46 - 1

Front brakes, servicing

Front brakes, FN 3 calipers, servicing

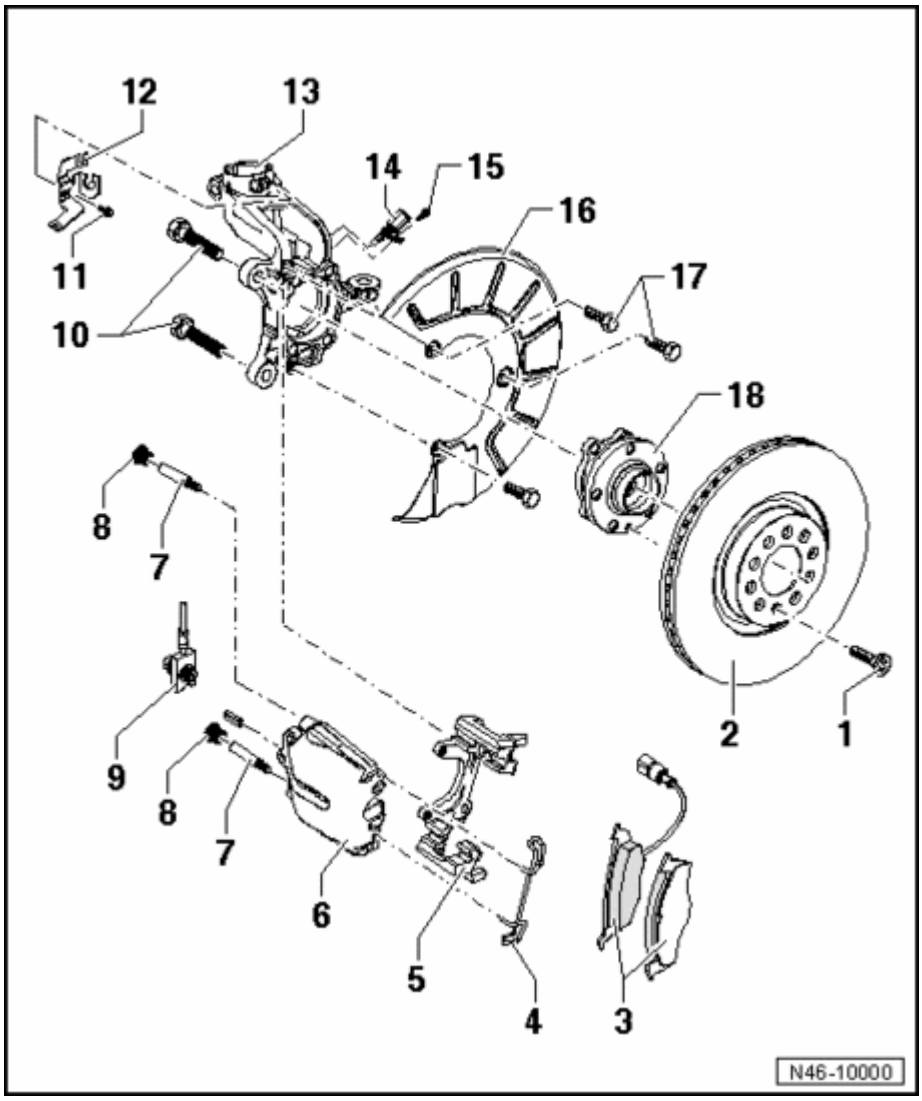
Note:

- *After replacing brake pads, depress brake pedal firmly several times with vehicle stationary so that the brake pads are properly seated in their normal operating position.*

- *Use brake charger/bleeder unit VAS 5234 to extract brake fluid from brake fluid reservoir.*

- *Before removing brake caliper or disconnecting brake hose, brake pedal depressor V.A.G 1869/2 must be inserted (this dissipates pressure).*

Assembly overview FN3 15 inch:



- **Phillips/Torx screw, 4 Nm**
- **Brake disc**
  - Internally vented, diameter 288 mm
  - Thickness 25 mm
  - Wear limit: 22 mm
  - Always replace both sides
  - Remove brake caliper prior to removing
- **Brake pads**
  - Thickness 14 mm without backing plate
  - With wear indicator

- When wear limit is reached (limit: approx. 4 mm), the warning lamp lights up in instrument cluster
- Wear limit: 2 mm without backing plate
- Checking thickness

  ⇒ ⇒*Repair Manual, Maintenance*
- Always replace both sides
- Removing and installing ⇒ 46-1, Brake pads, removing and installing

- **Retaining spring**
  - Insert in both holes of brake caliper

- **Brake carrier**
  - Bolt to wheel bearing housing

- **Brake caliper**
  - Do not disconnect brake hose when changing brake pads
  - Removing and installing ⇒ 46-1, Brake caliper, removing and installing
  - Servicing ⇒ 47-1, Front brake caliper, servicing

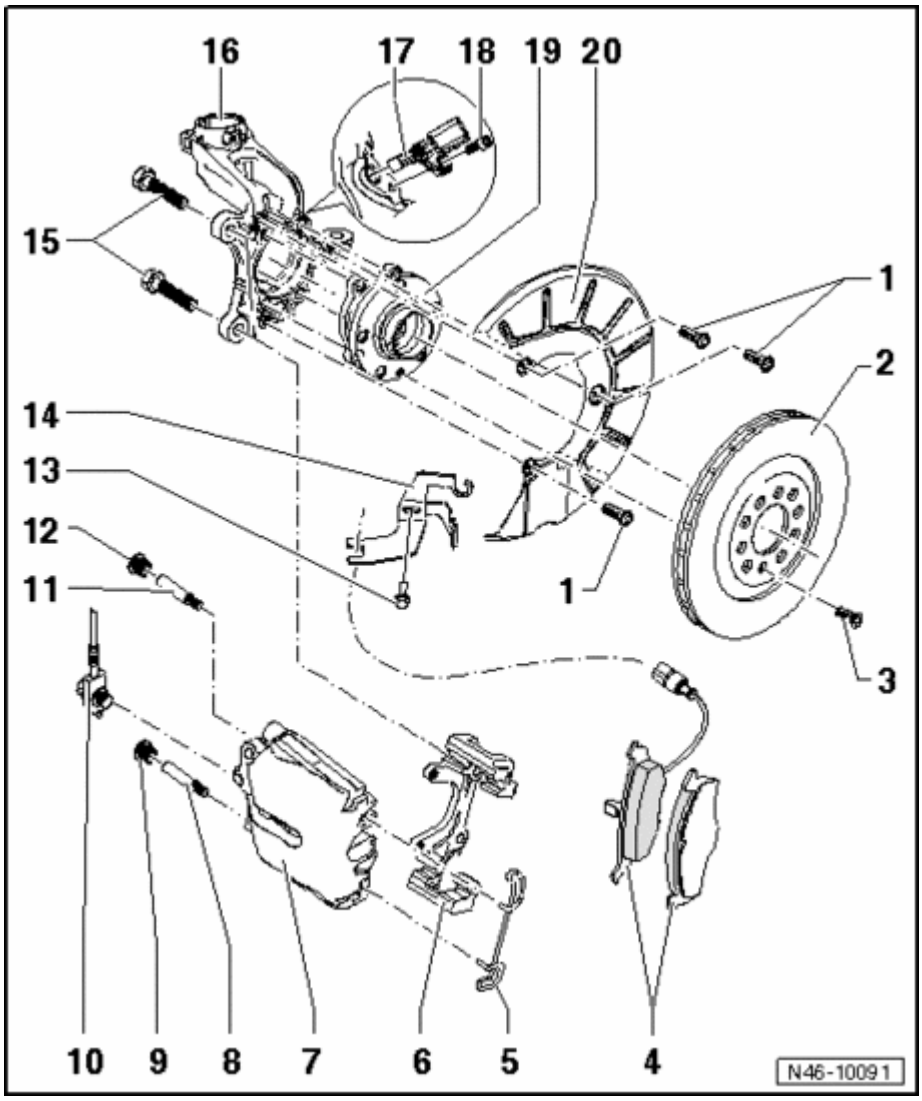
- **Guide pins, 30 Nm**
- **Cap**
  - Remove

- **Brake hose with banjo fitting and union bolt, 35 Nm**
- **Ribbed bolt, 190 Nm**

- Clean if re-using

- **Bolt**
- **Bracket**
- **Wheel bearing housing**
  - With fastened brake carrier
- **ABS wheel speed sensor**
  - Before inserting sensor, clean inner surface of bore hole and coat with hot bolt paste G 052 112 A3
- **Hex socket head screw, 8 Nm**
- **Shield plate**
- **Hex head/Torx bolt, 12 Nm**
  - Hex head bolt M6x10 changed from Torx bolt M6x12
  - Replace hex head bolt with hex head bolt and Torx bolt with Torx bolt
- **Wheel bearing/hub unit**
  - The ABS sensor ring is installed in wheel bearing

Assembly overview FN3 16 inch:



- **Torx bolt, 12 Nm**
- **Brake disc**
  - Internally vented, diameter 312 mm
  - Thickness 25 mm
  - Wear limit: 22 mm
  - Always replace both sides
  - Remove brake caliper prior to removing
- **Torx bolt, 4 Nm**
- **Brake pads**
  - Thickness 14 mm without backing plate

- With wear indicator
- When wear limit is reached (limit: approx. 4 mm), the warning lamp lights up in instrument cluster
- Wear limit: 2 mm without backing plate
- Checking thickness

  ⇒ ⇒*Repair Manual, Maintenance*
- Always replace both sides
- Removing and installing ⇒ 46-1, Brake pads, removing and installing

- **Retaining spring**
  - Insert in both holes of brake caliper

- **Brake carrier**
  - Bolt to wheel bearing housing

- **Brake caliper**
  - Do not disconnect brake hose when changing brake pads
  - Removing and installing ⇒ 46-1, Brake caliper, removing and installing
  - Servicing ⇒ 47-1, Front brake caliper, servicing

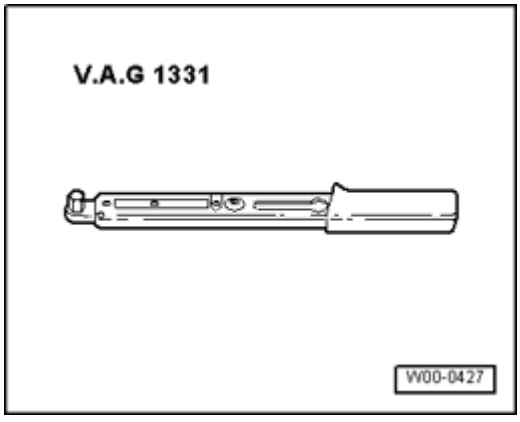
- **Guide pins, 30 Nm**
- **Cap**
  - Remove

- **Brake hose with banjo fitting and union bolt, 35 Nm**

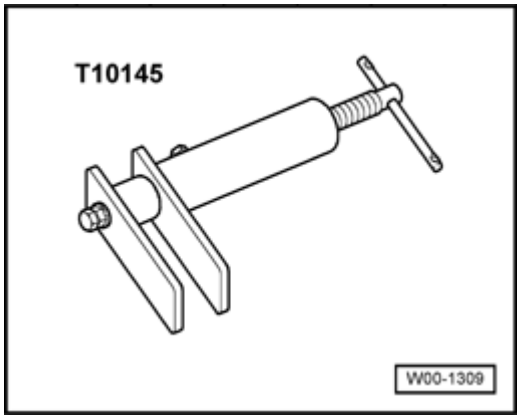
- **Guide pins, 30 Nm**
- **Cap**
  - Remove
- **Bolt**
- **Bracket**
- **Ribbed bolt, 190 Nm**
  - Clean if re-using
- **Wheel bearing housing**
  - With fastened brake carrier
- **ABS wheel speed sensor**
  - Before inserting sensor, clean inner surface of bore hole and coat with hot bolt paste G 052 112 A3
- **Hex socket head bolt, 8 Nm**
- **Wheel bearing/hub unit**
  - The ABS sensor ring is installed in wheel bearing
- **Shield plate**

Brake pads, removing and installing

Special tools, testers and auxiliary items required



- Torque wrench V.A.G 1331

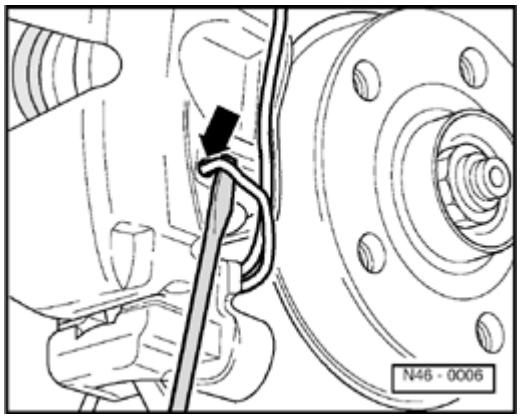


- Piston resetting tool T 10145

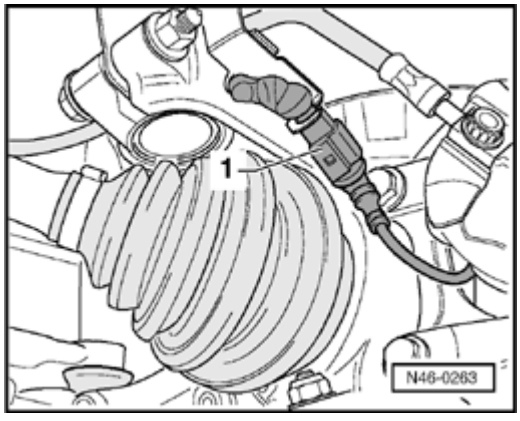
Removing

If reusing brake pads, mark location. Install in same position when installing otherwise uneven braking will occur!

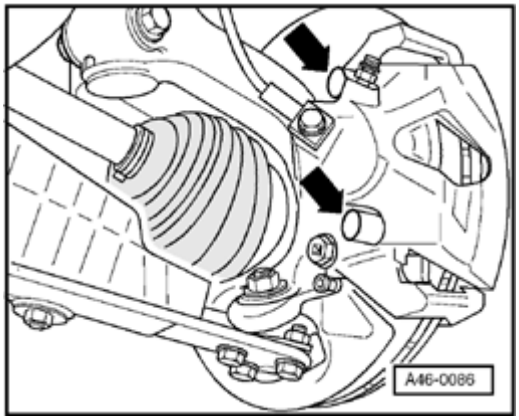
- Remove wheels.



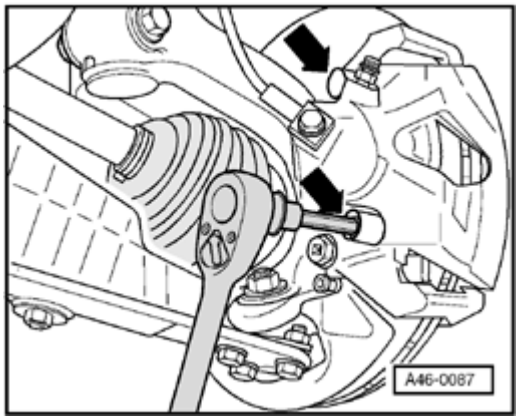
- Using screwdriver, pry off brake pad retaining spring from brake caliper **- arrow -** and remove.



- Separate connector **- 1 -** for brake pad wear indicator.



- Remove caps **- arrows -** .



- Loosen both guide pins **- arrows -** and remove from brake caliper.

- Remove brake caliper and secure with wire so that the weight of the brake caliper does not burden or damage the brake hose.

- Remove brake pad from brake caliper or from brake carrier.

Cleaning:

Warning!

Do not blow out the brake system with pressurized air, because the resulting dust is hazardous to your health!

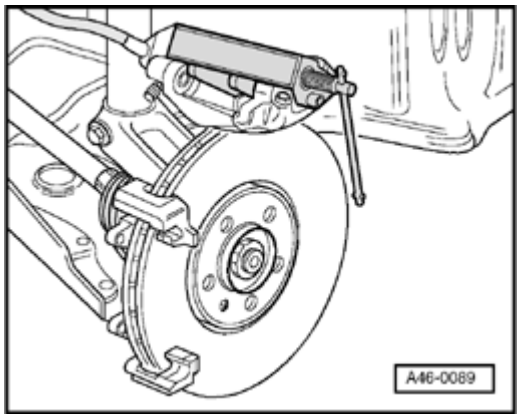
- Thoroughly clean brake pad mounting surfaces on brake carrier, and remove corrosion.

- Clean brake caliper, especially the adhesive surface for the brake pad, it must be free of residual adhesive and grease.

Use only appropriate solvents for cleaning brake caliper.

Installing

Before pressing piston into cylinder using piston resetting tool, brake fluid must be extracted from brake fluid reservoir. Otherwise, if reservoir has been topped off, fluid will overflow and cause damage.



- Press piston back into caliper housing.

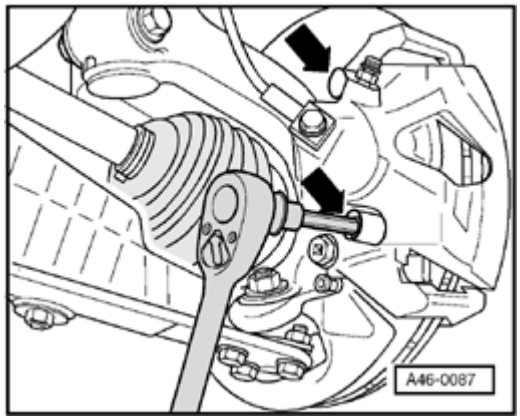
- Remove protective foil from backing plate of the outer brake pad.

- Set outer brake pad onto carrier.

- Insert inner brake pad with retaining spring in brake caliper (piston).

When installing brake caliper, make sure that brake pad is not affixed to brake caliper before the correct installation position has been reached.

Do not damage adhesion surface.



- Tighten brake caliper to brake carrier using both guide pins.

- Install both caps.
- Install retaining spring in brake caliper.
- Connect harness connector of brake pad wear indicator.
- Install wheels.

Tightening torque specification for wheel bolts

⇒ *Repair Manual, Suspension, Wheels, Steering, Repair Group 44, Tightening torques for wheel bolts*

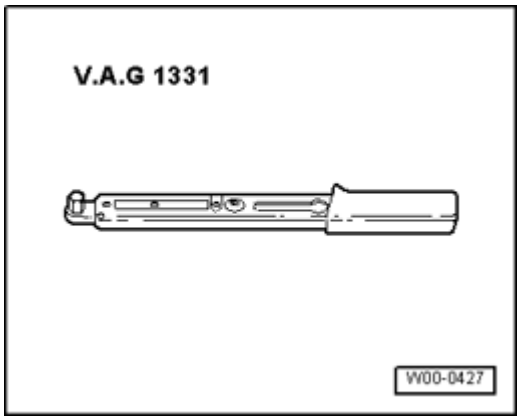
Note:

- *After replacing brake pads, depress brake pedal firmly several times with vehicle stationary so that the brake pads are properly seated in their normal operating position.*
- *After changing brake pads check brake fluid level.*

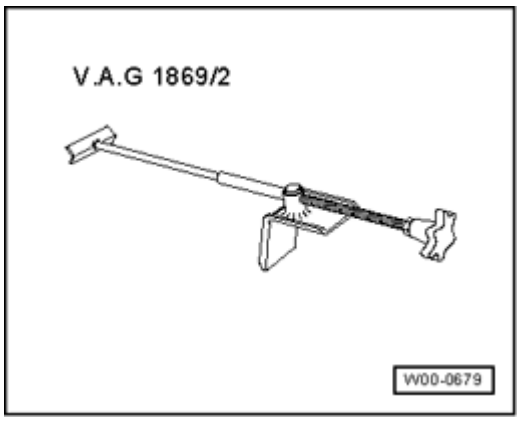
Torque specification:	
Guide pin to brake carrier	30 Nm

Brake caliper, removing and installing

Special tools, testers and auxiliary items required



- Torque wrench V.A.G 1331



- Brake pedal actuator V.A.G 1869/2

Removing

Work procedure applies only for replacing or when performing subsequent service work on brake caliper.

- Remove wheels.

- Using screwdriver, pry off brake pad retaining spring from brake caliper and remove.

- Separate connector for brake pad wear indicator.

- Connect bleeder hose of bleeder bottle to bleeder valve of brake caliper and then open bleeder valve.

- Insert brake pedal depressor V.A.G 1869/2 .

- Close bleeder valve and remove bleeder bottle.

- Remove brake hose.

- Pull both cover caps from bushings of brake caliper.

- Loosen both guide pins and remove from brake caliper.

- Pull off brake caliper from brake carrier.

- Remove brake pads from brake caliper.

Installing

- Piston is pressed back.

- Outer brake pad sits on brake carrier.

- Insert inner brake pad with retaining spring in brake caliper (piston).

When installing brake caliper, make sure that brake pad is not affixed to brake caliper before the correct installation position has been reached.

Do not damage the adhesive surface.

- Tighten brake caliper to brake carrier using both guide pins.

- Install both caps.

- Install brake hose on brake caliper.

- Remove brake pedal loading device V.A.G 1869/2 .

- Install retaining spring in brake caliper.

- Connect harness connector of brake pad wear indicator.

- Bleed braking system ⇒ 47-4, Bleeding braking system

- Install wheels.

Torque specification for wheel bolts

⇒ *Repair Manual, Suspension, Wheels, Steering, Repair Group 44, Torque specifications for wheel bolts*

.

Note:

- *Before moving vehicle, depress brake pedal several times firmly to properly seat brake pads in their normal operating position.*

- *Check brake fluid level.*

Torque specifications:	
Guide pin to brake carrier	30 Nm
Brake line to brake caliper	35 Nm