Cartridge bearings (GEN 1)

Recommendations for disassembly/assembly using a press

Cartridge bearing with two rows of balls

Cartridge bearing with two rows of tapered rollers

I. General recommendations

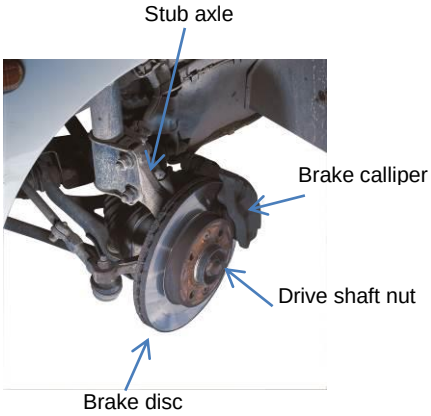
1) Always refer to the vehicle's service manual
2) Prepare the required materials and tools before starting the installation, make sure that they are clean and in good condition.
3) Work in a clean and tidy area.
4) Check the kit number is correct. To avoid damage do not remove the bearing from its packaging until it is ready to installed.
5) Check the condition of all parts related to the bearing, hub, stub axle, and drive shaft end (no scratches or gouges) replace any damaged parts.
6) Never disassemble or separate the bearing.
7) If any abnormal noises are heard during installation, the bearing must be removed and replaced
8) Do not loosen or tighten the drive shaft nut while the wheels of the vehicle are in contact with the ground
9) Never lower the vehicles wheels to the ground whilst the drive shaft is loose or removed.
10) Bearings should always be handled with care to avoid damage.
11) Always apply the fitment force through the outer ring of the bearing. The fitment force must never be applied to the seals or inner rings of the bearing, to do so will force the fitment force through the rolling elements (balls & rollers) causing damage to the raceways and rolling elements. Never push against the two rings simultaneously
12) Avoid damaging the magnetic encoder, make sure there is no damage to the magnetic seal such as dents, scratches or cuts, keep all magnetic sources away from the magnetic seal.
13) Use the tightening torques specified by the manufacturer, these can be found on the product label.

II. Required tools

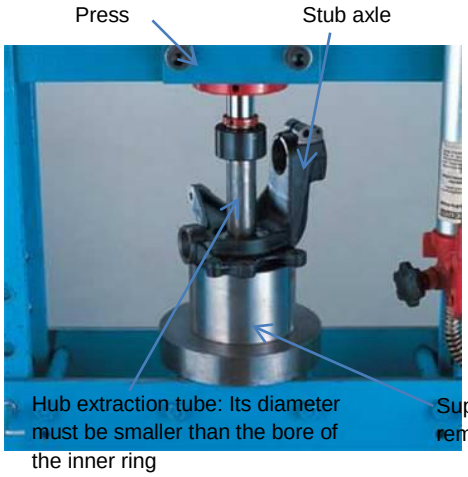
- Press with a capacity of at least 6 tonnes
- Flat bearing splitter
- Adaptor tube (local fabrication)

III. Removal

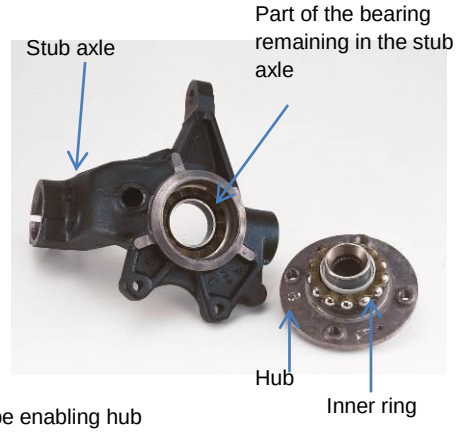
1. Remove in sequence
- the brake calliper
- the brake disc
- the drive shaft nut
- the stub axle



2. Position the stub axle on the press, supporting it against a tube or some shims.
Using a tube of suitable diameter, push against the hub to extract it from the stub axle.

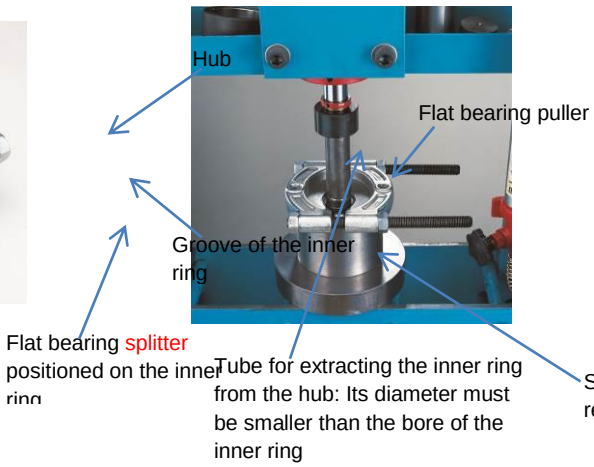


3. The bearing separates into two parts: the one with the inner rings stays on the hub, and the other part of the bearing stays on the stub axle.



4. If the ball ring stays on the hub, use an extractor to pull it off. The clamping jaw clamps to the groove of the inner ring of the bearing. If the inner ring has no groove, clamp it between the faces of the ring and the hub.

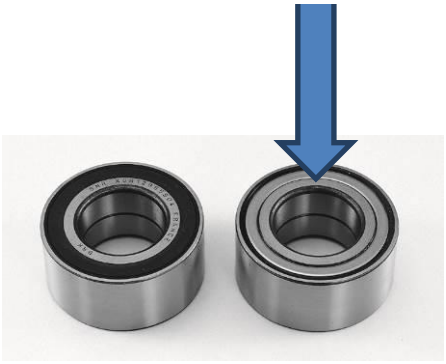
5. Position the extractor on the press, supporting it against a tube or some shims Push with the appropriately sized tube used earlier (see no. 2 above), in order to remove it from the inner ring.

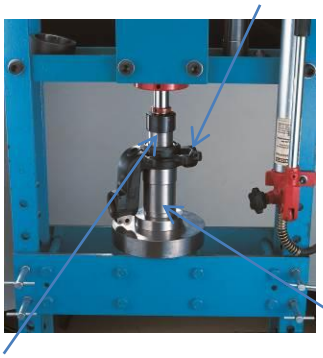


6. If there is a circlip, user circlip pliers to remove it.

7. Put the inner ring and the ball ring back into the outer ring remaining on the stub axle. Support the stub axle against a tube or some shims and use a tube of appropriate diameter* to push against the inner ring of the bearing.

*The diameter of the tube should correspond to the contact area of the inner ring





IV. Installation

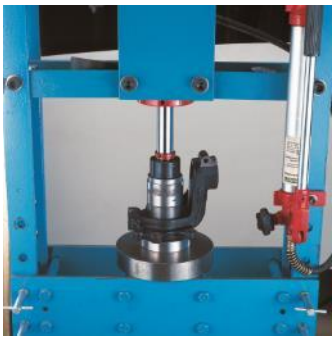
8. The NTN-SNR kit contains all the parts required for the installation. It is important to replace all components supplied in the kit. The components are small elements, but they contribute to the correct function of the bearing.

9. Before proceeding with the installation of the new bearing, make sure that the hub and the stub axle are in good condition and that the bearing seating surfaces are clean. For ASB® bearings, remove the protection just before installation. Avoid any impact against the magnetic encoder. Avoid any contact with dirty or magnetic surfaces.

To identify the face with the ASB® magnetic encoder, use the NTN-SNR testing card.

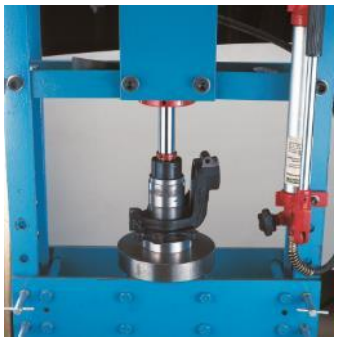
Pay attention to the installation orientation of the ASB® bearing

10. Place the stub axle on the face opposite to the direction of installation. Place the bearing at the entrance to the seat, with the magnetic encoder on the side facing the interior of the vehicle. On the press, and using a tube of appropriate diameter**, push against the outer ring of the bearing. In order to avoid damage, do not press against the magnetic encoder



11. If there is a circlip, install it carefully:
- Take care not to damage the magnetic encoder with the pliers
- Position the opening of the retaining ring so that it allows the sensor to pass

12. Place the hub on the press. Take the stub axle with the bearing and fit it onto the hub. Using a tube of appropriate diameter*, push against the inner ring of the bearing till it is seated in its final position. For ASB® bearings, do not press against the magnetic encoder. Near the end of the installation, an increase in the required force is normal.
(4 tonnes are required)

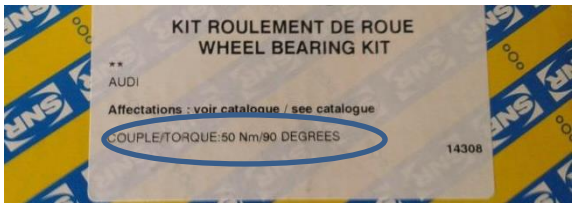


*The diameter of the tube should correspond to the contact area of the outer ring

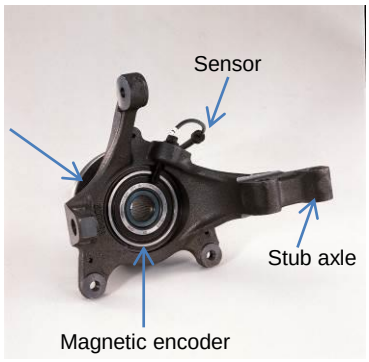
Do not press against the magnetic encoder or inner ring whilst fitting

13. Install the completed assembly back onto the vehicle. When fitting the drive shaft into the hub, be careful to avoid impacts: the drive shaft end can damage the magnetic encoder. Before fitting the drive shaft, clean the magnetic encoder with a soft clean cloth. Reinstall the brake disc and calliper. A torque wrench should be used to apply the final tightening torque recommended by the manufacturer.
To apply the final tightening torque, stop the hub from rotating, either by applying the brake or by reinstalling the wheel and lowering the vehicle back to the ground.

To make fitment easier NTN-SNR print the specified tightening torque on its product labels.



14. For bearings with an ASB® magnetic encoder, clean and reinstall the sensor.



Recommendations

Follow the vehicle manufacturer's installation procedures and apply the specified tightening torques.
Refer to the vehicle applications in our online catalogue: **eshop.ntn-snr.com**
Watch the installation video for GEN1 cartridge bearings on the NTN-SNR YouTube channel: **https://www.youtube.com/watch?v=6cpnCtj7ibU**

Scan this QR code to access our technical information.

FOLLOW THE RECOMMENDATIONS OF THE VEHICLE MANUFACTURER.