Wheel bearing housing, removing and installing

Removing

- Remove wheel trim.

  On light alloy wheels use puller in vehicle tool kit to remove trim cap.

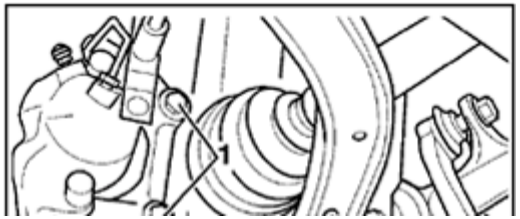
- Remove bolt for drive axle.

WARNING!

The vehicle must be standing on it's wheels when loosening or tightening the bolt for the drive axle. Otherwise the risk of an accident exists.

- Remove wheel and secure brake disc using wheel bolt.

- Detach ABS wheel speed sensor wire from bracket on brake caliper.



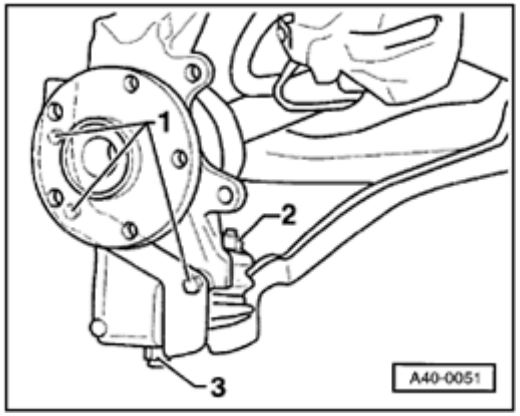
- Remove bolts -1- for brake caliper and remove caliper.

CAUTION!

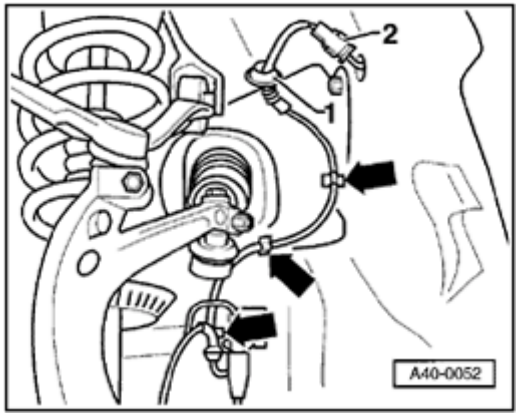
- ***Suspend the brake caliper using a piece of wire. Do not allow the caliper to hang by the brake hose. The unsupported weight can stretch and damage the hose.***
- ***Do not loosen brake hoses or lines.***

- Remove brake disc.

40-55



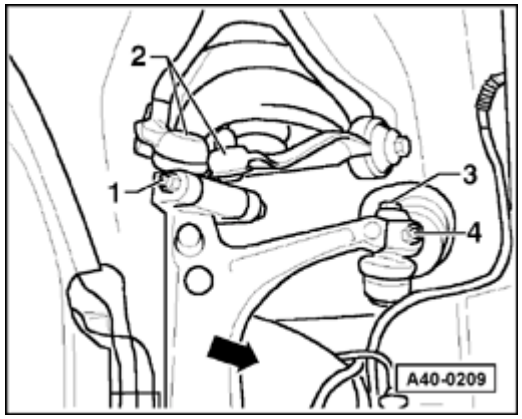
- Remove bolts -1- for brake splash guard.
- Pull ABS wheel speed sensor out of wheel bearing housing.
- Loosen nuts -2- and -3-.



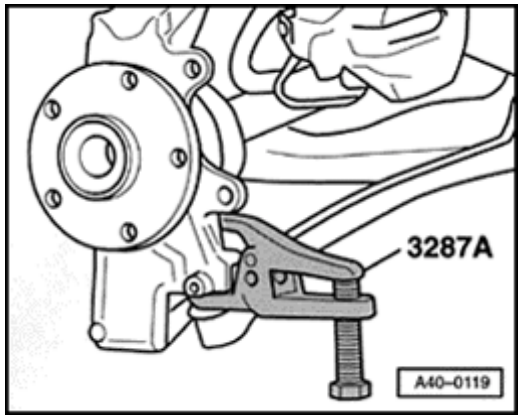
- Pull out rubber grommet -1- and disconnect harness connector -2-.
- Detach ABS wheel speed sensor wiring from retainers (arrows).
- Guide wiring through opening in wheel bearing housing and remove.

  Be careful not to damage the rubber grommet.

40-56



- Remove bolt -3- and nut -4-.
- Disconnect tie rod end.
- Loosen nut from ball joint
  - If necessary, counterhold ball joint using 4 mm hex wrench.



- Press lower guide link ball joint from tapered seat.

  Be careful not to damage the joint boot.

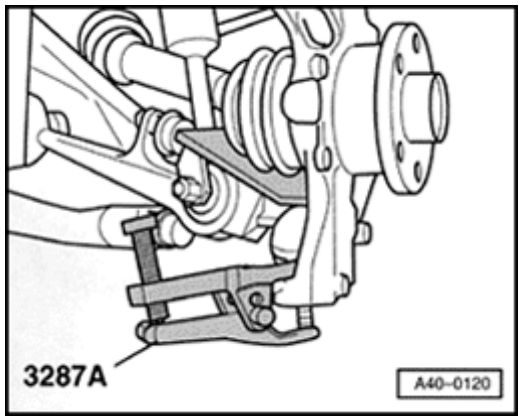
Note:

For vehicles with headlight range control ⇒ page 40-14 .

40-57

Note:

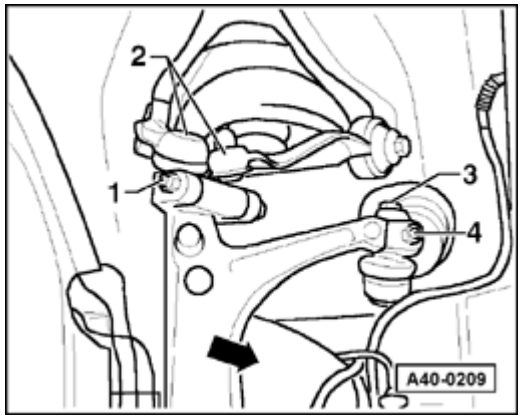
Cover the CV joint boot (e.g. by inserting a piece of leather) to protect it from damage.



- Press lower track control link ball joint from tapered seat.

CAUTION!

For safety reasons, reinstall the flanged nut onto the lower track control link ball joint (approx. 4 turns).



- Remove nut -1- and bolt and remove both links -2- upward.

CAUTION!

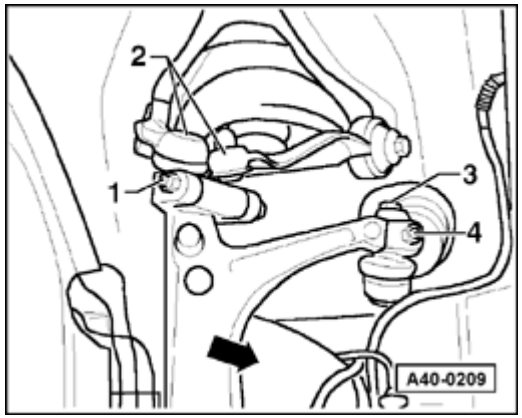
Do not use a chisel (or similar) to widen the slots in the wheel bearing housing.

- Swing wheel bearing housing aside in direction of arrow and remove outer CV joint from wheel hub.
- Remove nut from lower track control link ball joint.
- Remove wheel bearing housing.

40-58

Installing

- Install wheel bearing housing.
- Slide drive axle outer CV joint into wheel hub and tighten new bolt hand tight.
- Install ball joints for lower track control link and and guide link in wheel bearing housing.
- Install new self-locking nuts and tighten to: 100 Nm (74 ft lb).
  - If necessary, counterhold ball joint using 4 mm hex wrench.
- Install both upper link ball joints into wheel bearing housing.



- Install new self-locking nut -1- and tighten to 40 Nm (30 ft lb).
  - Press upper links downward as far as possible when tightening.
- Install tie rod end and new self locking nut -4-.

  Tightening torque: 50 Nm (37 ft lb)
- Tighten bolt -3-.

  Max tightening torque: 5 Nm (44 in. lb)

- Install ABS wheel speed sensor.

- Attach linkage for headlight range control ⇒ page 40-14 .

- Bolt on brake splash guard.

  Tightening torque: 10 Nm (7 ft lb)

- Install brake disc.

- Install brake caliper and tighten bolts to 120 Nm (89 ft lb).

- Install wheels and tighten wheel lugs to 120 Nm (89 ft lb).

- Install new bolt for drive axle.

  Tightening torques:

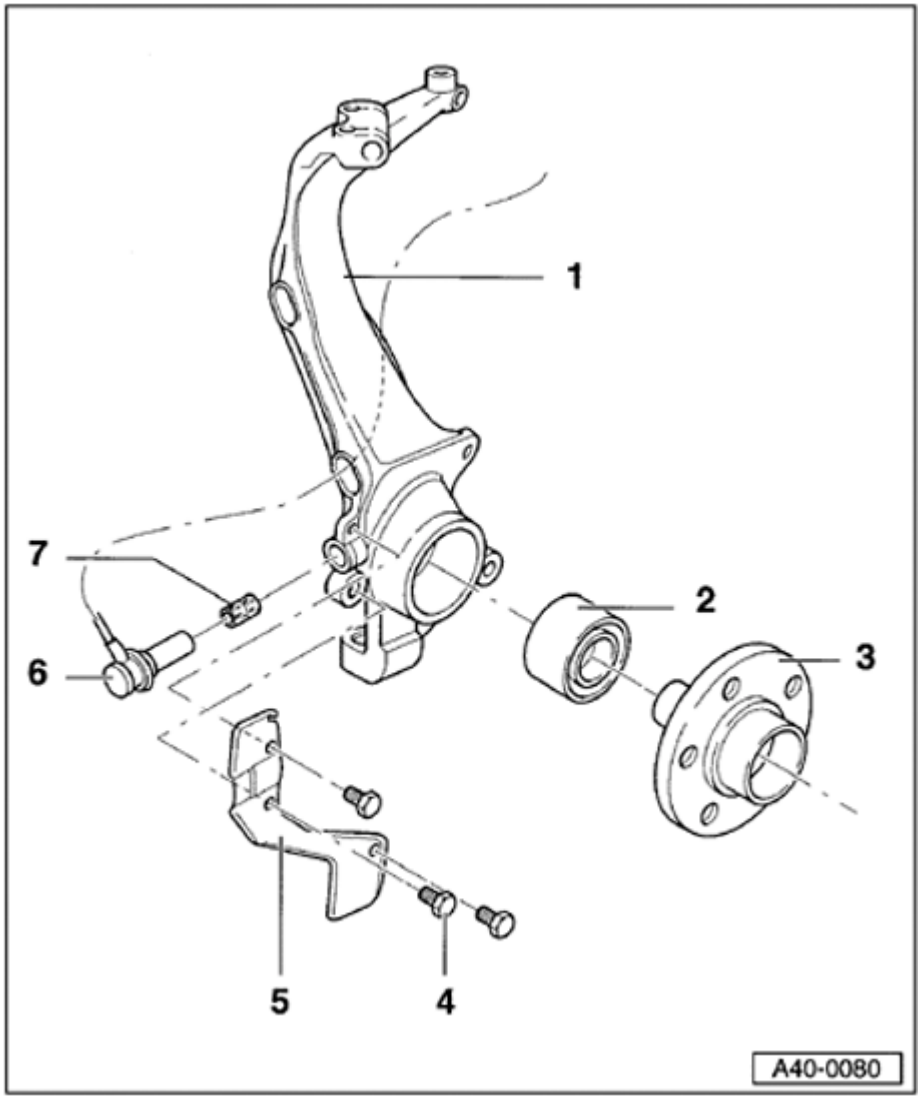
  - M14: 115 Nm (85 ft lb) + 1/2-turn (180°)
  - M16: 190 Nm (140 ft lb) + 1/2-turn (180°)

WARNING!

The vehicle must be standing on it's wheels when loosening or tightening the bolt for the drive axle. Otherwise the risk of an accident exists.

- Check front suspension alignment and, if necessary, adjust using VW/Audi approved alignment equipment.

40-60



Wheel bearing housing, servicing

1 - Wheel bearing housing

- Note different versions of suspension ⇒ parts catalog microfiche
- Removing and installing ⇒ page 40-54

2 - Wheel bearing

- Shoulder on inner diameter
- Installation position: side of wheel bearing with larger inner diameter faces wheel hub
- Removing bearing inner race from hub ⇒ Fig. 5 and Fig. ⇒ 6

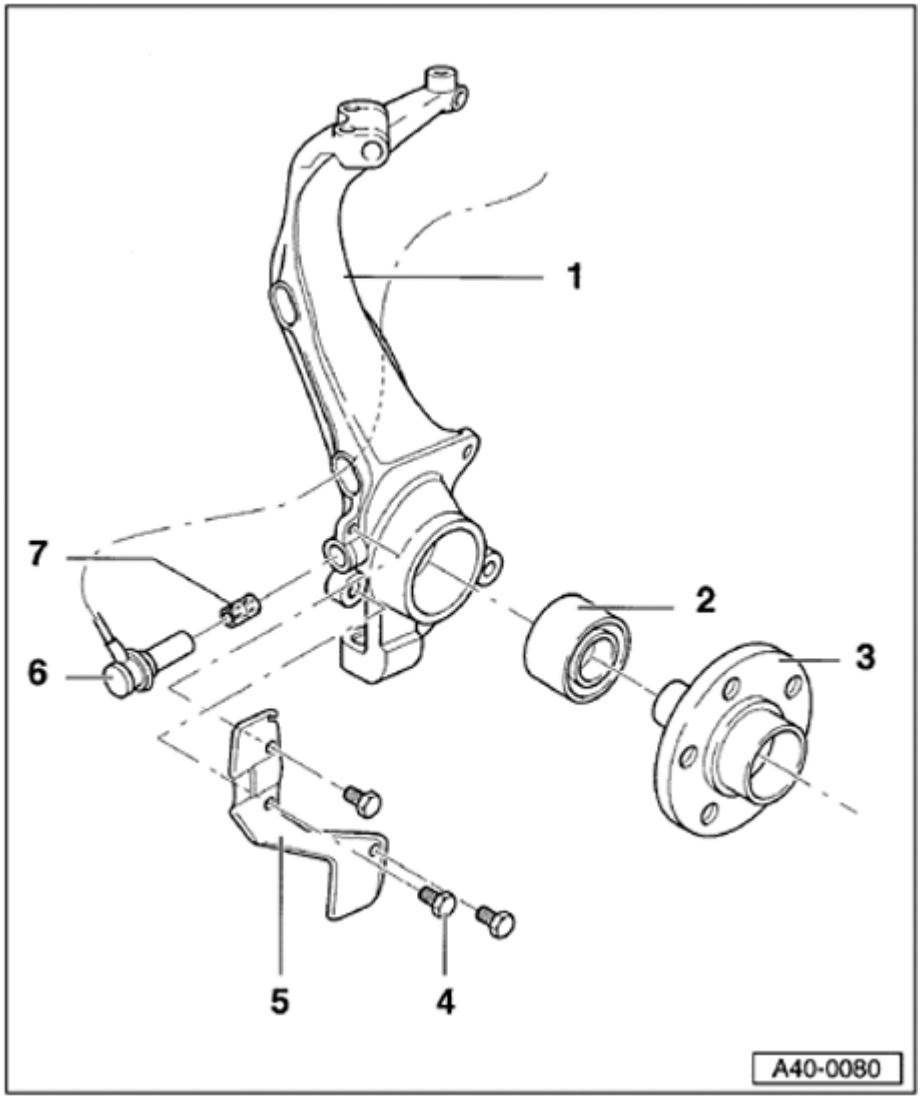
With 75 mm diameter wheel bearing housing:

- Pressing bearing out ⇒ Fig. 3
- Pressing bearing in ⇒ Fig. 7

With 82 or 85 mm diameter wheel bearing housing:

- Pressing bearing out ⇒ Fig. 4
- Pressing bearing in ⇒ Fig. 8

40-61



3 - Wheel hub

- Shouldered

With 75 mm diameter wheel bearing housing:

- Pressing hub out ⇒ Fig. 1
- Pressing hub in ⇒ Fig. 9

With 82 or 85 mm diameter wheel bearing housing:

- Pressing hub out ⇒ Fig. 2
- Pressing hub in ⇒ Fig. 10

4 - Bolt

- 10 Nm (7 ft lb)

5 - Brake splash guard

6 - ABS wheel speed sensor

- Pull out to remove
- Install drive axle before installing speed sensor
- Press into clamping sleeve up to stop
- Routing wiring ⇒ page 40-55

7 - Clamping sleeve

- Always replace

- Left and right sides identical
- Before installing, lubricate hole in wheel bearing housing with brake cylinder paste
- Press into wheel bearing housing up to stop

40-62

Special tools, test equipment and auxiliary items

VW401	VW402	VW412
VW416B	VW519	VW407
VW432	VW447I	3291/2
3124	3345	30-100
Separating device Kukko 15-17		3005

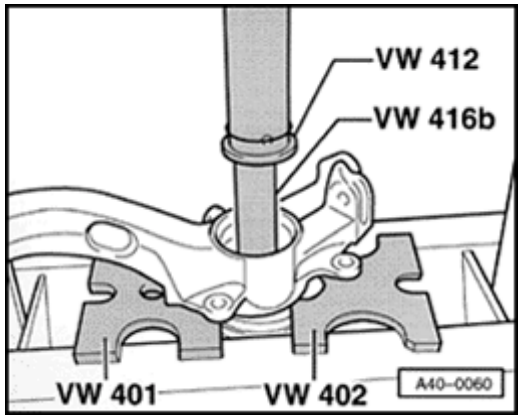


Fig. 1 Pressing wheel hub out of 75 mm diameter wheel bearing housing

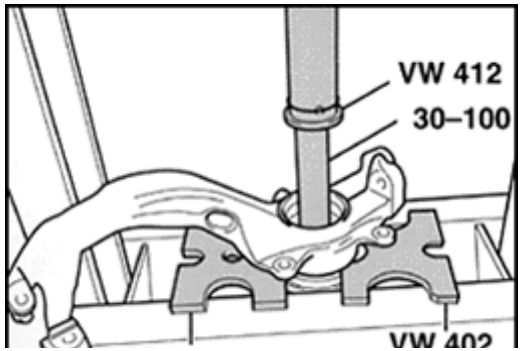


Fig. 2 Pressing wheel hub out of 85 mm diameter wheel bearing housing

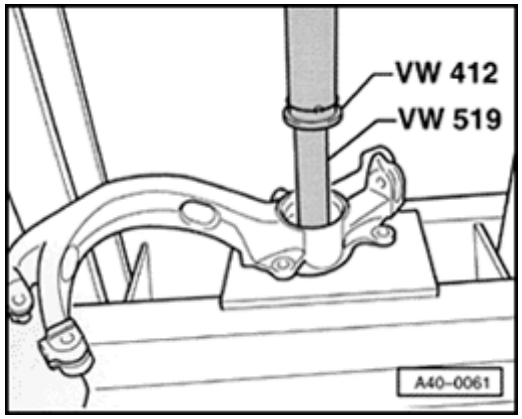


Fig. 3 Pressing wheel bearing out of 75 mm diameter wheel bearing housing

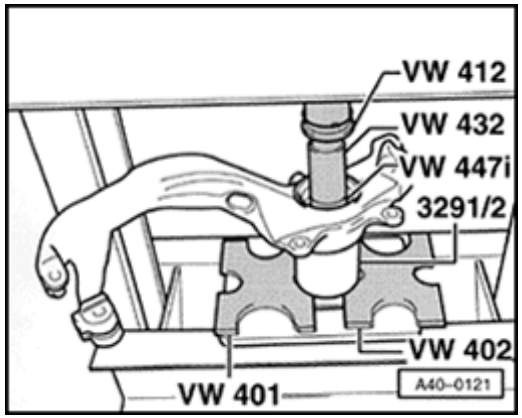


Fig. 4 Pressing wheel bearing out of 85 mm diameter wheel bearing housing

40-64

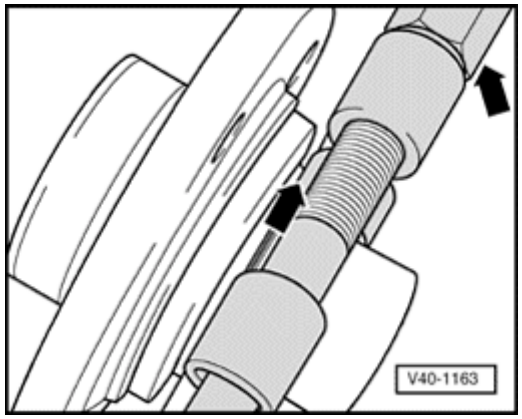


Fig. 5 Installing separating device

- Install separating device into bearing inner race circumferential groove (left arrow) and tighten spindle (right arrow).

Note:

Use a standard, commercially available bearing separator (i.e. Kukko 15-17).

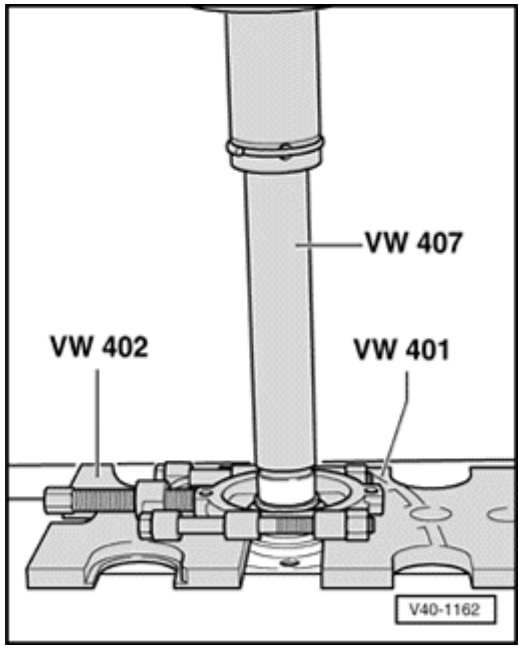


Fig. 6 Pressing inner bearing race off of wheel hub

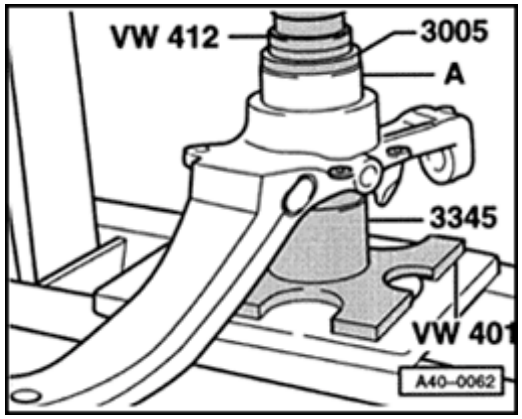


Fig. 7 Pressing wheel bearing into 75 mm diameter wheel bearing housing

Note:

Large inner diameter of wheel bearing faces toward wheel hub.

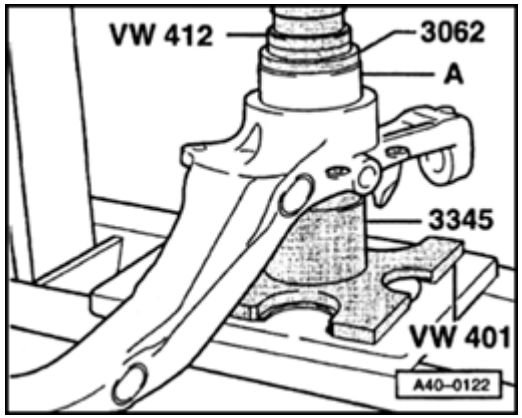


Fig. 8 Pressing wheel bearing into 85 mm diameter wheel bearing housing

Note:

Large inner diameter of wheel bearing faces toward wheel hub.

40-66

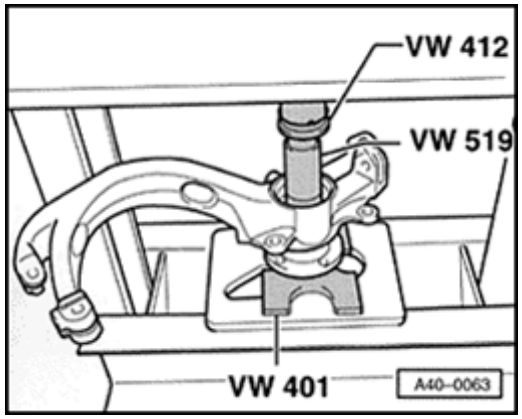


Fig. 9 Pressing wheel hub into 75 mm diameter wheel bearing

CAUTION!

- ***When installing, VW519 sleeve must exert force only against the bearing inner race.***
- ***Make sure that the wheel bearing housing does not exert force against the wheel hub. Otherwise there is the risk of damaging the wheel bearing.***
- ***The wheel bearing housing must remain as horizontal as possible when pressing in the hub. Otherwise the wheel hub will cant in the wheel bearing, which will lead to early wheel bearing damage.***

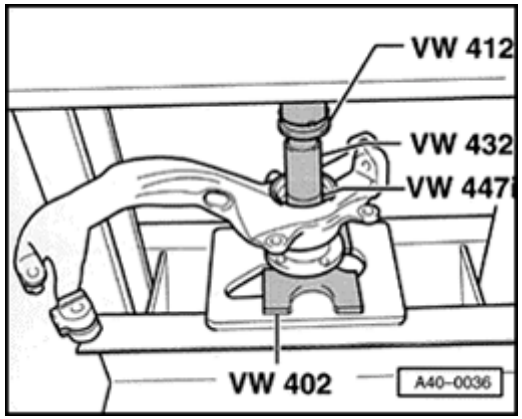


Fig. 10 Pressing wheel hub into 85 mm wheel bearing

CAUTION!

- ***When installing, VW447i thrust pad must only exert force only against the bearing inner race.***
- ***Make sure that the wheel bearing housing does not exert force against the wheel hub. Otherwise there is the risk of damaging the wheel bearing.***
- ***The wheel bearing housing must remain as horizontal as possible when pressing in the hub. Otherwise the wheel hub will cant in the wheel bearing, which will lead to early wheel bearing damage.***

Wheel bearing housing, servicing with VAG1459 B

There is an alternative to using the VAG1290 A workshop press to service the wheel bearing housing. VAG1459 B hydraulic wheel bearing and wheel hub removal and installation tool together with the VAG1459 B/2 accessory can be used instead.

Advantages:

- Wheel bearing housing does not need to be completely disassembled.
- Tie rod end remains in wheel bearing housing and therefore wheel alignment does not need to be carried out.