Audi B5 A4/S4 Rear Wheel Bearing Service Kit

Installation Tutorial

ES2561175

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Address: 1000 Seville Road, Wadsworth, OH 44281 **Phone:** 1.800.924.5172 **Web:** www.ecstuning.com

B5 Audi Quattro
Rear Wheel Bearing Service Kit

Product Description

The Schwaben® Audi Quattro Rear Wheel Bearing Service kit removes and installs rear wheel bearings on B5 Audi Quattro models that use a pressed-in bearing. The tool may be used with the rear knuckle (bearing holder) installed in the car, or with the holder removed from the vehicle and mounted in a special jig or vise.

The bearing removal kit includes a large threaded jack screw, three sizes of circular press plates, a hollow receiver cup, plus press plate attachment screws and press bolts.

The horseshoe-shaped press plate is a special addition to this kit, allowing you to remove the drive hub from the wheel bearing, on or off the car.

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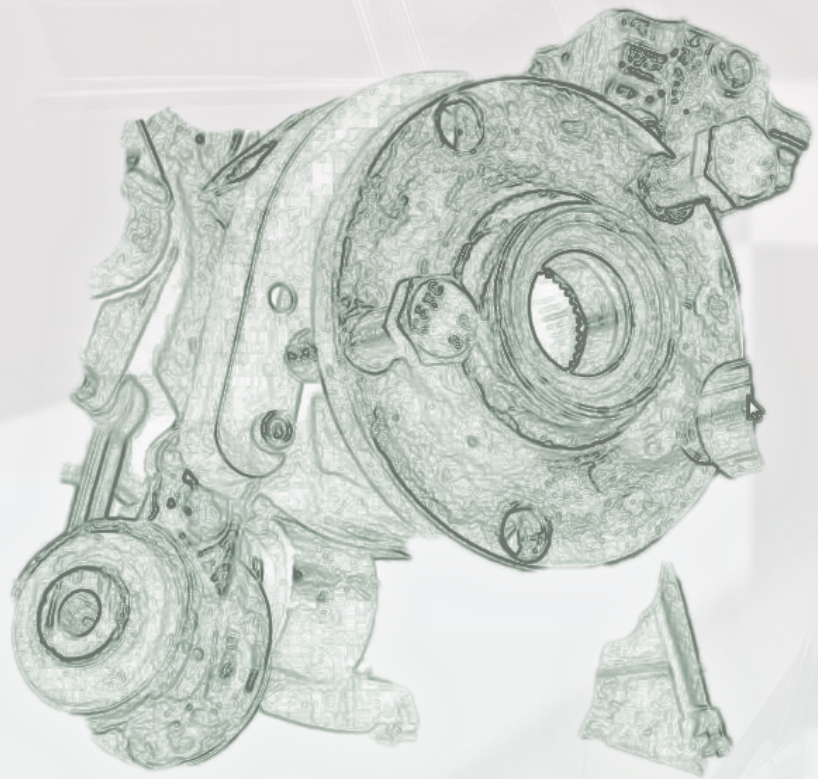
Tools Used

- long breaker bar
- miscellaneous ratchets, extensions
- hanger to support caliper
- common screwdriver
- 5mm hex driver
- 8mm hex driver
- 17mm hex head driver
- M10 long reach triple square
- 17mm socket
- 18 mm socket
- 18mm combination wrench
- 22mm socket
- 32mm box wrench
- 32mm socket
- T27 Torx bit
- impact gun
- wire brush
- hammer
- pry bar



Tightening Specifications

- shoulder bolt - M14 - 115Nm; M16 - 200 Nm (Both to be torqued, then turned an additional 180 degrees with vehicle resting on wheels)
- CV joint-to-drive axle hub (M8 - 40Nm; M10 - 70Nm)
- caliper carrier to bearing housing (70Nm (+90 degrees) always replace bolt.
- bearing housing lower bolts/nuts (65Nm)

Note: This tutorial is broken into *two sections:* a photo pictorial starting on the next page and a Quick Reference section showing how the press tool is installed on the bearing housing, beginning on page 12. Final assembly procedures are listed on page 16.

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Step 1

Use a small prying tool, remove the wheel center cap.

Apply the hand brake so the car cannot move.

Step 2

Using a 17mm hex-head driver, loosen the axle bolt. It may be helpful for the car to be resting on the wheels for this procedure; engaging the handbrake may help as well.

The axle bolt is a torque-to-yield bolt and should be very tight. Use a long-handled breaker bar; be prepared to apply significant force to loosen the bolt.

Step 3

Remove the lug bolts.

Remove the wheel.

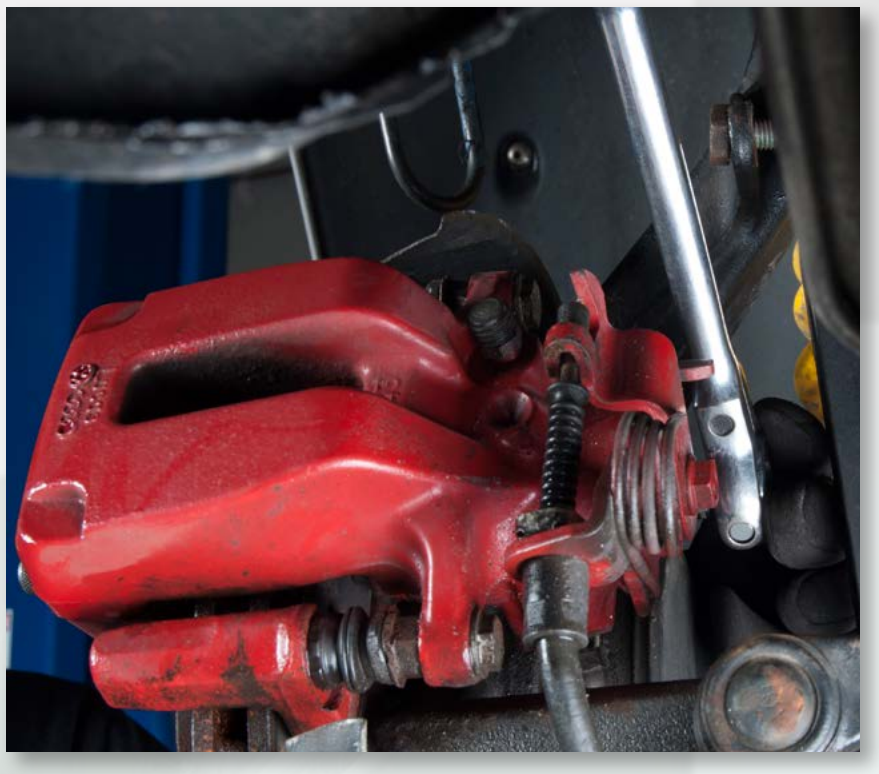
Step 4

Note the wheel stud at the 12 o'clock position. This handy tool screws into a bolt hole by hand. It supports the wheel to make wheel removal and installation much easier and safer.
Click on the ES number pictured right for more information on ECS's useful Wheel Hanger Tool.

Step 5

Reach around to the backside of the brake caliper and unbolt it from the bearing holder.

(Note: If you want to remove the brake caliper and rotor as an assembly, leave the hand brake applied, locking the caliper and rotor together.)



Step 6

Remove the brake rotor and caliper; hang them off to the side, out of your way.

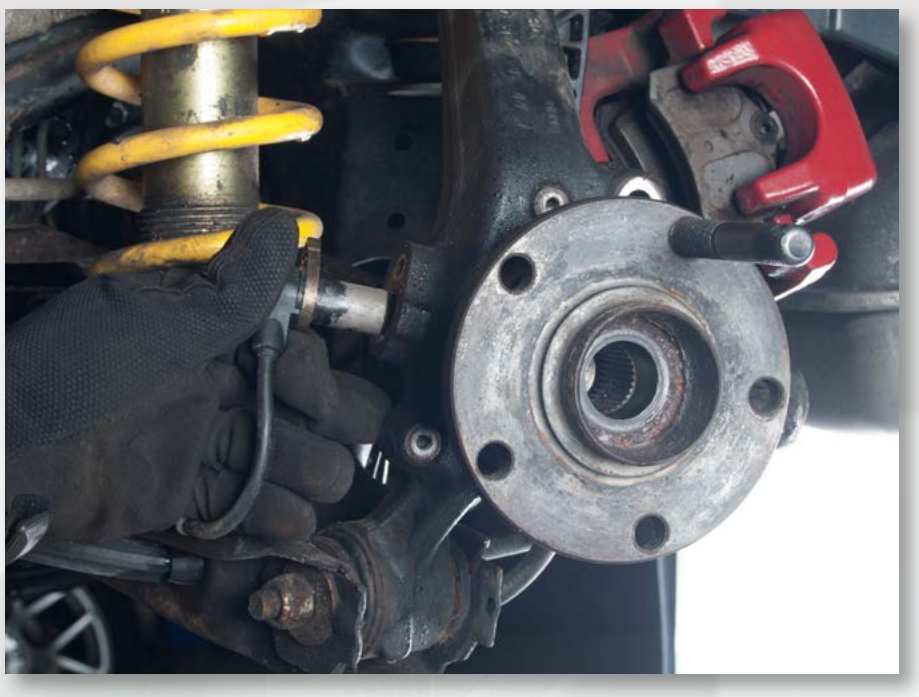
> CAUTION: Support the brake assembly with a strong hanger. Do not use a weak hanger that may slip, allowing the weight of the brake assembly to hang from the brake hydraulic hose. Doing so may stress the hose and damage it, rendering it unsafe.

Unbolt and remove the brake rotor dust shield from the bearing holder.

Step 7

Use a 5mm hex driver to remove the screw from the wheel speed sensor.

Pull the sensor out of the bearing holder housing. (Some twisting may be needed if the sensor is corroded in place; be careful not to damage the sensor or its wiring.)



Step 8

Use an M10 triple-square driver to unbolt the inner CV joint from the differential drive hub.

After removing the axle from the hub, pull the axle off to the side. This makes it easier to slide the outboard end of axle assembly out of the wheel hub.

(Note: The press tool cannot be mounted until the axle shaft is removed from the wheel bearing.)

Step 9

Remove bolted connection from upper control arm to wheel bearing housing.

Step 10

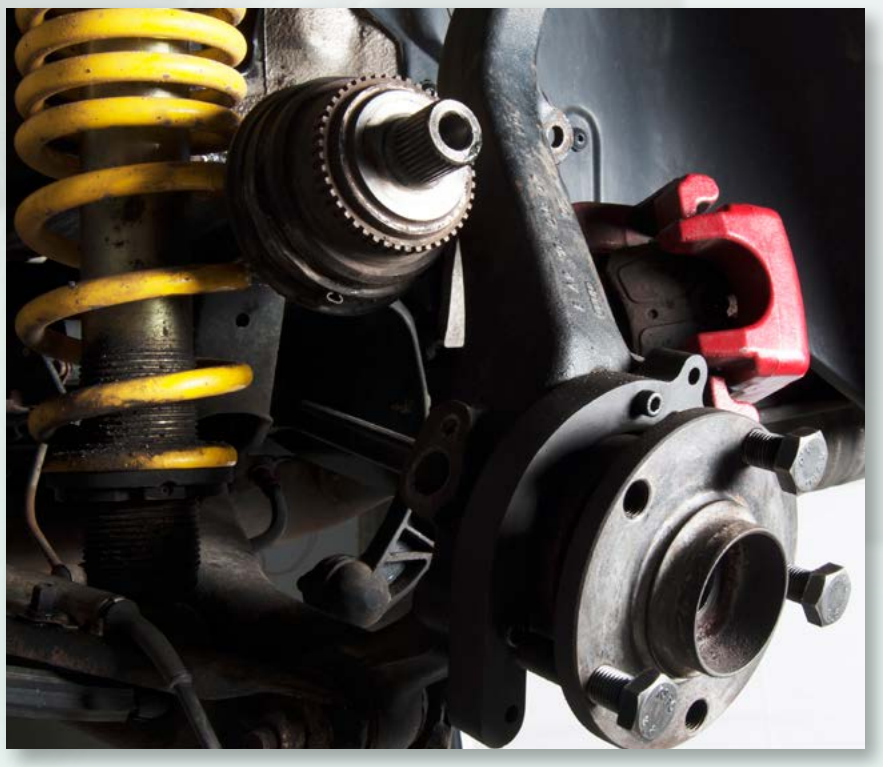
Pry the bearing holder (knuckle) down and away from the chassis far enough that you have room to slide the outer CV joint out of the hub.

See the next photo for an important caution.

Step 11

Caution Remove the outer drive joint carefully. Do not damage the square windows in the tone ring cage. This is the reluctor wheel that the ABS sensor reads.

(FYI: The speed signal is used by the ABS and other onboard controllers. If it is bent or otherwise damaged, it will illuminate the ABS dashboard warning light, and disable Anti-Lock braking.)



Step 12

Slide the open end of the horseshoe press plate over the neck of the hub.

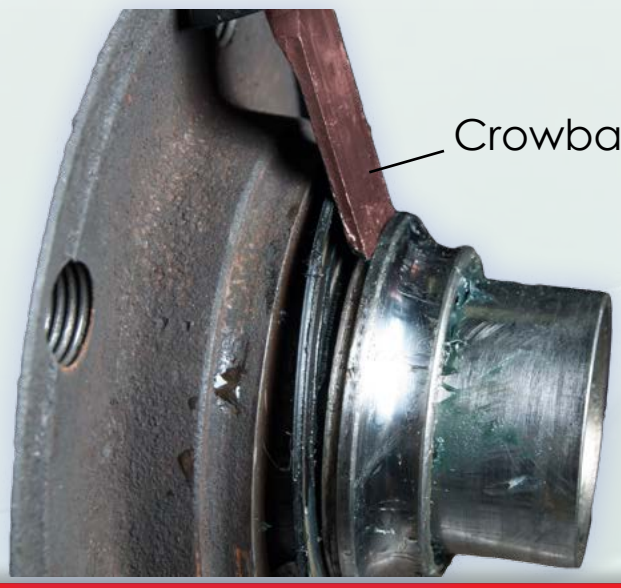
Take the two small machine screws from the kit case. Using the brake rotor shield threaded holes, bolt the press plate onto the bearing holder (knuckle).

Step 13

- Apply clean grease liberally to the three large press bolts in the kit.
- Thread the bolts into the hub by hand until all three contact the horseshoe press plate.
- Using a wrench, alternately tighten each bolt to apply even pressure against the press plate.

Step 14

- Continue to tighten the bolts, one full thread per bolt at a time, until the hub is pressed from the wheel bearing.
- Remove the bolts from the hub.
  NOTE: Half of the wheel bearing's inner race may remain stuck to the hub. In this event, use a vise to secure the hub in place, and using a crowbar or chisel, pry the bearing race off of hub.



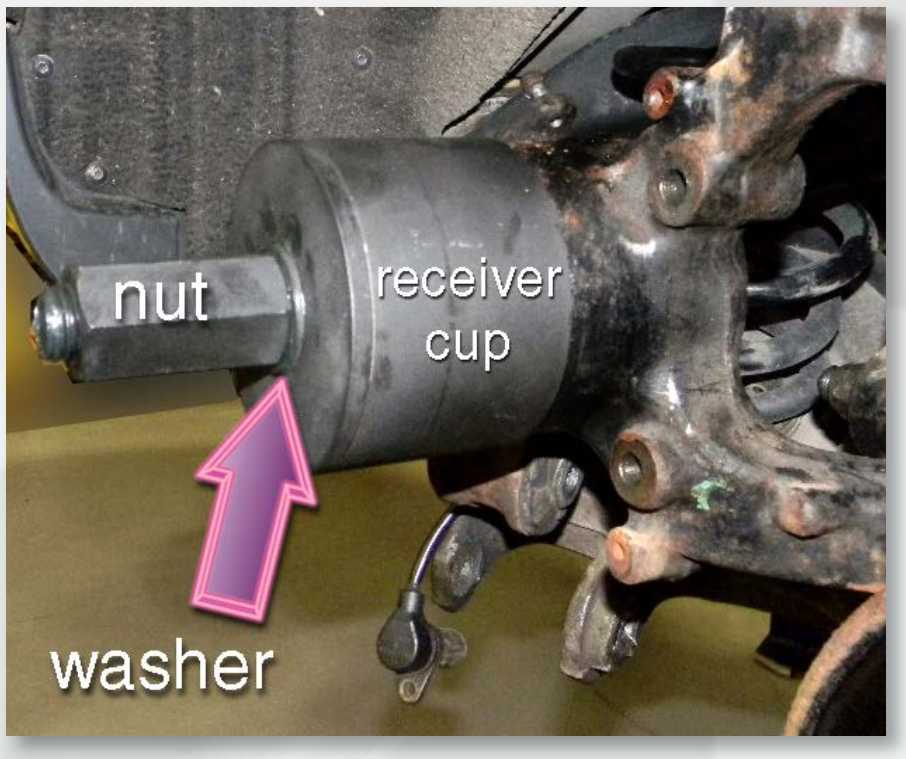
Step 15

Slide the jack screw through the hole in the 70mm plate; then slide the assembly through the bearing hole.

The bolt head should be inboard, with the threaded end facing outward, as shown.

Step 16

- Install the hollow bearing receiver cup onto the bearing holder. The cup should centered on the face of the bearing holder.
- Note: For all chassis, orient the bearing receiver cup so the chamfered (slanted) side is on the bearing holder. This will allow it to self align when pressing the bearing out.
- Lube the jack screw threads liberally with clean grease. Install the large plate, the thrust washer, and the large nut onto the jack screw as shown.



Step 17

- Turn the nut with a 32mm open or box wrench. As you do, the inner press plate will draw the bearing out of the bearing holder (knuckle), into the hollow receiver cup.

- When the bearing is fully removed, back off the nut, and separate the parts of the press tool. Remove the old bearing from the receiver cup.

Step 18

- Clean the bearing bore. Remove all rust and dirt. The bore should be shiny clean and free from nicks or burrs. Polish away small imperfections with emery paper or an abrasive cleaning disc (Roloc™ or similar).

- Apply a thin film of grease to the bore.

Note: The inner ledge in the bore limits bearing penetration when pressing in the new bearing.

Step 19

The wheel bearing assembly contains two races. One of the inner bearing races has a larger inside diameter.

NOTE: The larger diameter race must face outward when installing the bearing assembly to accept the stepped neck on the drive hub.

Step 20

To install the new bearing, reverse the positions of the two round press plates. This time, install the *larger* plate inboard. Install the smaller *75mm* plate outboard, as shown, making sure the plate is centered on the bearing.

Slide the thrust washer over the screw jack.

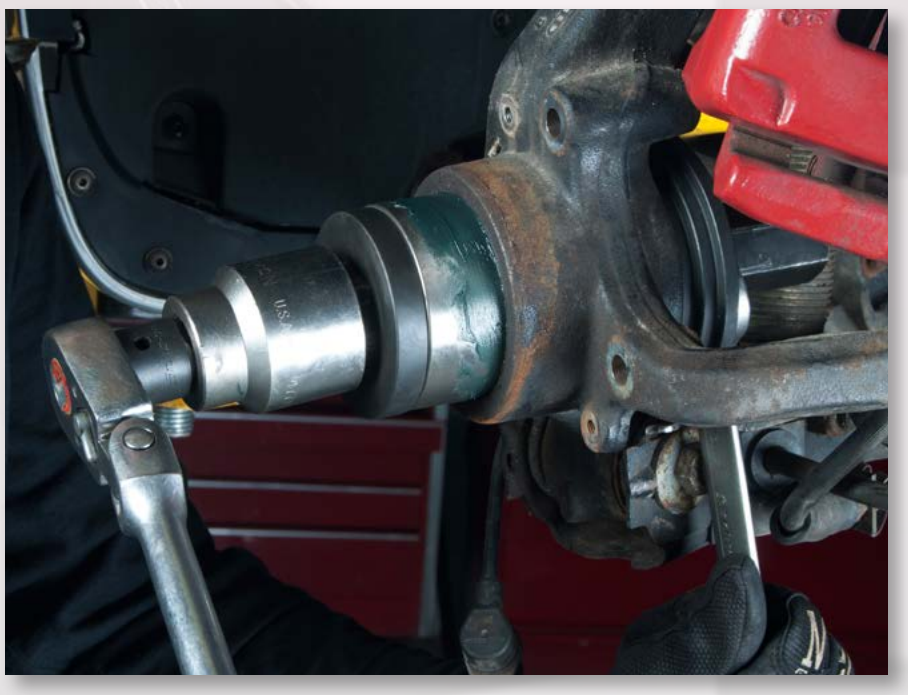
Thread the large nut onto the screw by hand until it contacts the press plate. Then turn the nut with the wrench to draw the bearing into the bore.

Step 21

When the bearing bottoms in the hole against the ledge (see photo step 19), the nut will become hard to turn.

Stop.

The bearing is now installed.



Step 22

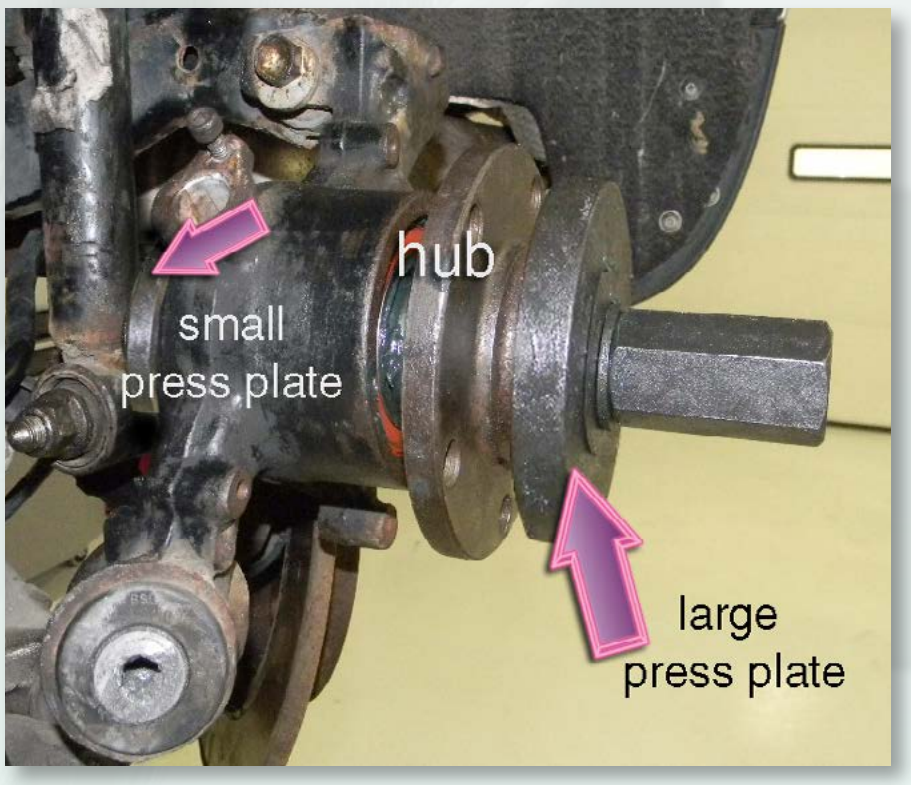
Apply clean grease to the hub snout and inner bearing races.

Step 23

Align the hub with the center bore of the bearing. Install the 70mm press plate on the screw jack bolt, then slide the bolt through the bearing hole, from the back.

NOTE: *The flat face of the small plate should press only against the inner race of the inner bearing.*

- Slide the large press plate onto the threaded jack, over the hub.
- Slide the thrust washer onto the shaft and screw the large nut all the way down by hand.
- Use a 32mm wrench to turn the nut farther, drawing the hub into the bearings.



See page 15 for an illustrated side view.

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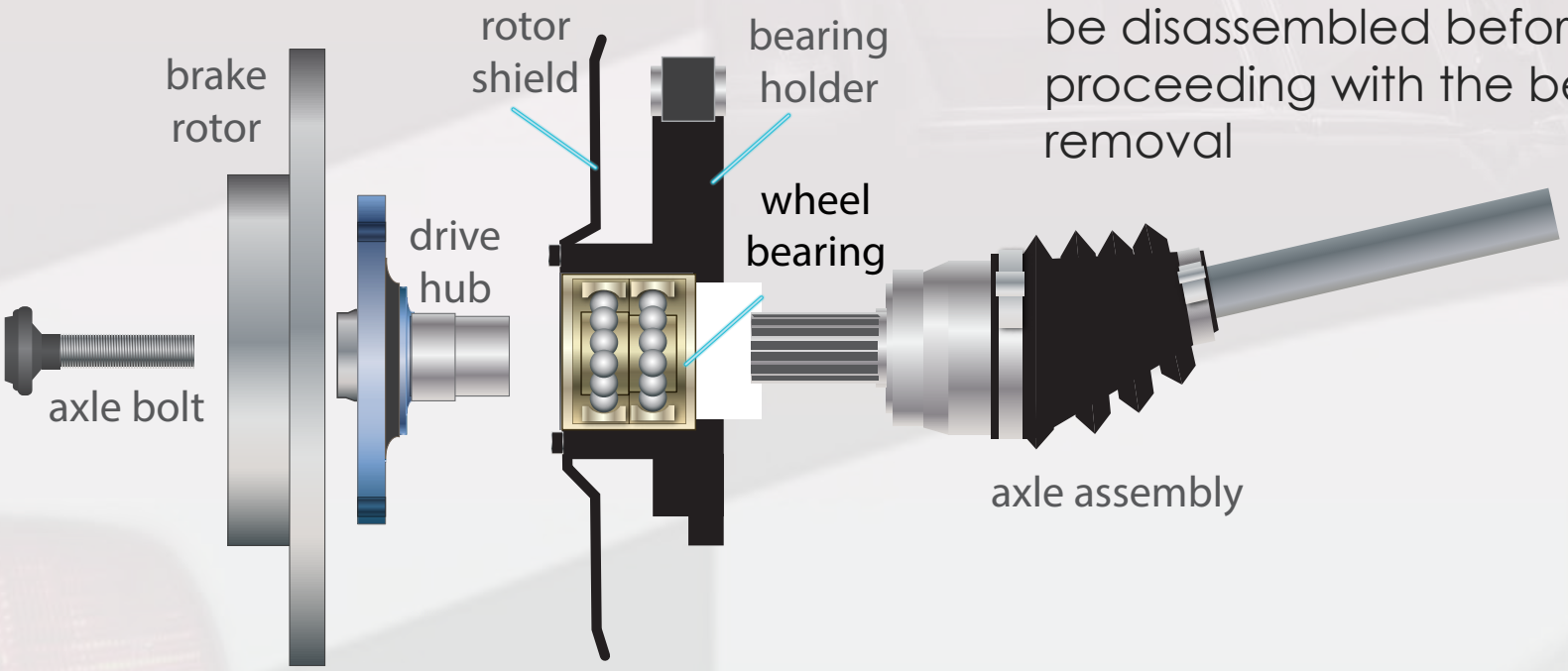
Quick Reference Guide

Main Suspension Components

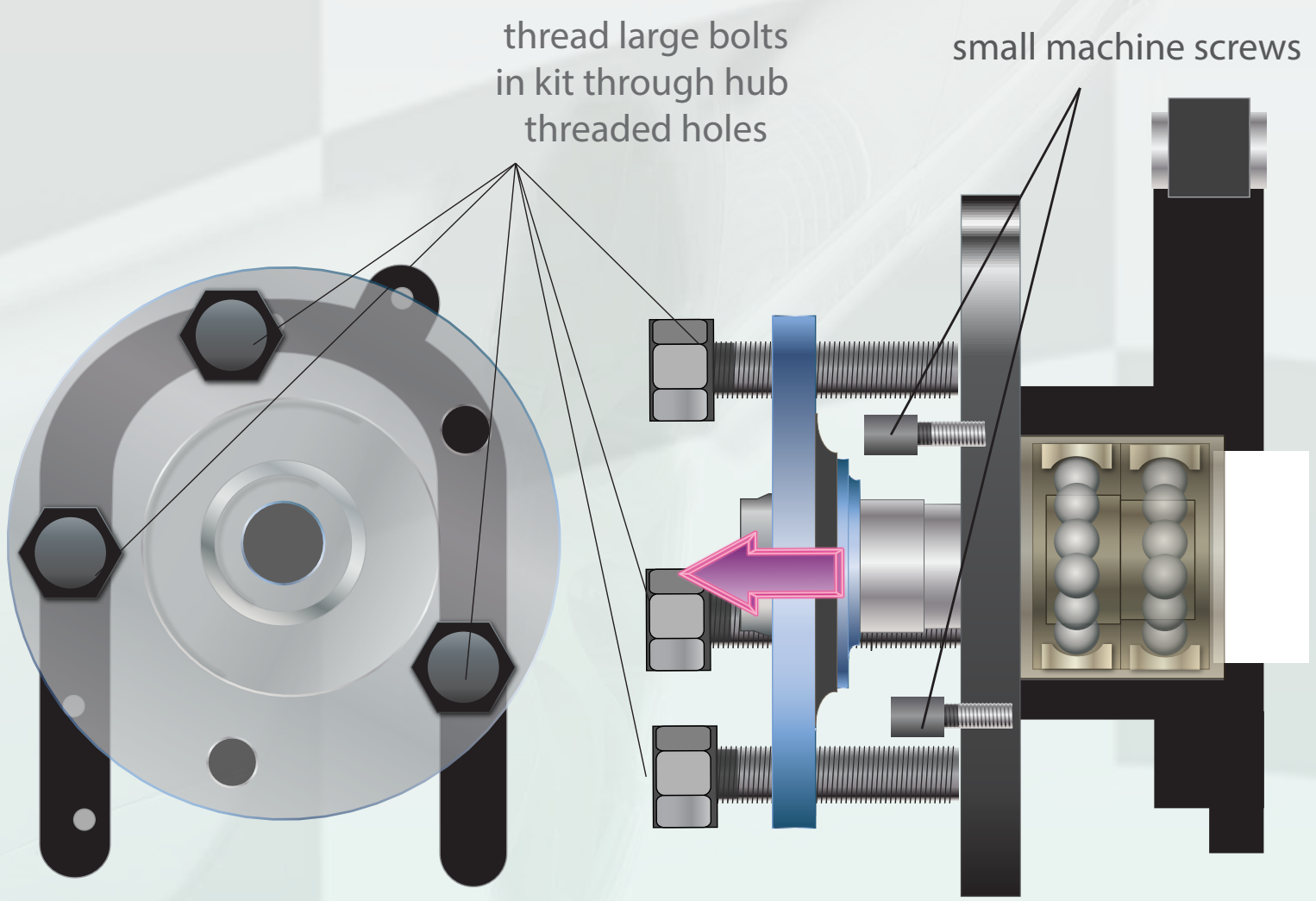


The following is an illustration of the components that must be disassembled before proceeding with the bearing removal

Press off Wheel Hub

The horseshoe tool slides behind the hub to create three press points.

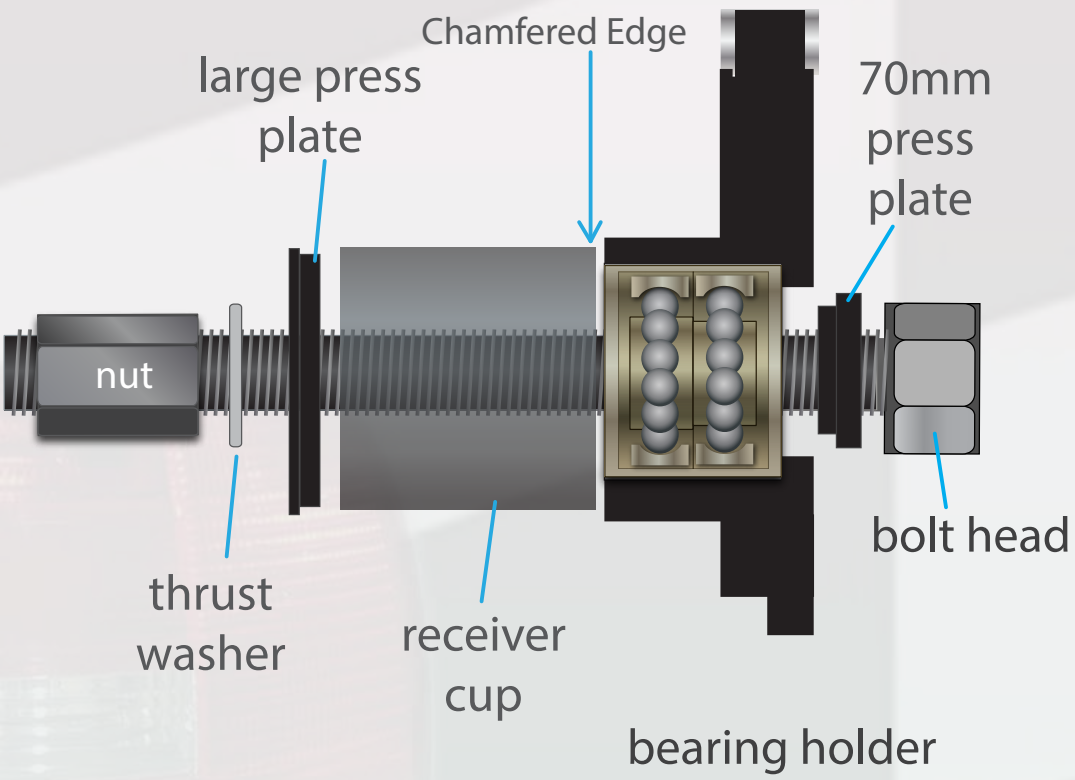
Thread the bolts into the hub and screw them against the horseshoe plate to remove the hub from the bearing.



Remove Old Bearing

1 Assemble Tool

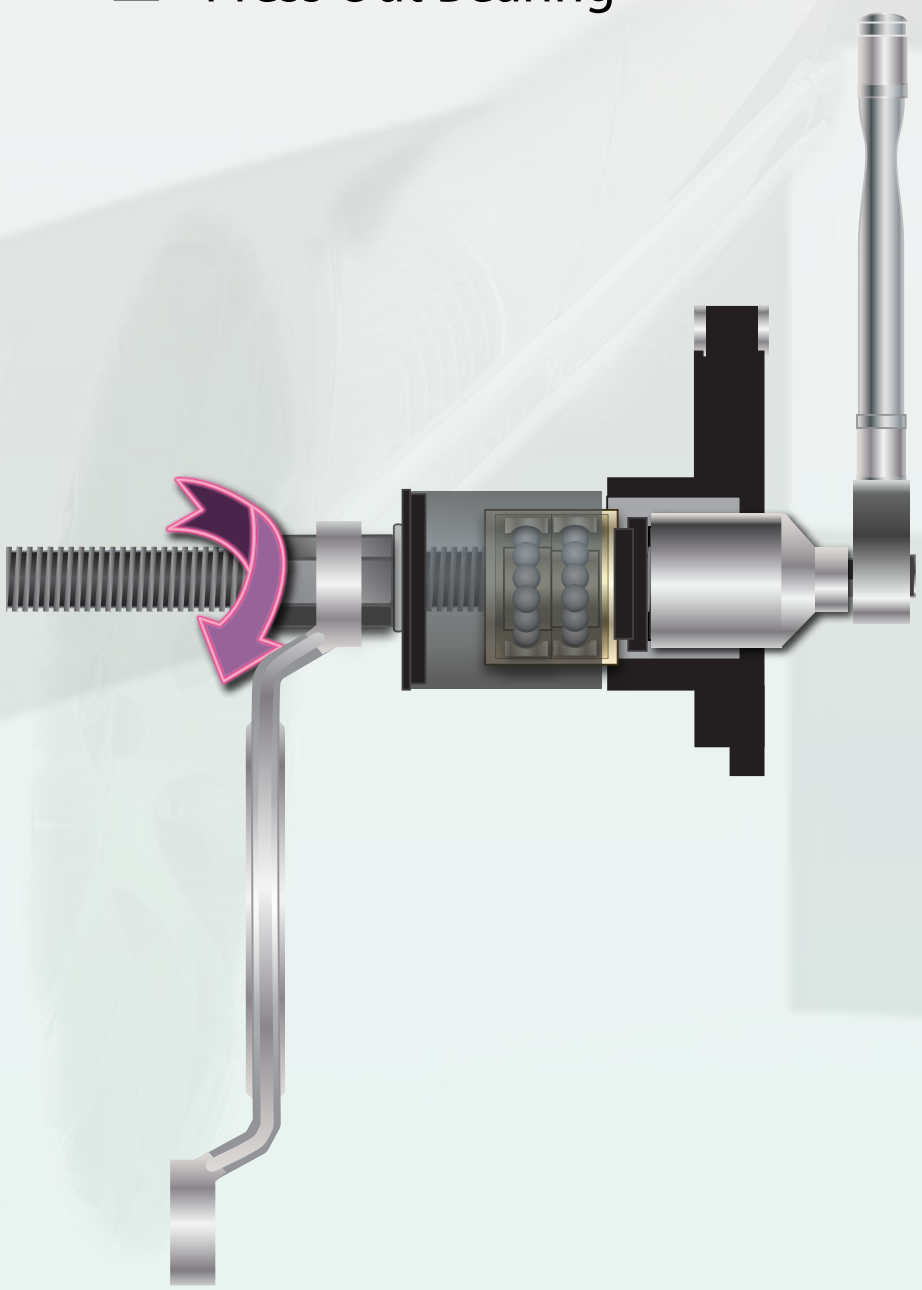
Assemble the tool as shown. Lube threads, nut, and washer with grease.



2 Press Out Bearing

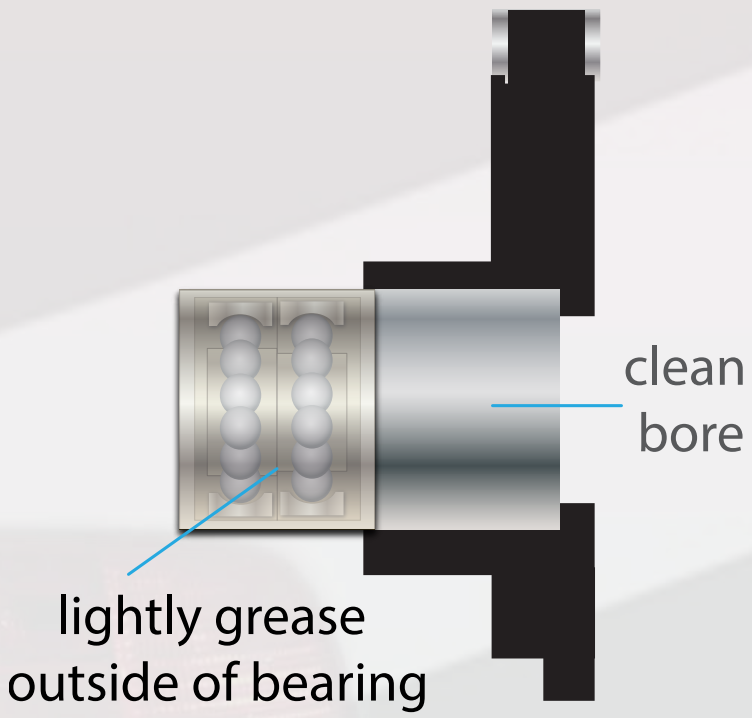
Hold the bolt head as you turn the nut to draw the press plate against the bearing.

This will press the bearing from the bearing holder into the receiver cup.



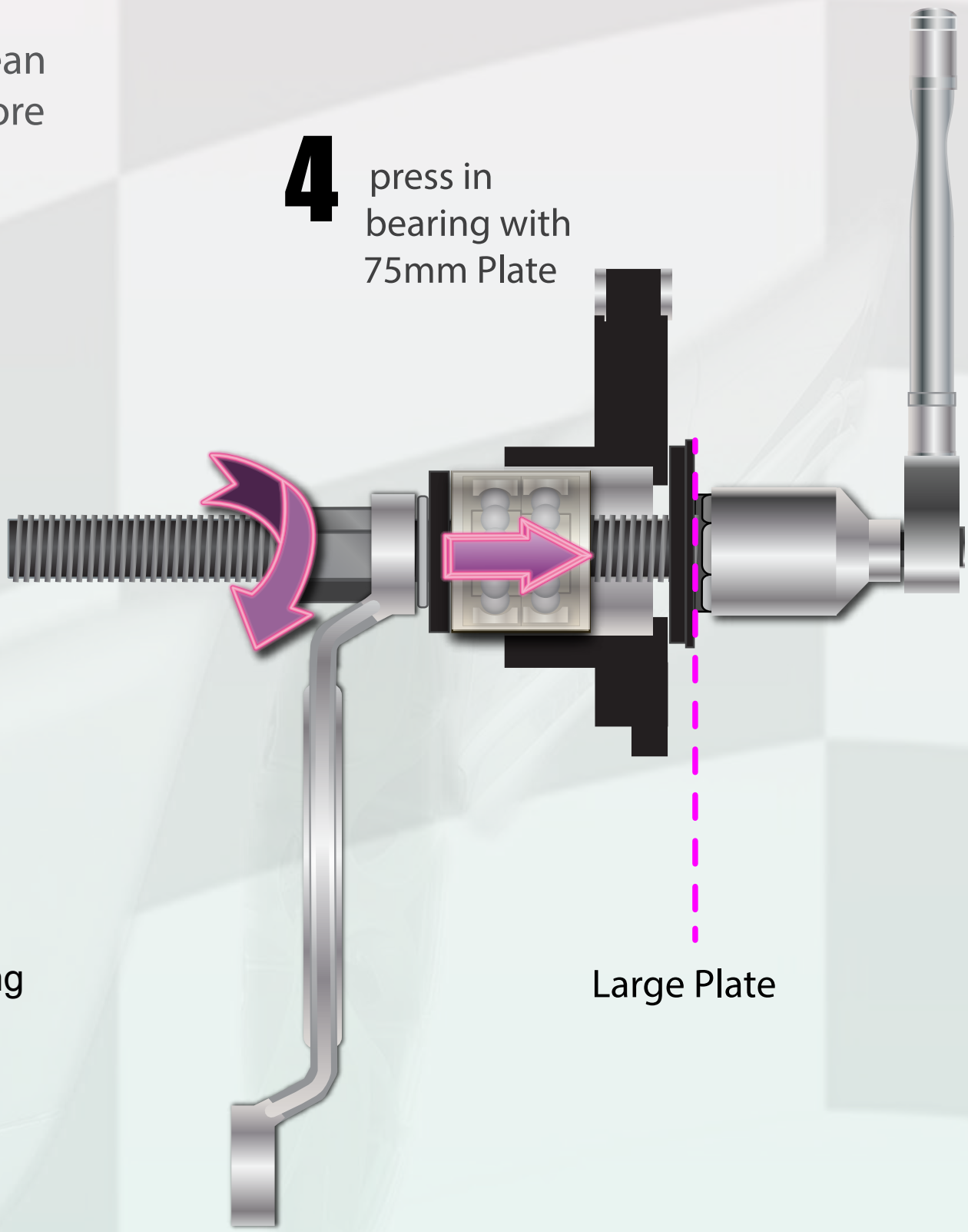
Press In New Bearing

3 clean and lube bore



Reverse the process to install the new bearing. Make sure the bearing and bore are clean and lubed with a film of clean grease.

4 press in bearing with 75mm Plate



Assemble the tool as shown. Turn the nut to draw the bearing into the bore until it bottoms (dotted line).

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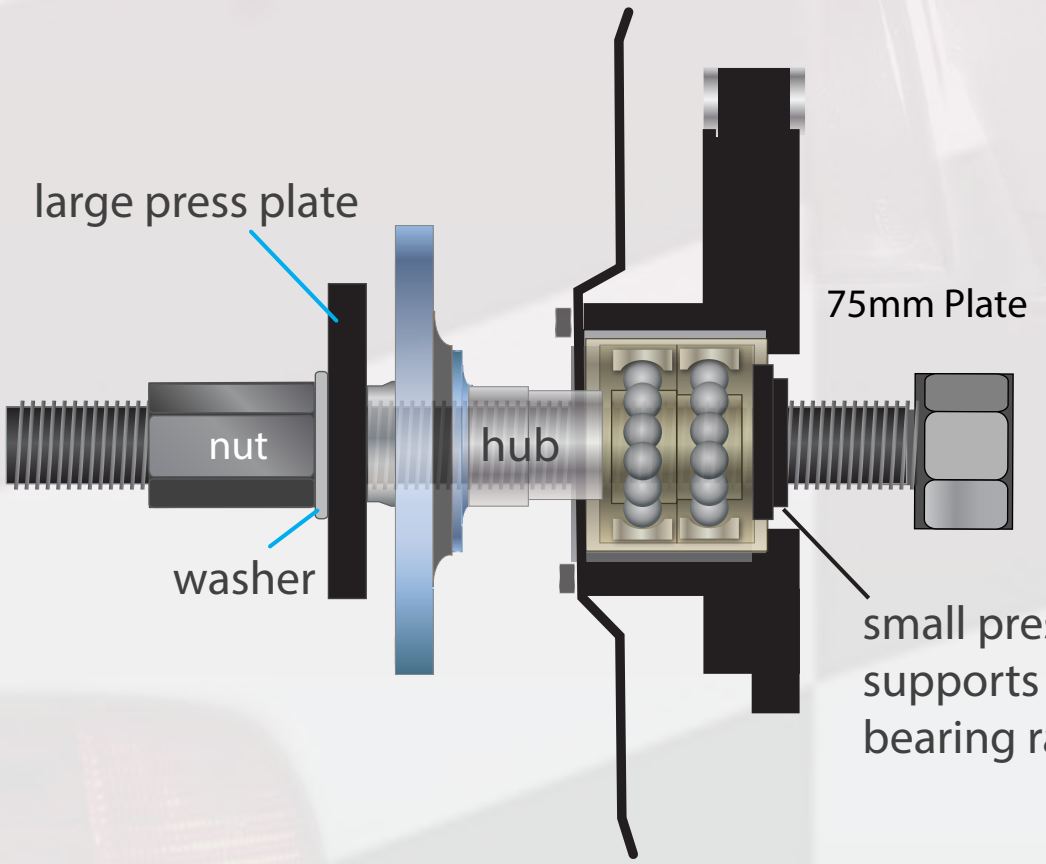
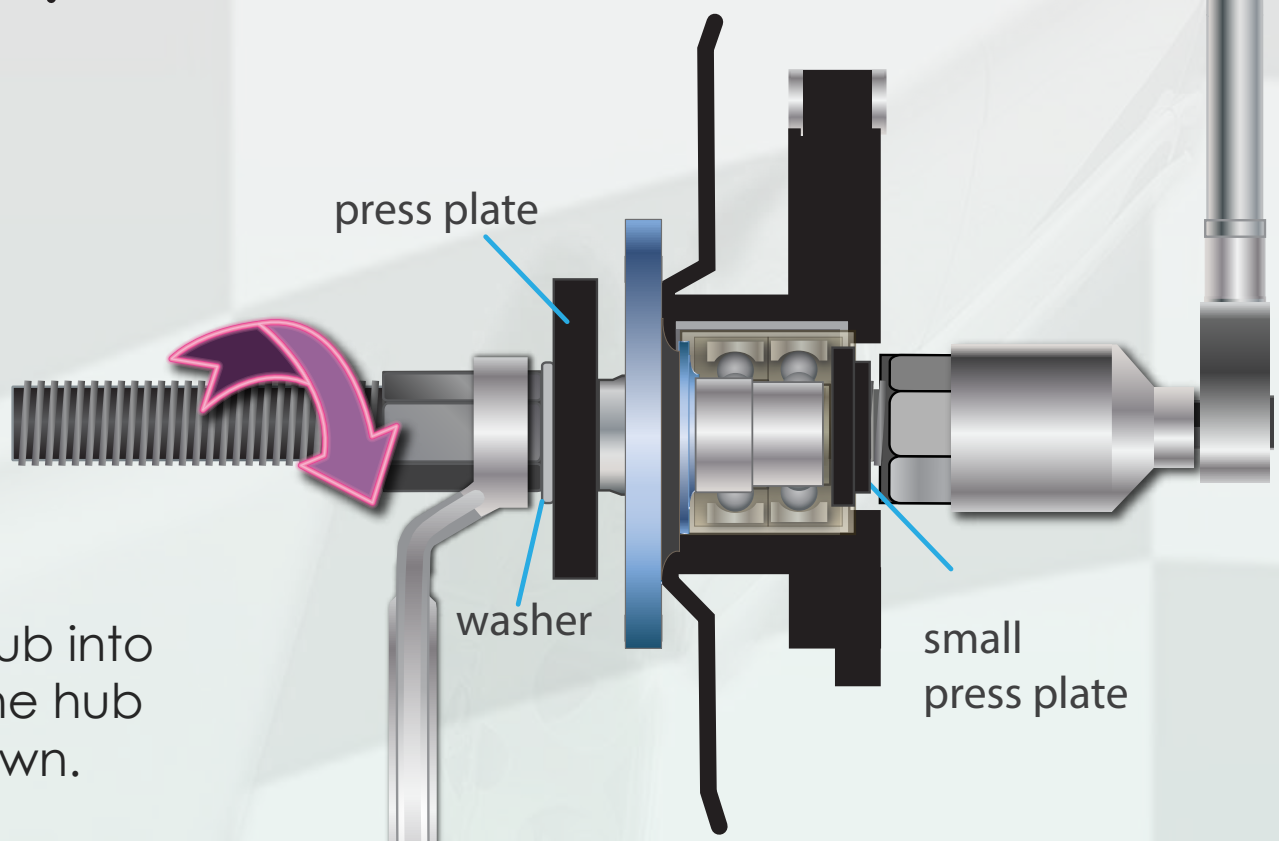
Press in the Hub



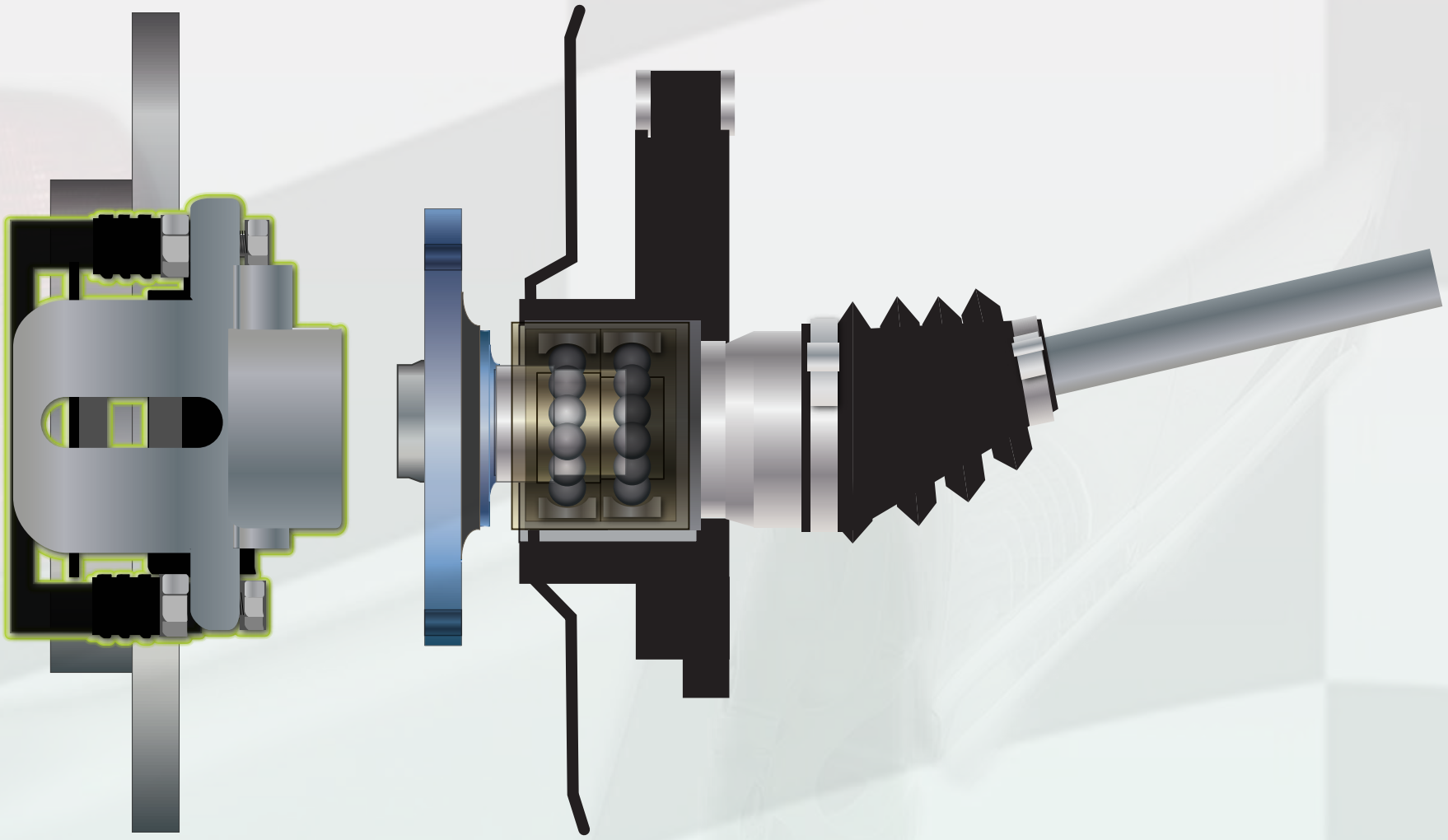
Reinstall the brake rotor dust shield on the bearing holder. Align the hub with the bearing opening. Assemble the press tool as shown.



Turn the nut to pull the hub into the bearing bore, until the hub is pressed all the way down.

Final Reassembly

1) Reinstall the axle. Slide the splined end of the axle stub into the drive hub. Bolt the inner constant velocity joint to the drive axle hub. Replace and tighten all axle joint bolts, reinstall upper control arm (refer to tightening specifications on 3rd page.)
2) Reinstall the wheel speed sensor
3) Reinstall the rotor shield.
4) Reinstall the brake rotor and caliper.
5) Install a new shoulder (axle) bolt and torque to specifications.
6) Install the road wheel/tire and torque the wheel bolts to specifications.



Thanks!
Thank you for purchasing the Schwaben Audi Quattro Rear Wheel Bearing Service Kit.
We appreciate your business, and hope this installation guide has been helpful.