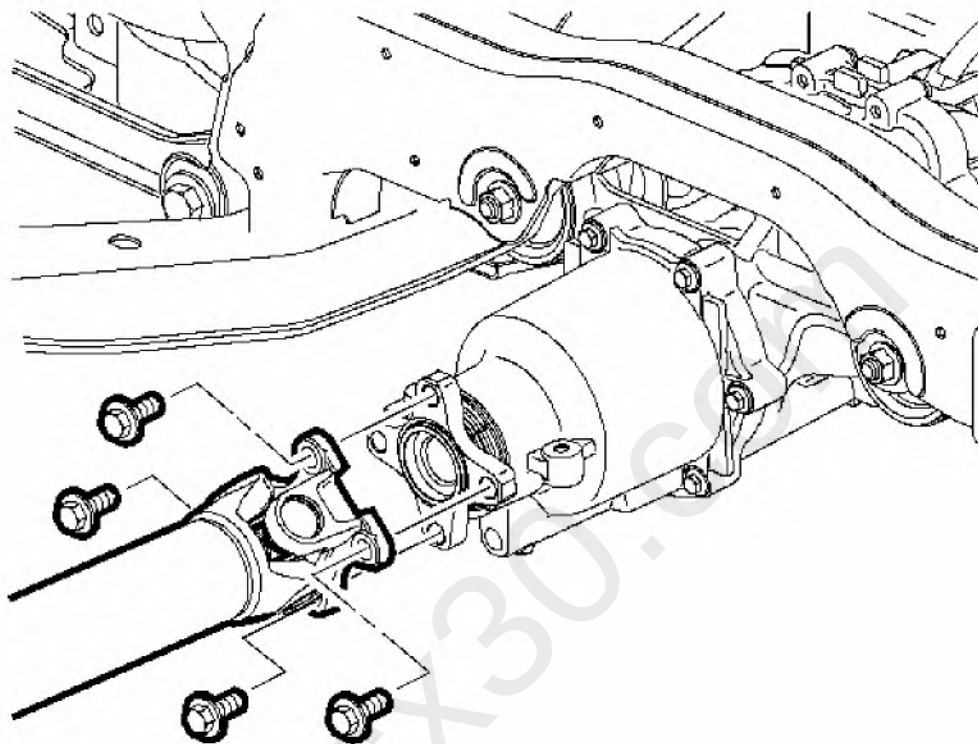


Fig. 59: Removing/Installing Propeller Shaft Flange Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

5. Remove the bolts securing the propeller shaft to the RDM flange.

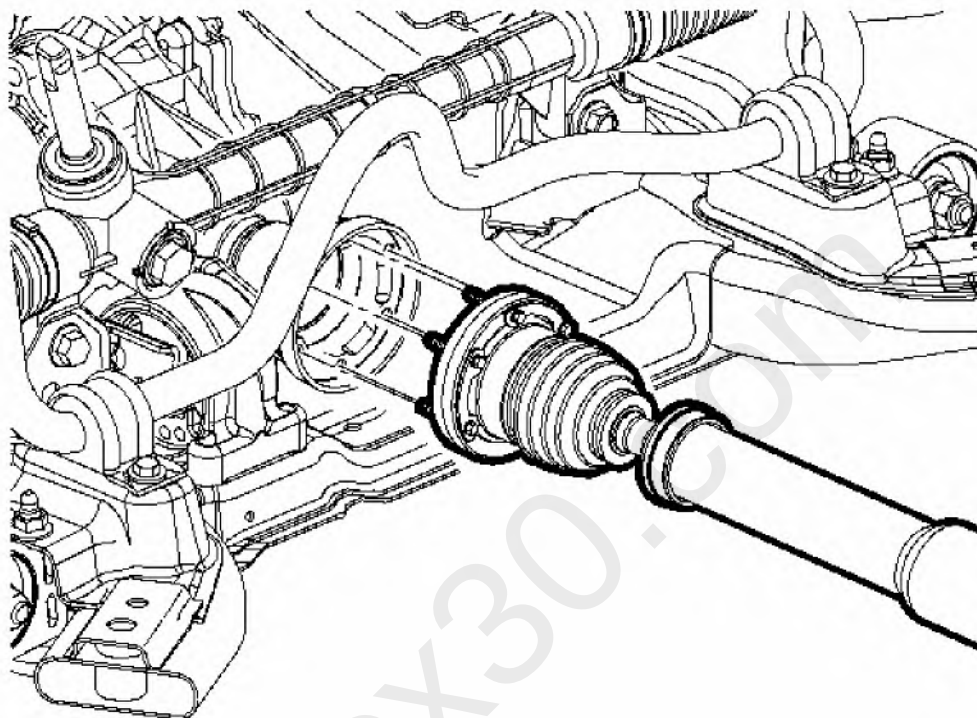


Fig. 60: View Of Propeller Shaft
Courtesy of GENERAL MOTORS CORP.

6. Remove the bolts securing the propeller shaft to the PTU.

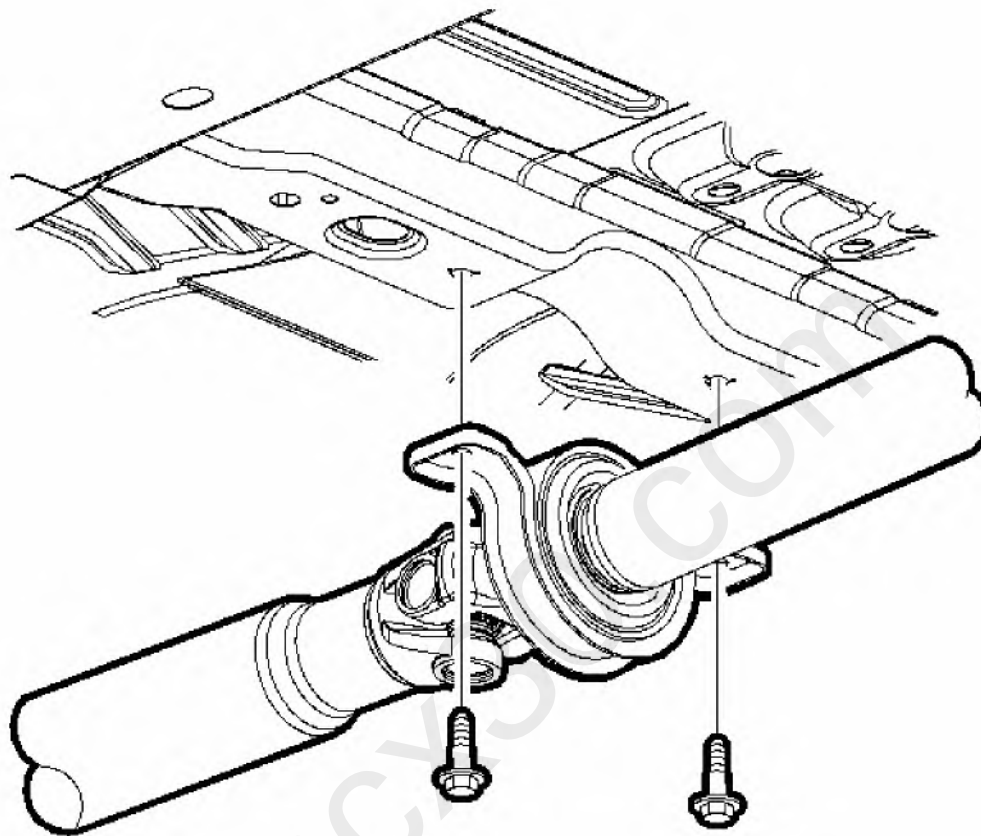


Fig. 61: View Of Propeller Shaft, Support Bearing & Bolts
Courtesy of GENERAL MOTORS CORP.

7. Remove the bolts securing the support bearing to the vehicle underbody.
8. Remove the propeller shaft from the vehicle.

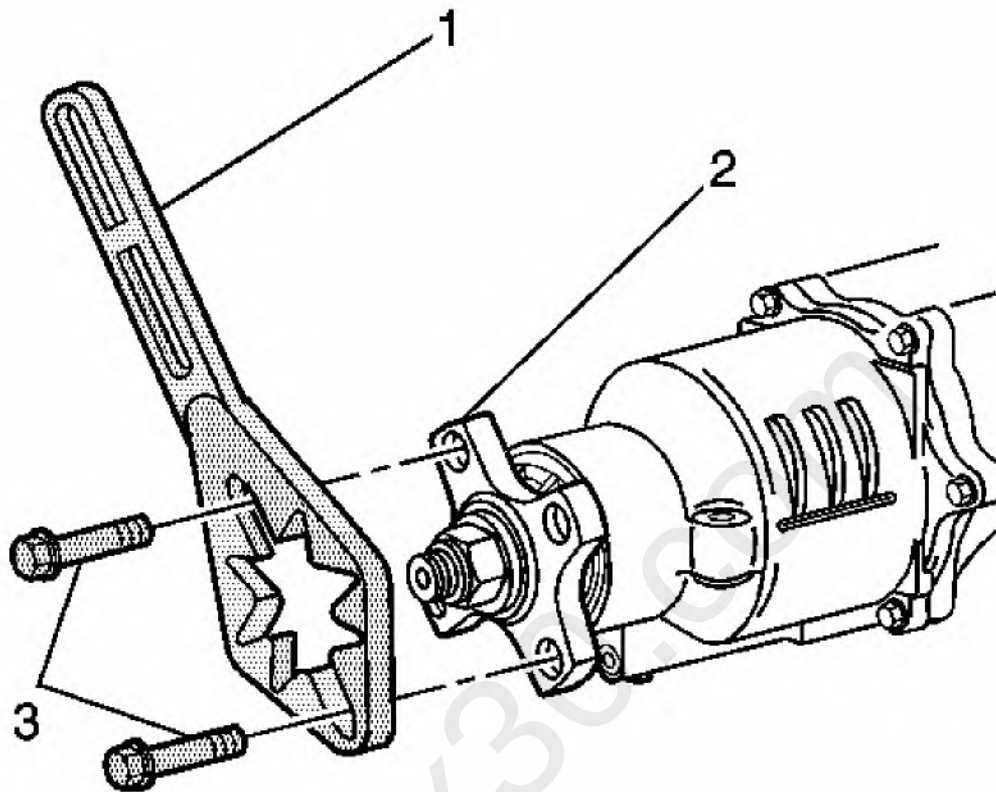


Fig. 62: Special Tool J 08614-A
Courtesy of GENERAL MOTORS CORP.

9. Install the **J-08614-A** (1) to the pinion flange (2) using J 44873-2 shoulder bolts (3).
See **Special Tools**.
10. Loosen the pinion flange nut.

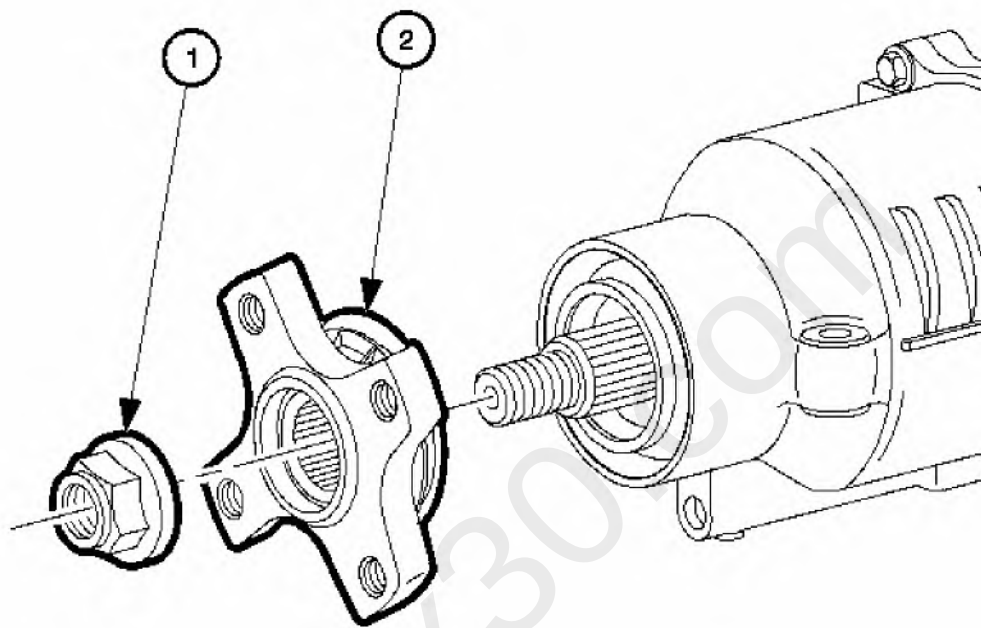


Fig. 63: Removing/Installing Pinion Flange Nut On The RDM
Courtesy of GENERAL MOTORS CORP.

11. Remove and discard the pinion flange nut (1).
12. Remove the flange (2).

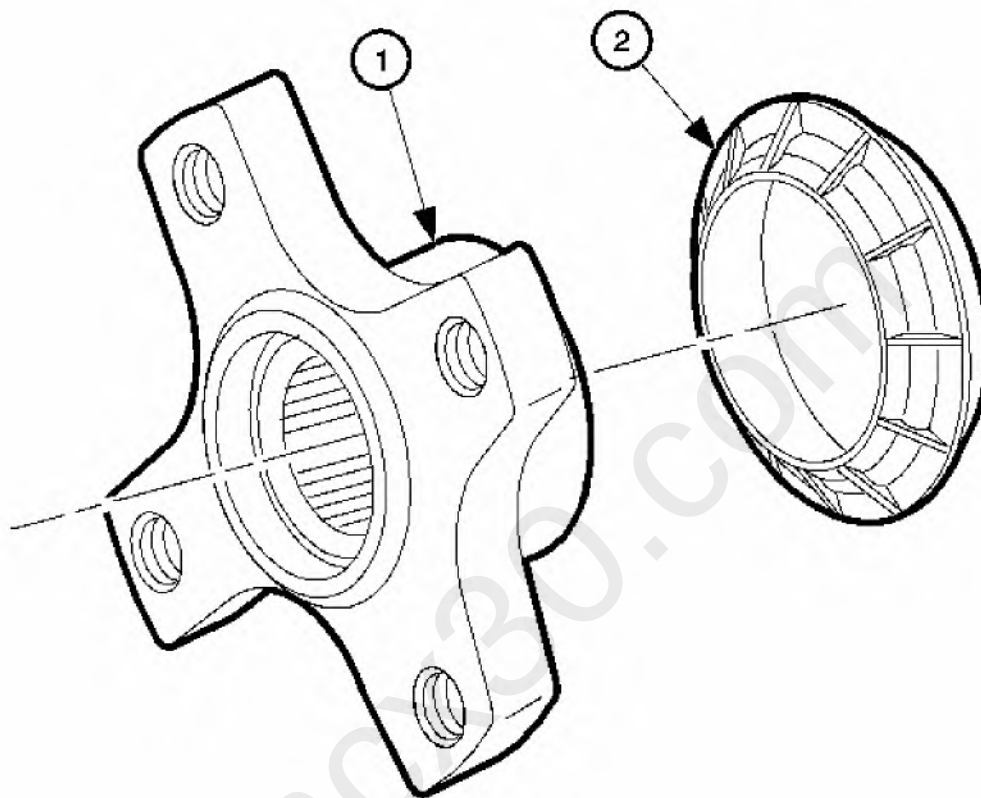


Fig. 64: Removing/Installing Dust Deflector On The Drive Pinion Flange
Courtesy of GENERAL MOTORS CORP.

13. Remove the dust deflector (2) from the pinion flange (1).

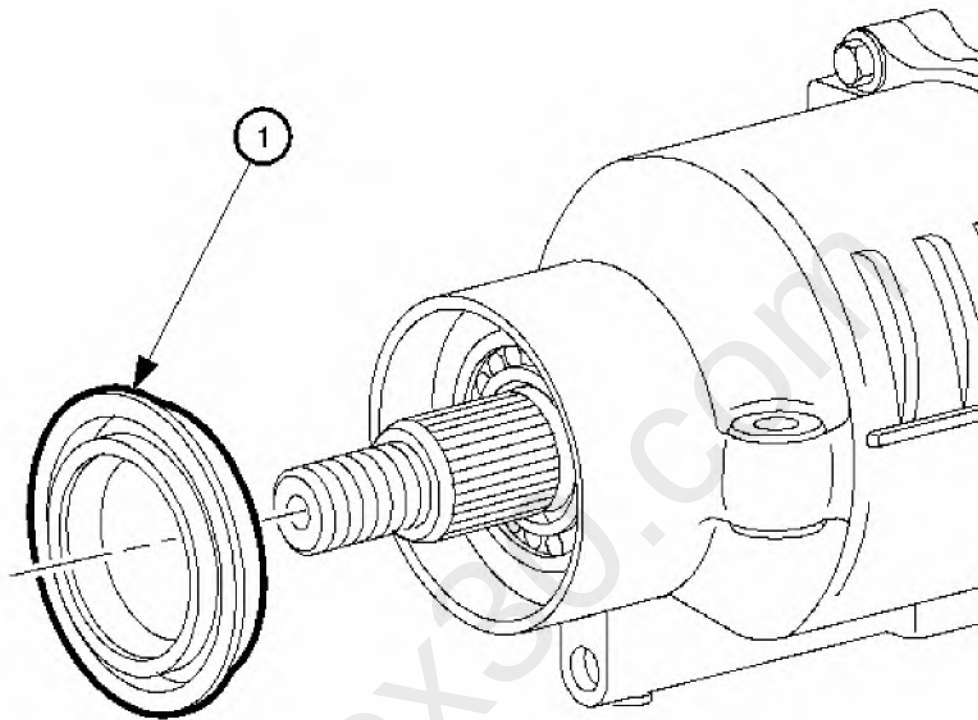


Fig. 65: Removing & Discard The Pinion Oil Seal
Courtesy of GENERAL MOTORS CORP.

14. Remove and discard the pinion oil seal (1).

Installation Procedure

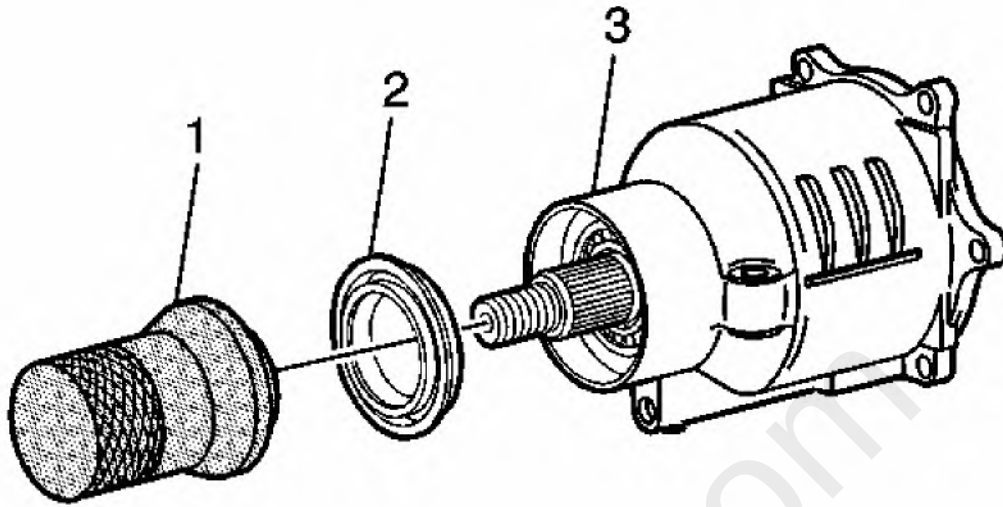


Fig. 66: Installing Pinion Oil Seal On RDM
Courtesy of GENERAL MOTORS CORP.

1. Thoroughly clean the pinion oil seal mounting surface of the RDM housing (1).
2. Using the **J 44851** , install a new pinion oil seal to the RDM. See **Special Tools**.
3. Ensure that the seal flange seats squarely against the face of the RDM.

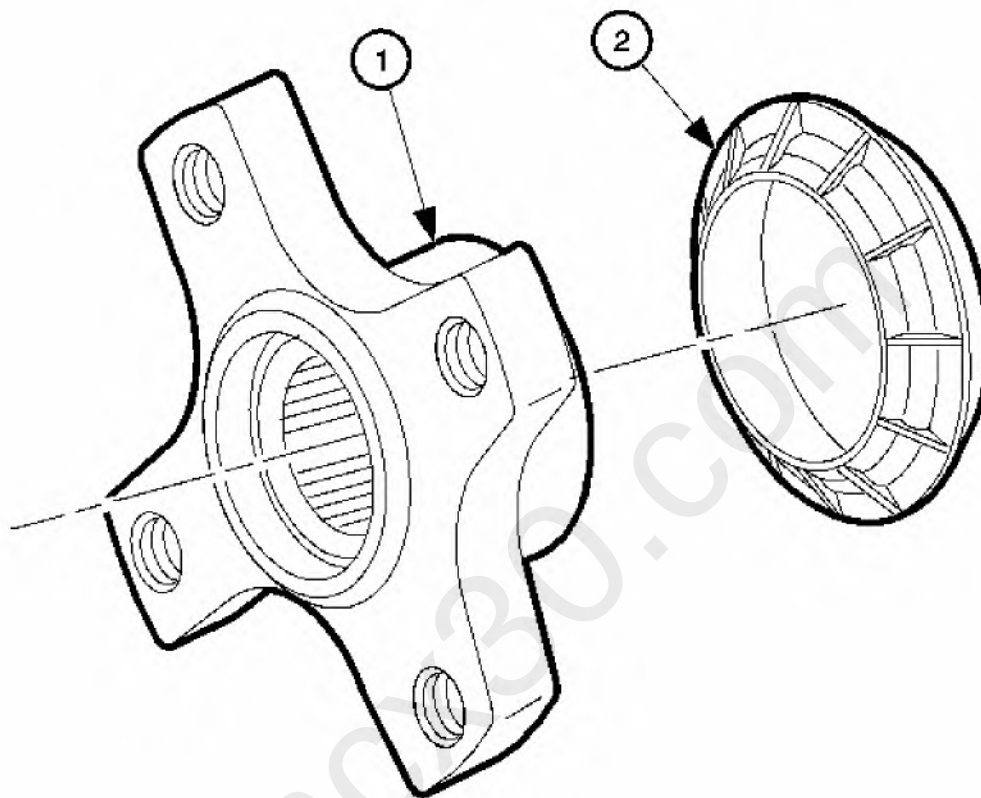


Fig. 67: Removing/Installing Dust Deflector On The Drive Pinion Flange
Courtesy of GENERAL MOTORS CORP.

4. Install the dust deflector (2) to the drive pinion flange (1).

NOTE: Refer to Fastener Notice in Cautions and Notices.

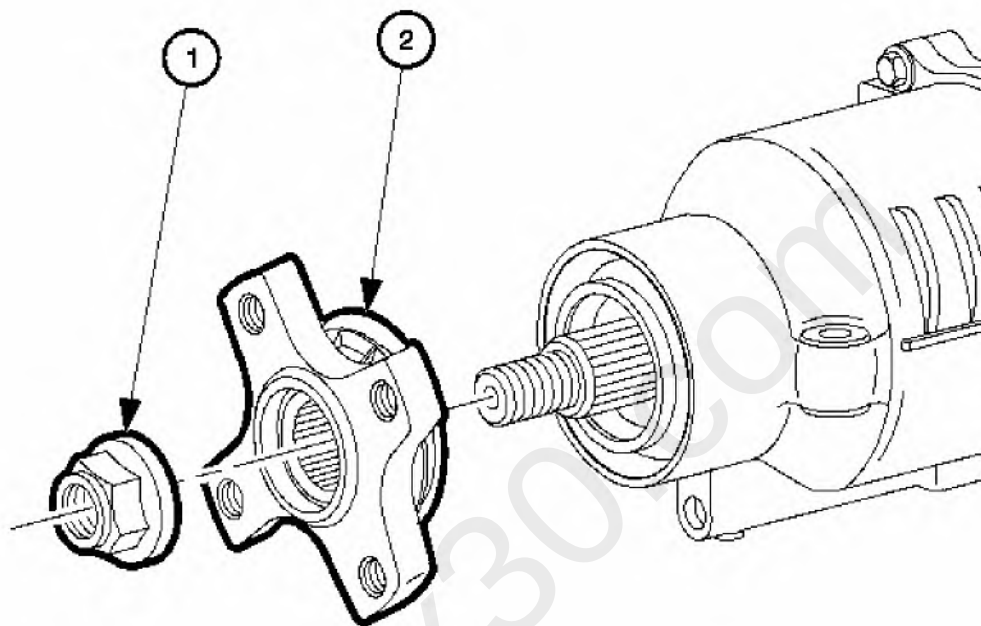


Fig. 68: Removing/Installing Pinion Flange Nut On The RDM
Courtesy of GENERAL MOTORS CORP.

5. Install the pinion flange (2) and nut (1) to the RDM.

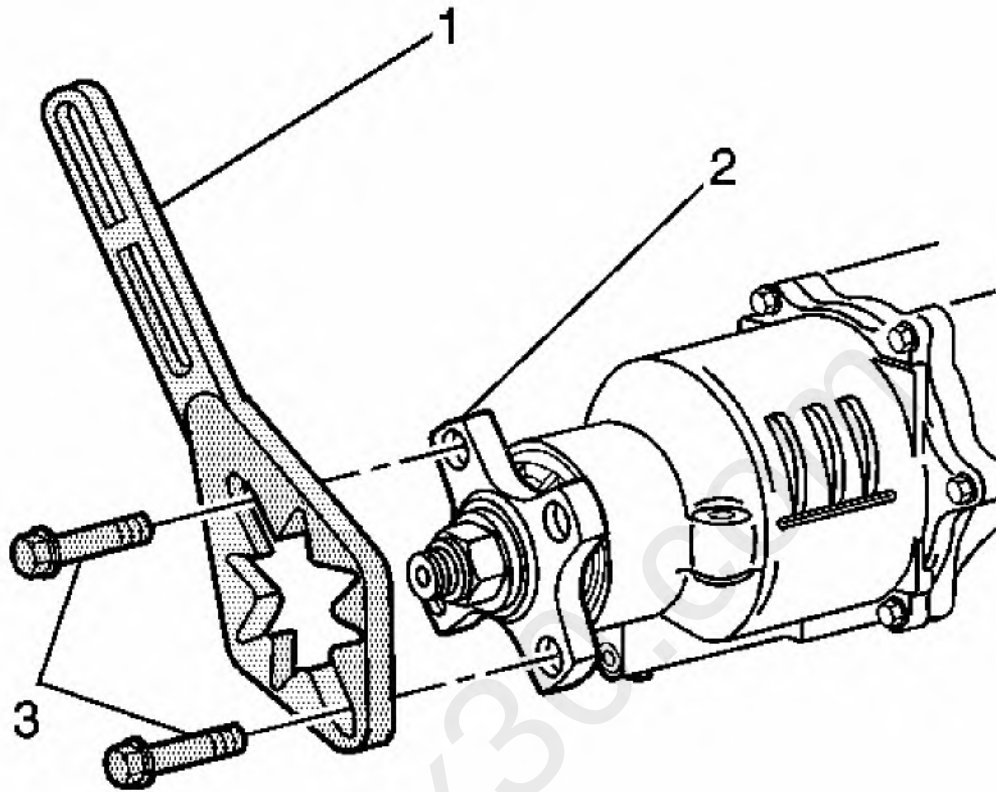


Fig. 69: Special Tool J 08614-A
Courtesy of GENERAL MOTORS CORP.

6. Install the **J-08614-A** (1) to the pinion flange (2) using J 44873-2 shoulder bolts (3). See **Special Tools**.
7. Tighten the pinion flange nut.

Tighten: Tighten the nut to 203 N.m (150 lb ft).

8. Remove the **J 44873** from pinion flange. See **Special Tools**.

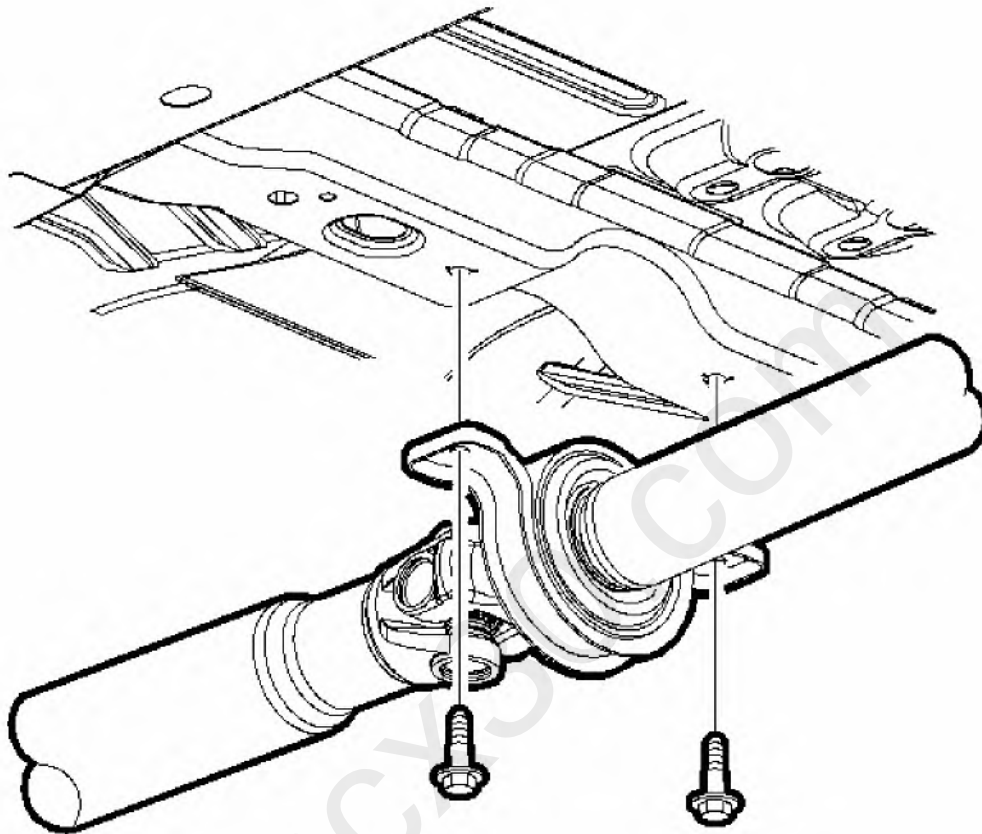


Fig. 70: View Of Propeller Shaft, Support Bearing & Bolts
Courtesy of GENERAL MOTORS CORP.

9. Install the propeller shaft to the vehicle using support stands to assist in positioning the propeller shaft.
10. Hand install the support bearing retainer bolts to the vehicle underbody.

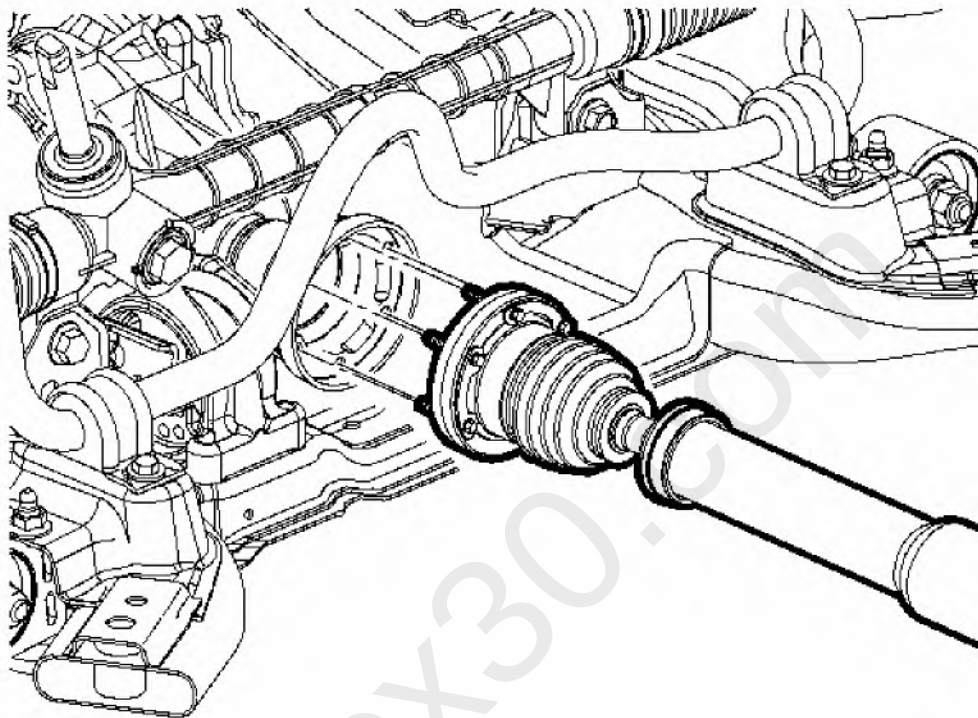


Fig. 71: View Of Propeller Shaft
Courtesy of GENERAL MOTORS CORP.

11. Align the reference marks on the propeller shaft and the PTU output flange.
12. Install the bolts to the propeller shaft and the PTU flange.

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

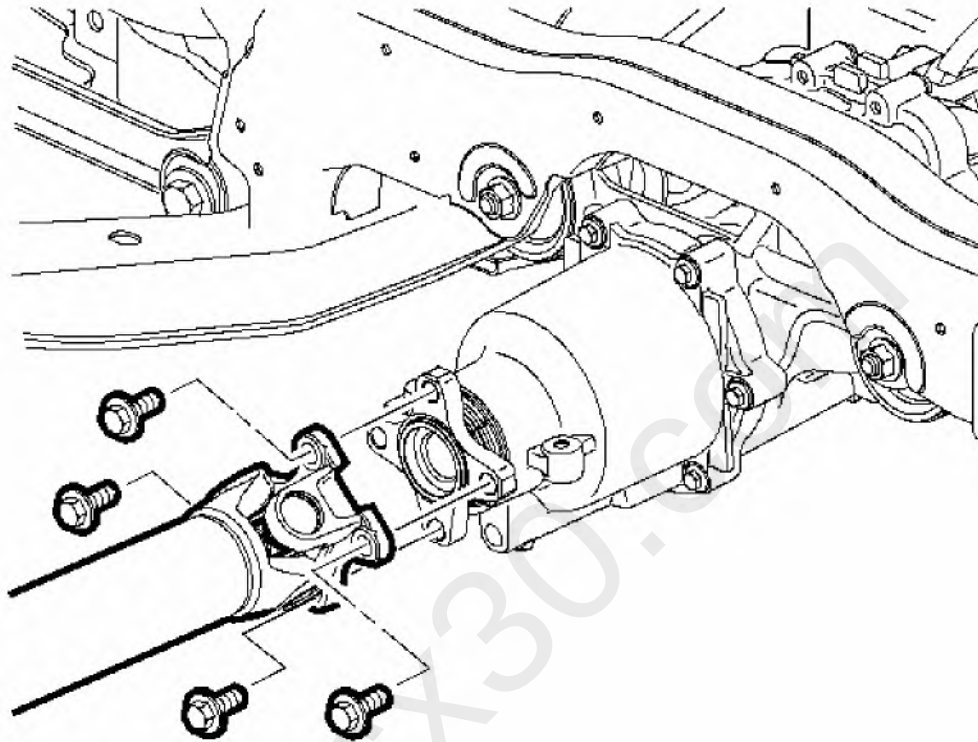


Fig. 72: Removing/Installing Propeller Shaft Flange Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

13. Align the reference marks on the propeller shaft and the RDM pinion flange.
14. Thoroughly clean and apply threadlocker, GM P/N 89021297 (Canadian P/N 10953488), to the propeller shaft flange mounting bolt threads.
15. Install the bolts to the propeller shaft and the pinion flange.

Tighten: Tighten the bolts to 50 N.m (37 lb ft).

16. Remove the support stands.

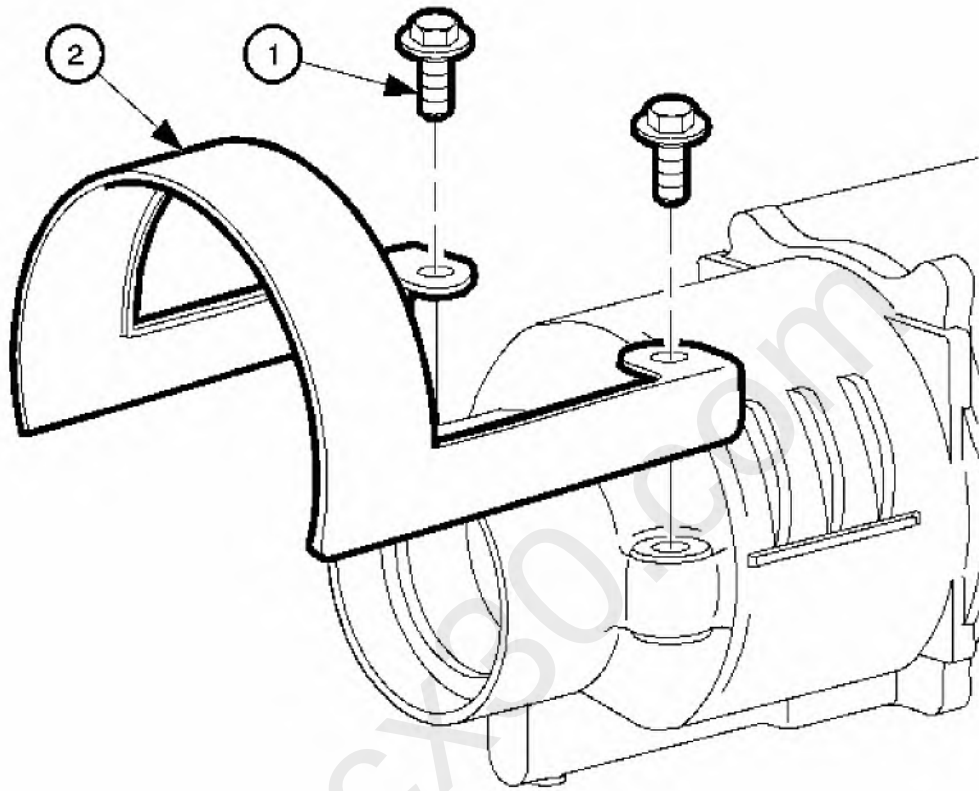


Fig. 73: Removing/Installing Rear Drive Module (RDM) Propeller Shaft Guard
Courtesy of GENERAL MOTORS CORP.

17. Install the propeller shaft guard to the RDM.
18. Install the bolts to the propeller shaft guard.

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

19. Inspect the RDM fluid level. Refer to **Lubricant Level Inspection - Rear Drive Axle**.
20. Lower the vehicle.

DIFFERENTIAL REPLACEMENT

Removal Procedure

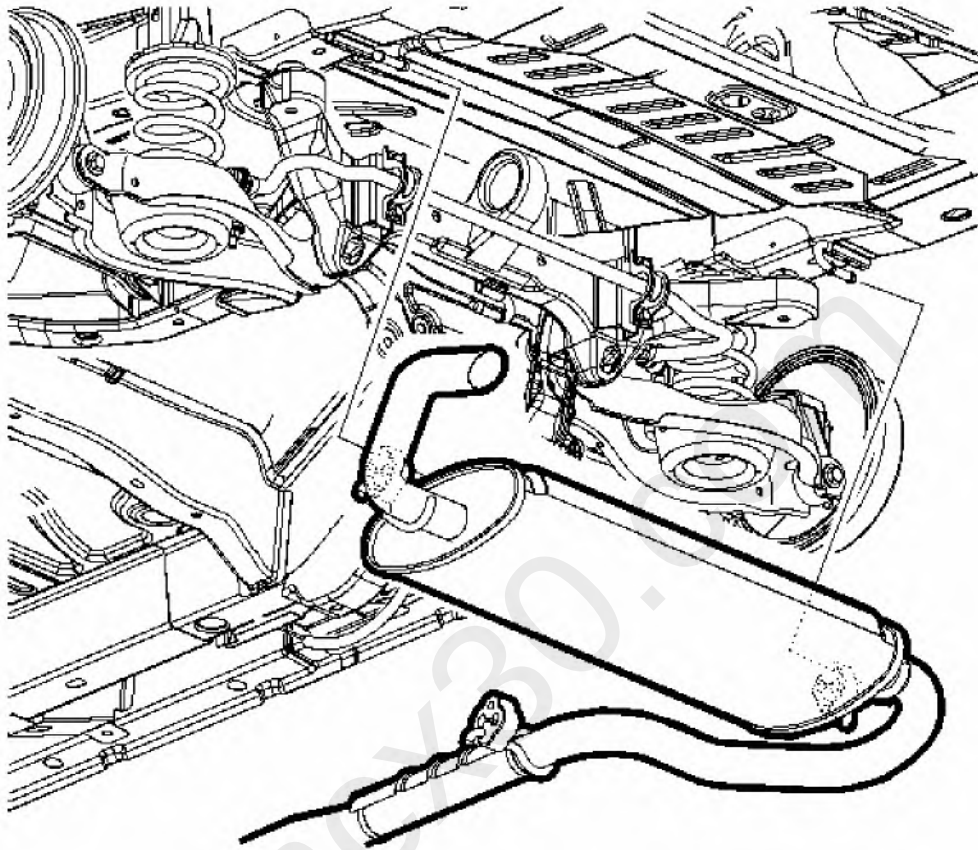


Fig. 74: Removing/Installing Intermediate Pipe & Muffler Assembly
Courtesy of GENERAL MOTORS CORP.

1. Raise and support the vehicle. Refer to **Lifting and Jacking the Vehicle** in General Information.
2. Disconnect and remove the intermediate exhaust pipe and muffler assembly from the front pipe. Refer to **Exhaust System Replacement** in Engine Exhaust.
3. Remove the rear wheel drive shafts. Refer to **Wheel Drive Shaft Replacement - Rear** in Wheel Drive Shafts.

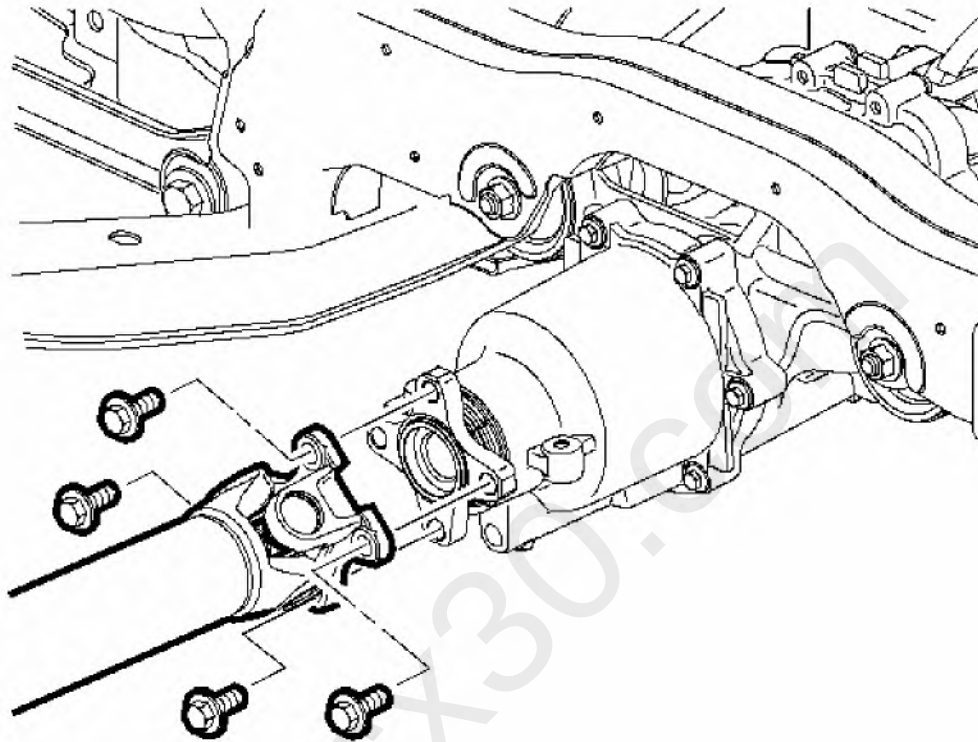


Fig. 75: Removing/Installing Propeller Shaft Flange Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

4. Reference mark the propeller shaft flange-to-rear drive module (RDM) input flange.
5. Place a support stand under the rear of the propeller shaft.
6. Remove the propeller shaft flange mounting bolts.

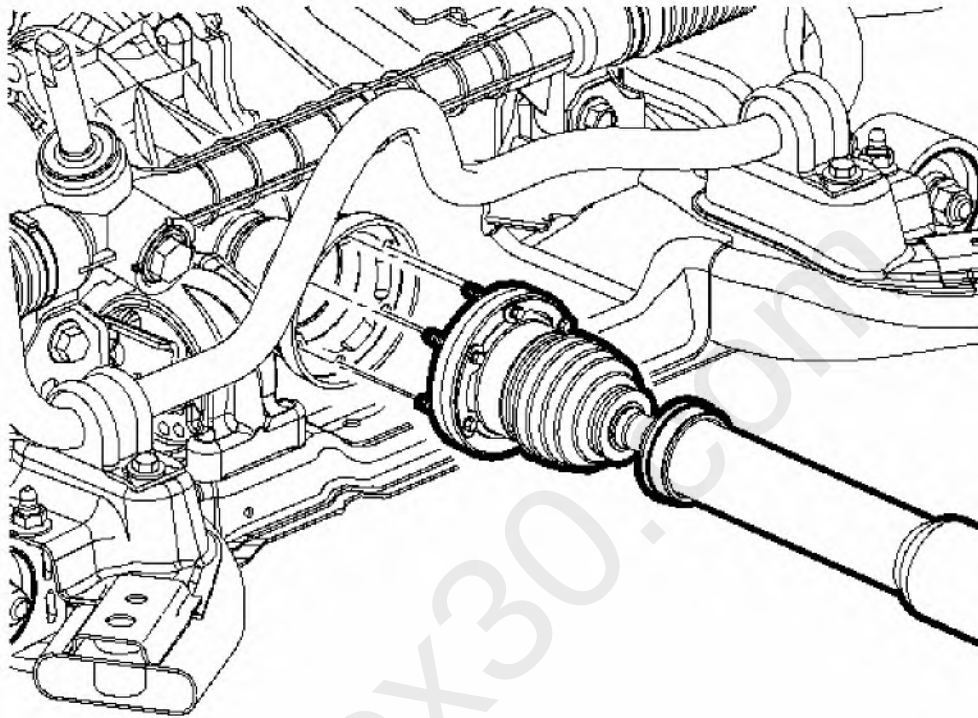


Fig. 76: View Of Propeller Shaft
Courtesy of GENERAL MOTORS CORP.

7. Reference mark the power take-off unit (PTU) flange-to-propeller shaft constant velocity (CV) joint.
8. Place a support stand under the front of the propeller shaft.
9. Remove the propeller shaft CV joint mounting bolts.

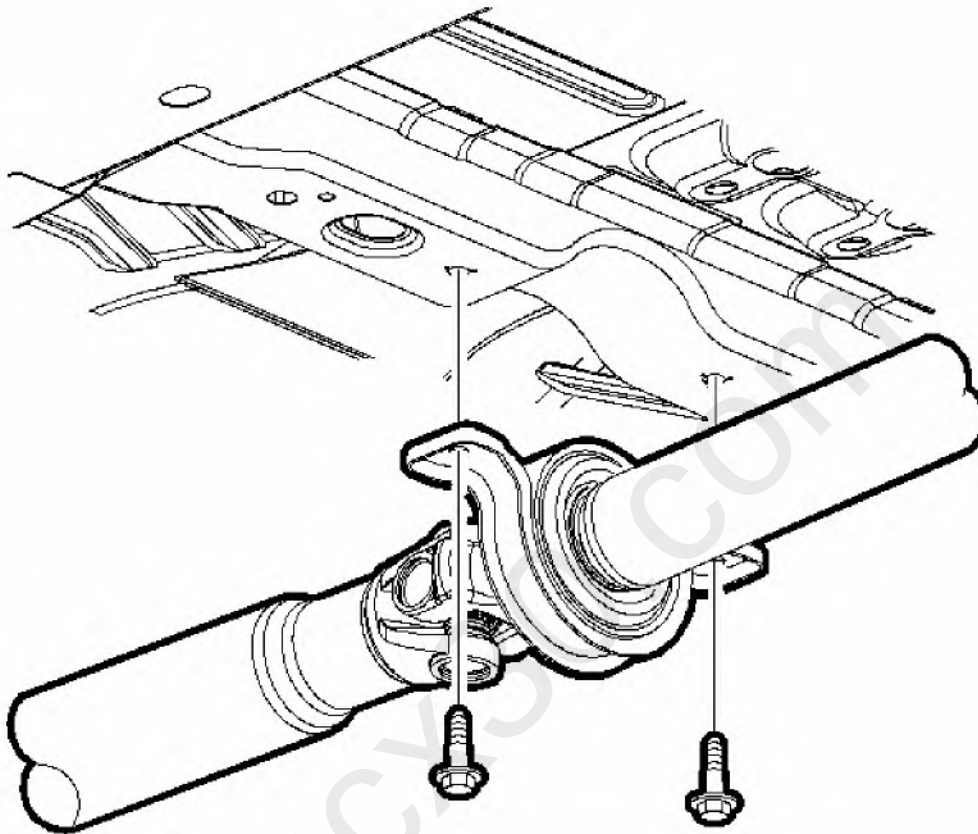


Fig. 77: View Of Propeller Shaft, Support Bearing & Bolts
Courtesy of GENERAL MOTORS CORP.

10. While supporting the propeller shaft, remove the support bearing mounting bolts from the vehicle underbody.
11. Remove the propeller shaft from the vehicle.

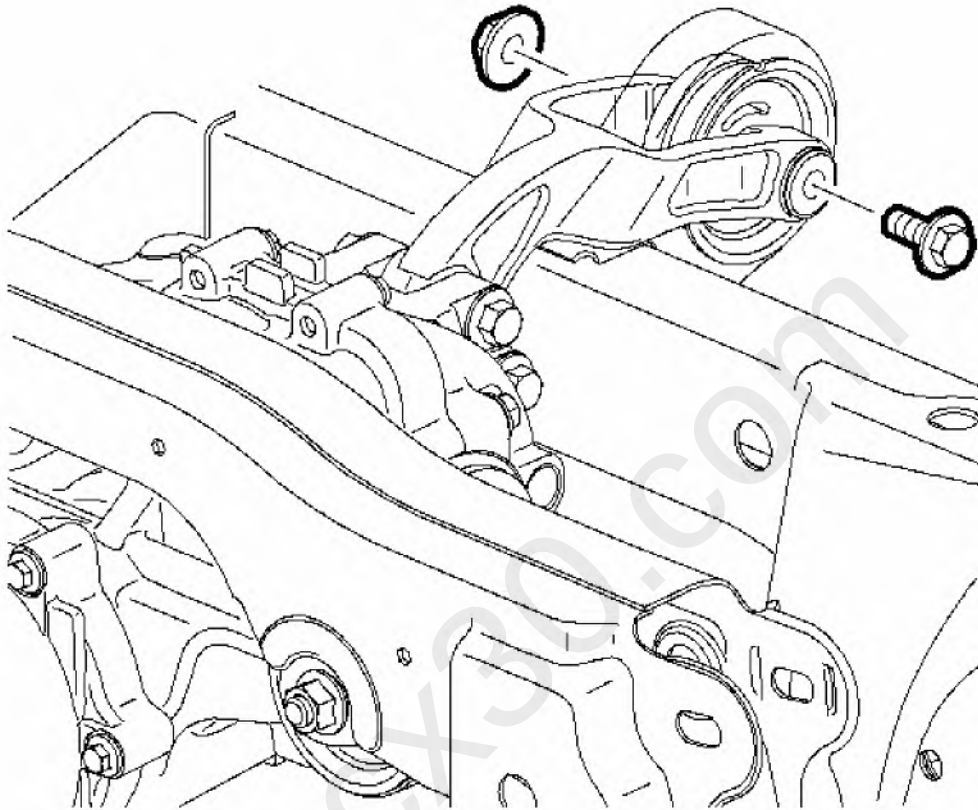


Fig. 78: Removing/Installing RDM Rear Mounting Bracket
Courtesy of GENERAL MOTORS CORP.

12. Place a support stand under the RDM and secure the RDM.
13. Remove the RDM support bracket. Refer to **Differential Carrier Assembly Mount Replacement**.
14. Remove the left and right RDM support mounting nuts and discard the nut.
15. Remove the left and right RDM mounting bolts.
16. Carefully remove the RDM from the vehicle.

Installation Procedure

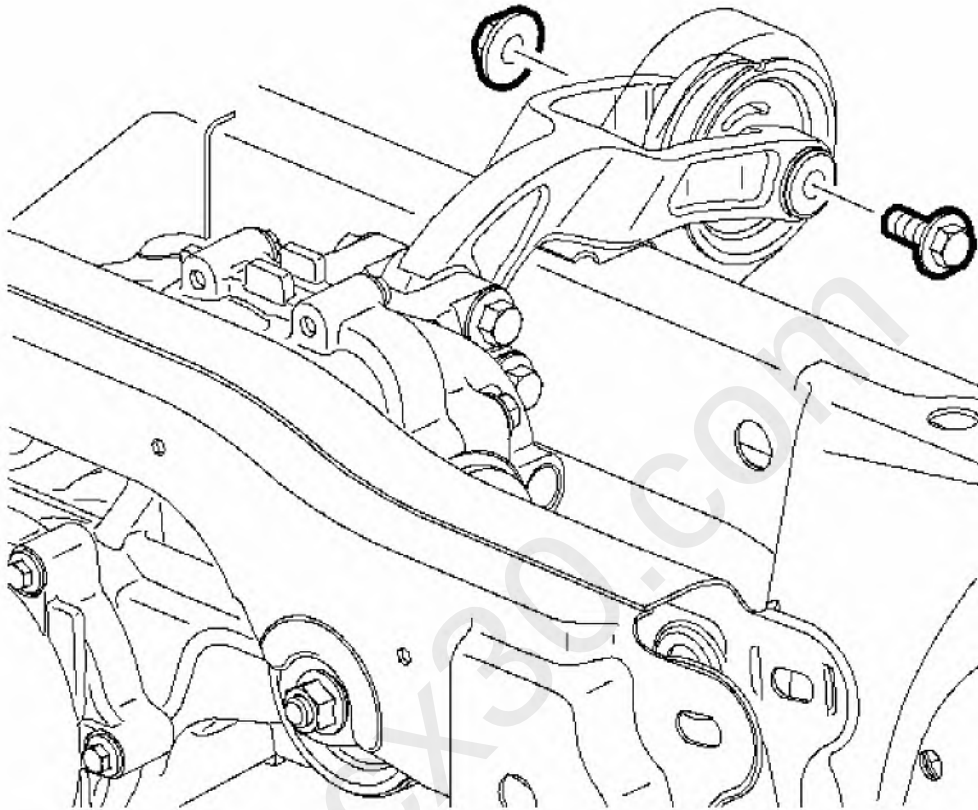


Fig. 79: Removing/Installing RDM Rear Mounting Bracket
Courtesy of GENERAL MOTORS CORP.

1. With the RDM secured to a support stand, position the RDM to the vehicle.
2. Install the left and right RDM mounting bolts to the mounts.
3. Hand install NEW bolts to the left and right mounting bolts.
4. Install the RDM rear mounting bracket. Refer to **Differential Carrier Assembly Mount Replacement**.

NOTE: Refer to **Fastener Notice** in **Cautions and Notices**.

5. Tighten the left and right RDM mounting nuts.

Tighten: Tighten the nuts to 105 N.m (77 lb ft).

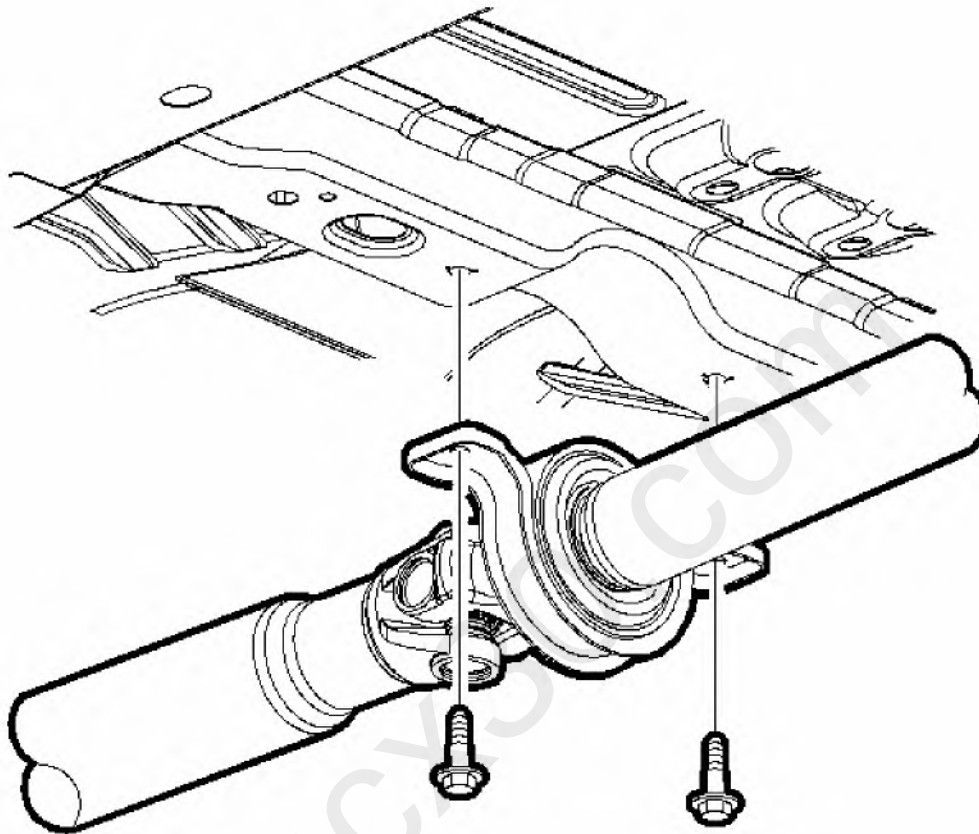


Fig. 80: View Of Propeller Shaft, Support Bearing & Bolts
Courtesy of GENERAL MOTORS CORP.

6. Position the propeller shaft to the vehicle and support the propeller shaft at the front and rear.
7. Install the support bearing to the vehicle.
8. Hand install the support bearing bolts.

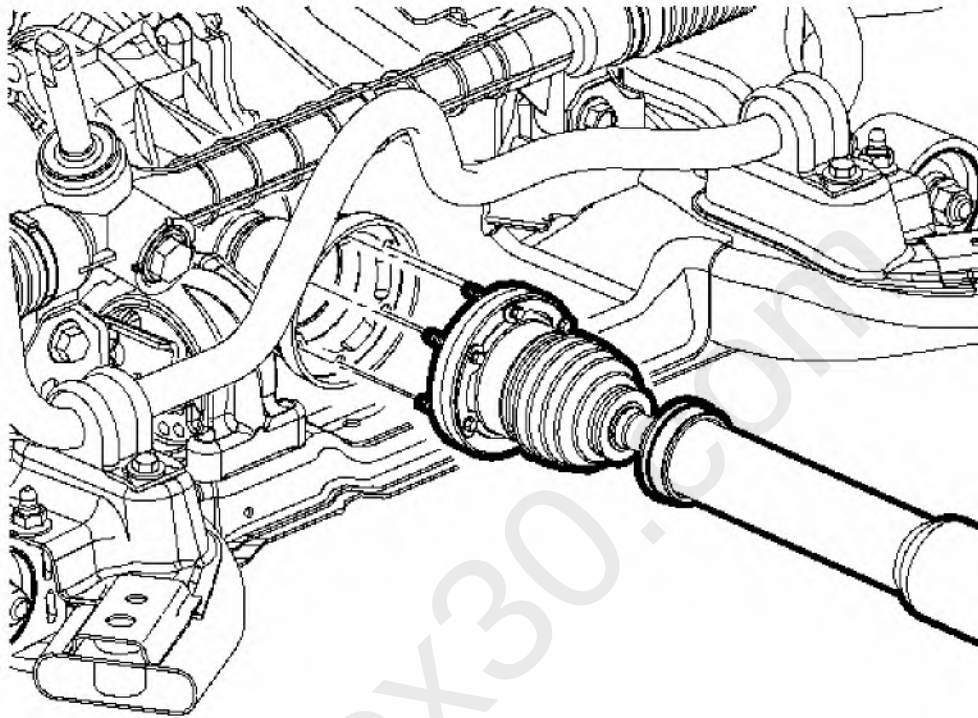


Fig. 81: View Of Propeller Shaft
Courtesy of GENERAL MOTORS CORP.

9. Align the reference marks on the propeller shaft CV joint and the PTU output flange.

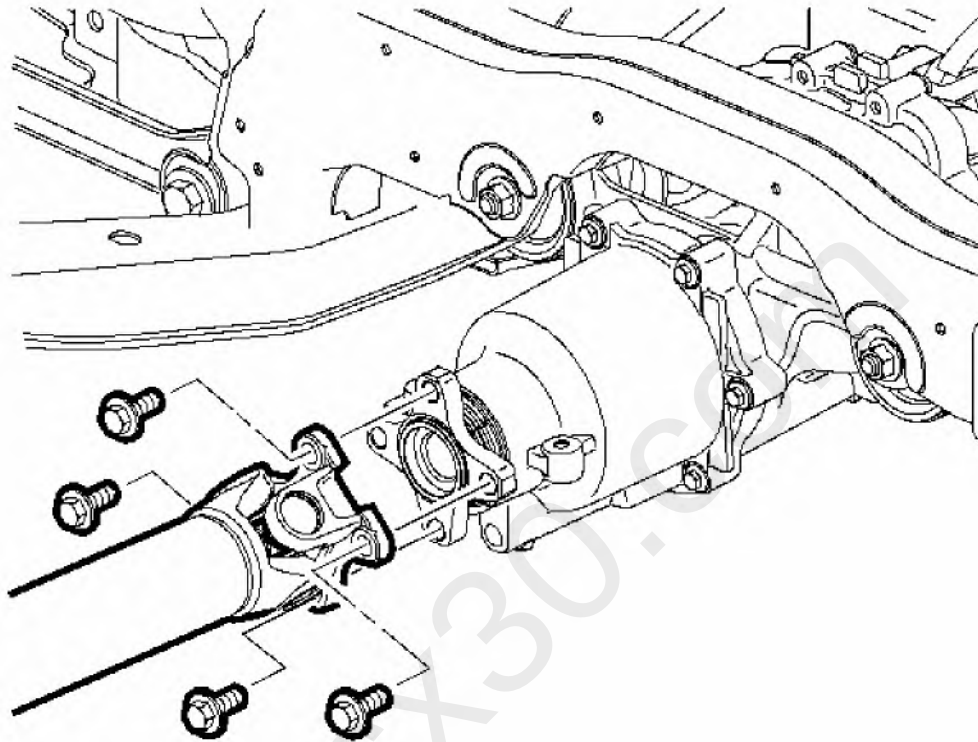


Fig. 82: Removing/Installing Propeller Shaft Flange Mounting Bolts
Courtesy of GENERAL MOTORS CORP.

10. Align the reference marks on the propeller shaft flange and the RDM input flange.
11. Install the propeller shaft. Refer to **Propeller Shaft Replacement** in Propeller Shaft.

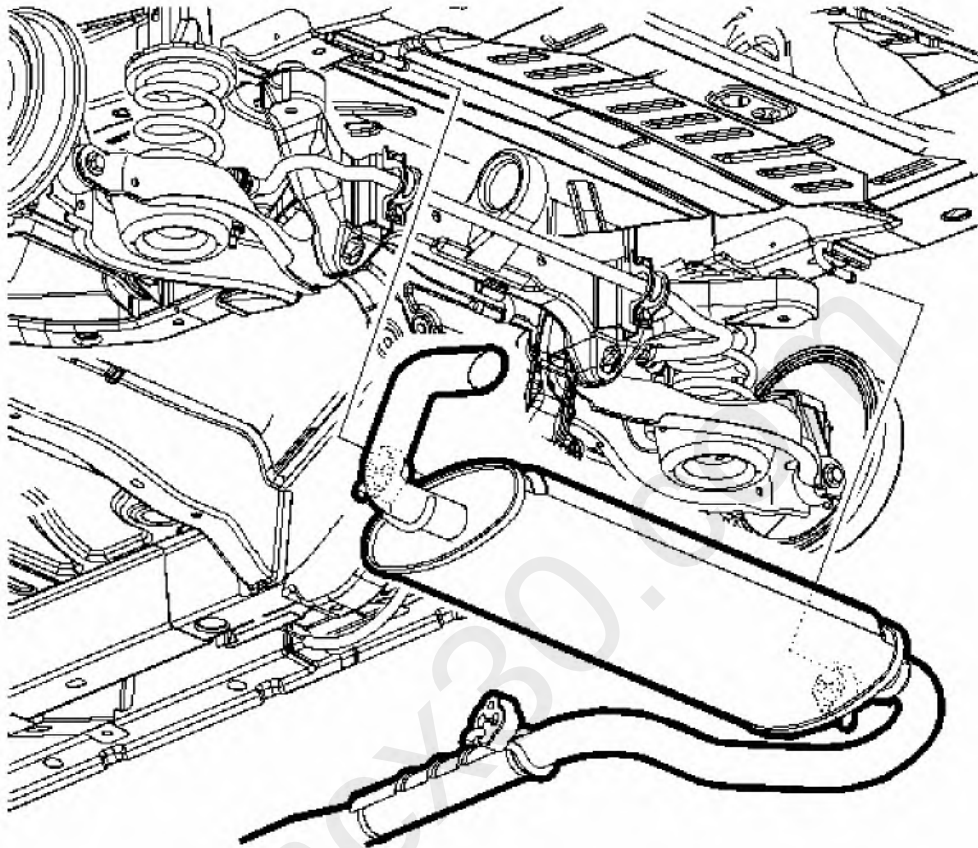


Fig. 83: Removing/Installing Intermediate Pipe & Muffler Assembly
Courtesy of GENERAL MOTORS CORP.

12. Install the rear wheel drive shafts. Refer to **Wheel Drive Shaft Replacement - Rear** in Wheel Drive Shafts.
13. Install the muffler and intermediate pipe assembly. Refer to **Exhaust System Replacement** in Engine Exhaust.
14. Lower the vehicle.

DIFFERENTIAL HOUSING SUPPORT BUSHING REPLACEMENT

Tools Required

J 44866 Support Bushing Remover/Installer. See **Special Tools**.

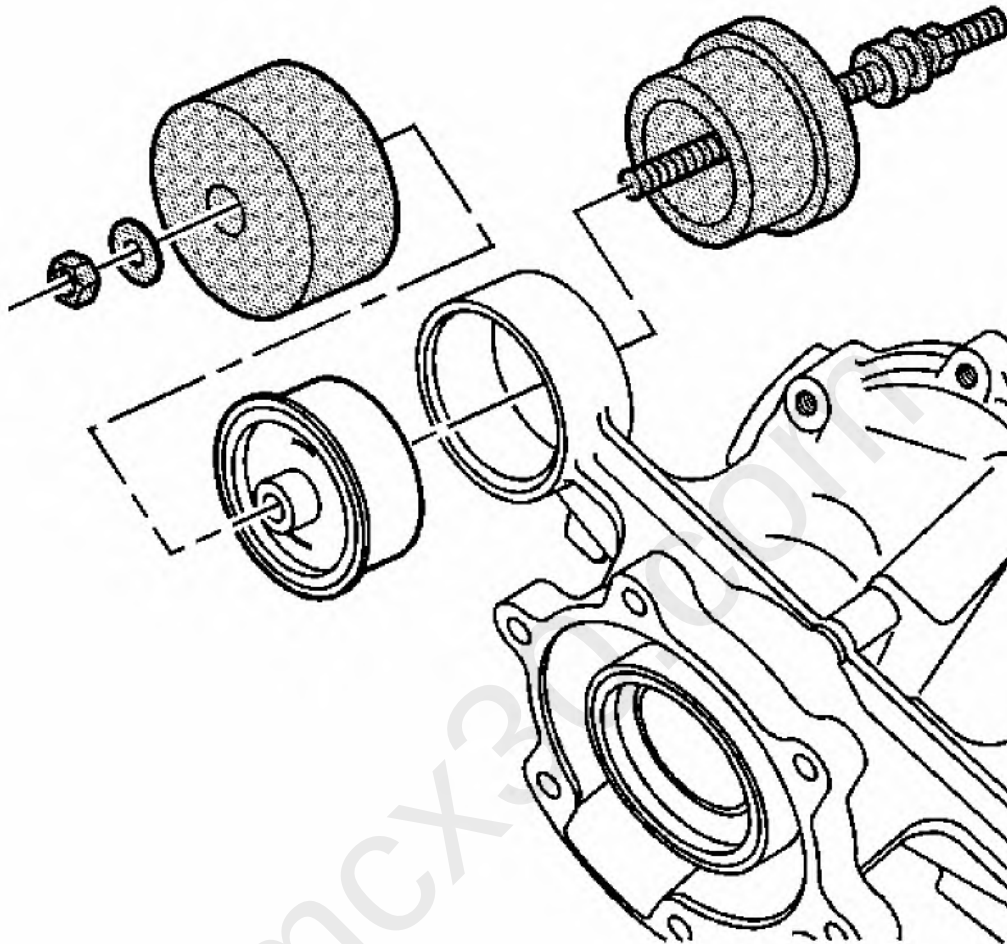


Fig. 84: Removing Bushing If Damaged or Worn Out
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Remove the bushing only if damaged or worn out.

IMPORTANT: Use the high pressure lube supplied with the tool.

1. Install **J 44866** . See **Special Tools**. Tighten the nuts in order to force out the bushing.

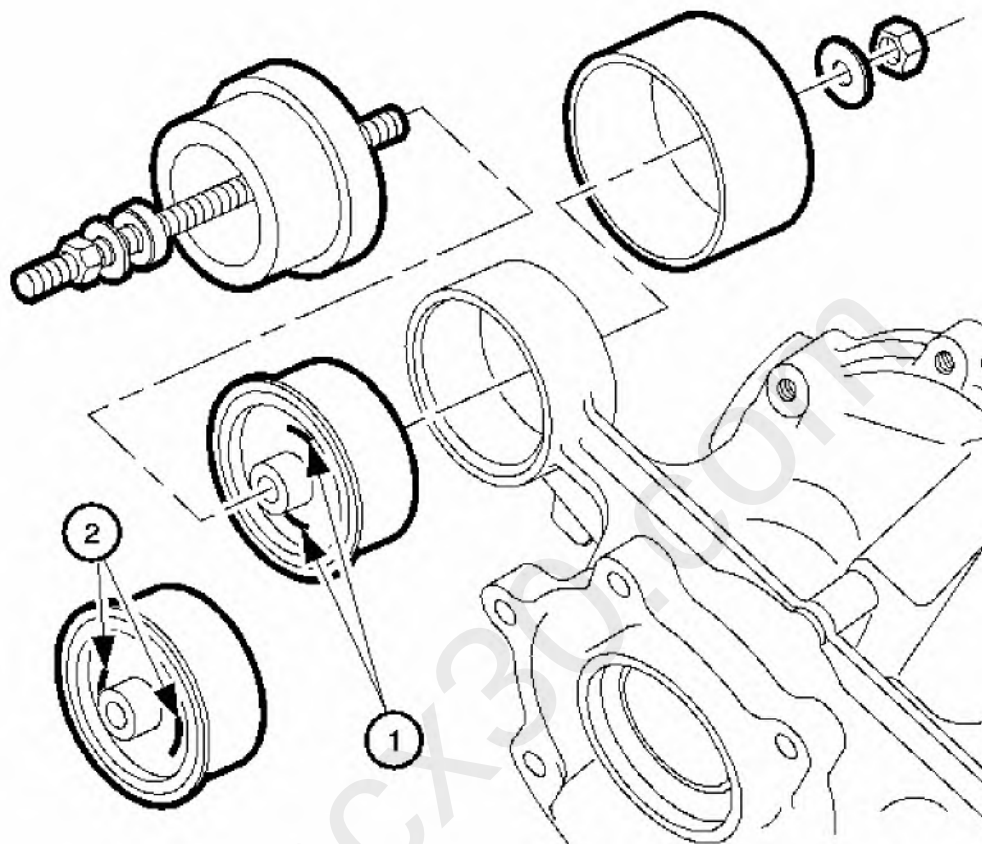


Fig. 85: Installing J44866
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: The bushing has 2 slots molded into the rubber section. The slots are used to control vibration and must be installed by aligning the slots in the 6 o'clock and 12 o'clock position (1).

2. Install J 44866 . See Special Tools. Tighten the nuts in order to force the bushing in.

DESCRIPTION AND OPERATION

REAR DRIVE AXLE DESCRIPTION AND OPERATION

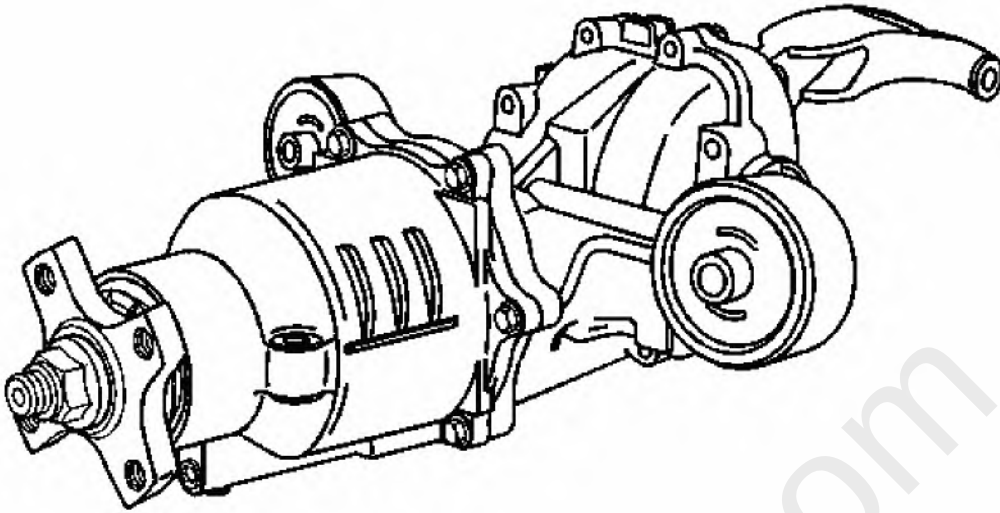


Fig. 86: View Of Rear Drive Axle
Courtesy of GENERAL MOTORS CORP.

The rear drive module (RDM) in this vehicle consists of an aluminum housing which contains a gerotor fluid pump, clutch pack and a differential. It has a common fluid reservoir.

The on-demand rear differential distributes variable torque/power to the rear wheels via individual axle shafts.

The on-demand system operates as follows: only when front wheel slippage is encountered torque/power is proportioned to the rear wheels. As long as there is no front-to-rear speed difference, there is no torque/power to the rear wheels.

When front-to-rear wheel slippage does occur, the rear differential (gerotor) pumps fluid stored in the sump to a piston which actuates a clutch pack, which then distributes torque/power to the rear wheels.

The system has an integral protection device that reduces rear wheel torque when excessive heat is generated, thus protecting the rear wheel drive module (RDM).

Rear Differential Assembly Fluid

The rear differential assembly uses a specifically developed synthetic hypoid fluid which is intended for a lifetime service interval. However, proper fluid level must be maintained to ensure proper rear differential assembly operation.

2006 Chevrolet Equinox LS

2006 Driveline/Axle Rear Drive Axle - Equinox & Torrent

NOTE: Use only GM VERSATRAK fluid.

The fluid level range for proper rear differential assembly operation is 700-800 ml. New service replacement units will be shipped dry (without fluid). Fill new units with 750 ml of GM VERSATRAK fluid.

NOTE: Do not use any leak detection dye additive. Additives may affect the operation of an All-Wheel Drive System. The GM VERSATRAK fluid Saturn P/N 12378514 contains a phosphorus agent, which when used with a black light will assist in leak detection.

SPECIAL TOOLS AND EQUIPMENT

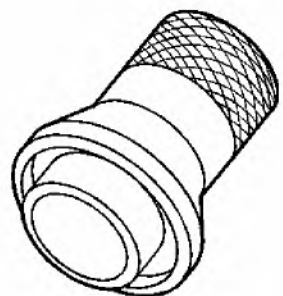
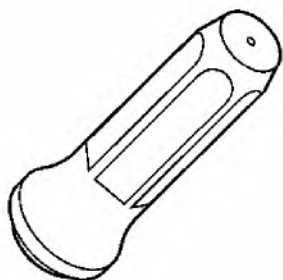
SPECIAL TOOLS

Special Tools

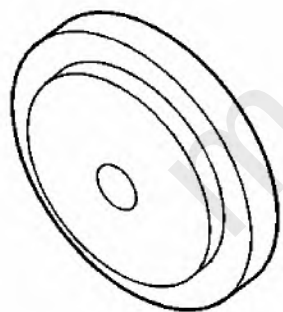
Illustration	Tool Number/Description
	J 8092 Driver Handle
	J 8614-A Pinion Flange Holder and Remover
	J 44809 Output Shaft Seal Installer

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J 44851
Pinion Seal Installer



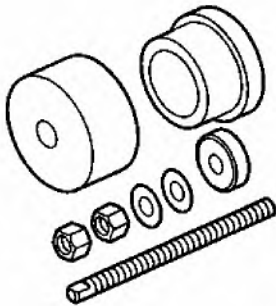
J 44852
Front Clutch Pack Seal Installer



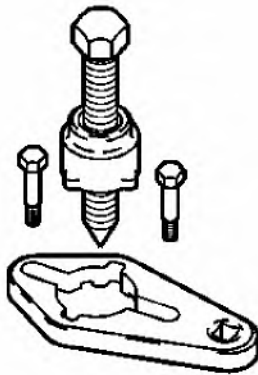
J 44853
Rear Clutch Pack Seal Installer

2006 Chevrolet Equinox LS

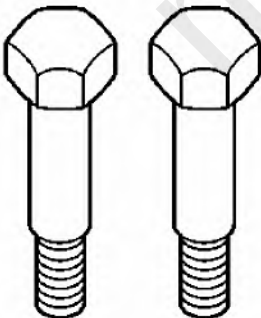
2006 Driveline/Axle Rear Drive Axle - Equinox & Torrent



J 44866
Support Bushing Remover and Installer



J 44873
Pinion Flange Holder and Remover



J 44873-2
Shoulder Bolts

J 46607
Alignment Tool

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2006 Driveline/Axle Rear Drive Axle - Equinox & Torrent



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