



99-06 SILVERADO 1500 9in.
REAR AXLE KIT SHOWN

QA1 9 in. REAR AXLE KIT, CLASSIC TRUCKS
INSTALLATION INSTRUCTIONS: 9919-496

WELCOME TO QA1!

OUR COMMITMENT

Congratulations on your purchase of this high-quality QA1 9 in. rear axle housing assembly. It is engineered to the highest standards, utilizes the finest materials, and is built with exceptional craftsmanship and attention to detail.

While we understand your eagerness to start your build, please remember that your safety is our utmost priority. Always use an approved and appropriately rated jack, jack stand, or automotive lift, and take all necessary safety precautions to ensure the job is completed safely and correctly.

Before you start, read and understand all instructions thoroughly. If you are unsure of your abilities during the assembly or installation and need some help or have any uncertainties, please seek the assistance of a qualified mechanic or automotive repair shop.

If you have any product questions or need guidance, please don't hesitate to call and speak with QA1 technical support at 952-985-5675.

Remember, we're here to support you every step of the way and are committed to ensuring your assembly and installation process is successful and enjoyable. We wish you all the best!

INSTALLATION OPTIONS

This rear axle housing was designed for a quick and easy assembly and installation by one or two persons.

For one-person installation: Lift and attach the empty housing to the vehicle, then complete the 3rd member and axle installation.

For two-person installation: The completed housing can be assembled entirely on the floor or bench, lifted, and attached to the vehicle.

BEFORE INSTALLATION

Before you begin the QA1 9 in. rear axle housing installation, it is crucial to read and understand these instructions carefully. If instructions are not correctly followed, personal injury, equipment, or product damage can result.

Products that have been installed are not eligible for returns. To prevent mistakes, thoroughly read these instructions before you start the rear axle housing assembly procedure. A good automotive repair manual from your local auto parts store can aid with this task.

Ventilate combustible vapors and remove any nearby flammable materials during the use of welding and cutting equipment. Wear the appropriate personal protective equipment (PPE) during assembly and installation.

Follow the manufacturer's instructions for safe use when working with power tools, and be cautious and responsible in your work.

ABOUT THIS MANUAL

PURPOSE

These instructions outline the QA1 9 in. rear axle housing. This housing is designed to work with QA1 rear suspension systems.

ITS CONTENTS

The information that follows is described in this instruction set:

- Required tools and supplies.
- Safety, hazard, and warning rules.
- Product overview and included parts.
- Installation and the setup procedures required for use.

Pages with images will have paragraphs and sentences with callout numbers that refer to their respective images, steps, and parts.

Procedures, once described in the text, are generally not repeated. When it is necessary to refer to another procedure, the page and step reference will be given.

REQUIRED TOOLS AND SUPPLIES

- Floor Jack
- Jack Stands
- SAE Wrench Set
- SAE Socket Set
- Torque Wrench (lb-ft)
- Anti-Seize Lubricant
- Aftermarket Brake Kit
- Hard Brake Lines
- Parking Brake Cable Kit
- Assembled 31-spline 3rd Member (9 in.)
- Vent Tube
- Assembly Grease
- Gear Oil (as recommended by 3rd member manufacturer)
- Gasket or sealer (as recommended by 3rd member manufacturer).

SAFETY FIRST

- Work on your vehicle in an appropriate location.
- Park your car on a level surface.
- Use wheel chocks to prevent vehicle roll.
- Check your owner's manual for the correct jack lift points.
- Always support your vehicle with jack stands.
- Wear personal protection like safety glasses and gloves.
- Never use compressed air to clean brake dust from brake and/or suspension components.
- Dispose of damaged or old parts in accordance with local laws. Do not throw any hazardous waste in the trash.

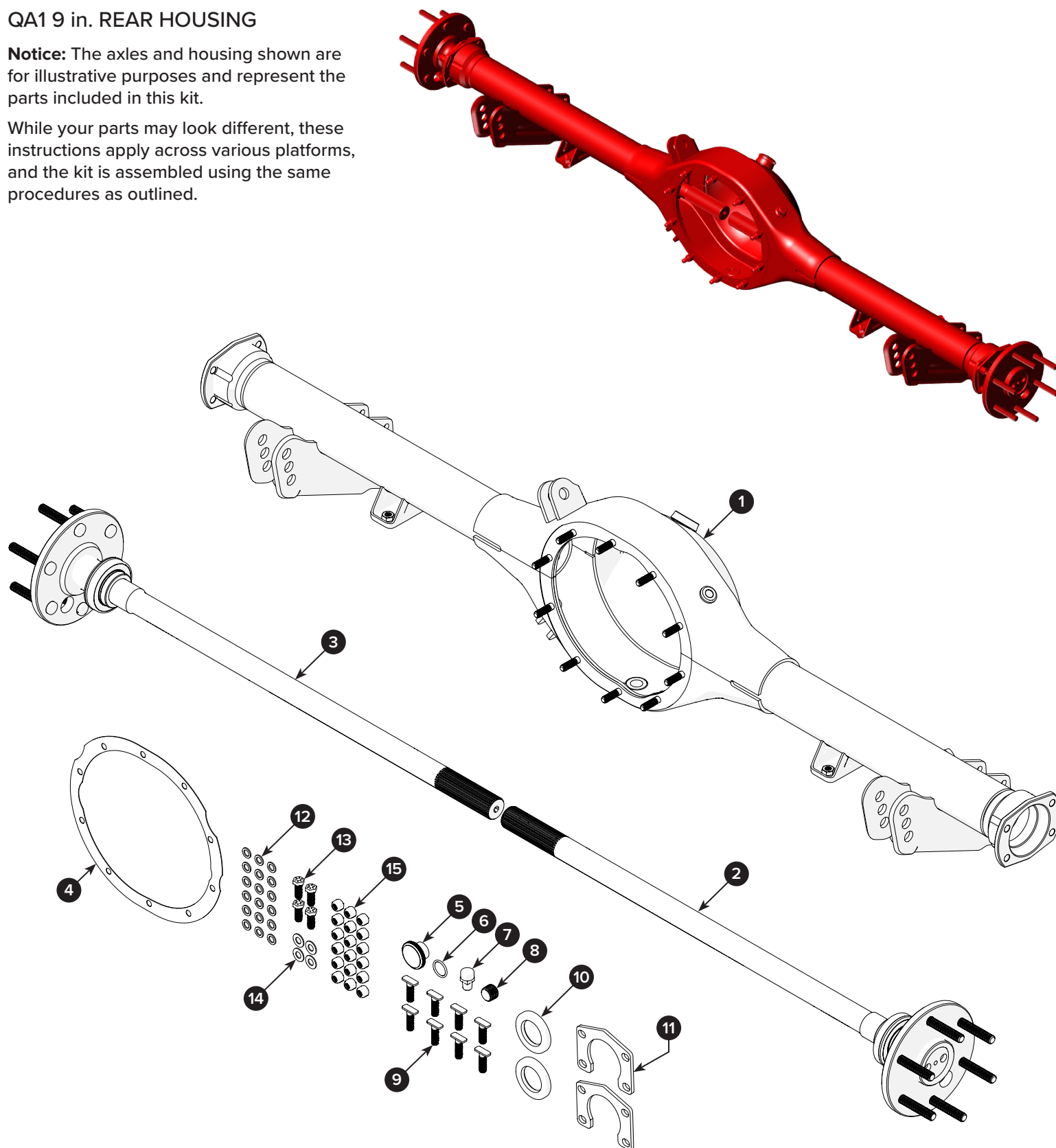
CONTENTS

QA1 9 in. REAR HOUSING	4-11
PARTS LIST	4
APPLICATION SPECIFICATIONS	5
INSTALLATION	6-11
THIRD MEMBER (DROPOUT DIFFERENTIAL)	6
AXLE SHAFT SEAL	8
BRAKE BACKING PLATE	9
SHORT AXLE SHAFT	10
AXLE SHAFT RETAINER	10
RETAINER HARDWARE	11
LONG AXLE SHAFT	12
AXLE HOUSING FILL	12
WARRANTY.....	13

QA1 9 in. REAR HOUSING

Notice: The axles and housing shown are for illustrative purposes and represent the parts included in this kit.

While your parts may look different, these instructions apply across various platforms, and the kit is assembled using the same procedures as outlined.



Note: The part positions listed above will be called out in this installation manual as a visual reference to their respective positions during the installation procedure. Refer to these pages during the installation. Count and compare all parts and fasteners to the list above. If parts are missing, contact QA1 at sales@qa1.net.

QA1 9 in. REAR HOUSING—TRUCK

POSITION	DESCRIPTION	QTY
1	QA1 AXLE HOUSING, 9 in., w/JACK PAD & DRAIN PLUG	1
2	31-SPLINE SHORT AXLE w/SEALED BEARING & WHEEL STUDS (TORQUE @ 85 LB-FT), DRIVER SIDE	1
3	31-SPLINE LONG AXLE w/SEALED BEARING & WHEEL STUDS (TORQUE @ 85 LB-FT), PASSENGER SIDE	1

INSTALL KIT, 9 in. HOUSING—7039-540

POSITION	DESCRIPTION	QTY
4	9" DIFFERENTIAL GASKET, FEL-PRO 2301	1
5	DIFFERENTIAL FILL CAP - 1.0"-12 UNF	1
6	O-RING, BUNA (REAR HOUSING FILL CAP)	1
7	AXLE VENT 1/4 NPT ALUM	1
8	DIFFERENTIAL DRAIN/FILL PLUG 1/2" NPT	1
9	HOUSING END T-BOLTS, 3/8-24 x 1.25 NF	8
10	AXLE SHAFT SEAL, SKF 15141	2
11	AXLE RETAINER PLATE	2

HARDWARE KIT, 9 in. HOUSING—7039-548/

POSITION	DESCRIPTION	QTY
12	AN FLAT WASHER, 3/8", YELLOW ZINC FINISH	18
13	HEX HEADS BOLT, 3/8"-16 x 1", GRADE 8, YELLOW ZINC FINISH (FOR SWAY BAR MOUNTS, IF USED)	4
14	FLAT WASHER, 3/8", YELLOW ZINC FINISH (FOR SWAY BAR MOUNTS, IF USED)	4
15	NYLOCK NUT, 3/8"-24, GRADE 8, YELLOW ZINC FINISH	18

QA1 9 in. REAR HOUSING APPLICATION SPECIFICATIONS

QA1 P/N	APPLICATION	QA1 WMS-WMS w/ROTOR HATS (in.)	BRAKE STANDOFF (in.)	HUB PILOT (in.)	BOLT PATTERN	WHEEL STUD THREAD & LENGTH	AXLE SPLINE	HOUSING END STYLE	NARROWED PER SIDE (in.)
R905S	67-72 C10	63.625	2.5	2.77	5 x 4.75", 5 x 5"	1/2" x 3"	31	TORINO	—
R905N	63-72 C10 Narrowed	57.125	2.5	2.77	5 x 4.75", 5 x 5"	1/2" x 3"	31	TORINO	3.25
R906S	73-87 C10	63.625	2.5	2.77	5 x 4.75", 5 x 5"	1/2" x 3"	31	TORINO	—
R906N	73-87 C10 Narrowed	57.125	2.5	2.77	5 x 4.75", 5 x 5"	1/2" x 3"	31	TORINO	3.25
R907S	88-98 C1500	65.000	2.5	2.77	5 x 4.75", 5 x 5"	1/2" x 3"	31	TORINO	—
R907N	88-98 C1500 Narrowed	61.000	2.5	2.77	5 x 4.75", 5 x 5"	1/2" x 3"	31	TORINO	2
R908S	99-06 Silverado	68.300	2.5	2.77	6 x 5.5"	M14-1.5 x 1.688"	31	TORINO	—
R908N	99-06 Silverado Narrowed	62.500	2.5	2.77	6 x 5.5"	M14-1.5 x 1.688"	31	TORINO	2.90
R909S	65-72 F100	61.125	2.5	2.77	5 x 4.5", 5 x 4.75"	1/2" x 3"	31	TORINO	—
R909S	65-72 F100 Narrowed	56.125	2.5	2.77	5 x 4.5", 5 x 4.75"	1/2" x 3"	31	TORINO	2.50



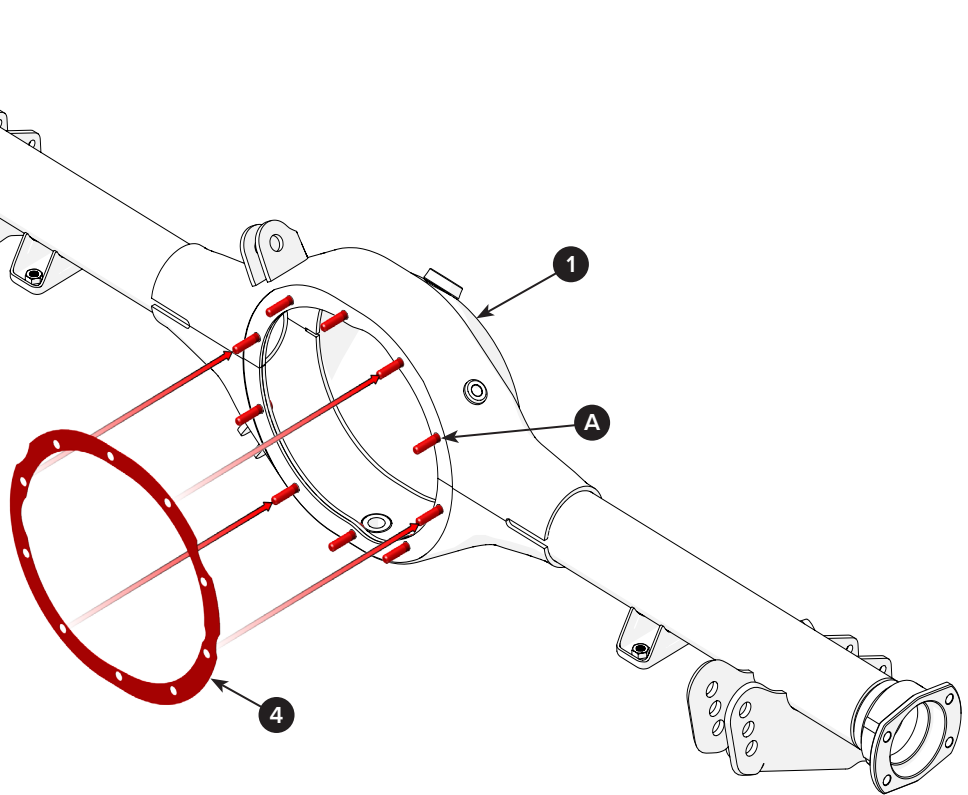
1

With the axle housing (1) installed in the vehicle or on a work surface, examine all studs to make sure they are fully seated.

To prevent leakage, apply your preferred RTV sealant around each of the ten third member studs (A) in the housing.

Note: This must be applied before the gasket is put onto the studs.

Now, orient and align all the bolt holes of the differential gasket (4) to the studs. Once the gasket is correctly oriented, carefully put it onto the studs.

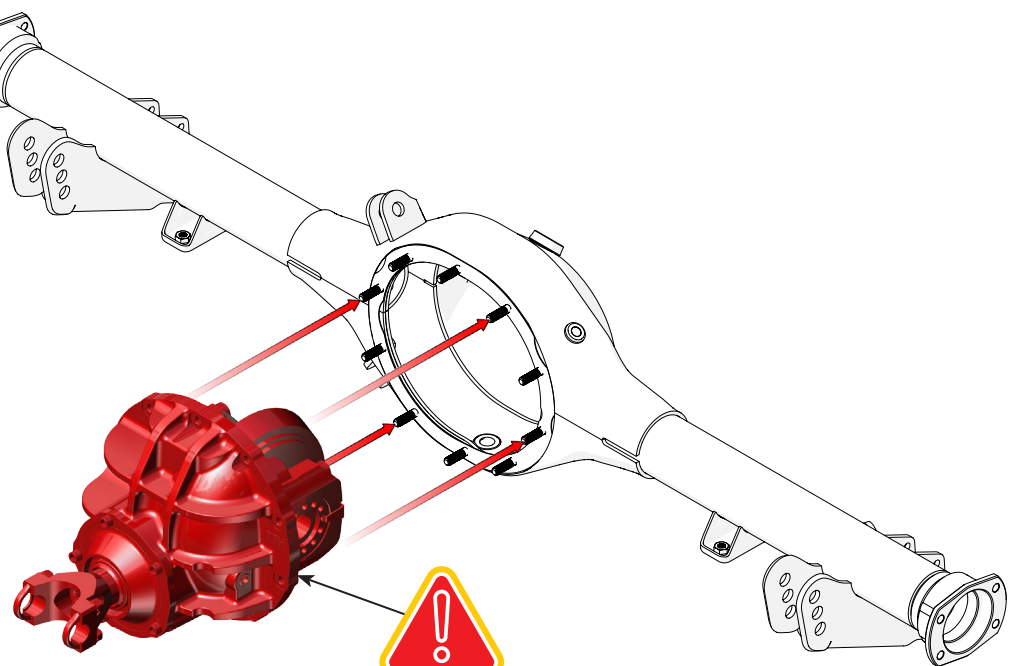


Attention: The QA1 9 in. Rear Axle Housing does not include a 3rd member, as shown in this manual. It is shown only to offer visual clarity during the installation procedure. The customer must provide a 3rd member.

2

Carefully lift the 3rd member and put it into the axle housing. The offset pinion yoke sits at the bottom, and the bolt pattern is asymmetrical and only fits in one direction.

Notice: The 3rd member must be a 31-spline unit.



Not Included

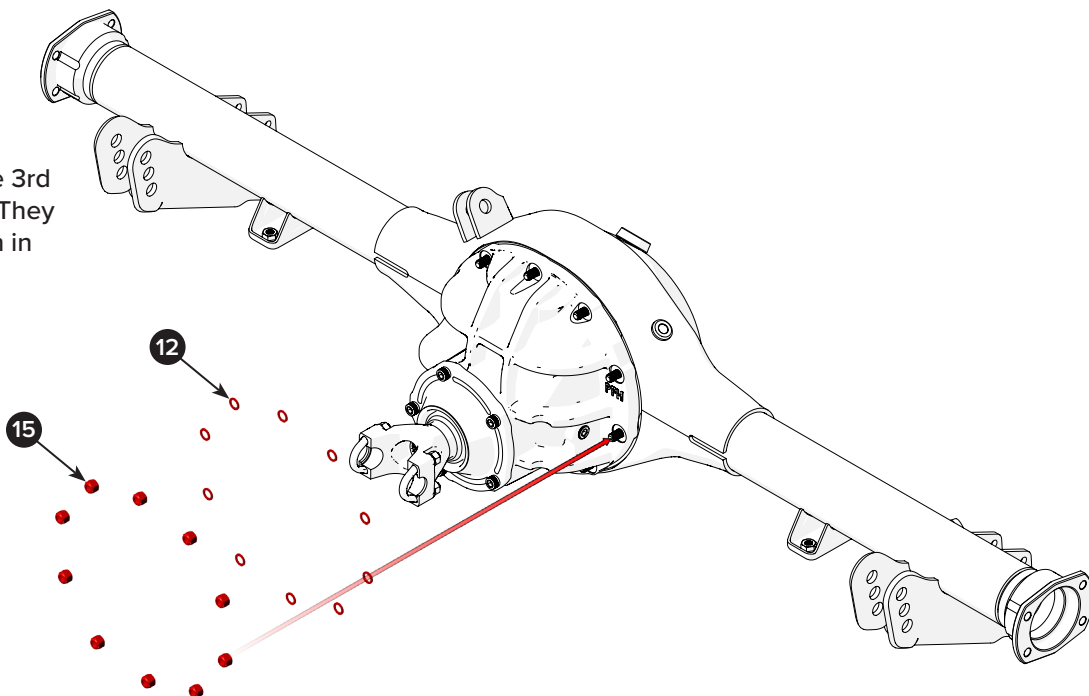


3

Put one flat 3/8" flat washer (12) onto each third member stud.

Now, fasten the 3rd member to the axle housing studs with the 3/8-24 Nylock nuts (15).

Notice: Do not fully tighten the 3rd member locknuts at this time. They will be torqued to specification in the next step.

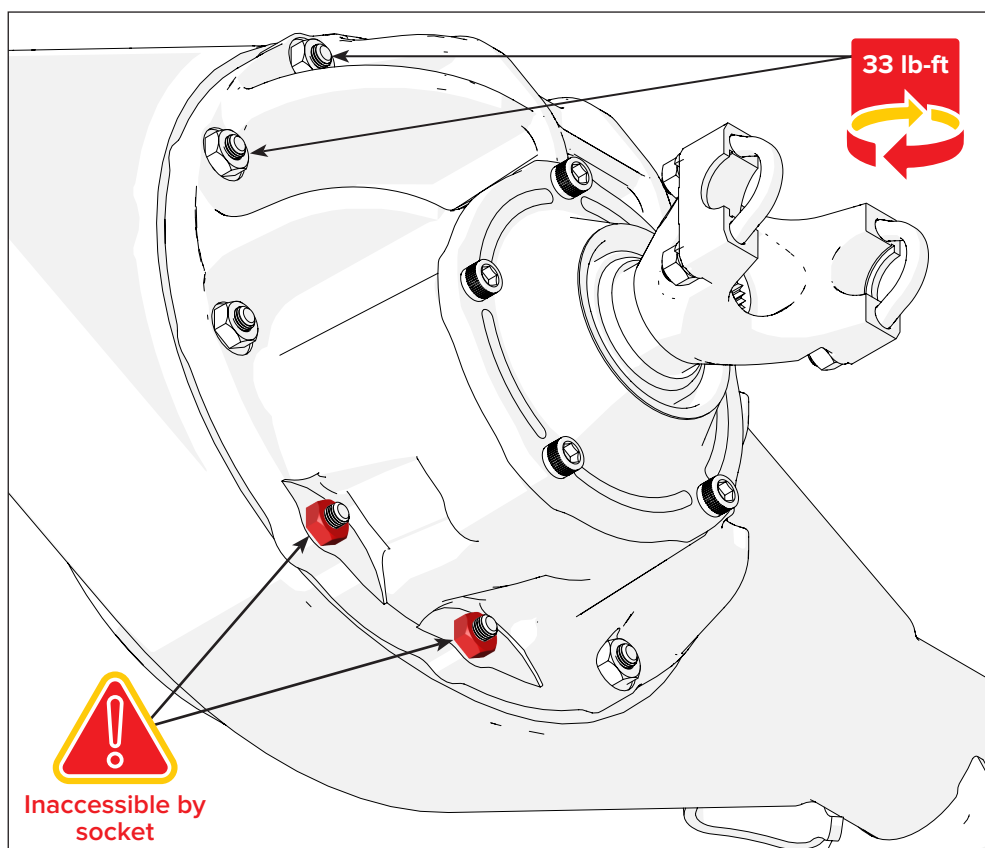


Attention: Due to the pinion yoke offset, two nuts can only be accessed with an open-end or crowfoot wrench. A crowfoot can be used with a torque wrench to set the correct torque settings.

4

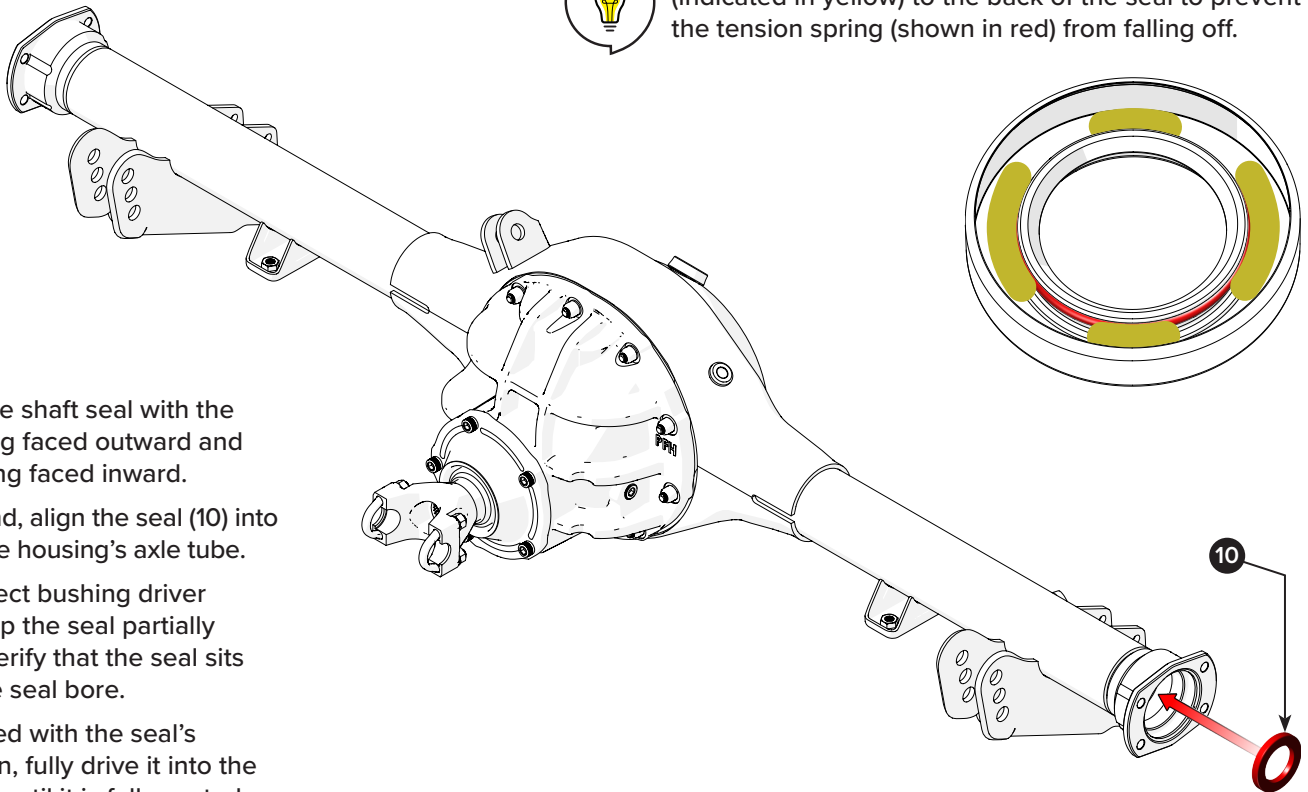
Use a torque wrench to set all of the third member locknuts to 33 lb-ft (44.75 N-m).

Use a crisscross pattern to spread the clamp load evenly.





Before installation, liberally apply assembly grease (indicated in yellow) to the back of the seal to prevent the tension spring (shown in red) from falling off.



5

Orient an axle shaft seal with the metal housing faced outward and the seal spring faced inward.

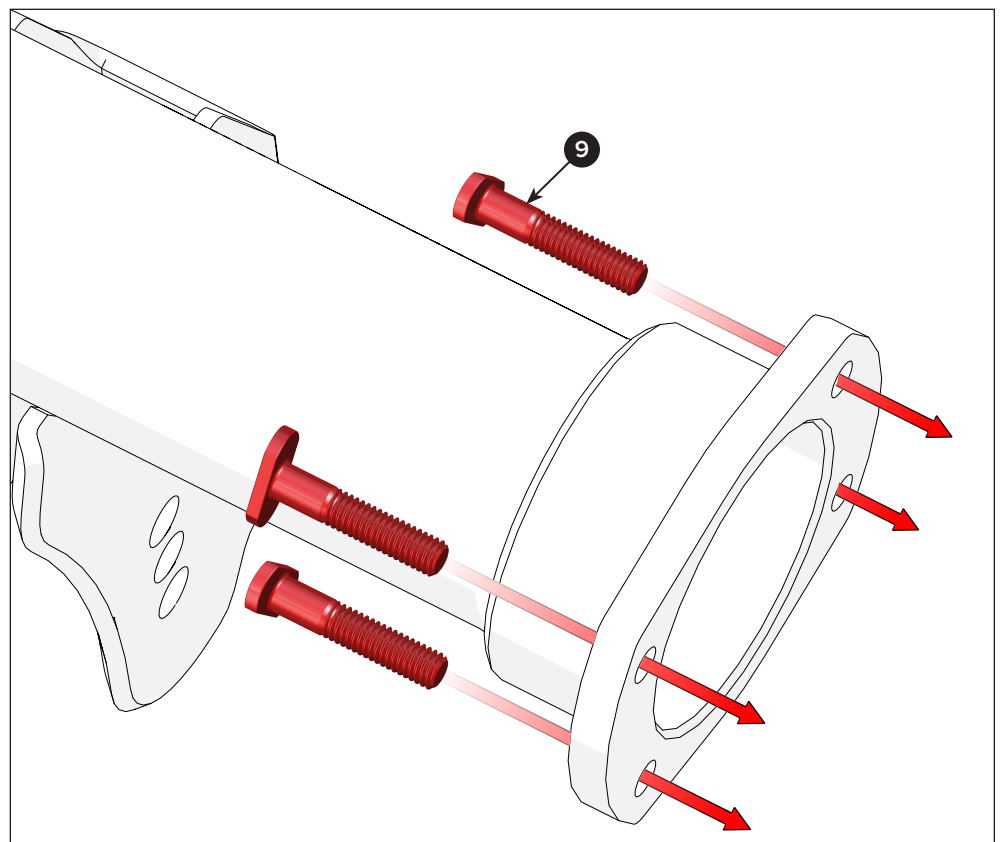
With one hand, align the seal (10) into the end of the housing's axle tube.

Use the correct bushing driver and lightly tap the seal partially in. Visually verify that the seal sits square in the seal bore.

When satisfied with the seal's initial position, fully drive it into the housing end until it is fully seated.

6

Put one T-bolt (9) through each hole in the housing end plate. The locknuts will not be used at this time.

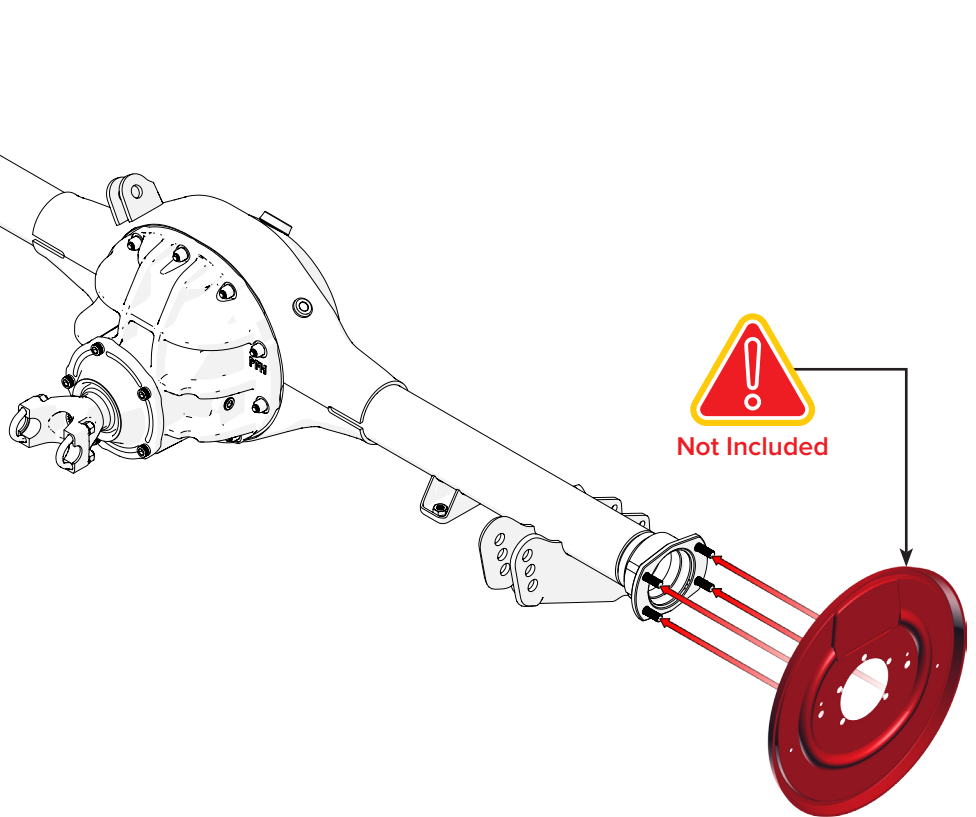


7

Now position the brake backing plate or caliper mounting bracket (not shown).

Please refer to your brake manufacturer's instructions for the correct backing plate orientation and installation procedure.

Attention: The drum brake backing plate shown in this manual is for reference only and may appear different than the one included in your braking kit.



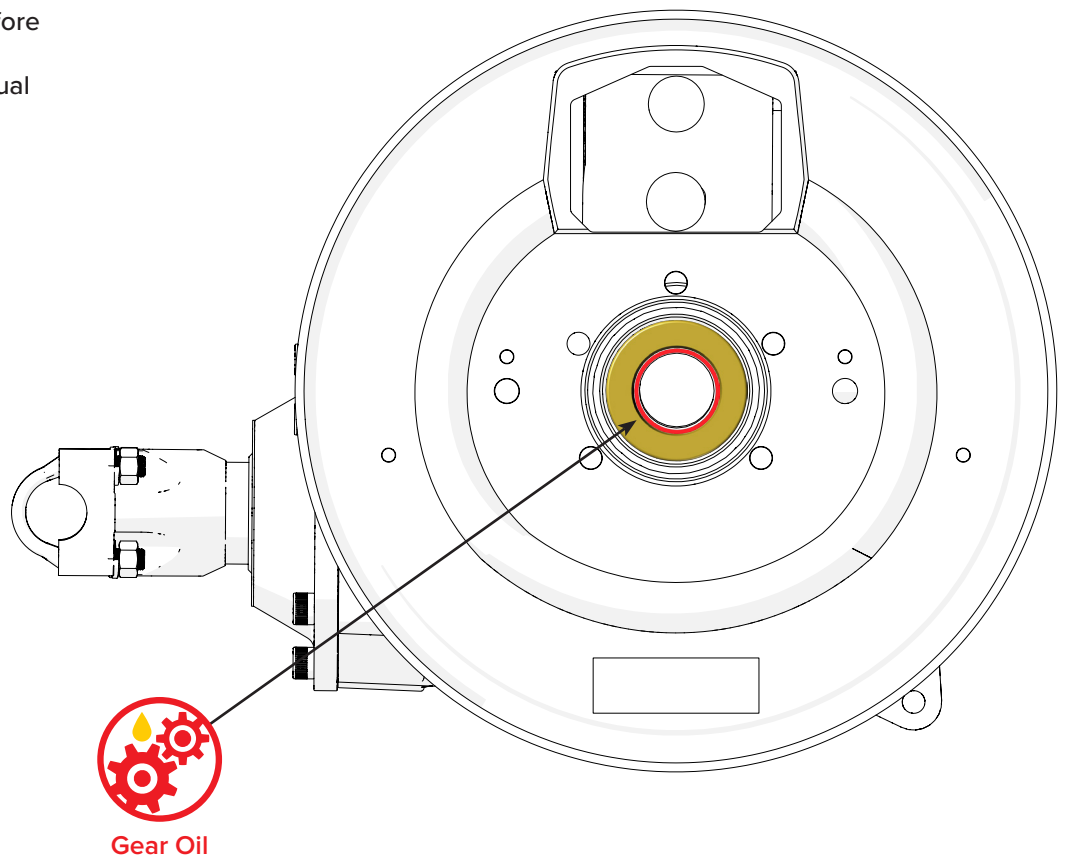
8

Lubricate the seal's rubber lip before the axle is installed to prevent damage to the seal and an eventual gear oil leak.

Lightly apply some gear oil to the seal's rubber lip (indicated in red) with a finger.

Notice: If provided, read the installation instructions included with the 3rd member.

The manufacturer will typically recommend the correct gear oil.



9

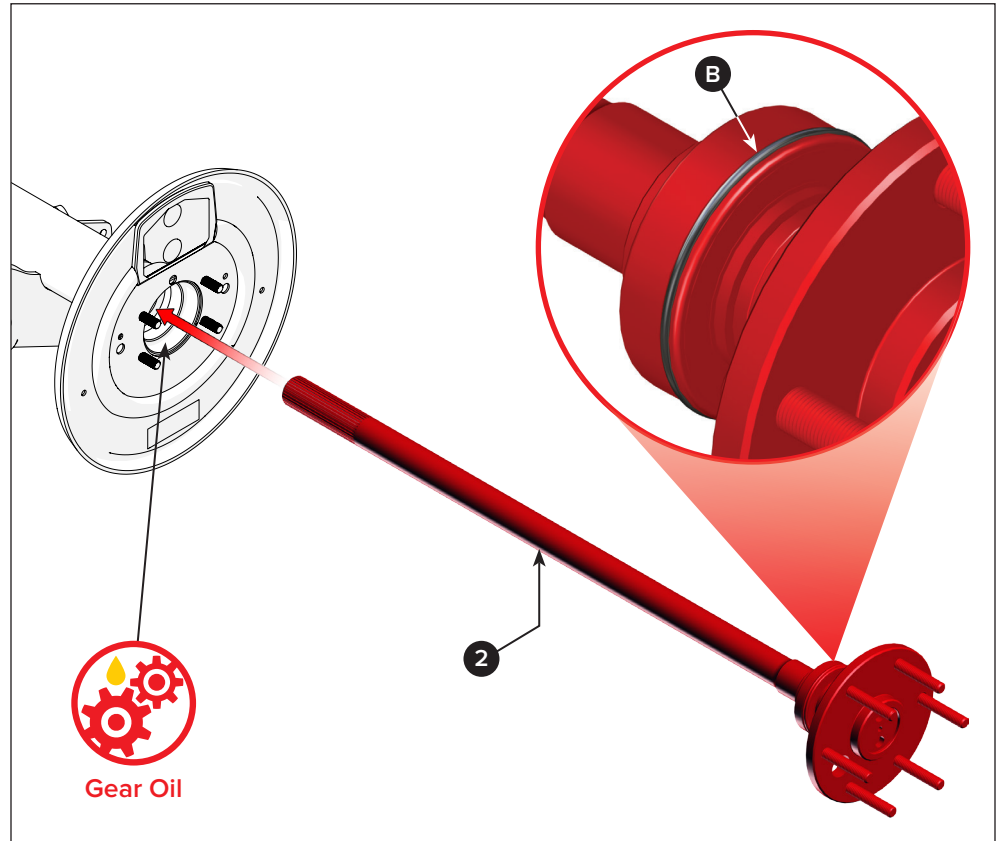
The outer axle bearing has a rubber o-ring (B) to seal the end of the housing from dirt and moisture. To prevent damage to the o-ring, apply some gear oil to the bearing seat at the housing's end. Evenly spread the oil with a finger.

Feed the splined end of the short axle shaft (2) into the housing end with extreme care.

To prevent nicks or tears, center the axle in the seal, then carefully guide the axle splines past the seal's rubber lip.

Push the axle into the housing tube until it engages the differential side gear.

Make sure to fully seat the axle into the housing, then turn the axle hub by hand to verify the pinion shaft yoke also turns.

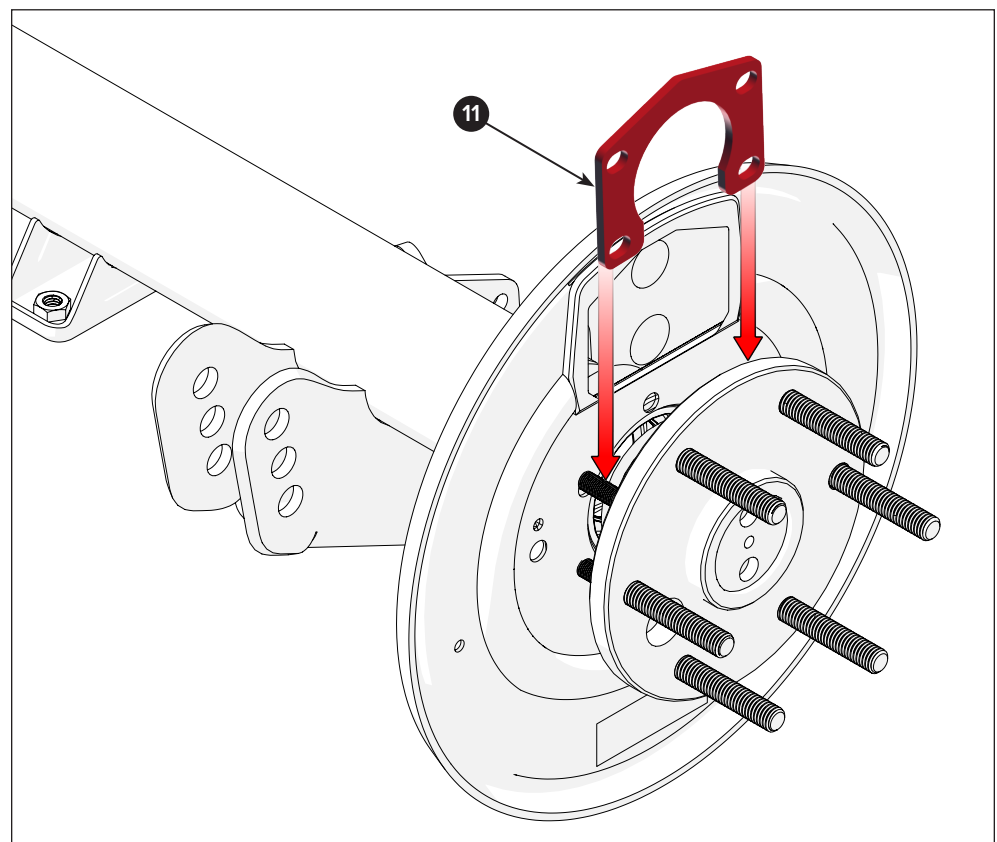


10

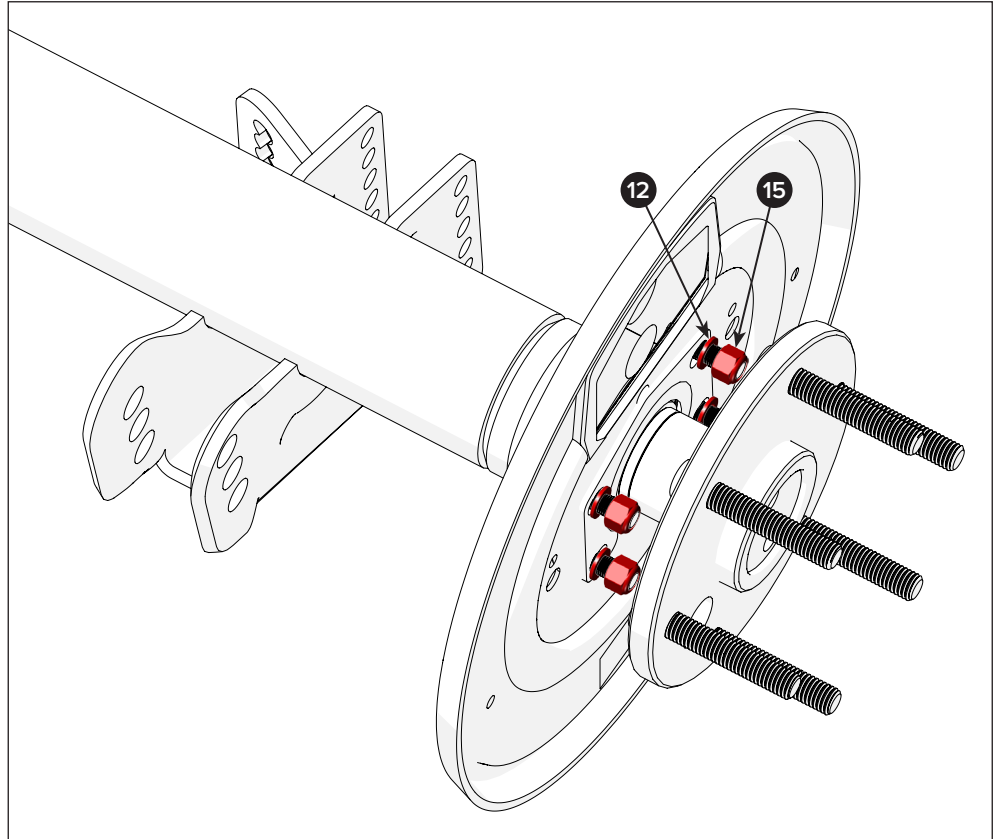
Put an axle shaft retainer (11) into position with the axle shaft fully seated.

Make sure the retainer's bolt holes align with the holes in the housing end.

Notice: Some aftermarket braking kits include an axle retainer. If yours does, discard the retainer included with the QA1 9 in. rear housing assembly. Instead, use the axle retainer in the braking kit as it was specifically designed to be used with the brake backing plate.

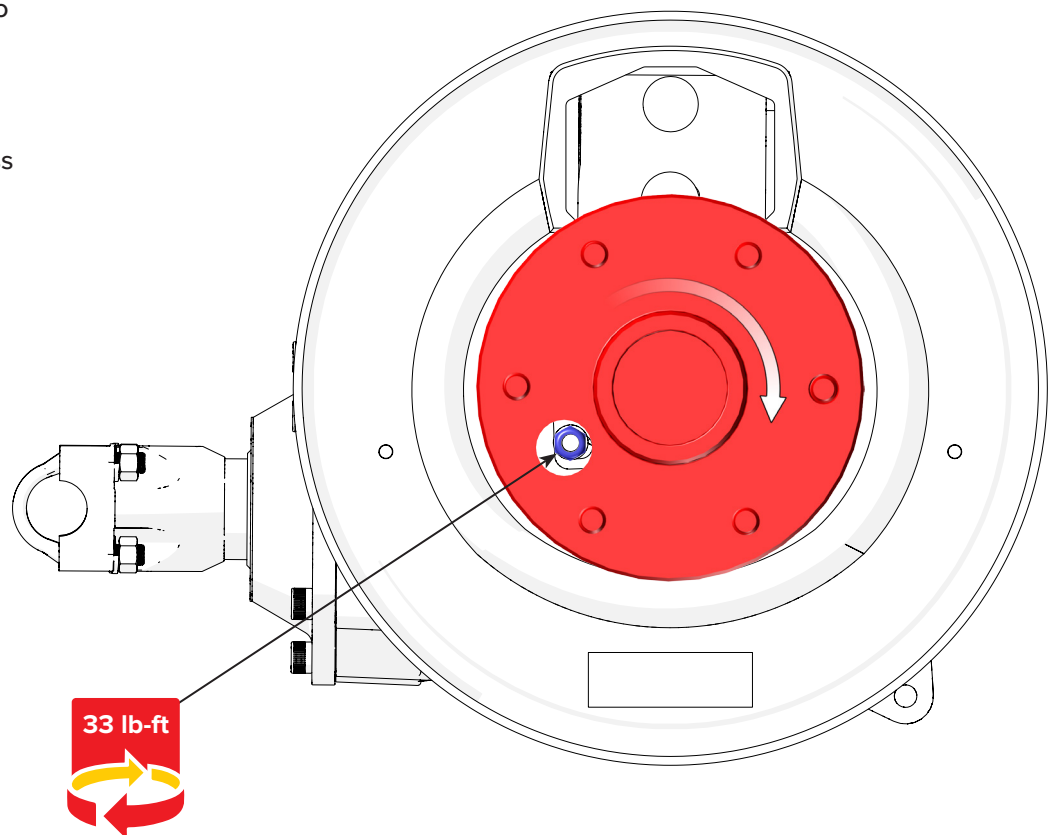


- 11** Hold the retainer plate in position and use one flat washer (12) and locknut (15) for each hole.



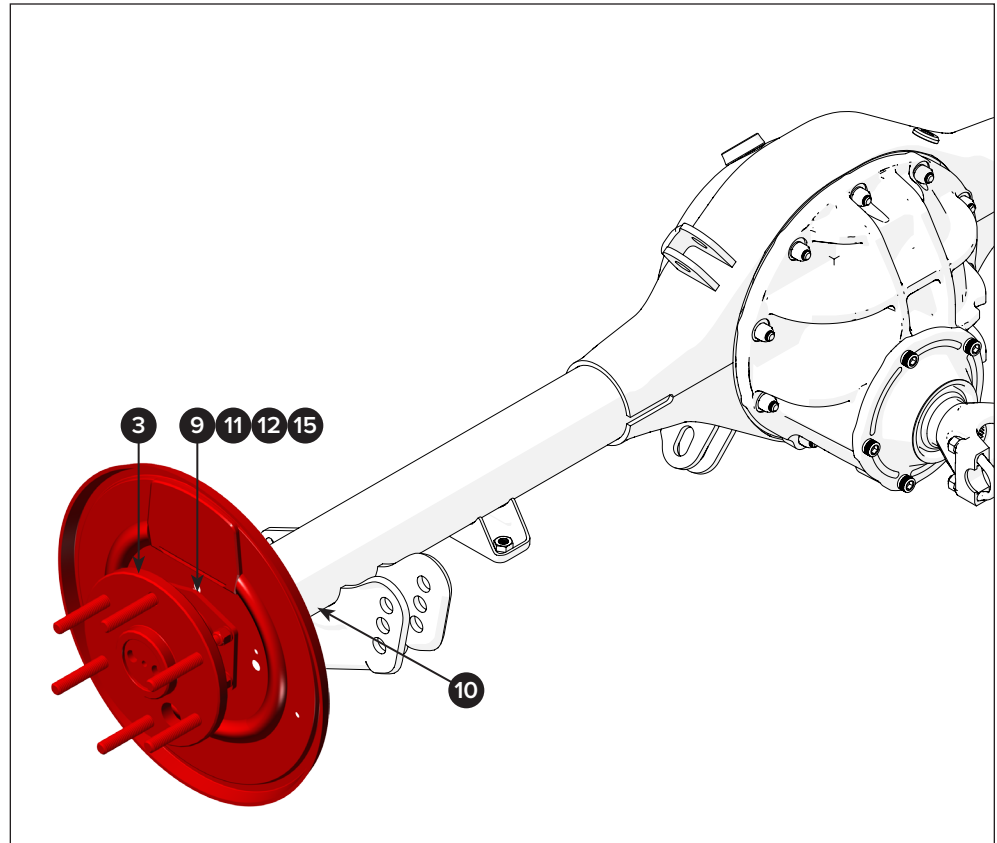
- 12** Use a torque wrench and socket to set the locknuts to 33 lb-ft (44.75 N-m). Use a crisscross pattern to spread the clamp load evenly.

Notice: The axle hub has an access hole to tighten and remove the retainer nuts. Turn the hub to gain access to torque each nut.



13

Repeat steps 5 through 12. Use the parts shown to assemble the long side axle (3) into the axle housing.



14

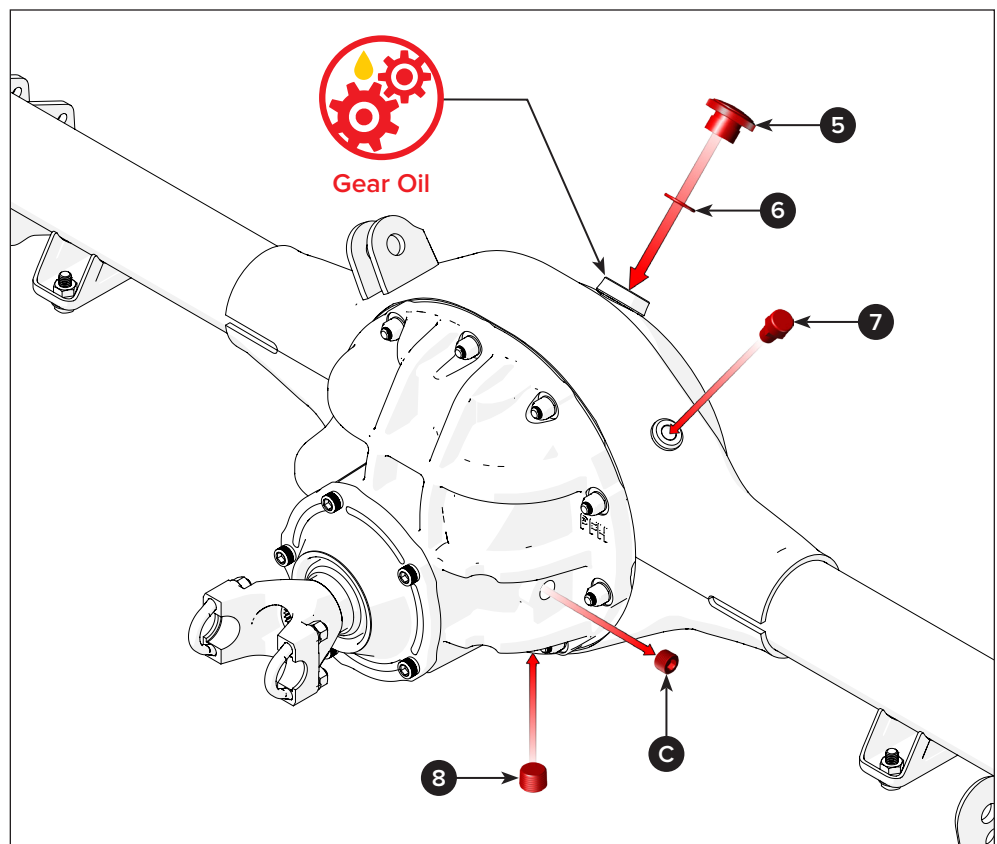
Apply thread sealant, then install the drain plug (8) into the bottom threaded hole of the housing and tighten it by hand until it is snug.

Next, apply thread sealant to the axle vent (7) and install it into the housing vent bung and tighten by hand until snug.

Now, use a wrench to tighten the drain plug and vent an additional 2–3 turns each, or until they are fully seated. Avoid overtightening.

After that, remove the plug (C) on the side of the third member next to the pinion and fill the housing with gear oil (as recommended by the manufacturer of the installed 3rd member) until it reaches the bottom of the plug hole or trickles out.

Finally, once the housing is filled, place the fill cap (5) with the O-ring (6) onto the opening and tighten it by hand. Make sure that the O-ring is seated properly to prevent leaks.



DISCLAIMER / WARRANTY

QA1 warrants that the products will be free from defects in material and workmanship for one year from the date of sale to the original purchaser. QA1 makes no other warranty of any kind, expressed or implied.

QA1 shall have no obligation under the preceding warranty where the defect results from improper or abnormal use, your negligence, vehicle accident, inappropriate or incorrect installation or maintenance, nor when the product has been repaired or altered in any way. QA1's liability in the case of defective products subject to the preceding warranty shall be limited to the repair or replacement of the defective products at QA1's option.

The user understands and recognizes that racing parts, specialized street rod equipment, and all parts and services sold by QA1 are exposed to many varied conditions due to the manner in which they are installed and used. It is the user's responsibility to determine the proper use or application of QA1 products.

QA1 shall bear no liability for any loss, damage, or injury, either to a person or to property, resulting from the installation, direct or indirect use of any QA1 products, or inability by the buyer to determine proper use or application of QA1 products. With the exception of the limited liability warranty set forth above, QA1 shall not be liable for any claims, demands, injuries, damages, actions, or causes of action to the buyer arising out of or connected with using any QA1 products.

Motorsports are inherently risky; therefore, no warranty or representation is made as to the product's ability to protect the user from injury or death. The user is fully aware and assumes that risk.



