

SPECIFICATIONS > FASTENER SPECIFICATIONS

Application	Specification	
	Metric	English
Front Wheel Drive Shaft Nut	250 N.m	184 lb ft
Rear Wheel Drive Shaft Nut	270 N.m	199 lb ft
Rear Wheel Drive Shaft to Drive Flange Bolt (Requires a NEW bolt)		
• First Pass:	50 N.m	37 lb ft
• Final Pass:	(45 degrees)	
Differential Carrier Side Cover Bolts	54 N.m	40 lb ft

SPECIFICATIONS > ADHESIVES, FLUIDS, LUBRICANTS, AND SEALERS

Application	Type of Material	GM Part Number	
		United States	Canada
Intermediate Wheel Drive Shaft Splines	Grease	01051344	993037
Rear Wheel Drive Shaft Bolts	Threadlocker	89021297	10953488
Rear Wheel Drive Shaft CV Joint	Grease	01051344	993037

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - WHEEL DRIVE SHAFTS

Before beginning diagnosis, review the system description and operation in order to familiarize yourself with the system function. Refer to Wheel Drive Shafts Description and Operation .

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - WHEEL DRIVE SHAFTS > CLASSIFYING THE SYMPTOM

Wheel Drive Shaft symptoms can usually be classified into the following categories:

- Noises

- Vibrations

Noise related concerns are diagnosed within the Wheel Drive Shafts section. For vibration related symptoms, refer to Vibration Diagnosis, Starting Point, and Correction for diagnosis.

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - WHEEL DRIVE SHAFTS > VISUAL/PHYSICAL INSPECTION

- Inspect the system for aftermarket devices which could affect the operation of the wheel drive shafts.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

DIAGNOSTIC INFORMATION AND PROCEDURES > SYMPTOMS - WHEEL DRIVE SHAFTS > SYMPTOM LIST

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

- Click Noise In Turns
- Clunk When Accelerating from Coast
- Clunk Noise When Accelerating During Turns

DIAGNOSTIC INFORMATION AND PROCEDURES > CLICK NOISE IN TURNS

A click noise occurring during turns may be caused by a worn or damaged wheel drive shaft outer joint. This may be more apparent while simultaneously turning and accelerating. This click is caused by wear and/or damage to the constant velocity joint bearings and/or races. Commonly, this damage or wear is caused by the loss of lubricating grease from the constant velocity joint and the entry of foreign material or contaminants.

Carefully inspect the wheel drive shaft seals for cuts, tears or other damage which may allow the lubricating grease to escape. The loss of this grease will cause damage to the wheel drive shaft constant velocity joint in a very short period of time.

If inspection reveals no visual evidence of wear or damage, it may be necessary to remove the wheel drive shaft from the vehicle and manipulate the outer joint manually. Any binding or impeded movement of the joint may indicate damage which could contribute to the concern.

DIAGNOSTIC INFORMATION AND PROCEDURES > CLUNK WHEN ACCELERATING FROM COAST

A clunk noise occurring when accelerating from coast or a standing start may be caused by a worn or damaged wheel drive shaft inner joint. The common cause of wheel drive shaft inner joint damage is the

loss of lubricating grease and/or the presence of foreign material and contaminants in the joint. This usually occurs as a result of a torn or damaged inner joint seal.

Carefully inspect the wheel drive shaft seal for cuts, tears or other damage that may allow the loss of the lubricating grease and/or the entry of contaminants.

If inspection reveals no visual evidence of wear or damage, it may be necessary to remove the wheel drive shaft from the vehicle and manipulate the inner joint manually. Do not allow the joint to separate from the wheel drive shaft bar. Any binding or impeded movement of the joint may indicate damage which could contribute to the concern.

DIAGNOSTIC INFORMATION AND PROCEDURES > CLUNK NOISE WHEN ACCELERATING DURING TURNS

A clunk noise that occurs while accelerating during turns may be caused by wear and/or damage to the inboard and the outboard joints in combination. The loss of lubricant and/or the presence of contaminants can cause damage to the internal components of the joints.

Carefully inspect the joint seals for cuts, tears or other damage. Joint seals that are damaged may allow lubricant leakage and the entry of contaminants.

If inspection reveals no visual evidence of wear or damage, it may be necessary to remove the wheel drive shaft from the vehicle and manipulate the joints manually. Do not allow the joints to separate from the wheel drive shaft bar. Any binding or impeded movement of the joints may indicate damage which could contribute to the concern.

REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT REPLACEMENT - LEFT SIDE

Special Tools

DT 45859 Hub Puller

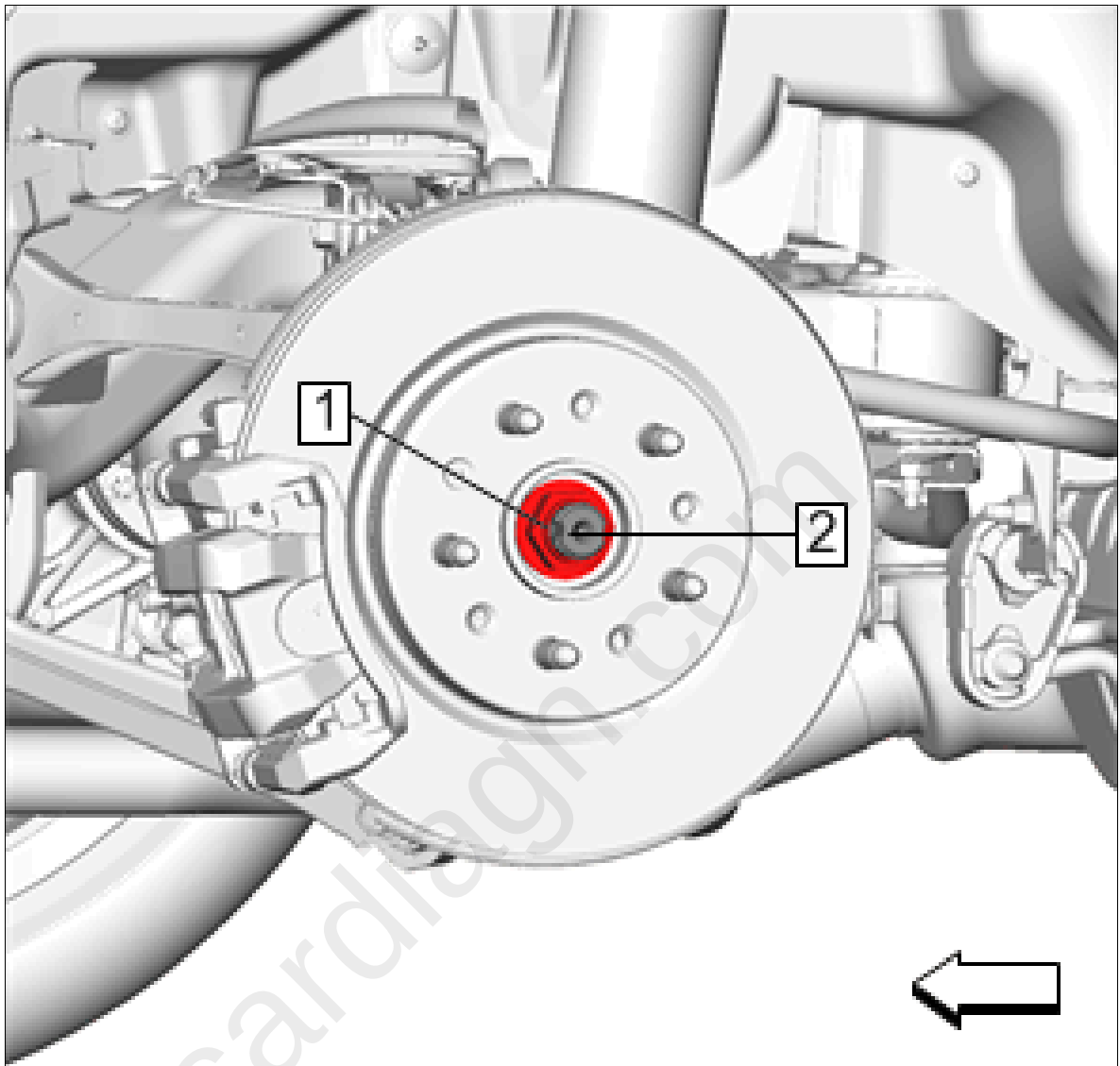
For the equivalent regional tools, refer to Special Tools

REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT REPLACEMENT - LEFT SIDE > REMOVAL PROCEDURE

1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP)
2. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation
3. Remove the exhaust muffler. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible)
4. Remove the rear suspension upper lateral link bolt at the knuckle. Rear Suspension Upper Lateral Link Replacement

5. Remove the rear suspension upper trailing link bolt at the knuckle. Rear Suspension Upper Trailing Link Replacement

Fig 1: Drive Shaft Nut Collar And Wheel Drive Shaft Slots



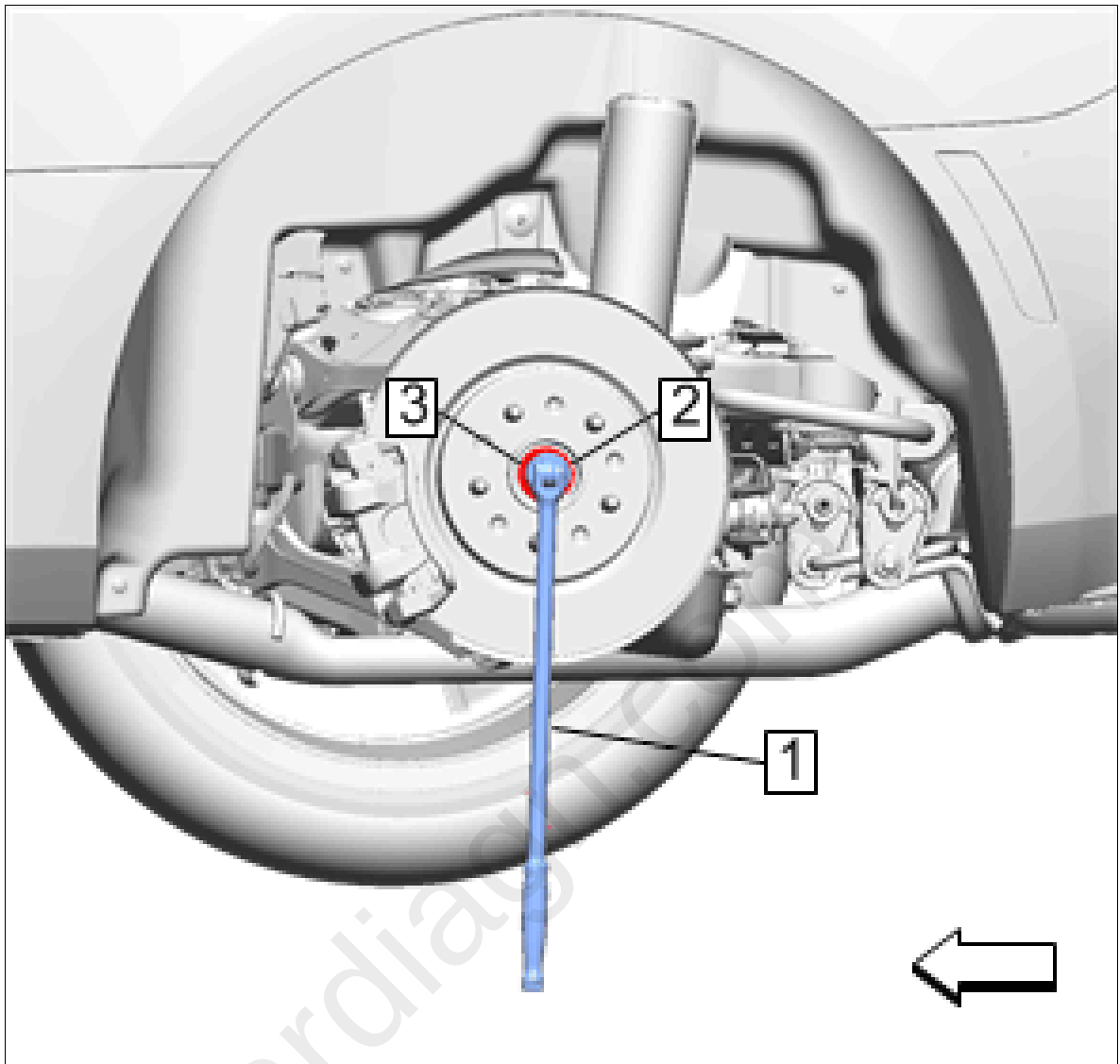
Courtesy of GENERAL MOTORS COMPANY

 CAUTION:

Make sure that the wheel drive shaft nut is fully un-staked to avoid damage to the wheel drive shaft threads during the removal of the wheel drive shaft nut. Failure to follow these instructions could result in wheel, nut, and/or stud damage.

6. Using a suitable punch and a hammer, un-stake the drive shaft nut collar (1) from the wheel drive shaft slots (2).

Fig 2: Wheel Drive Shaft Nut



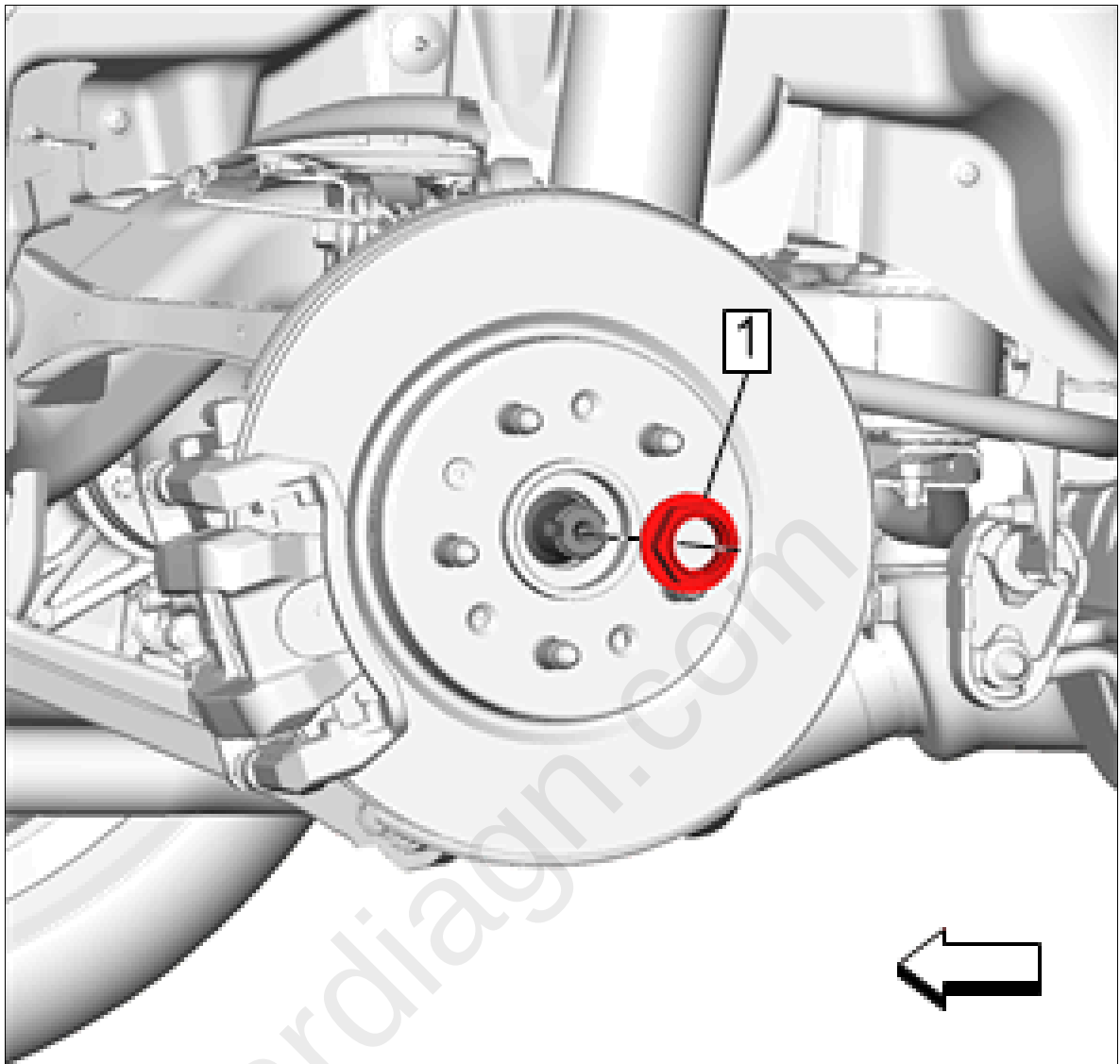
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT use air tools to remove the wheel drive shaft nut. Use hand tools ONLY.

7. With the aid of an assistant holding the brake pedal down, use a breaker bar (1) and the proper size socket (2) to loosen the wheel drive shaft nut (3).

Fig 3: Wheel Drive Shaft Retaining Nut



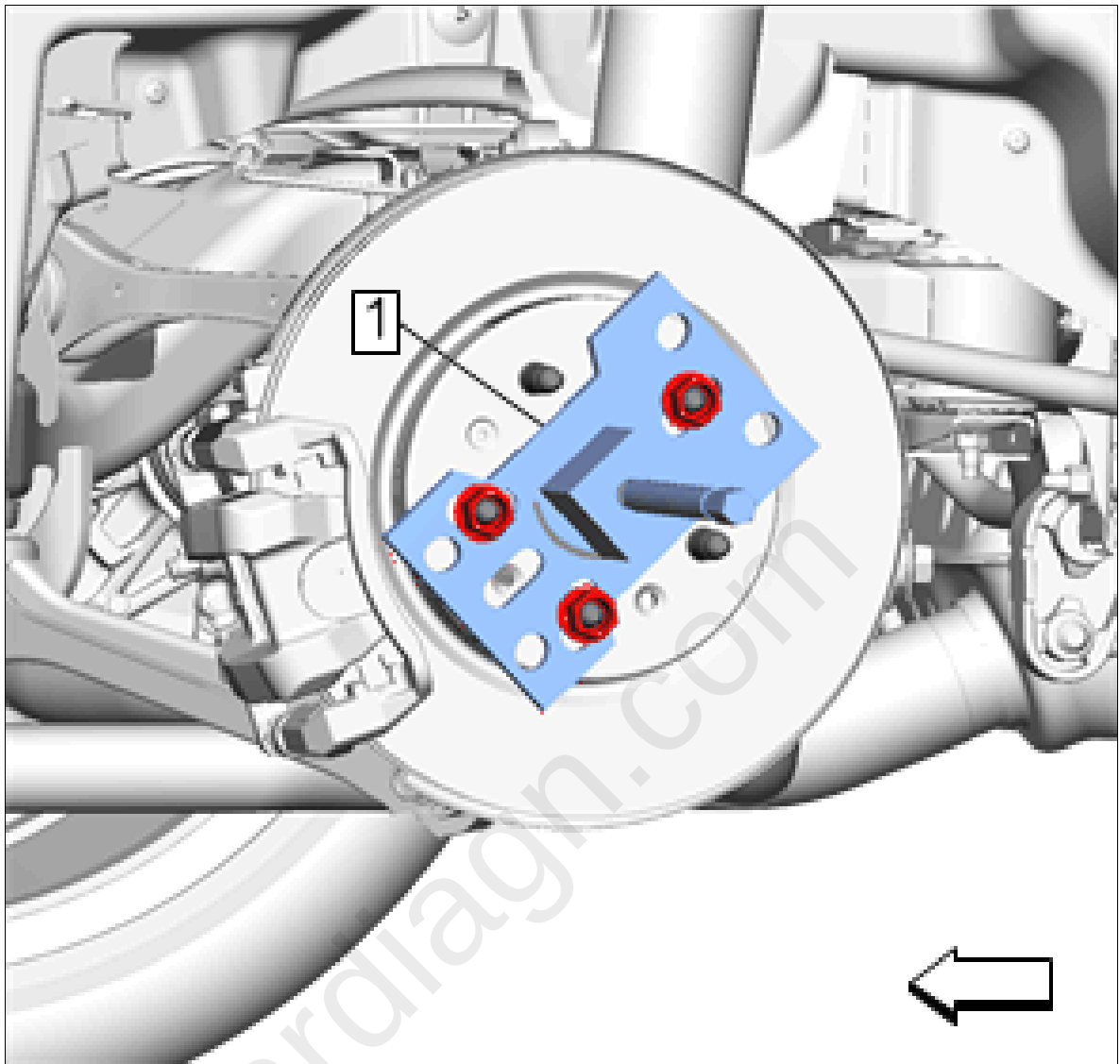
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT reuse wheel drive shaft nut. DISCARD and replace with NEW only.

8. Remove and DISCARD the wheel drive shaft retaining nut (1).

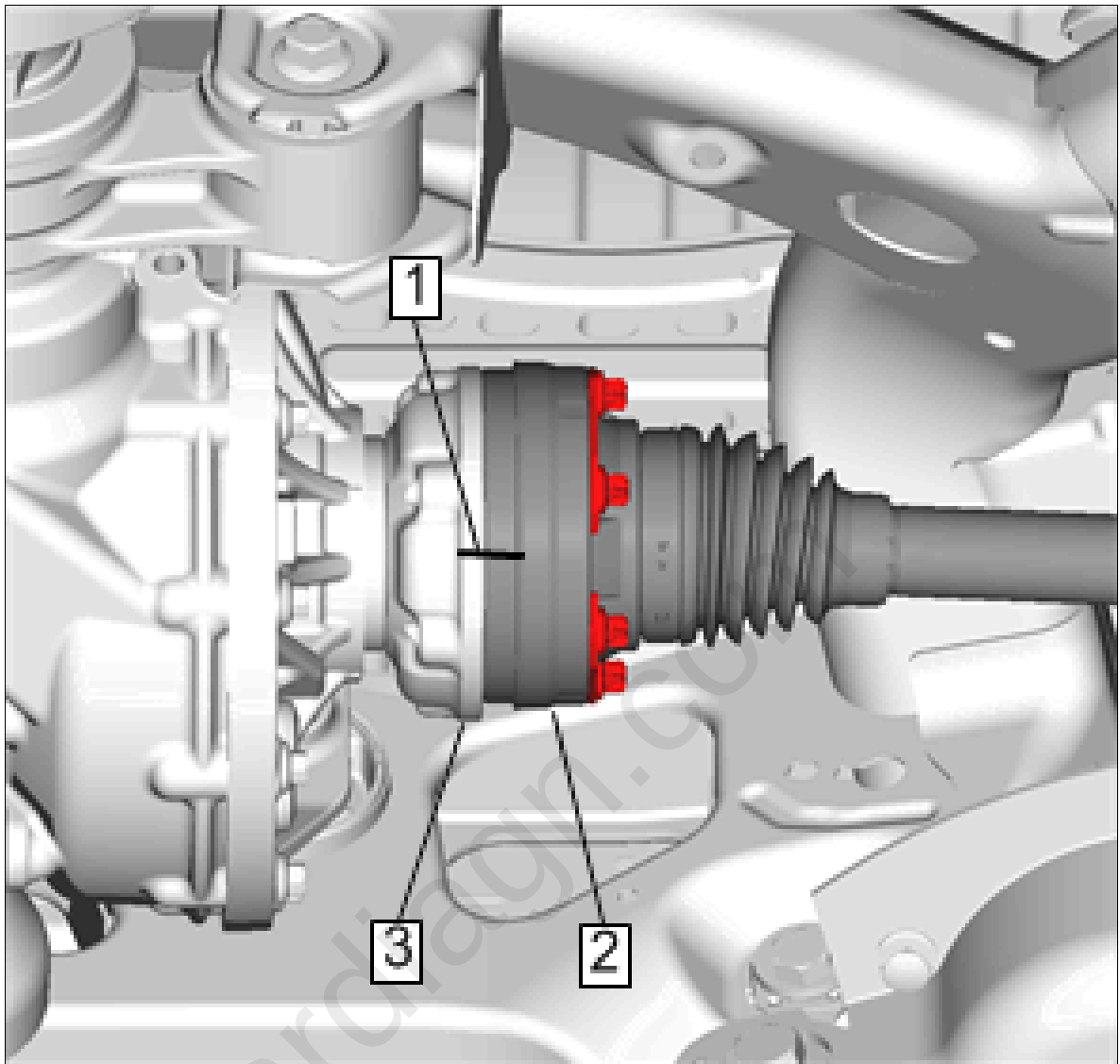
Fig 4: Hub Puller



Courtesy of GENERAL MOTORS COMPANY

9. Using the **DT 45859** hub puller (1), separate the wheel drive shaft from the wheel bearing/hub assembly.

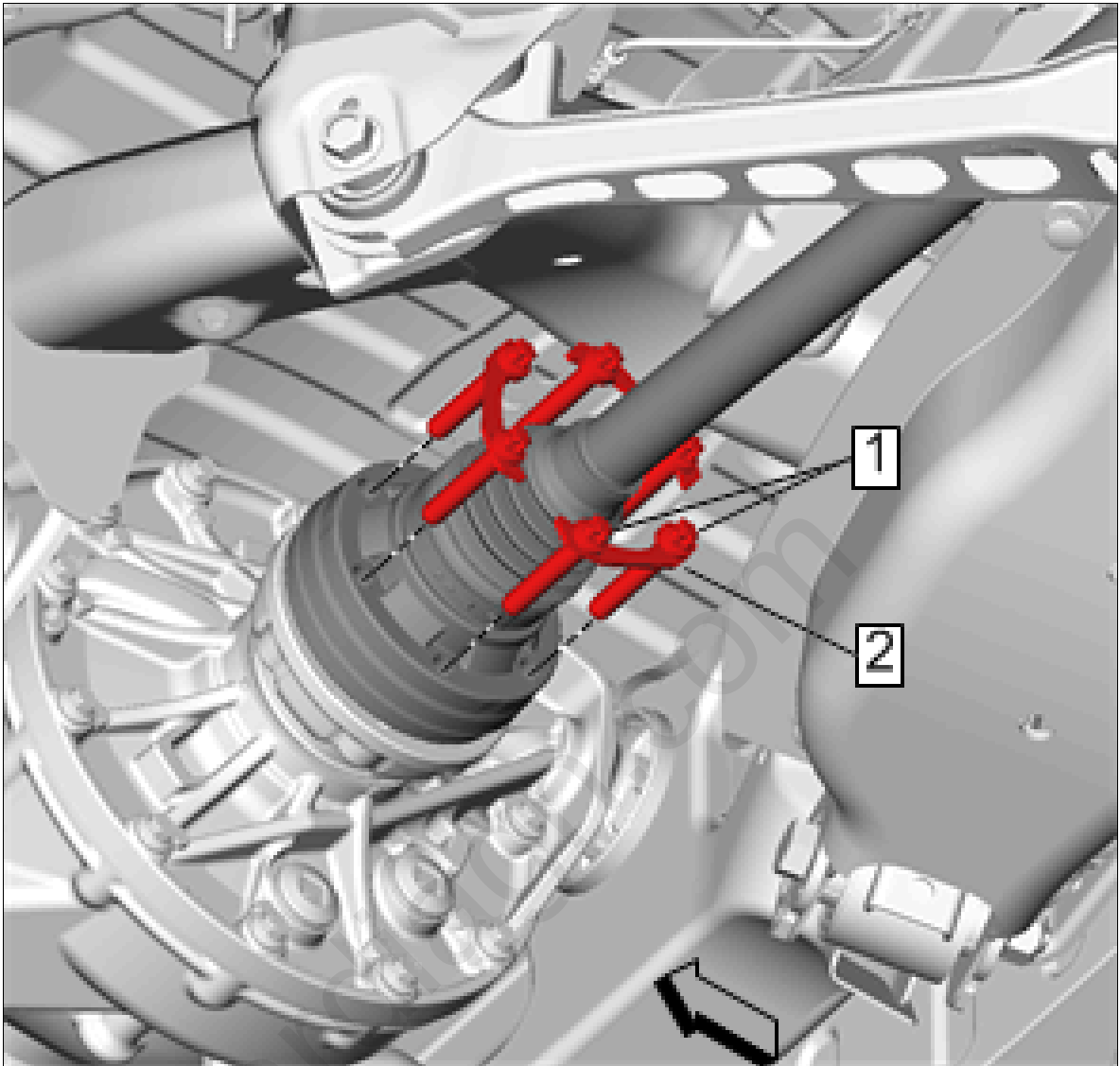
Fig 5: Wheel Drive Shaft And Output Shaft Flange



Courtesy of GENERAL MOTORS COMPANY

10. Mark the relationship (1) of the wheel drive shaft (2) to the output shaft flange (3).

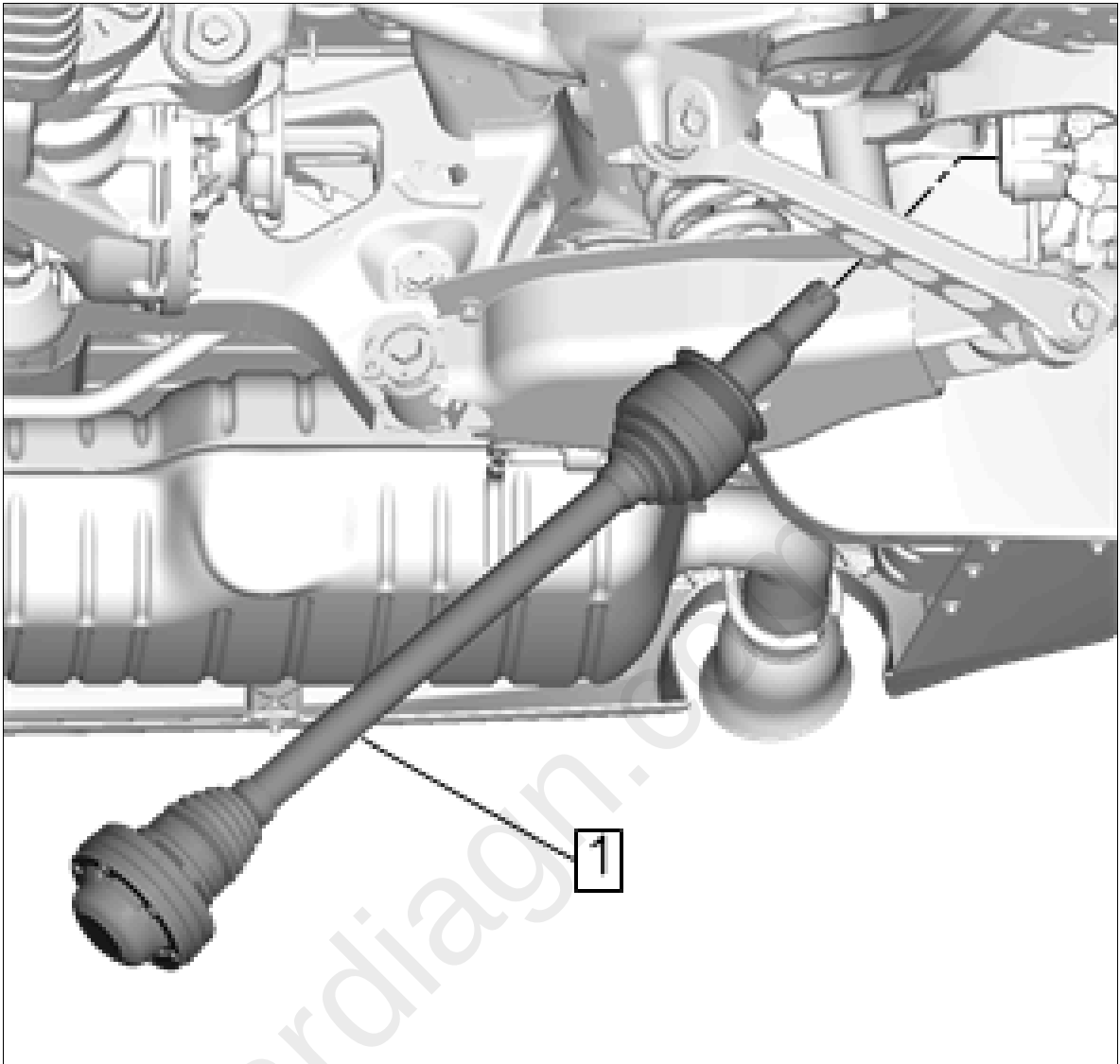
Fig 6: Wheel Drive Shaft Bolts And Washers



Courtesy of GENERAL MOTORS COMPANY

11. Remove and DISCARD the wheel drive shaft bolts (1) and washers (2). Replace with NEW only.

Fig 7: Wheel Drive Shaft



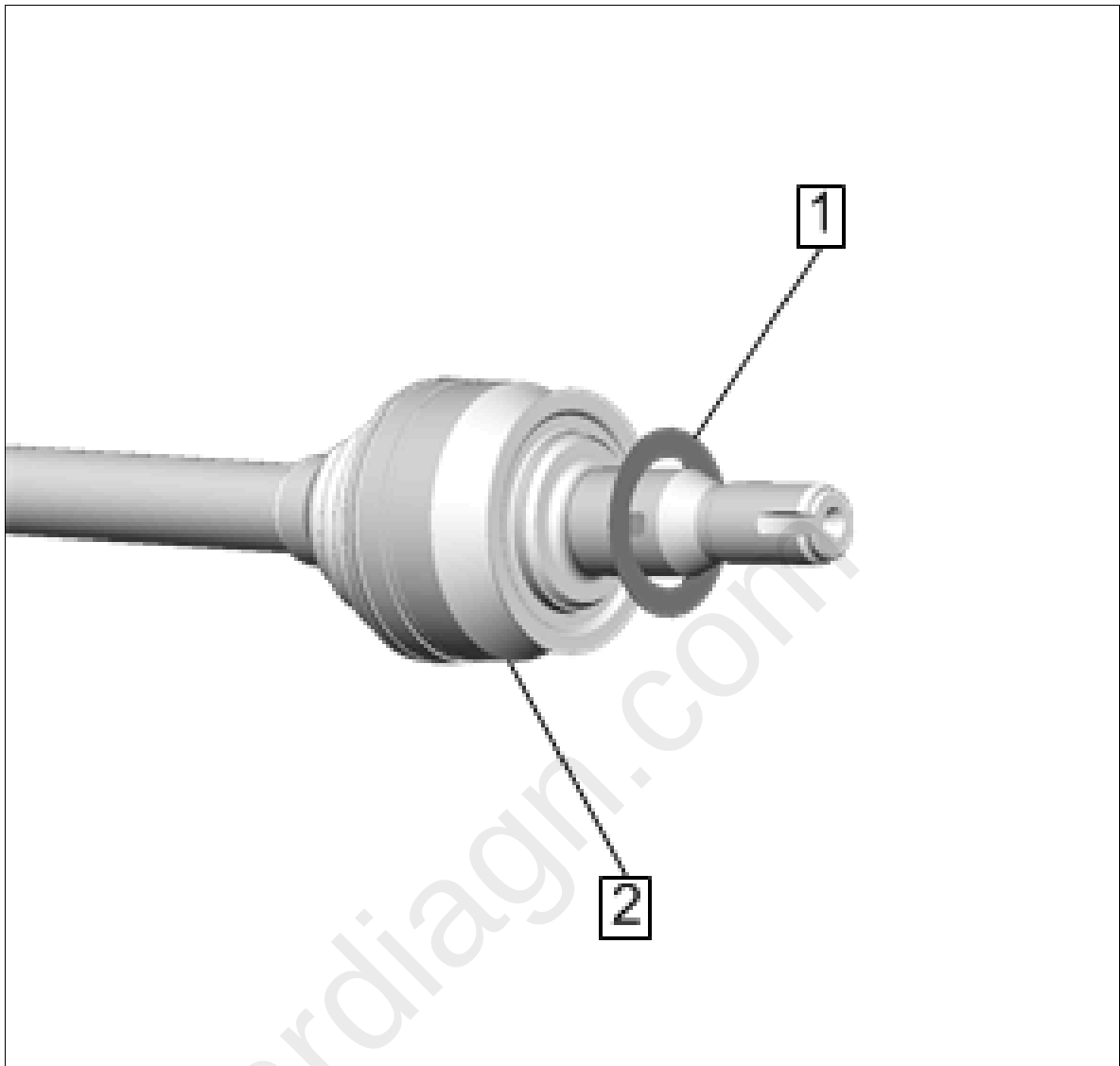
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Reposition the knuckle to allow the inner joint to pass the rear differential flange. It may be necessary to use a flat bladed tool to separate the wheel drive shaft from the differential flange.

12. Remove the wheel drive shaft (1) from the vehicle.

Fig 8: Wheel Drive Shaft And Washer



Courtesy of GENERAL MOTORS COMPANY

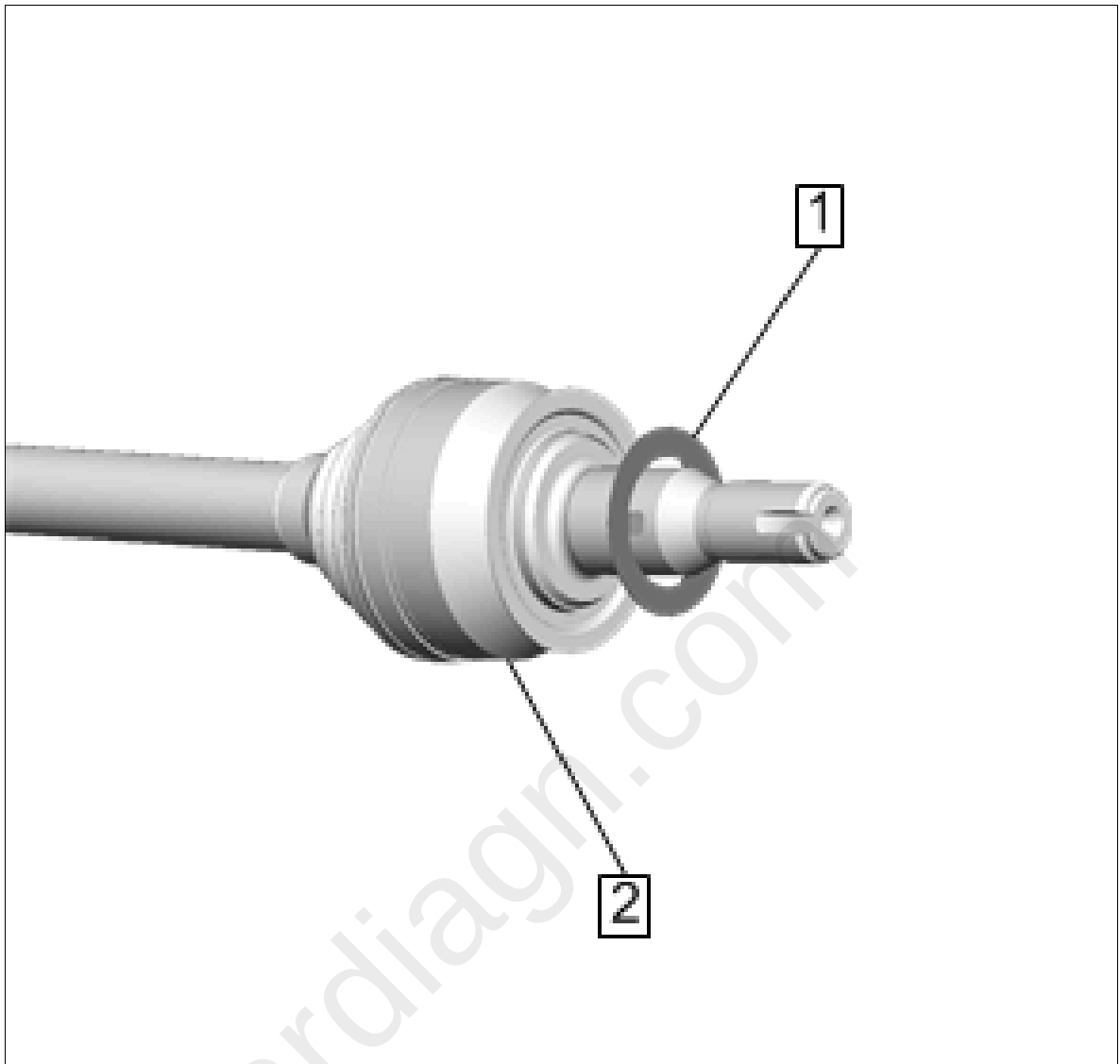
 NOTE:

Do NOT reuse wheel drive shaft washer. DISCARD and replace with NEW only.

13. Remove the washer (1) from the wheel drive shaft (2).

**REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT REPLACEMENT - LEFT SIDE
> INSTALLATION PROCEDURE**

Fig 1: Wheel Drive Shaft And Washer



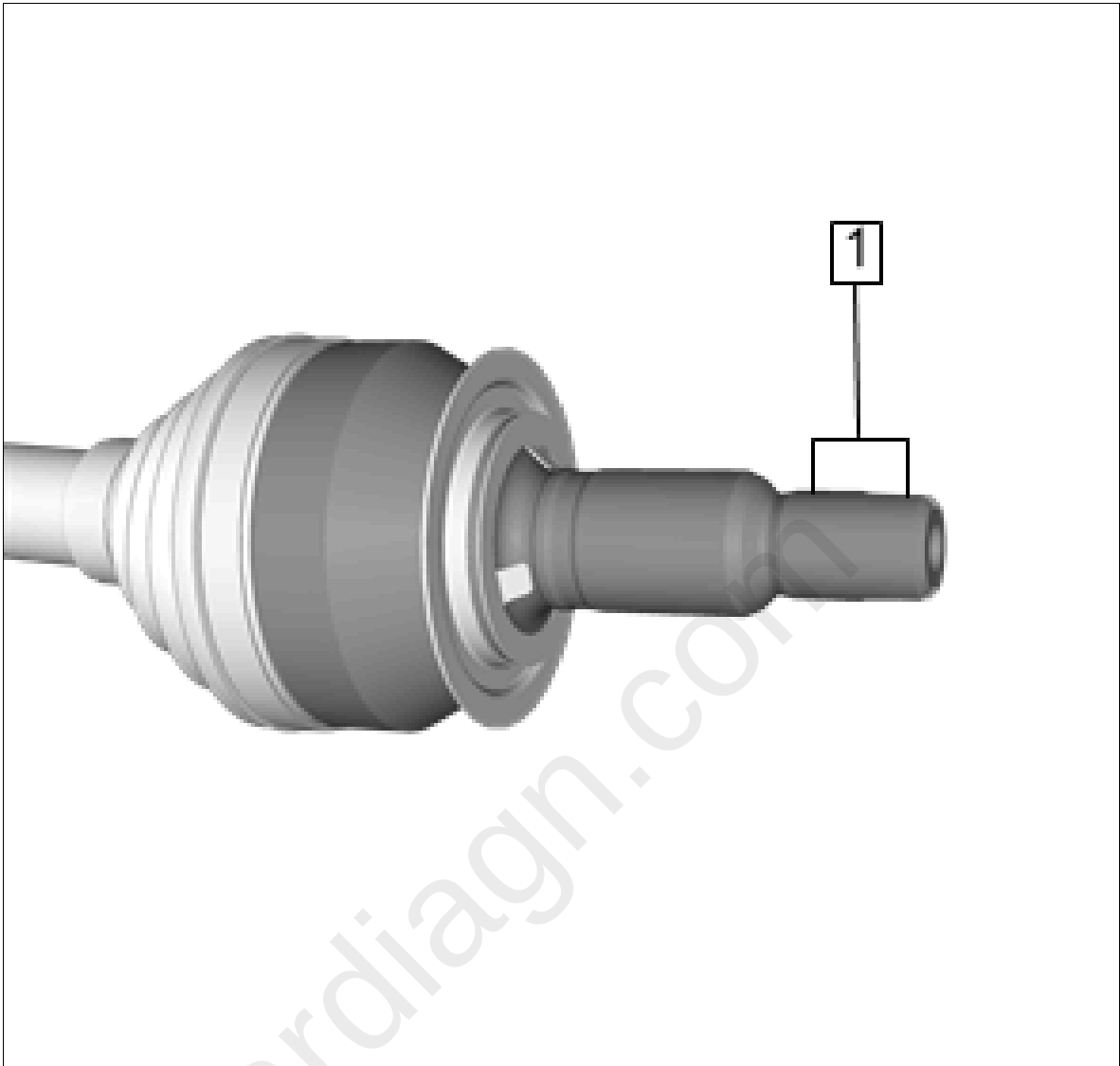
Courtesy of GENERAL MOTORS COMPANY

 **NOTE:**

Do NOT reuse wheel drive shaft washer. Use a NEW washer only.

1. Install the NEW washer (1) on the wheel drive shaft (2).

Fig 2: Threadlocker On Wheel Drive Shaft Threads



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

The threads must be clean and free of debris prior to the application of the threadlocker to ensure the proper adhesion and retention.

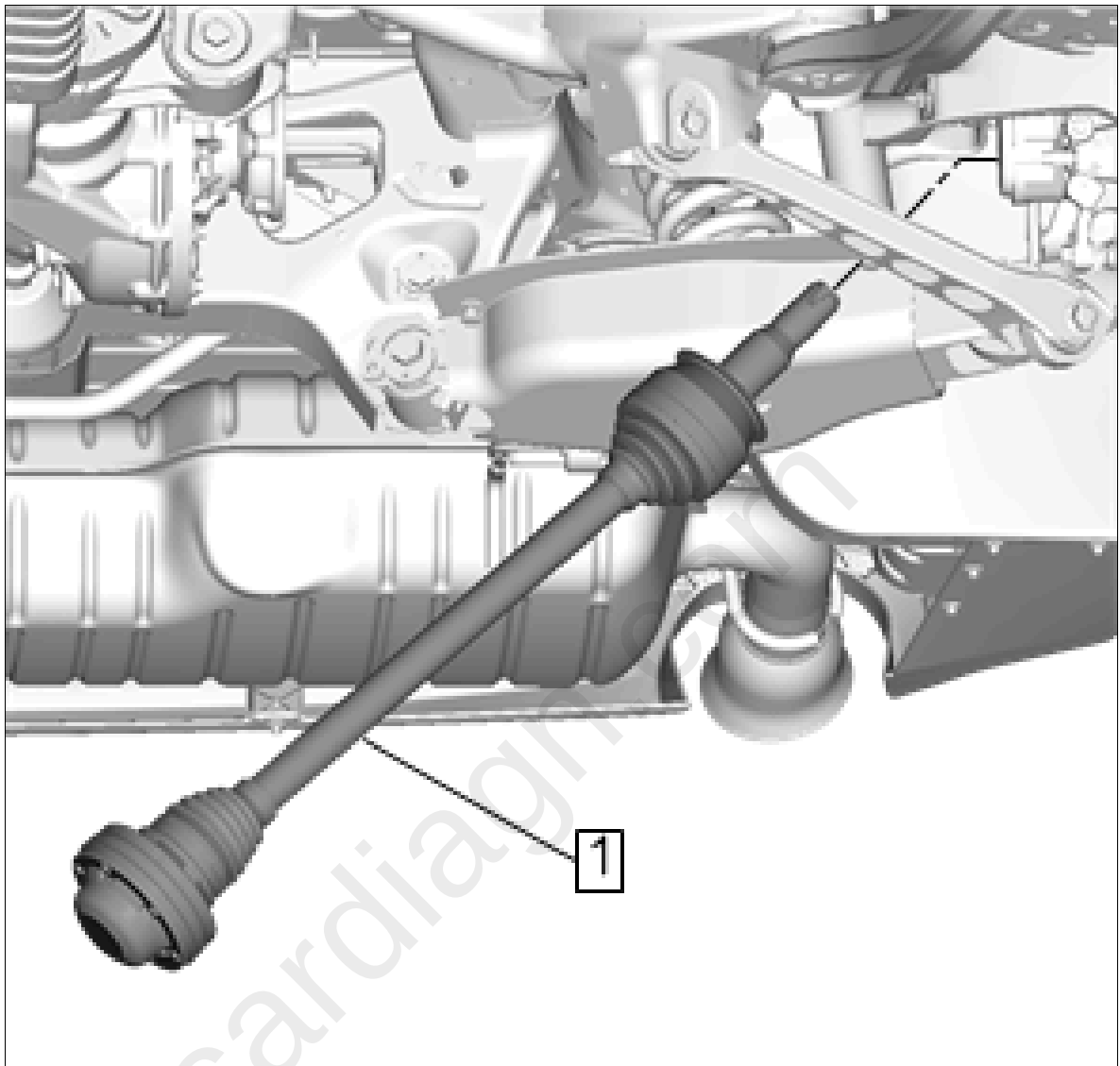
2. Thoroughly clean the threads using denatured alcohol or equivalent and allow to dry.

 NOTE:

Ensure that there are no gaps in the threadlocker along the length of the filled area of the threads on the shaft. Allow the threadlocker to cure approximately 10 minutes before installation of the nut.

3. Apply threadlocker to the wheel drive shaft threads (1). Adhesives, Fluids, Lubricants, and Sealers

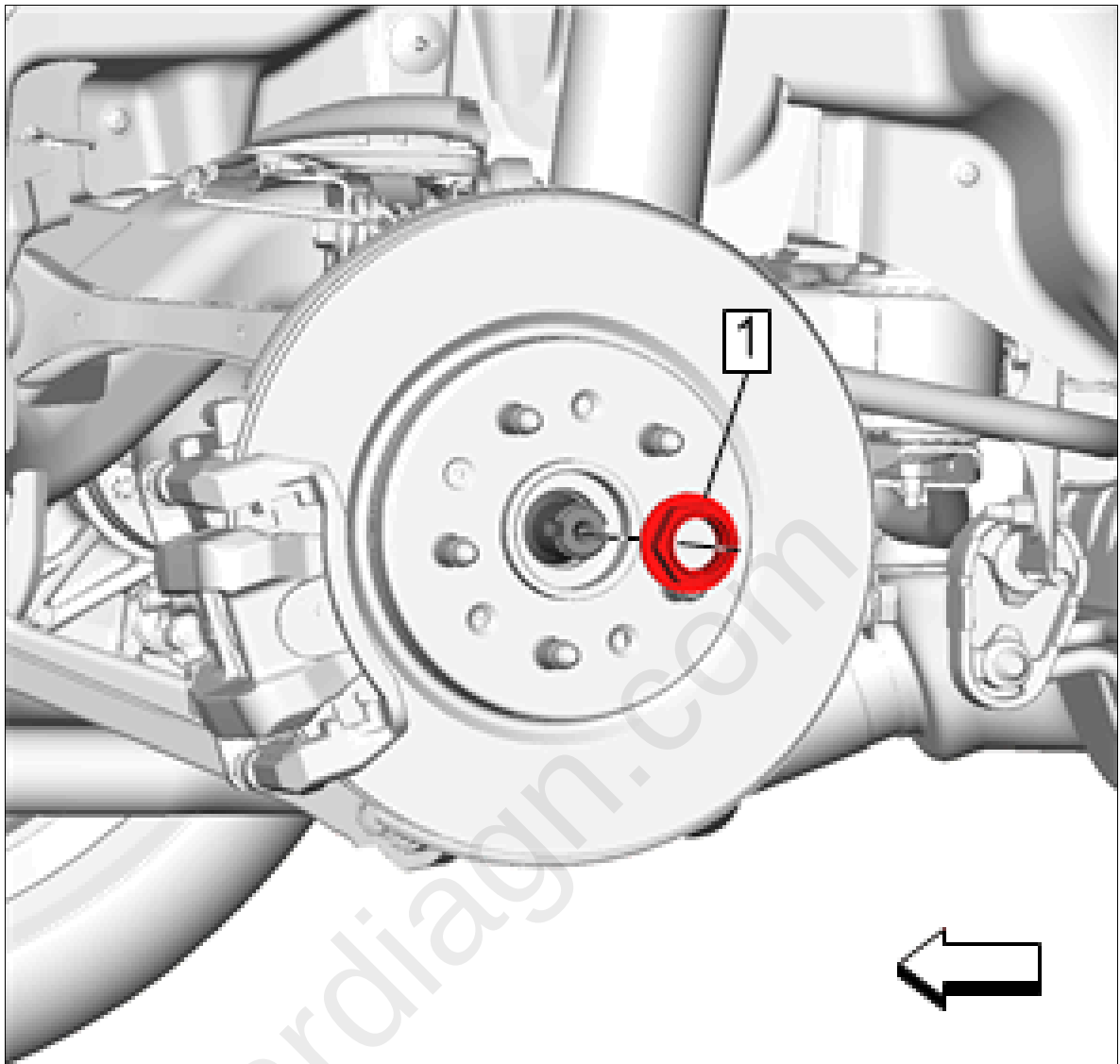
Fig 3: Wheel Drive Shaft



Courtesy of GENERAL MOTORS COMPANY

4. Install the wheel drive shaft (1) in the vehicle and through the wheel bearing/hub assembly

Fig 4: Wheel Drive Shaft Retaining Nut



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT reuse wheel drive shaft nut. Use a NEW nut only.

5. Hand start the NEW wheel drive shaft retaining nut (1).

 NOTE:

If reusing the wheel drive shaft bolts, the threads must be clean and free of debris prior to the application of the threadlocker to ensure the proper adhesion and retention.

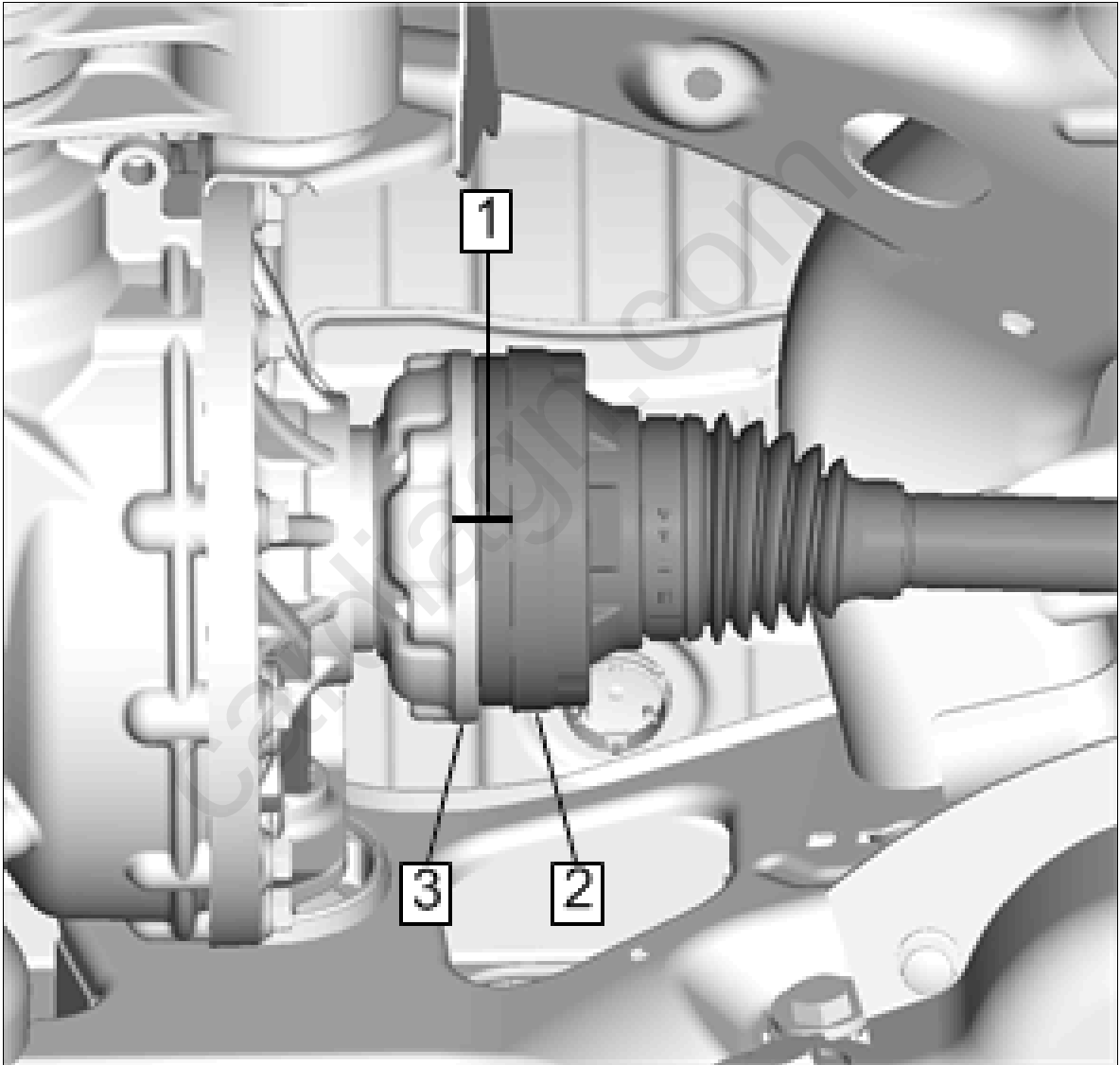
6. Thoroughly clean the threads using denatured alcohol or equivalent and allow to dry.

 NOTE:

Ensure that there are no gaps in the threadlocker along the length of the filled area of the bolt. Allow the threadlocker to cure approximately 10 minutes before installation of the bolts.

7. Apply threadlocker to the wheel drive shaft bolts. Adhesives, Fluids, Lubricants, and Sealers

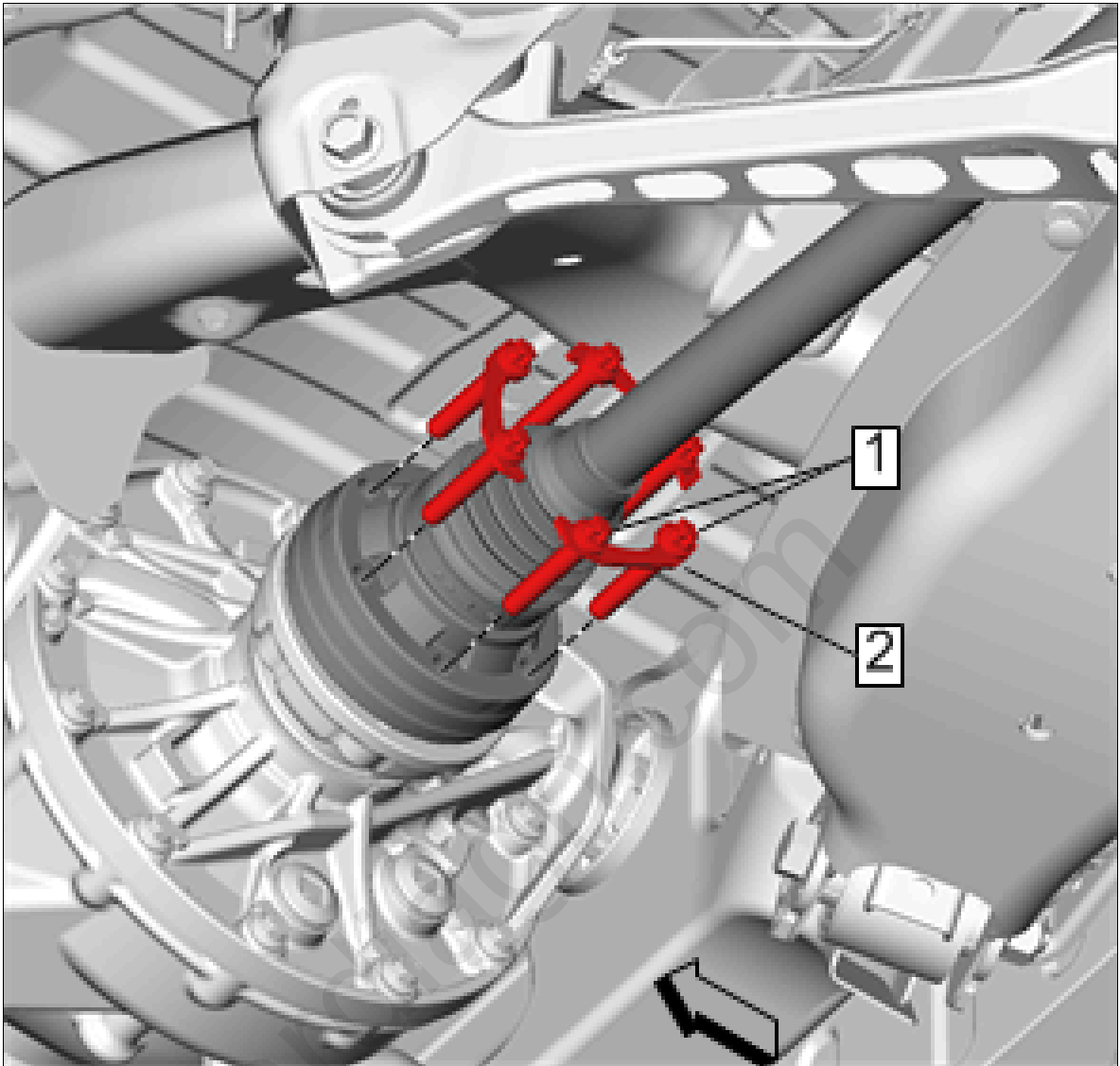
Fig 5: Wheel Drive Shaft And Output Shaft Flange



Courtesy of GENERAL MOTORS COMPANY

8. Align the reference mark (1) on the wheel drive shaft (2) and the output shaft flange (3).

Fig 6: Bolts And Washers



Courtesy of GENERAL MOTORS COMPANY

 **CAUTION:**

Fastener Caution

9. Install NEW bolts (1) and washers (2).

Tighten

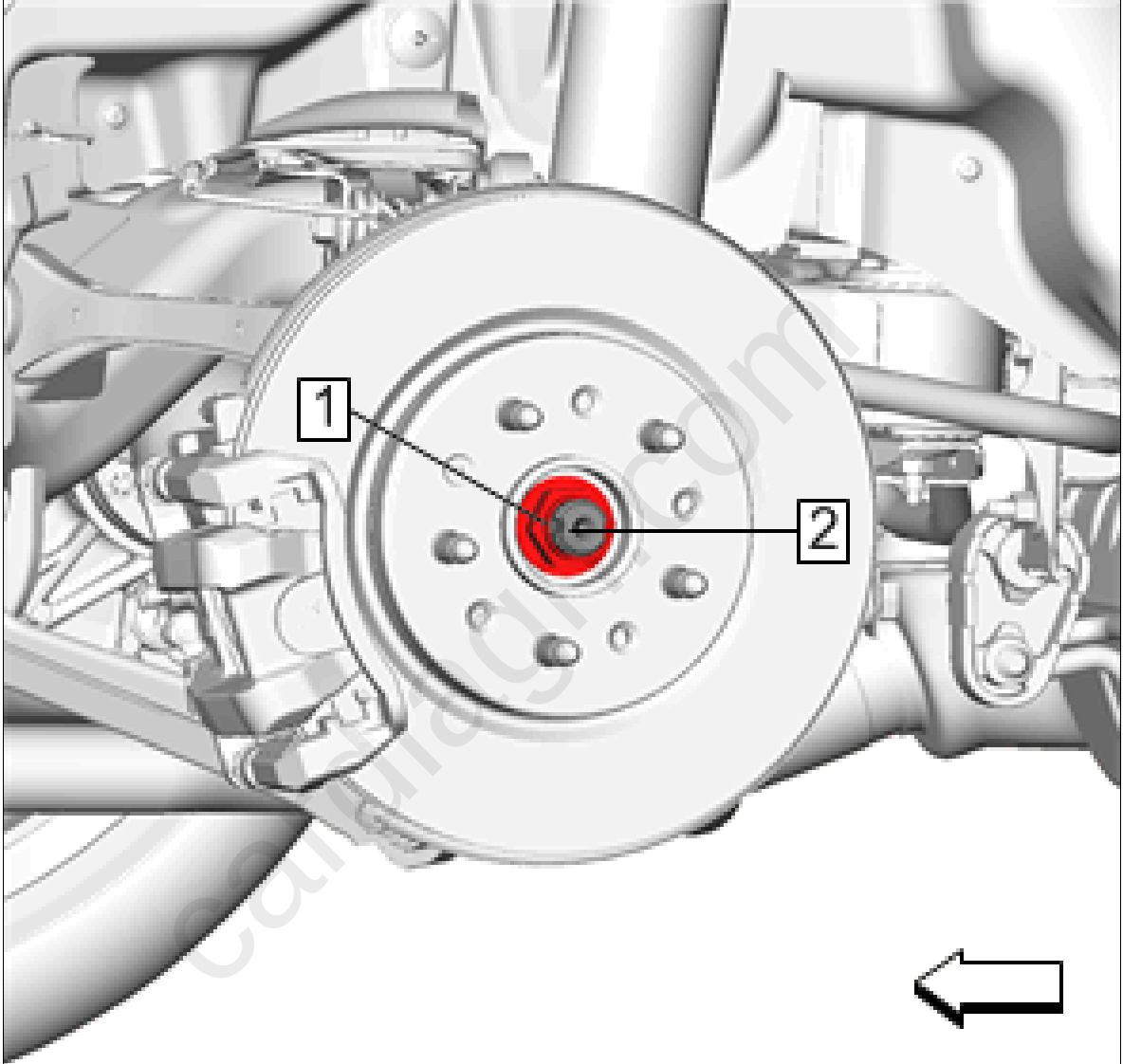
1. First Pass: 50 N.m (37 lb ft)
2. Final Pass: (45 degrees)

 **NOTE:**

Tighten the NEW wheel drive shaft nut slowly to draw the wheel drive shaft into the hub assembly prior to tightening to specifications.

10. With the aid of an assistant holding the brake pedal down, tighten the wheel drive shaft nut to 270 N.m (199 lb ft).

Fig 7: Wheel Drive Shaft Nut Collar And Drive Shaft Slots



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

The wheel drive shaft nut collar should be fractured in the center of each slot of the wheel drive shaft.

11. Using a hammer and a suitable punch, stake the wheel drive shaft nut collar into the drive shaft slots (1).

12. Install the rear suspension upper lateral link bolt at the knuckle. Rear Suspension Upper Lateral Link Replacement
13. Install the rear suspension upper trailing link bolt at the knuckle. Rear Suspension Upper Trailing Link Replacement
14. Install the exhaust muffler. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible)
15. Install the tire and wheel assembly. Tire and Wheel Removal and Installation
16. Remove the support and lower the vehicle.

REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT REPLACEMENT - RIGHT SIDE

Special Tools

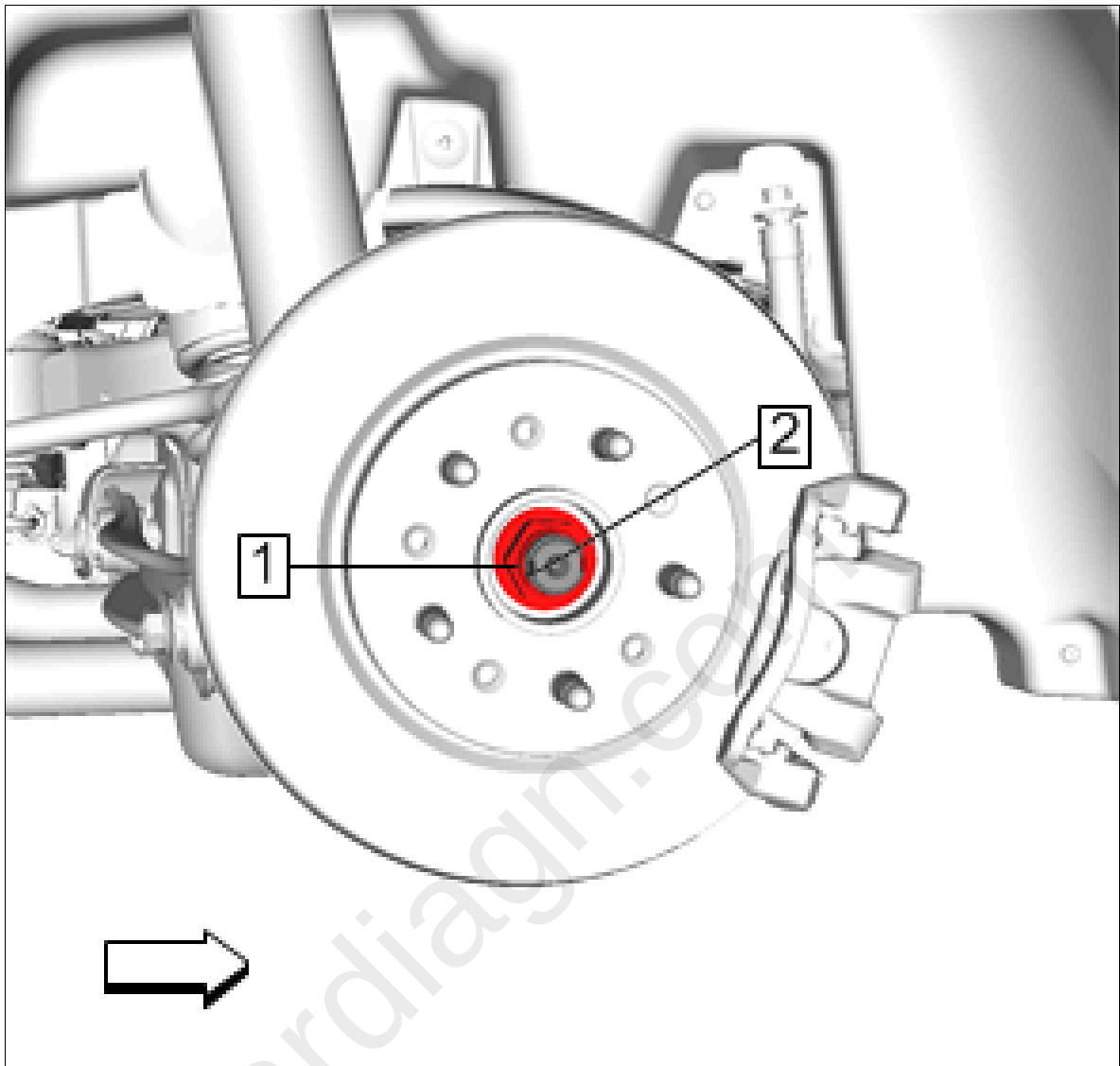
DT 45859 Hub Puller

For the equivalent regional tools, refer to Special Tools

REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT REPLACEMENT - RIGHT SIDE > REMOVAL PROCEDURE

1. Raise and support the vehicle. Lifting and Jacking the Vehicle (Base)Lifting and Jacking the Vehicle (HP)
2. Remove the tire and wheel assembly. Tire and Wheel Removal and Installation
3. Remove the exhaust muffler. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible)
4. Remove the rear suspension upper lateral link bolt at the knuckle. Rear Suspension Upper Lateral Link Replacement
5. Remove the rear suspension upper trailing link bolt at the knuckle. Rear Suspension Upper Trailing Link Replacement

Fig 1: Drive Shaft Nut Collar And Wheel Drive Shaft Slots



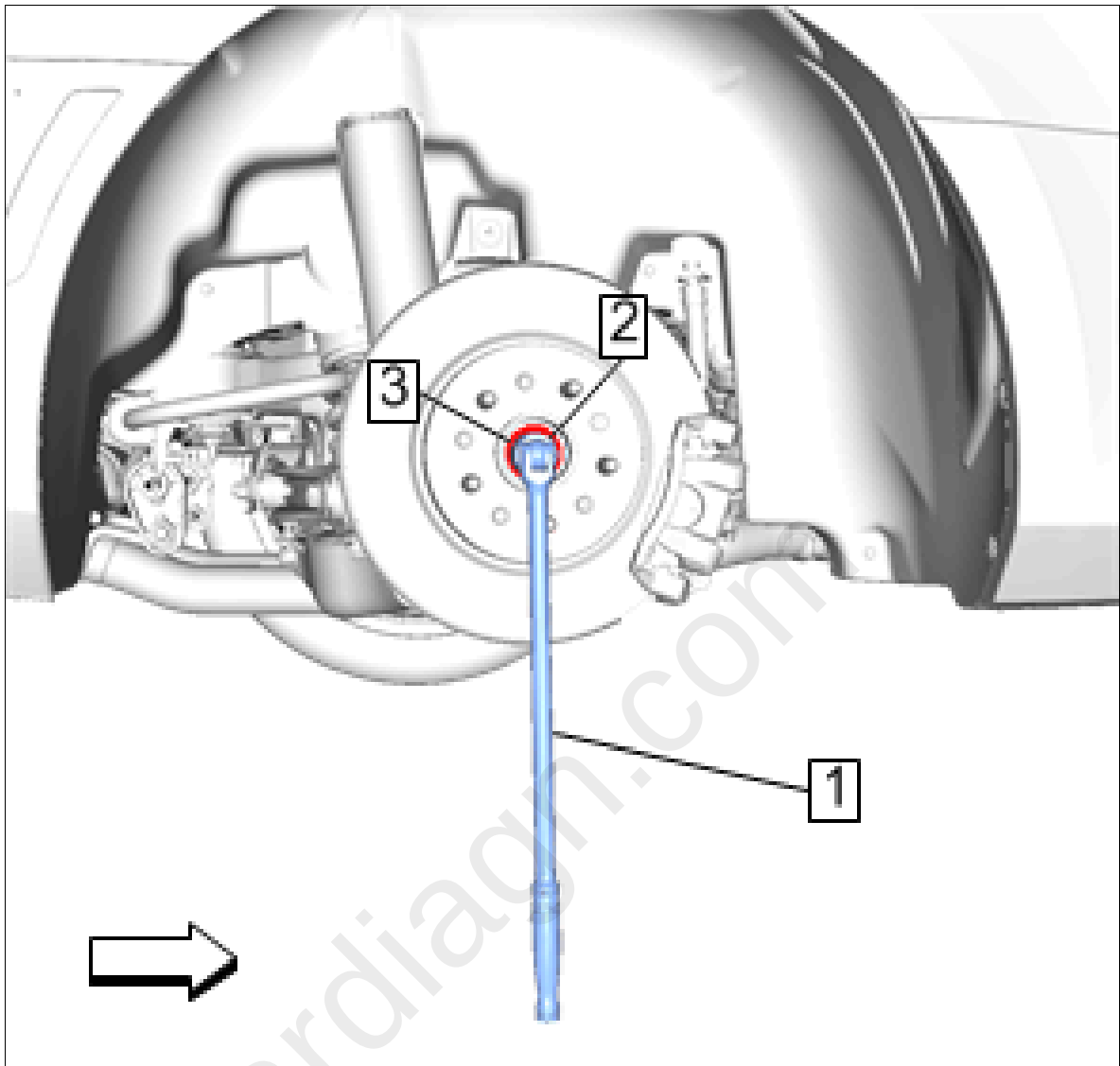
Courtesy of GENERAL MOTORS COMPANY

 CAUTION:

Make sure that the wheel drive shaft nut is fully un-staked to avoid damage to the wheel drive shaft threads during the removal of the wheel drive shaft nut. Failure to follow these instructions could result in wheel, nut, and/or stud damage.

6. Using a suitable punch and a hammer, un-stake the drive shaft nut collar (1) from the wheel drive shaft slots (2).

Fig 2: Breaker Bar, Proper Size Socket And Wheel Drive Shaft Nut



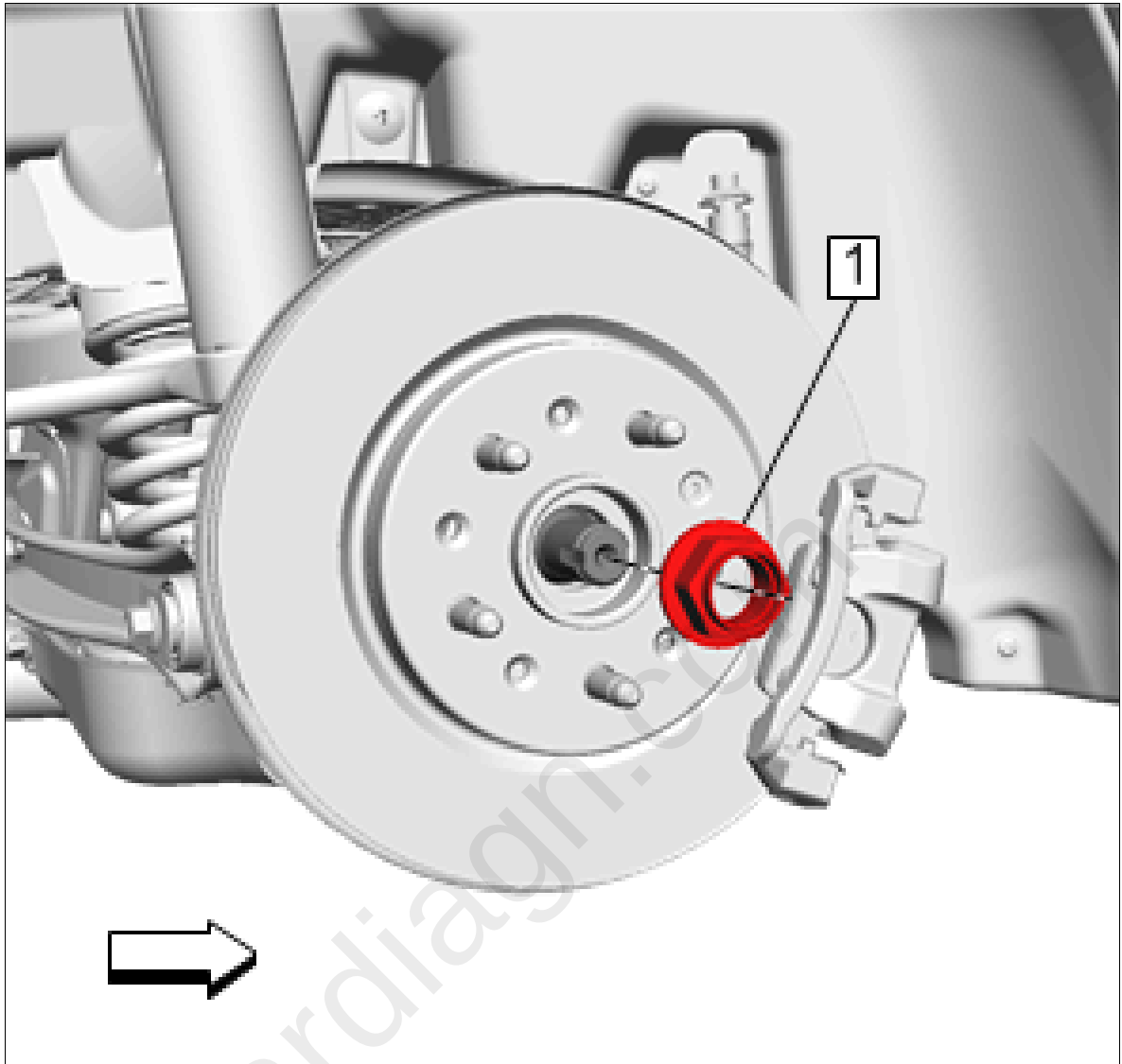
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT use air tools to remove the wheel drive shaft nut. Use hand tools ONLY.

7. With the aid of an assistant holding the brake pedal down, use a breaker bar (1) and the proper size socket (2) to loosen the wheel drive shaft nut (3).

Fig 3: Wheel Drive Shaft Retaining Nut



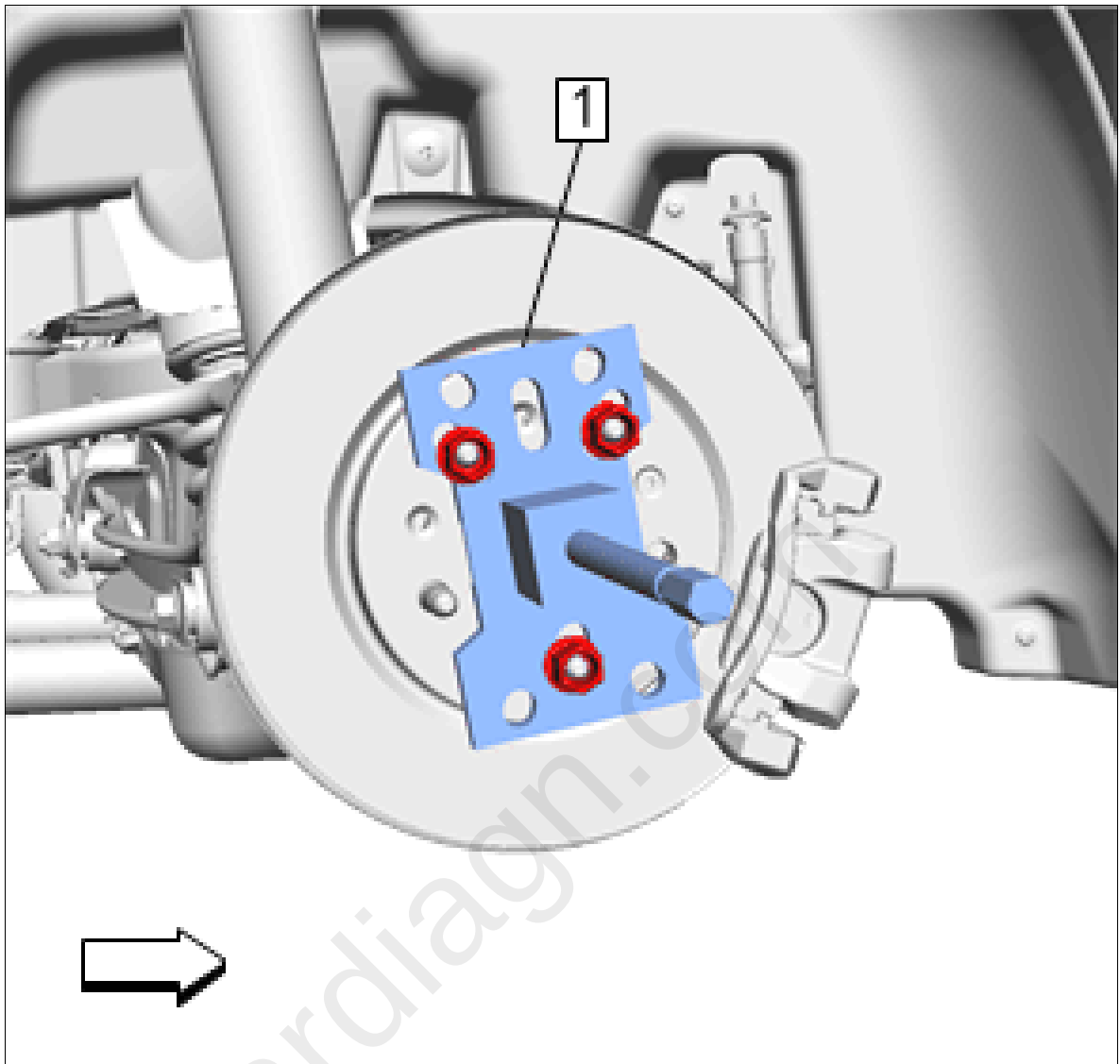
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT reuse wheel drive shaft nut. DISCARD and replace with NEW only.

8. Remove and DISCARD the wheel drive shaft retaining nut (1).

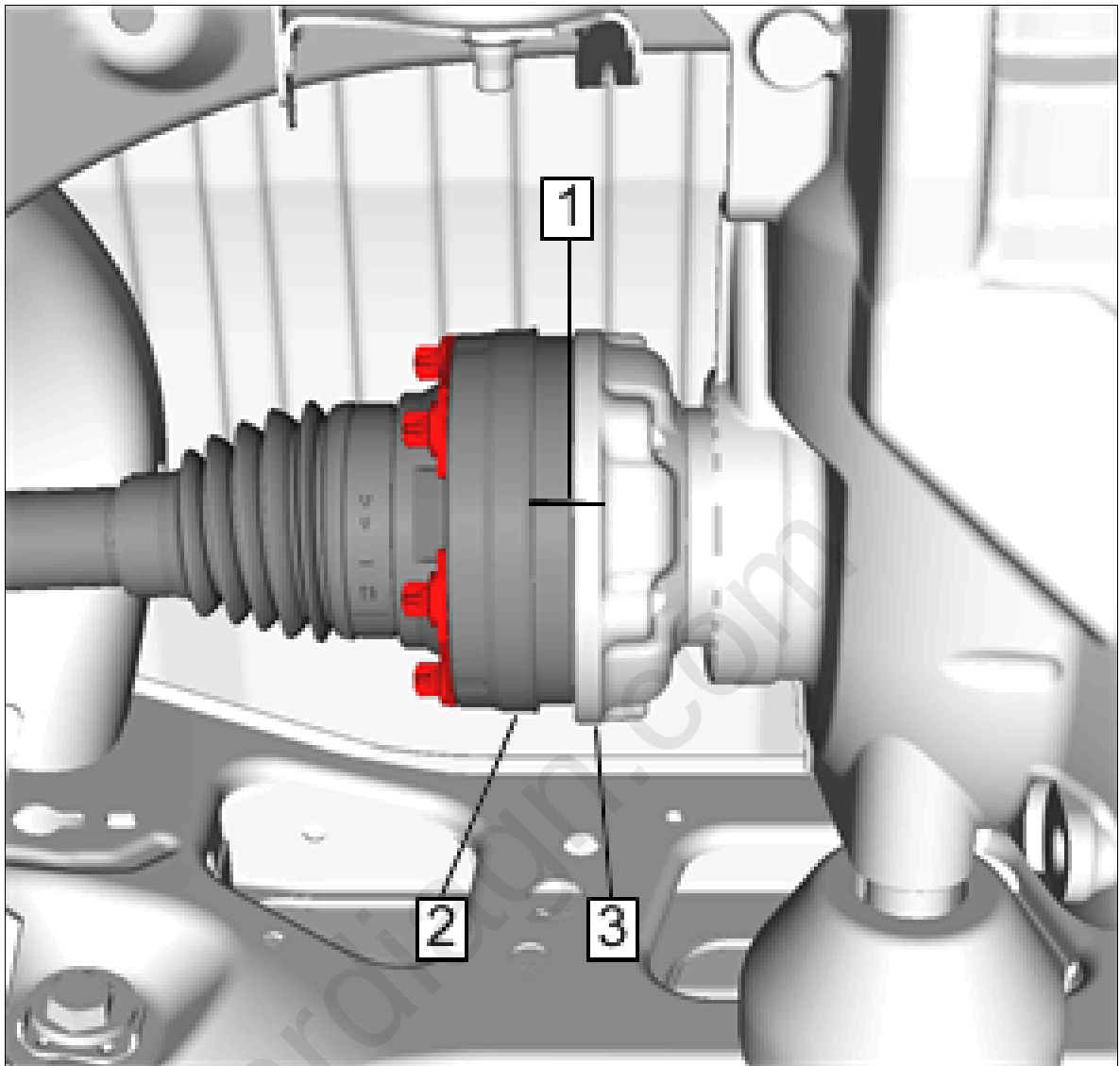
Fig 4: Hub Puller



Courtesy of GENERAL MOTORS COMPANY

9. Using the **DT 45859** hub puller (1), separate the wheel drive shaft from the wheel bearing/hub assembly.

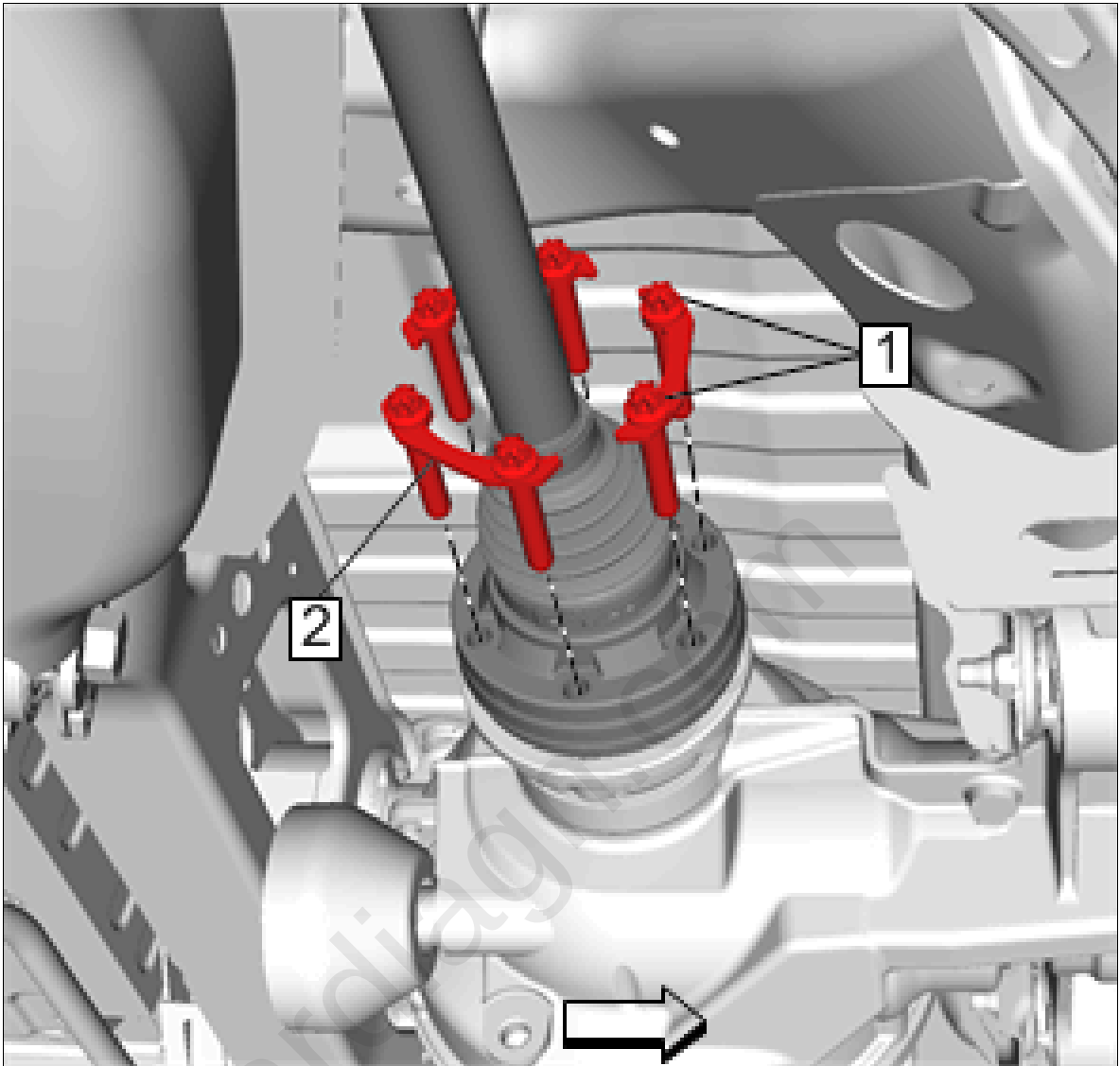
Fig 5: Wheel Drive Shaft And Output Shaft Flange



Courtesy of GENERAL MOTORS COMPANY

10. Mark the relationship (1) of the wheel drive shaft (2) to the output shaft flange (3).

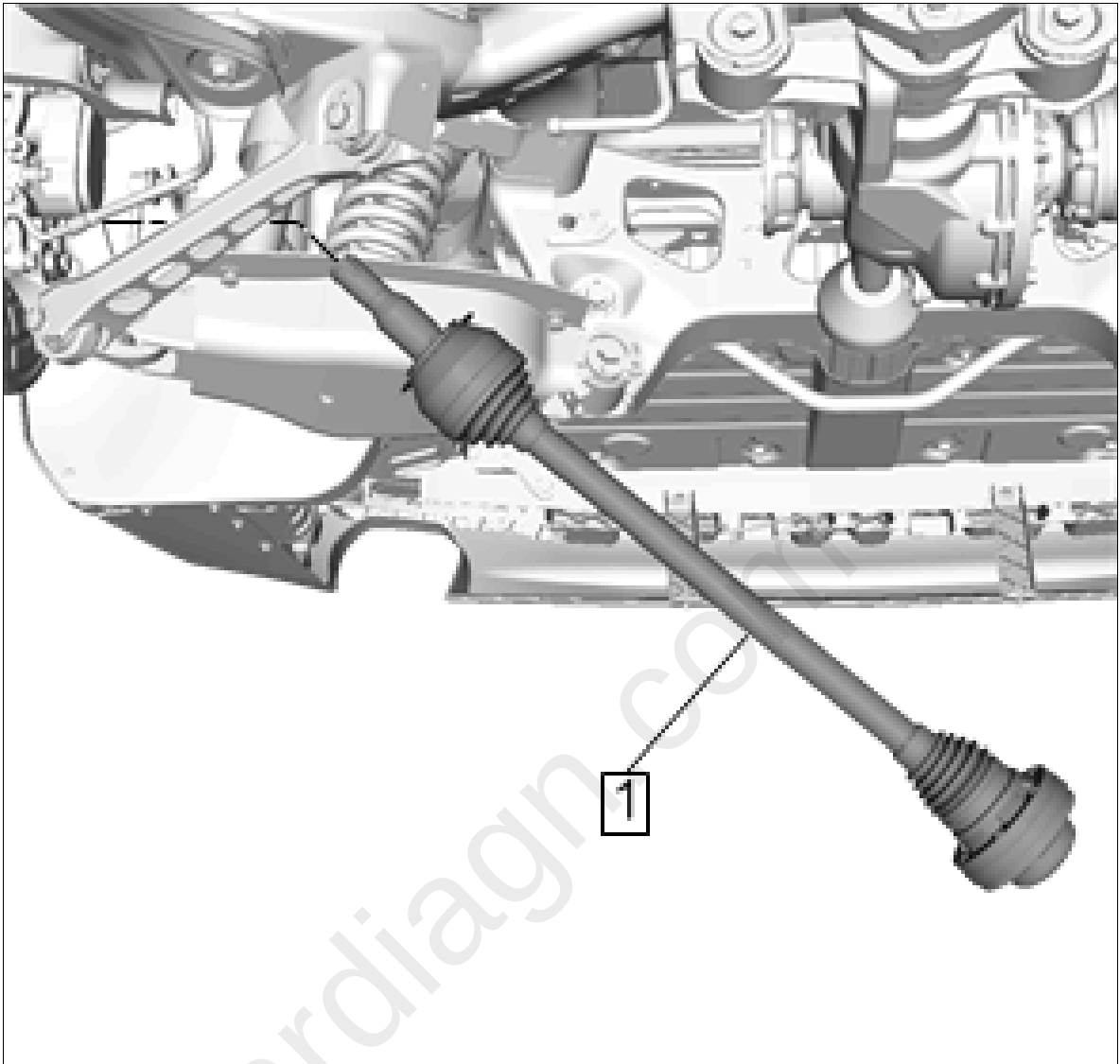
Fig 6: Wheel Drive Shaft Bolts And Washers



Courtesy of GENERAL MOTORS COMPANY

11. Remove and DISCARD the wheel drive shaft bolts (1) and washers (2). Replace with NEW only.

Fig 7: Wheel Drive Shaft



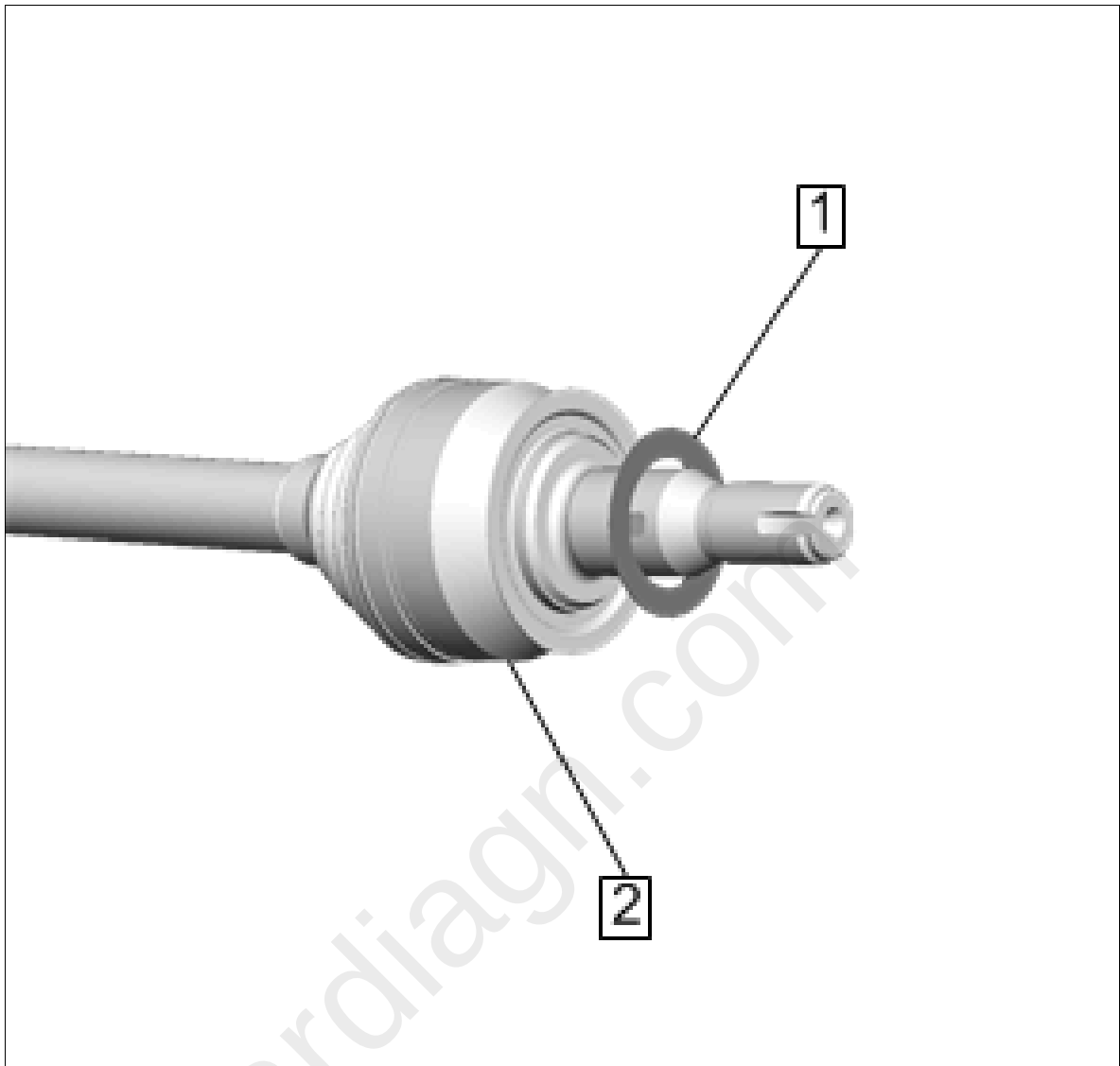
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Reposition the knuckle to allow the inner joint to pass the rear differential flange. It may be necessary to use a flat bladed tool to separate the wheel drive shaft from the differential flange.

12. Remove the wheel drive shaft (1) from the vehicle.

Fig 8: Wheel Drive Shaft And Washer



Courtesy of GENERAL MOTORS COMPANY

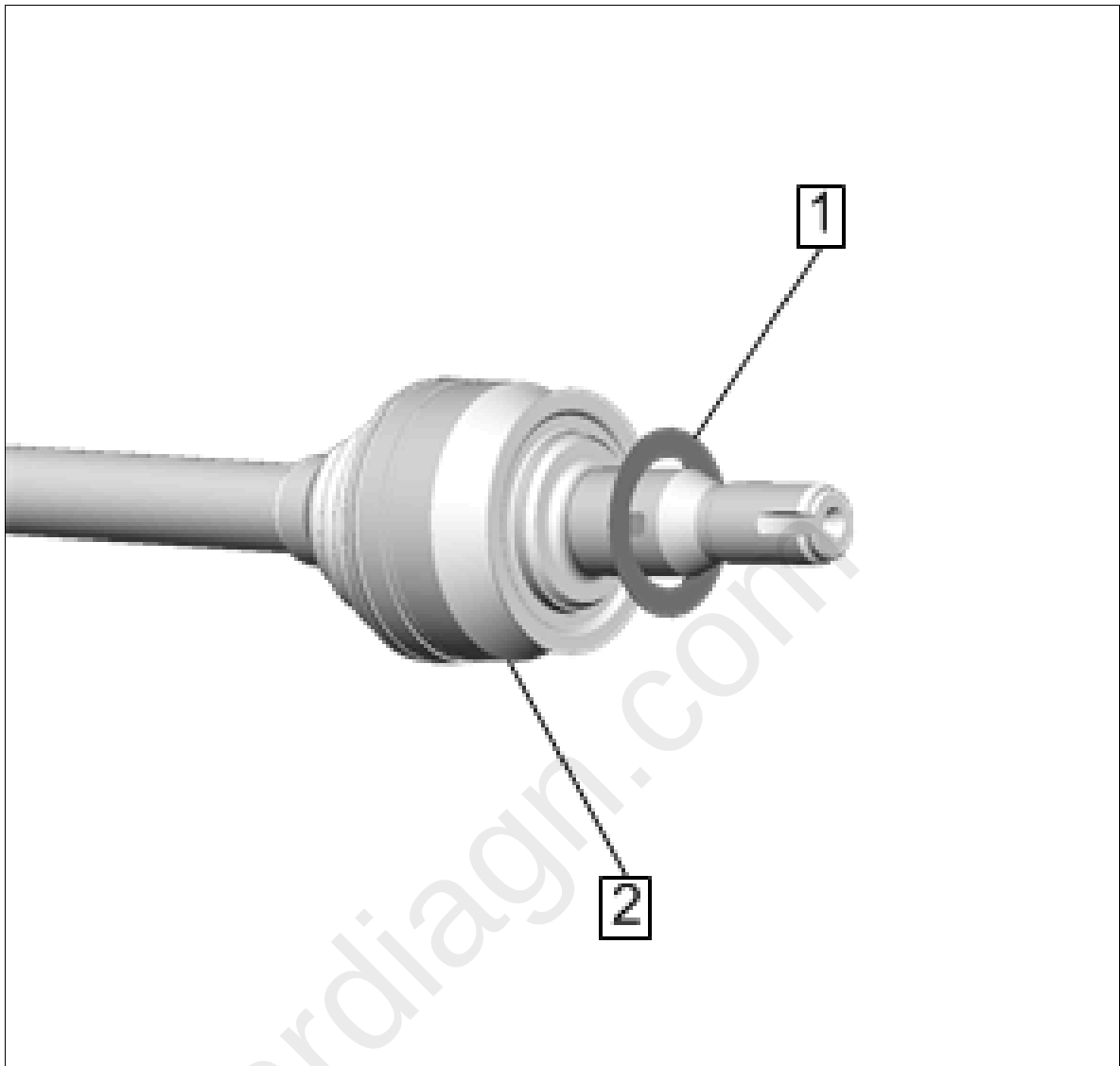
 NOTE:

Do NOT reuse wheel drive shaft washer. DISCARD and replace with NEW only.

13. Remove the washer (1) from the wheel drive shaft (2).

**REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT REPLACEMENT - RIGHT
SIDE > INSTALLATION PROCEDURE**

Fig 1: Wheel Drive Shaft And Washer



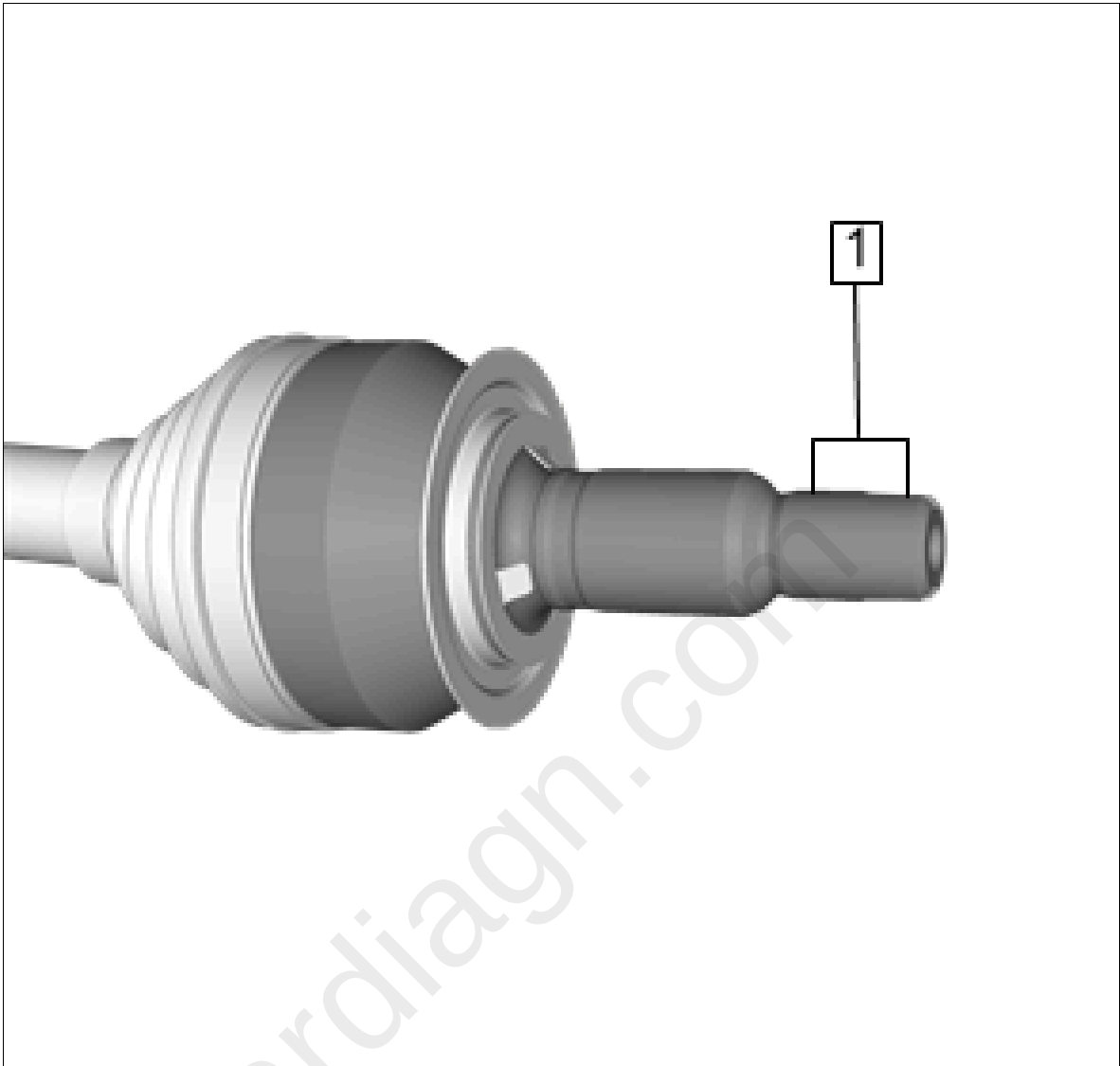
Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT reuse wheel drive shaft washer. Use a NEW washer only.

1. Install the NEW washer (1) on the wheel drive shaft (2).

Fig 2: Threadlocker On Wheel Drive Shaft Threads



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

The threads must be clean and free of debris prior to the application of the threadlocker to ensure the proper adhesion and retention.

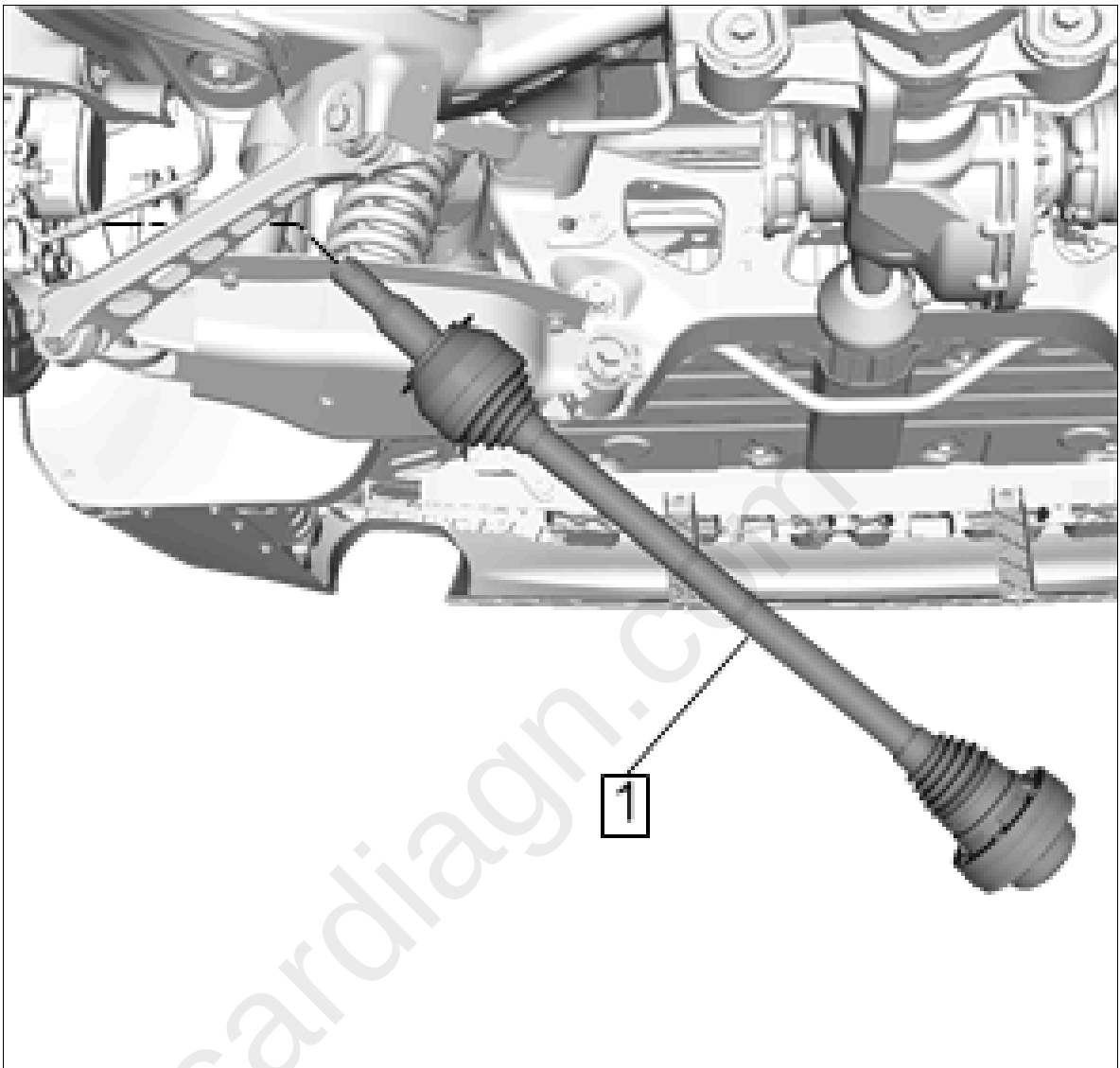
2. Thoroughly clean the threads using denatured alcohol or equivalent and allow to dry.

 NOTE:

Ensure that there are no gaps in the threadlocker along the length of the filled area of the threads on the shaft. Allow the threadlocker to cure approximately 10 minutes before installation of the nut.

3. Apply threadlocker to the wheel drive shaft threads (1). Adhesives, Fluids, Lubricants, and Sealers

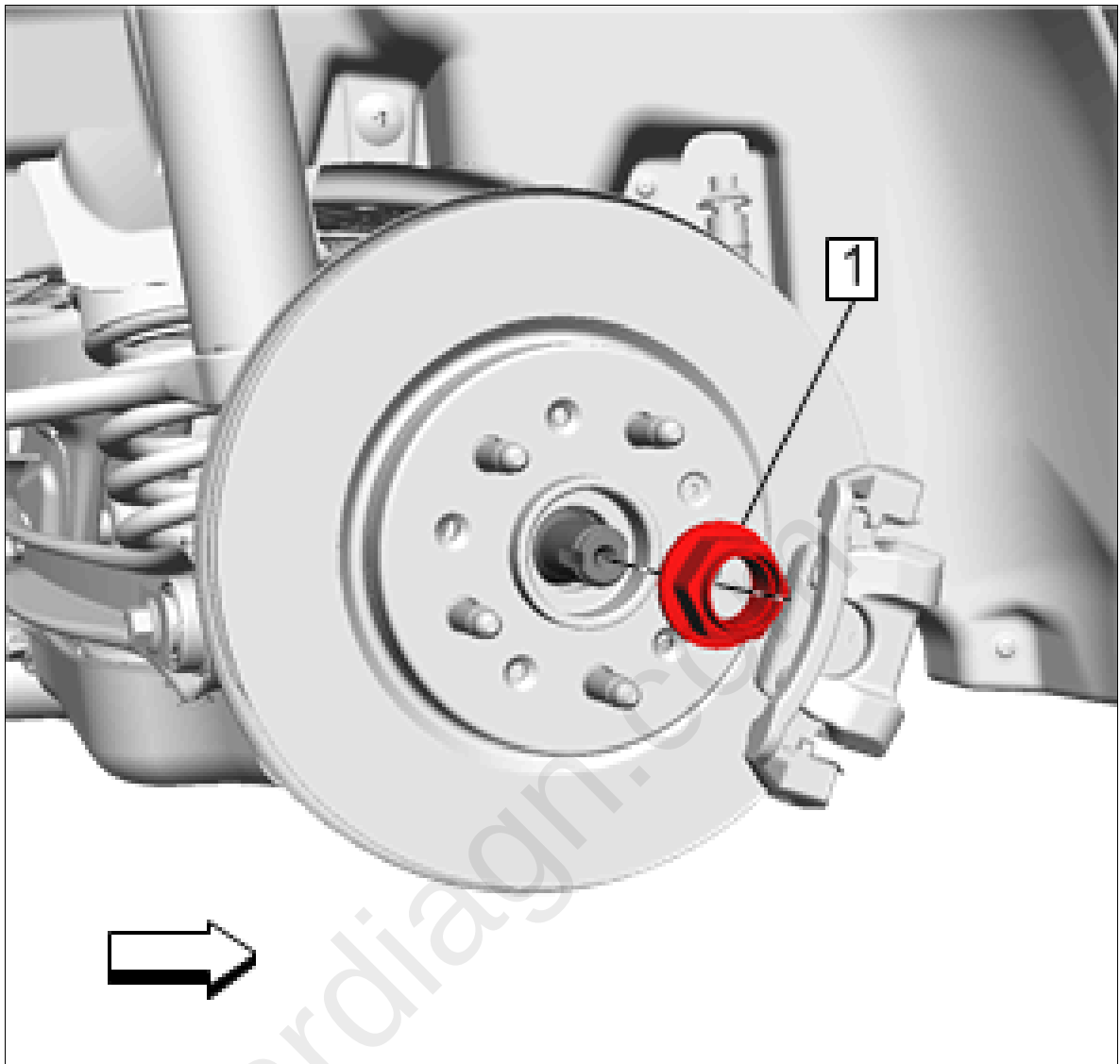
Fig 3: Wheel Drive Shaft



Courtesy of GENERAL MOTORS COMPANY

4. Install the wheel drive shaft (1) in the vehicle and through the wheel bearing/hub assembly

Fig 4: Wheel Drive Shaft Retaining Nut



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

Do NOT reuse wheel drive shaft nut. Use a NEW nut only.

5. Hand start the NEW wheel drive shaft retaining nut (1).

 NOTE:

If reusing the wheel drive shaft bolts, the threads must be clean and free of debris prior to the application of the threadlocker to ensure the proper adhesion and retention.

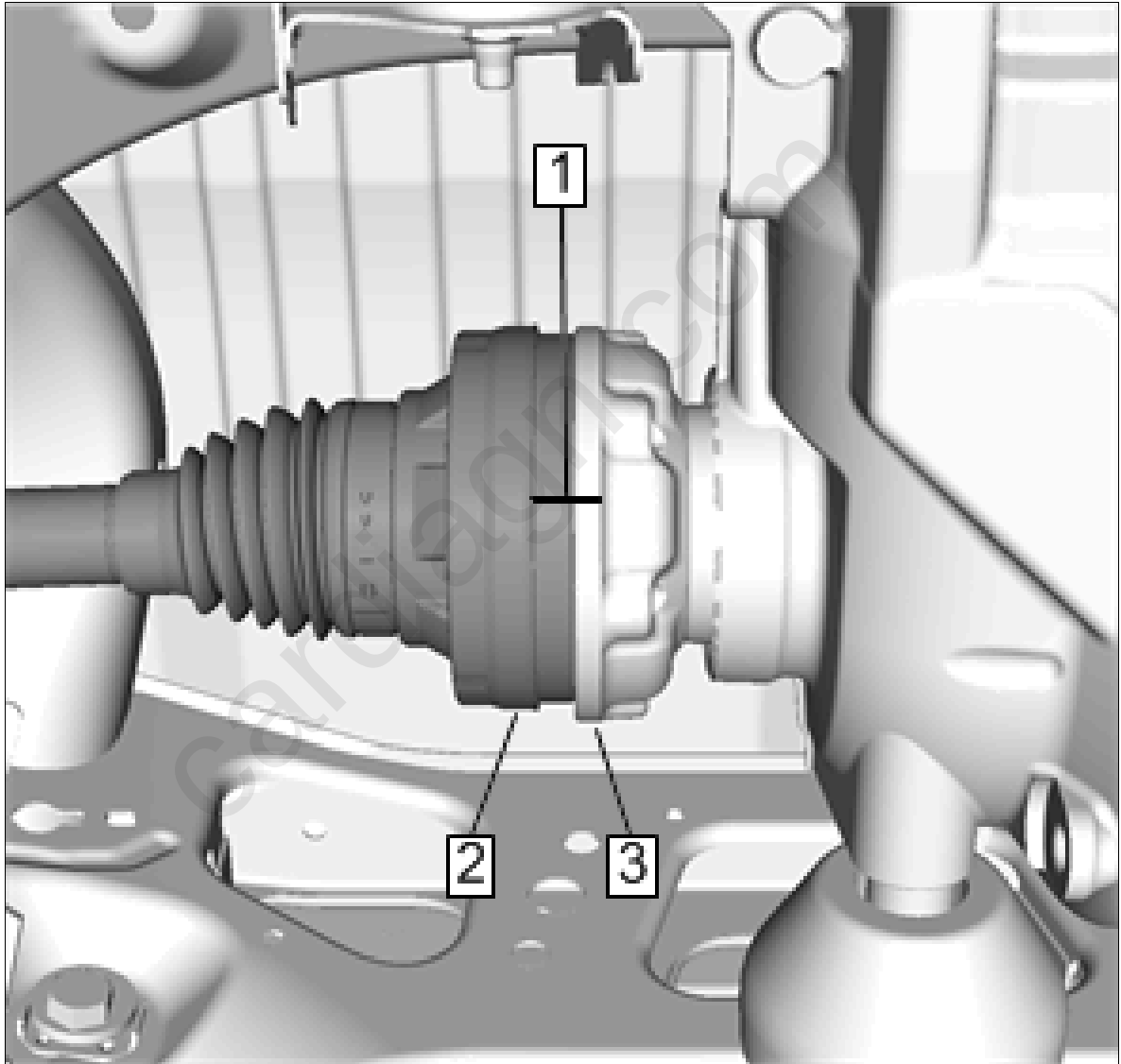
6. Thoroughly clean the threads using denatured alcohol or equivalent and allow to dry.

 NOTE:

Ensure that there are no gaps in the threadlocker along the length of the filled area of the bolt. Allow the threadlocker to cure approximately 10 minutes before installation of the bolts.

7. Apply threadlocker to the wheel drive shaft bolts. Adhesives, Fluids, Lubricants, and Sealers

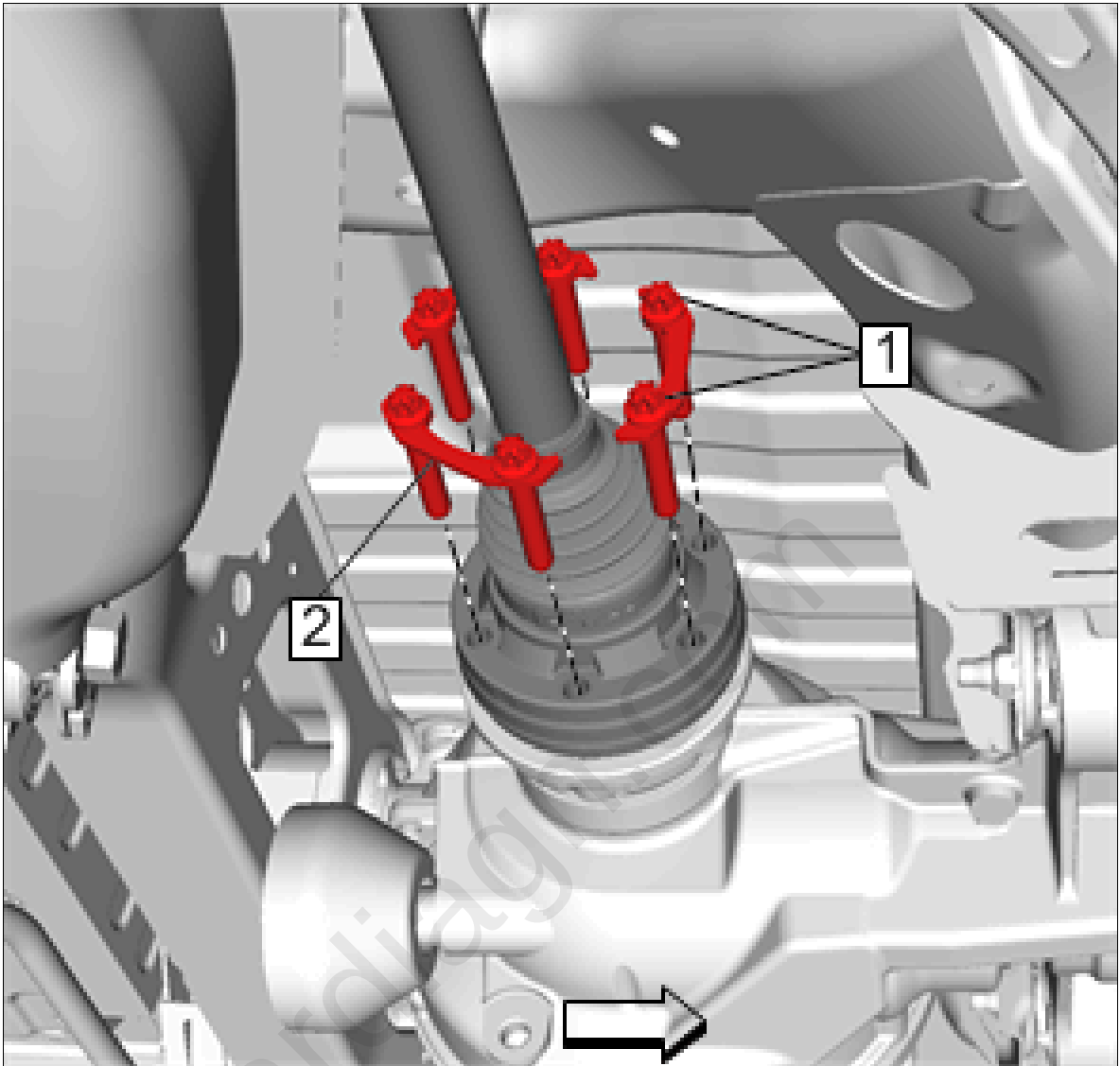
Fig 5: Wheel Drive Shaft And Output Shaft Flange



Courtesy of GENERAL MOTORS COMPANY

8. Align the reference mark (1) on the wheel drive shaft (2) and the output shaft flange (3).

Fig 6: Bolts And Washers



Courtesy of GENERAL MOTORS COMPANY

 **CAUTION:**

Fastener Caution

9. Install NEW bolts (1) and washers (2).

Tighten

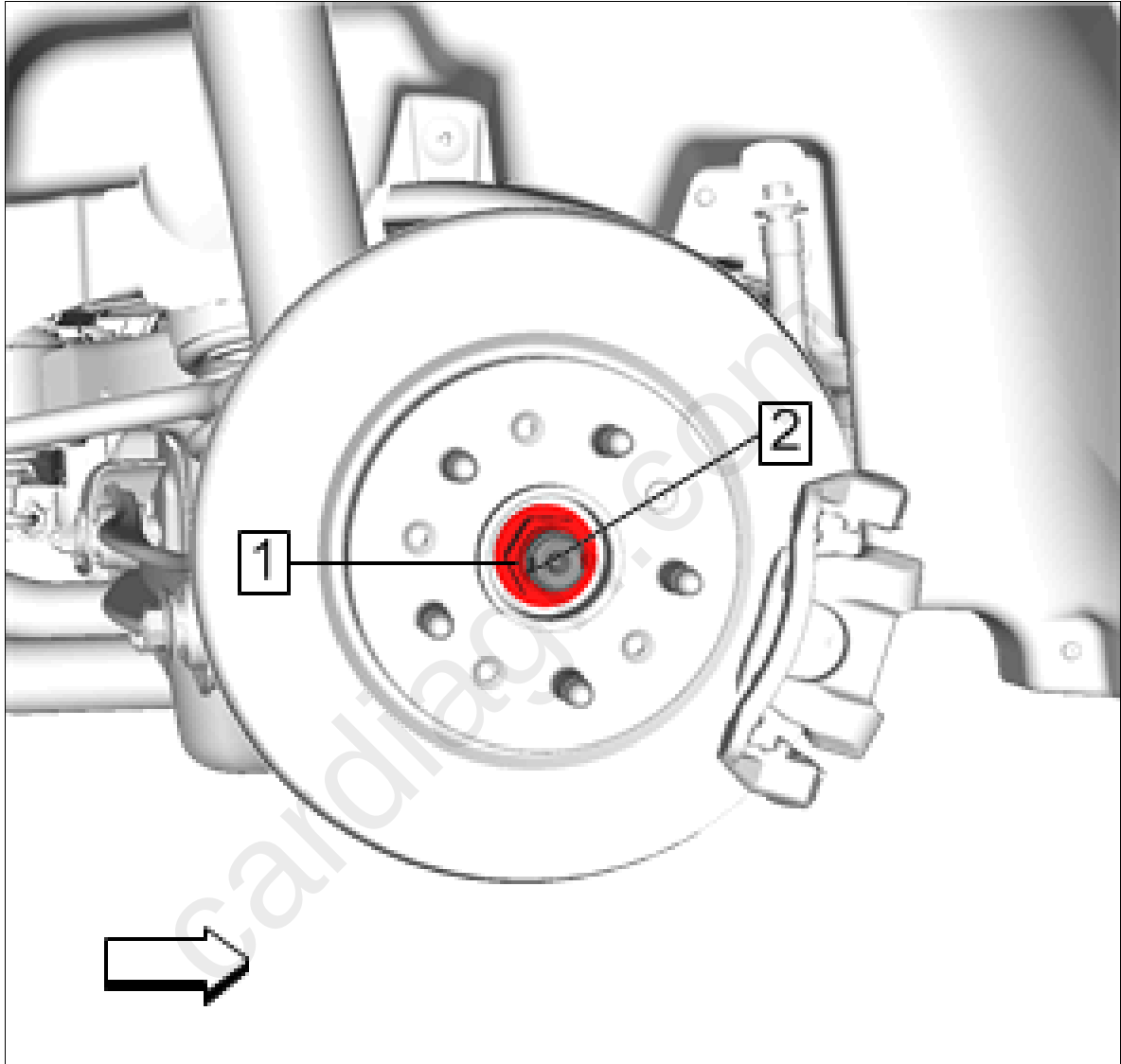
1. First Pass: 50 N.m (37 lb ft)
2. Final Pass: (45 degrees)

 **NOTE:**

Tighten the NEW wheel drive shaft nut slowly to draw the wheel drive shaft into the hub assembly prior to tightening to specifications.

10. With the aid of an assistant holding the brake pedal down, tighten the wheel drive shaft nut to 270 N.m (199 lb ft).

Fig 7: Wheel Drive Shaft Nut Collar And Drive Shaft Slots



Courtesy of GENERAL MOTORS COMPANY

 NOTE:

The wheel drive shaft nut collar should be fractured in the center of each slot of the wheel drive shaft.

11. Using a hammer and a suitable punch, stake the wheel drive shaft nut collar into the drive shaft slots (1).

12. Install the rear suspension upper lateral link bolt at the knuckle. Rear Suspension Upper Lateral Link Replacement
13. Install the rear suspension upper trailing link bolt at the knuckle. Rear Suspension Upper Trailing Link Replacement
14. Install the exhaust muffler. Exhaust Muffler Replacement (LGX, Coupe)Exhaust Muffler Replacement (LGX, Convertible)Exhaust Muffler Replacement (LT1, Coupe)Exhaust Muffler Replacement (LT1, Convertible)Exhaust Muffler Replacement (LTG, Coupe)Exhaust Muffler Replacement (LTG, Convertible)
15. Install the tire and wheel assembly. Tire and Wheel Removal and Installation
16. Remove the support and lower the vehicle.

REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT OUTER JOINT AND BOOT REPLACEMENT

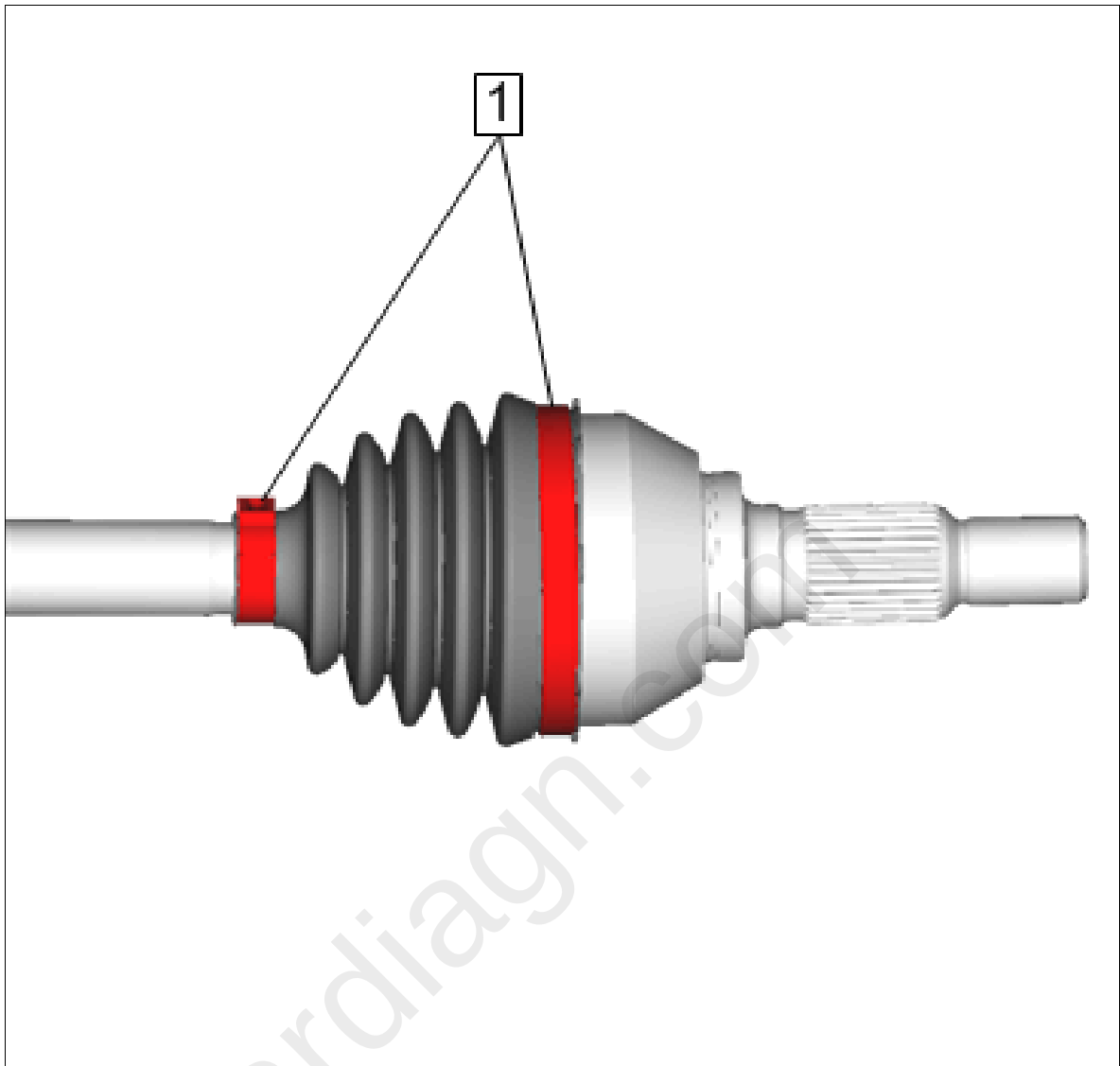
Special Tools

J-42572 CV Boot Clamp Pliers

REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT OUTER JOINT AND BOOT REPLACEMENT > DISASSEMBLY PROCEDURE

1. Remove Rear Wheel Drive Shaft - Rear Wheel Drive Shaft Replacement - Left Side , or Rear Wheel Drive Shaft Replacement - Right Side
2. Place the wheel drive shaft horizontally in a bench vise.

Fig 1: Outer CV Boot And Retaining Clamps

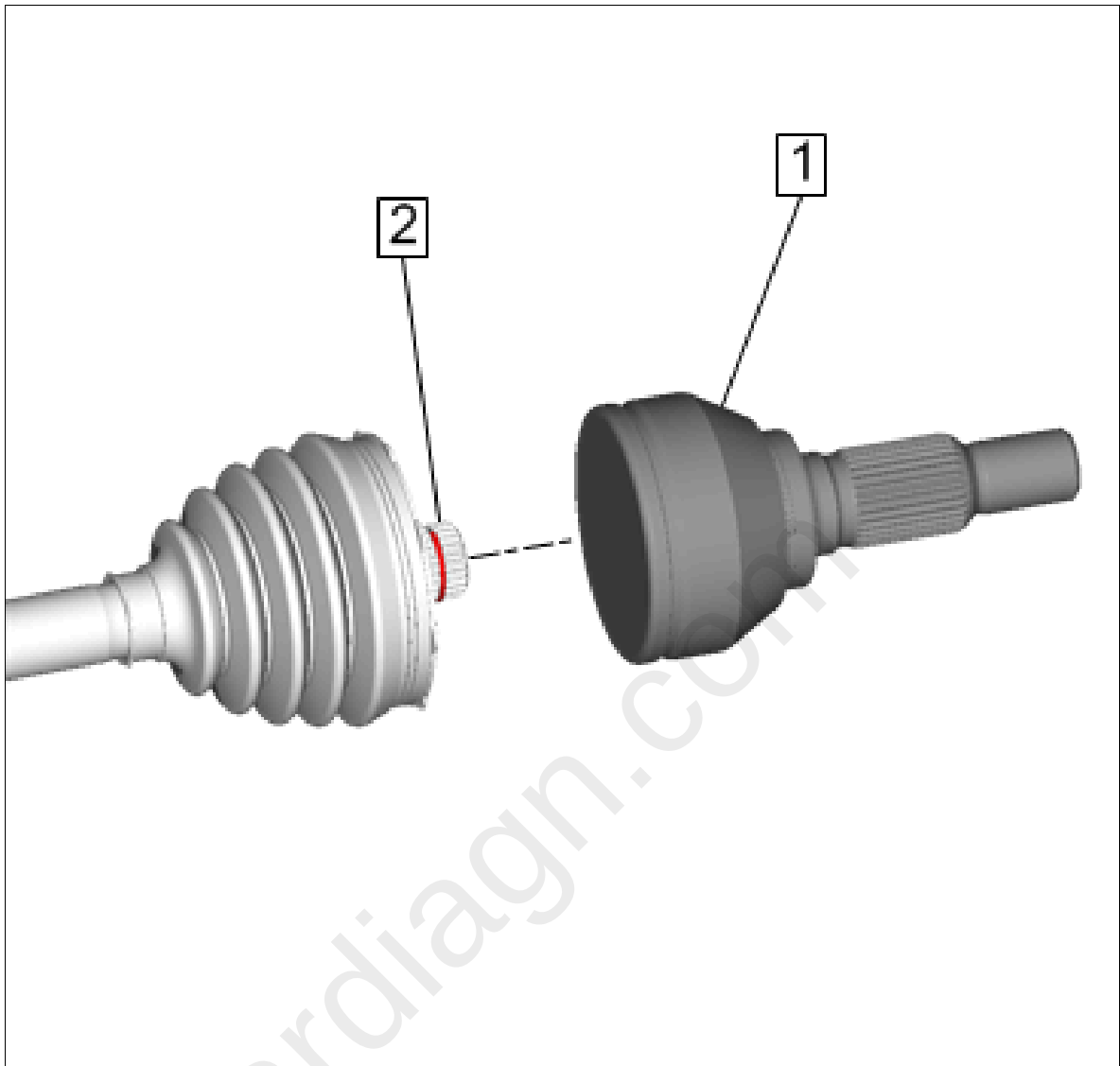


Courtesy of GENERAL MOTORS COMPANY

3. Using a side cutter or other suitable tool, remove the retaining clamps (1) from the outer CV boot.

DISCARD the clamps.

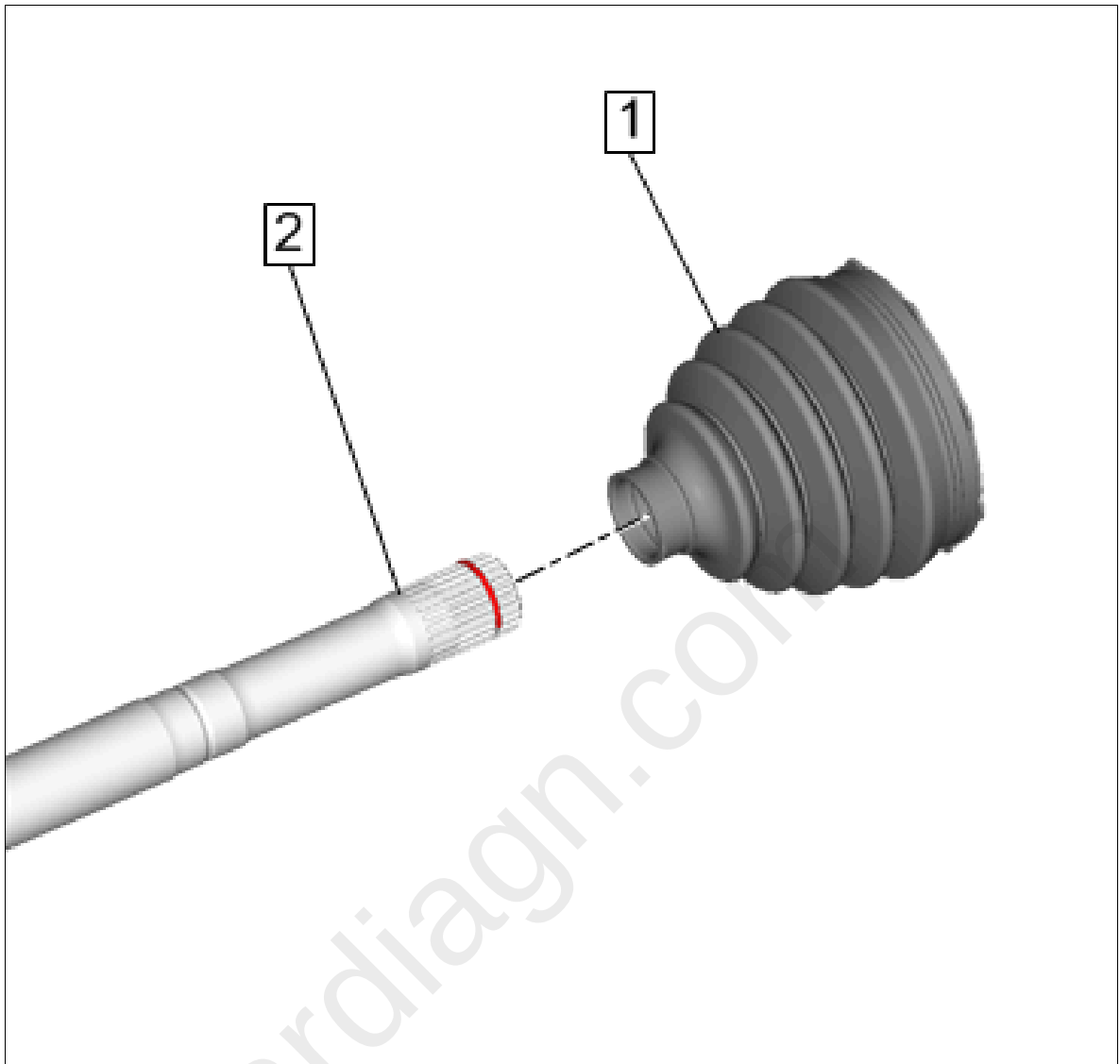
Fig 2: CV Joint And Wheel Drive Shaft



Courtesy of GENERAL MOTORS COMPANY

4. Using a suitable driver and a hammer, remove the CV joint (1) from the wheel drive shaft (2).

Fig 3: CV Boot And Wheel Drive Shaft

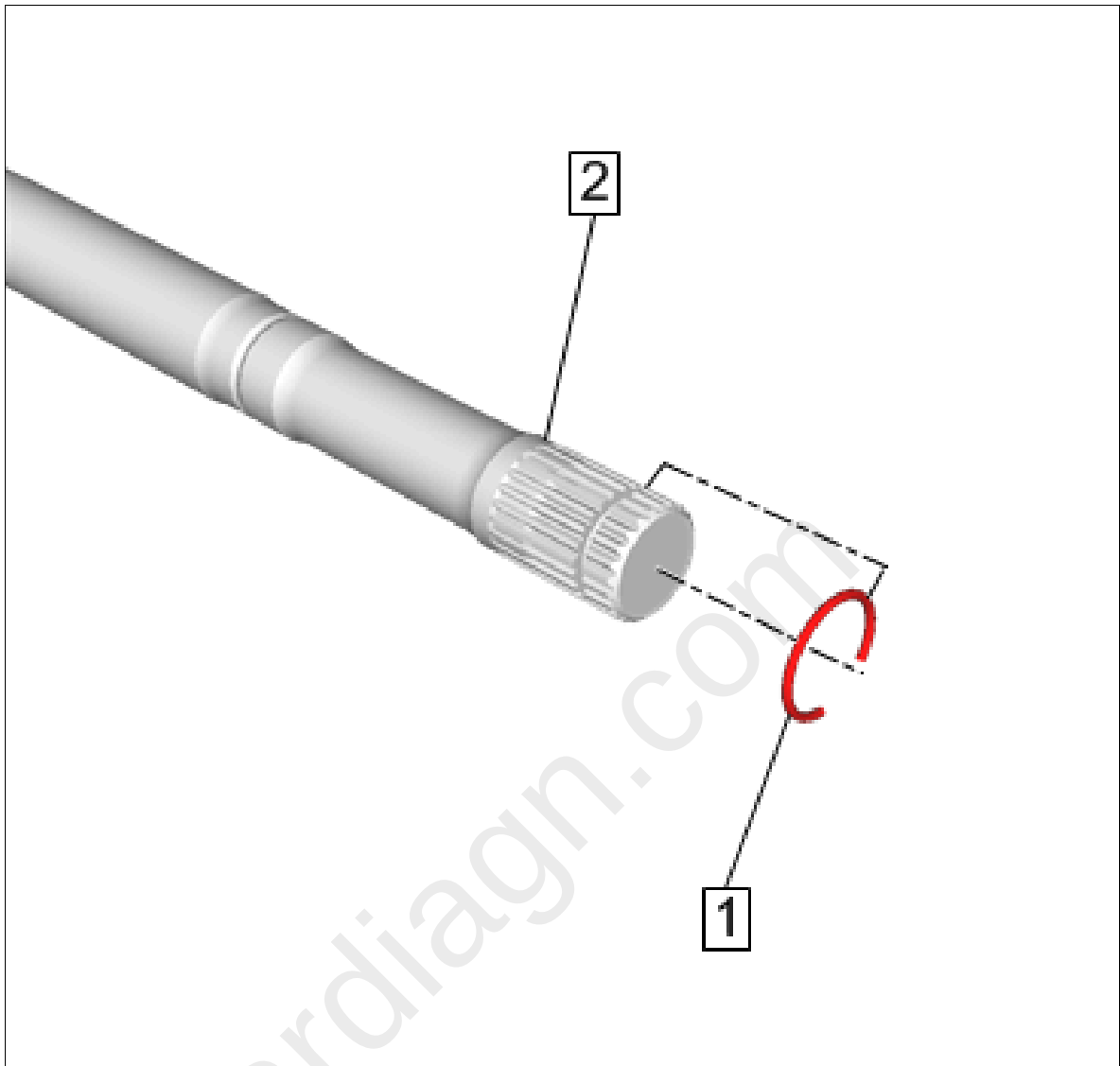


Courtesy of GENERAL MOTORS COMPANY

5. Remove the CV boot (1) from the wheel drive shaft (2).

DISCARD the boot.

Fig 4: Wheel Drive Shaft And Retaining Ring

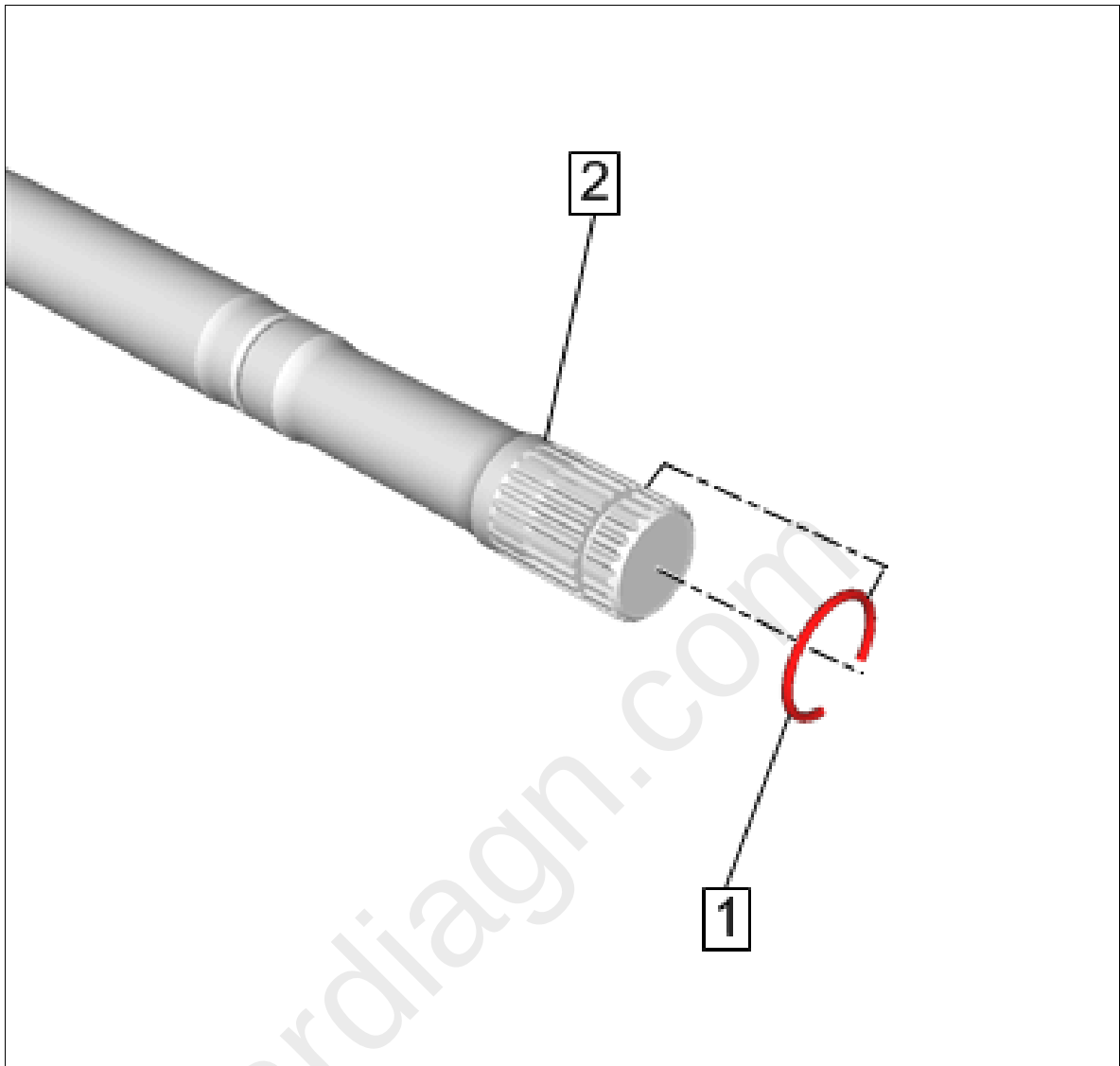


Courtesy of GENERAL MOTORS COMPANY

6. Remove and DISCARD Retaining Ring (1) at Wheel Drive Shaft (2).

**REPAIR INSTRUCTIONS > REAR WHEEL DRIVE SHAFT OUTER JOINT AND BOOT
REPLACEMENT > ASSEMBLY PROCEDURE**

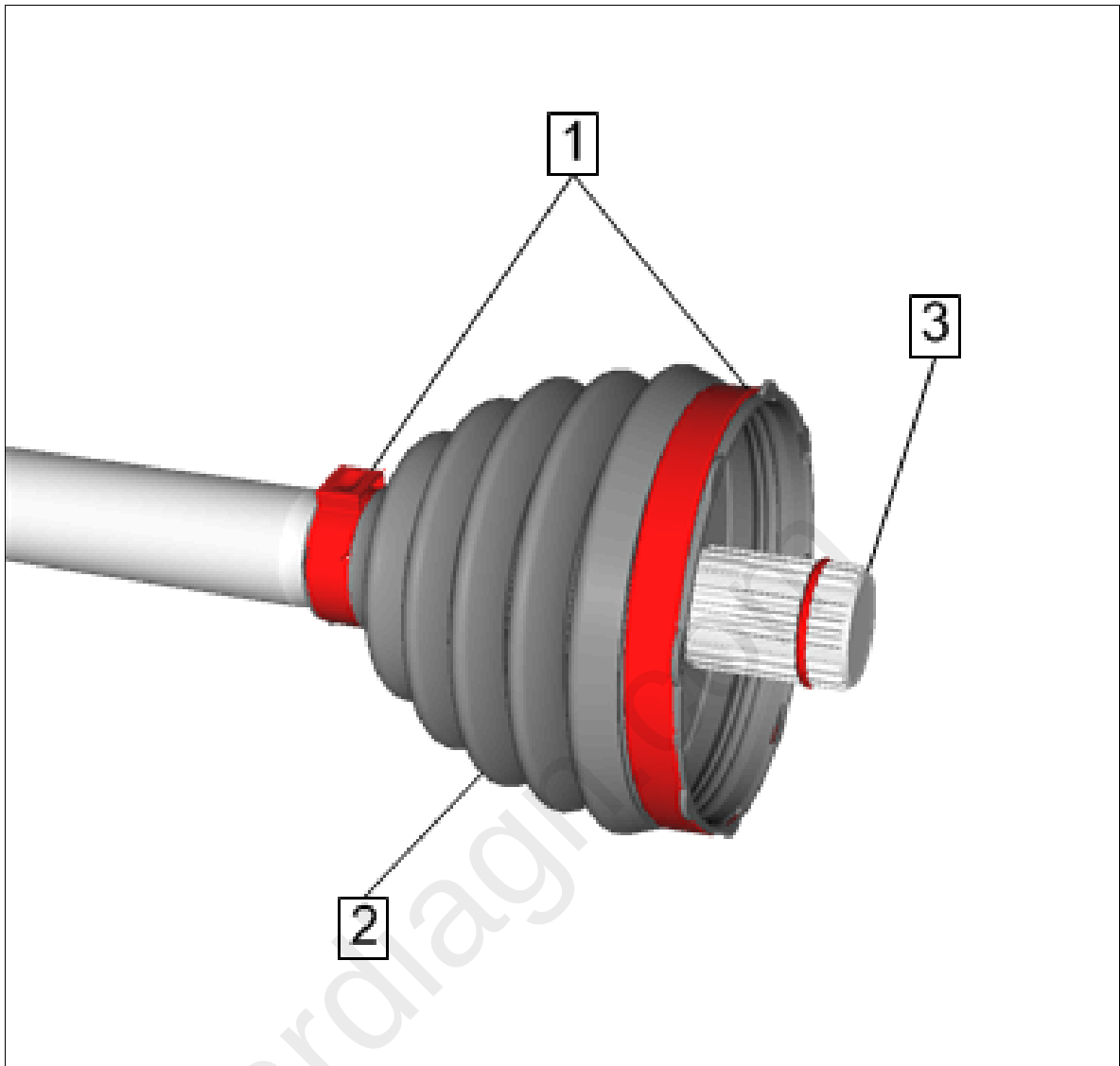
Fig 1: Wheel Drive Shaft And Retaining Ring



Courtesy of GENERAL MOTORS COMPANY

1. Install a NEW Retaining Ring (1) at Wheel Drive Shaft (2).

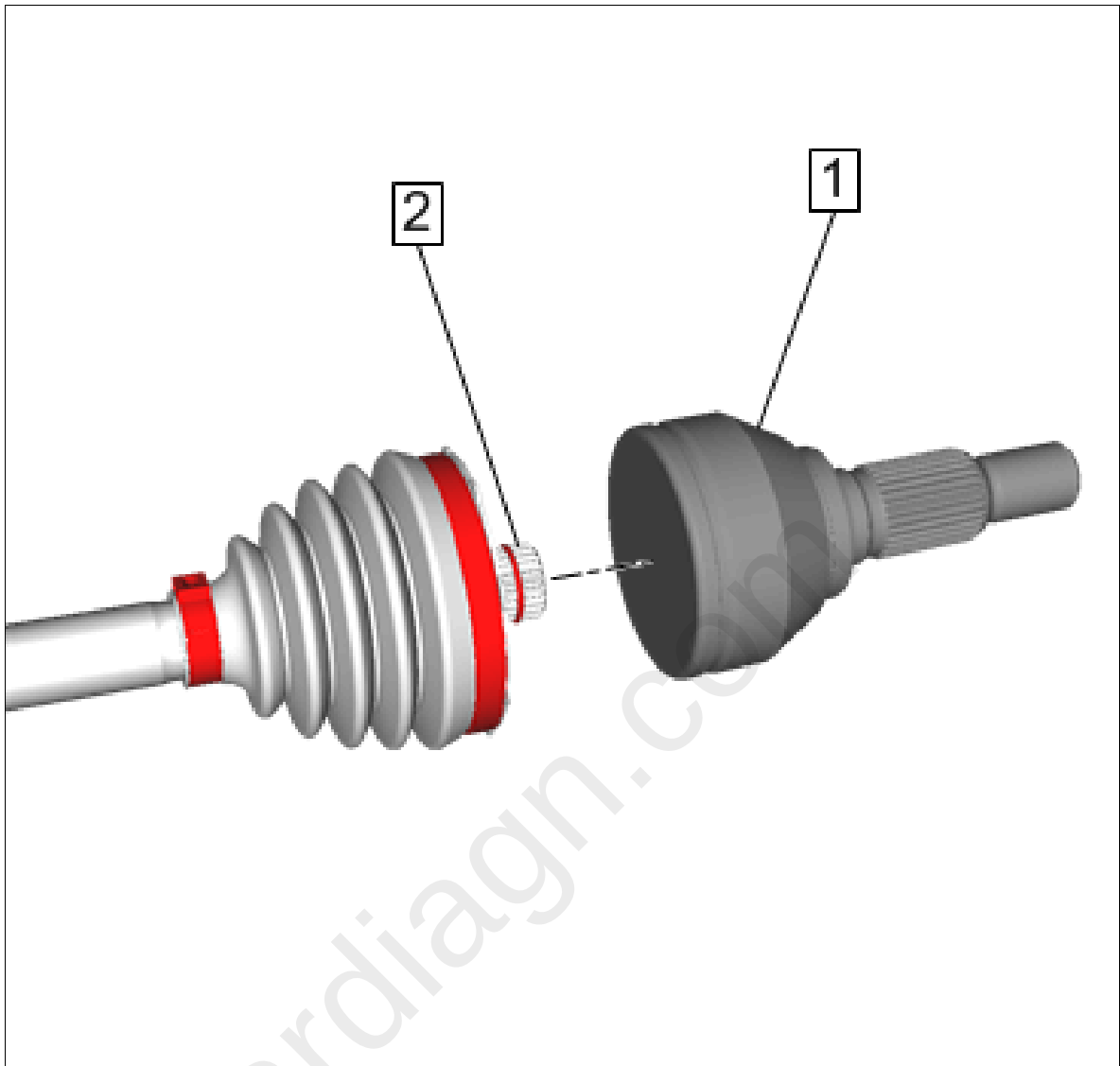
Fig 2: CV Boot Clamps, CV Boot And Wheel Drive Shaft



Courtesy of GENERAL MOTORS COMPANY

2. Install the NEW CV boot clamps (1) and the NEW CV boot (2) onto the wheel drive shaft (3).
3. Pack the CV joint with grease prior to installation. Insert grease into the NEW outer boot prior to connecting the boot to the joint. Adhesives, Fluids, Lubricants, and Sealers

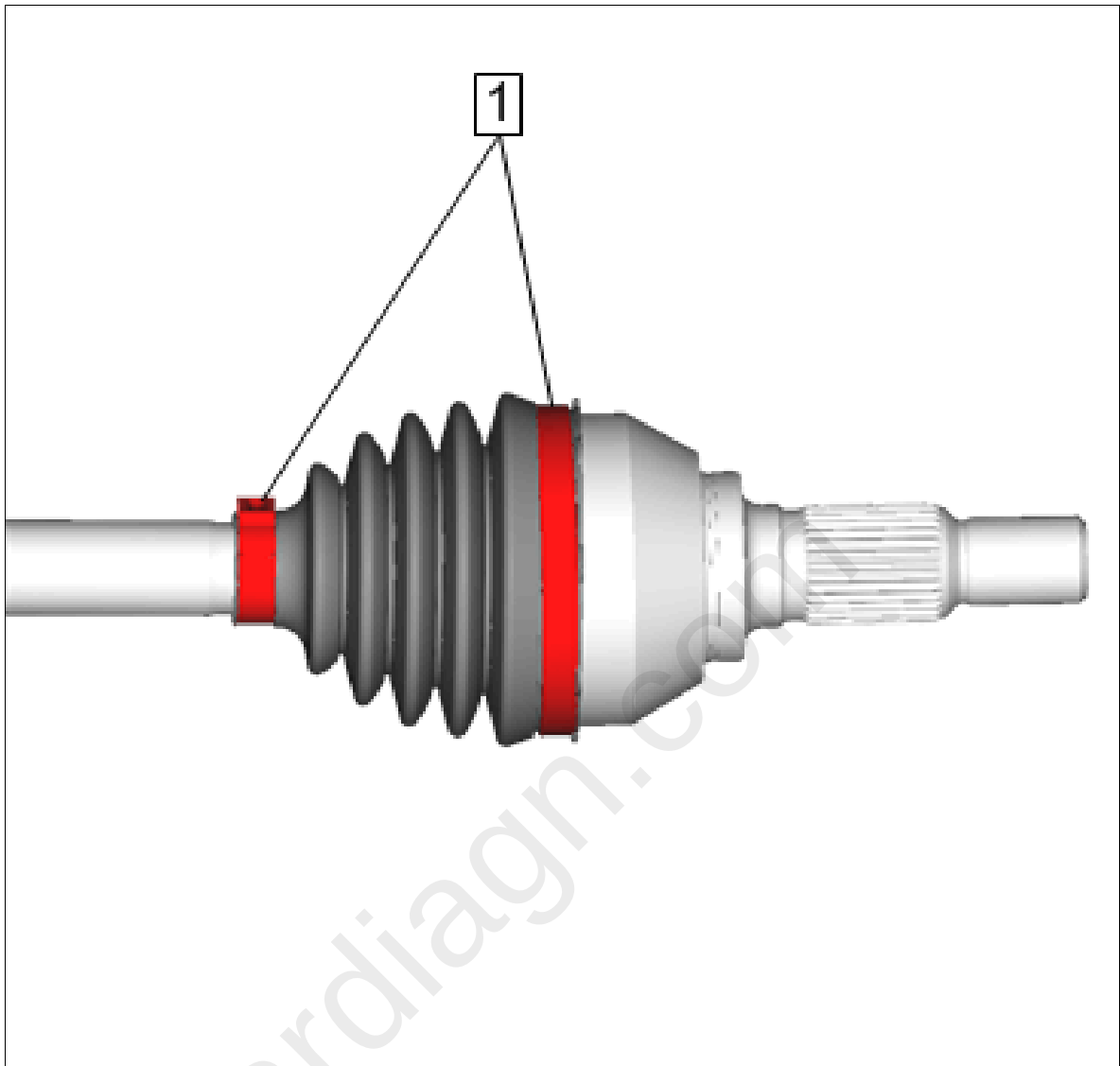
Fig 3: CV Joint And Wheel Drive Shaft



Courtesy of GENERAL MOTORS COMPANY

4. Using a block of wood and a hammer, install the CV Joint (1) onto the wheel drive shaft (2).

Fig 4: CV Boot Clamps



Courtesy of GENERAL MOTORS COMPANY

5. Compress both clamps (1) using the J-42572 CV Boot Clamp Pliers.
6. Install Rear Wheel Drive Shaft - Rear Wheel Drive Shaft Replacement - Left Side , or Rear Wheel Drive Shaft Replacement - Right Side

DESCRIPTION AND OPERATION > WHEEL DRIVE SHAFTS DESCRIPTION AND OPERATION

Wheel drive shaft assemblies are flexible assemblies consisting of an inner and outer constant velocity joint connected by an axle shaft. The inner joint is completely flexible and can move in and out. The outer joint is also flexible, but cannot move in and out.

DESCRIPTION AND OPERATION > WHEEL DRIVE SHAFTS DESCRIPTION AND OPERATION > BOOT AND CLAMP

Rear wheel drive shaft assemblies use inboard and outboard joint boots made of thermoplastic material, and clamps made of stainless steel. The thermoplastic material performs well against normal handling and operational wear and conditions. However, it is not strong enough to withstand abusive handling or damage due to objects such as sharp tools or the sharp edge of any other surrounding component in the vehicle.

IMPORTANT:

The boots should be protected from sharp tools and from the sharp edges of surrounding components. Any damage to the boots or clamps will result in leakage. Leakage will allow grease to leak out of the inboard and outboard joints. Leakage will allow water to leak into the inboard and outboard joints. This leads to noisy wheel drive shaft operation, and eventually, failure of the internal components.

The functions of the boot are as follows:

- To protect the internal parts of the inboard and outboard joint by protecting the grease from surrounding detrimental atmospheric conditions such as extreme temperatures, ozone gas, etc.
- To protect the internal parts of the inboard and outboard joint by protecting the grease from foreign materials such as stones, dirt, water, salt, etc.
- Facilitate angular and axial movement of the inboard joint.
- Facilitate angular movement of the outboard joint.

The function of the clamps is to provide a leak proof connection at the housing and the axle shaft for the inboard and outboard joints.

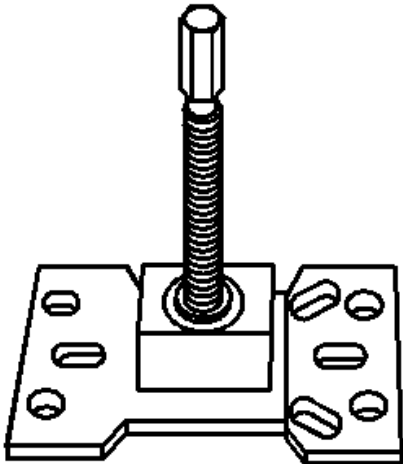
DESCRIPTION AND OPERATION > WHEEL DRIVE SHAFTS DESCRIPTION AND OPERATION > INNER JOINT

The inner joints use the cross-groove joint design with an adapter for the inboard seal. The wheel drive shafts incorporate a male spline and interlock with the differential gears using barrel type snap rings.

DESCRIPTION AND OPERATION > WHEEL DRIVE SHAFTS DESCRIPTION AND OPERATION > OUTER JOINT

The outer joints use the constant velocity (CV) joint design. The shaft end mating with the knuckle/hub, incorporates a helical spline to assure a tight, press type fit. The design provides a no end play condition between the hub bearing and the wheel drive shaft.

SPECIAL TOOLS AND EQUIPMENT > SPECIAL TOOLS

Illustration	Tool Number/ Description
	CH 49400 DT 45859 DT 50188 J 45859 Wheel Hub Remover

cardiagn.com