

34 00 025 REPLACING FLUID IN BRAKE SYSTEM

NOTE: **READ AND COMPLY WITH GENERAL INFORMATION.**

IMPORTANT: When carrying out repairs to the brake system, follow the procedure set out in **BLEEDING BRAKE SYSTEM WITH DSC** .

Only use brake fluids that have been approved by BMW, see **BRAKES - OPERATING FLUIDS**

Unclip retaining tabs (1).

Pull cover (3) out of guide (2) and remove.

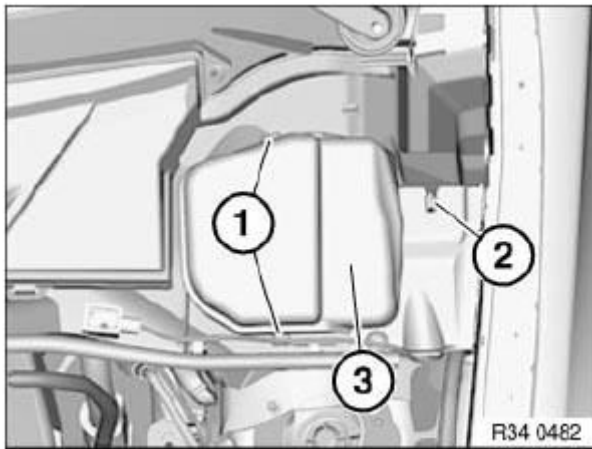


Fig. 11: Identifying Retaining Tabs, Guide And Cover
Courtesy of BMW OF NORTH AMERICA, INC.

Connect brake fluid changer to expansion tank and switch on.

NOTE: **Check relevant equipment manufacturer's operating instructions for each device.**
 Charging pressure should not exceed 2 bar.

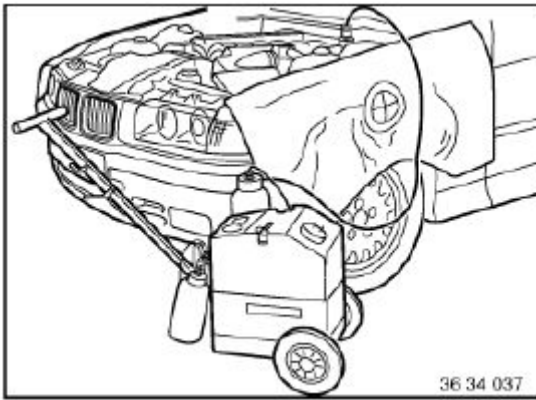


Fig. 12: Connecting Bleeder Unit To Expansion Tank
Courtesy of BMW OF NORTH AMERICA, INC.

Fully rinse the brake system

Connect bleeder hose with collecting tray to bleeder valve on rear right brake caliper.

Open bleeder valve and purge until clear, bubble-free brake fluid emerges.

Close vent valve.

Follow same procedure on rear left, front right and front left wheel brake.

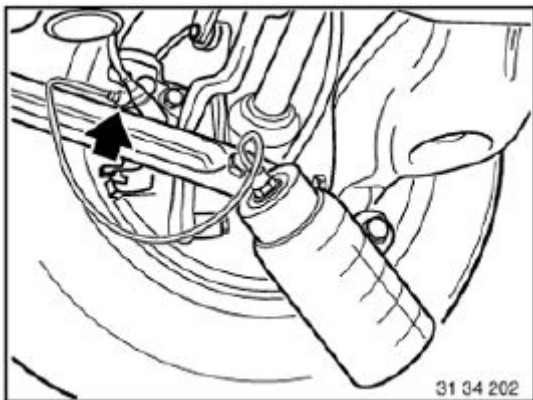


Fig. 13: Locating Bleeder Hose With Collecting Tray To Bleeder Valve On Rear Right Brake Caliper
Courtesy of BMW OF NORTH AMERICA, INC.

NOTE: The clutch slave cylinder must also be scavenged in vehicles with manual transmissions.

Switch off brake fluid changer and remove from expansion tank.

Check brake fluid level. If necessary, top up/draw off to max. level.

Close expansion tank.

NOTE: Pay attention to rubber seal (1) in sealing cap.

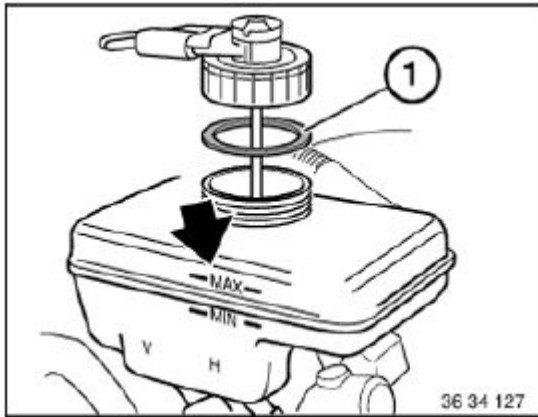


Fig. 14: Identifying Rubber Seal On Sealing Cap
Courtesy of BMW OF NORTH AMERICA, INC.

After installation

- Reset CBS in the vehicle according to factory specification.

00 SAFETY INFORMATION FOR WORKING ON VEHICLES WITH AUTOMATIC ENGINE START-STOP FUNCTION (MSA)

WARNING: If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active. An automatic engine start is possible.

Observe safety precautions when working on MSA vehicles

Before carrying out practical work on the engine, always ensure that the MSA functionality is deactivated so as to prevent automatic engine starting while work is being carried out in the engine compartment.

MSA function is deactivated by

- Deactivate MSA by means of button (1) in passenger compartment
- Open seat belt buckle and driver's door

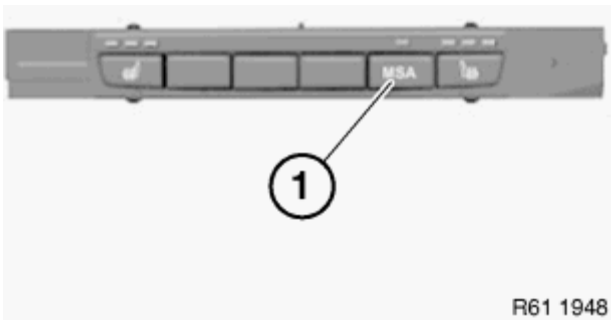


Fig. 15: Identifying Automatic Engine Start/Stop Button
 Courtesy of BMW OF NORTH AMERICA, INC.

- Open engine bonnet/hood and ensure that engine hood/bonnet contact is not in workshop mode
 - Workshop mode
 - A = 10 mm
 - Basic setting (engine hood/bonnet open)
 - B = 7 mm

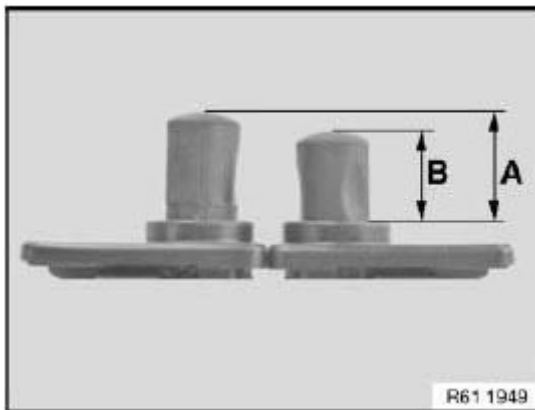


Fig. 16: Identifying Basic Setting For Engine Hood/Bonnet Basic
 Courtesy of BMW OF NORTH AMERICA, INC.

To make sure that the engine hood/bonnet contact is at the basic setting, if necessary press the hood/bonnet contact up to the limit position before starting work and slowly release.

When working with diagnosis tools

- Observe instructions in diagnosis tool

FRONT BRAKES

34 00... CHECKING BRAKE DISCS

Necessary preliminary tasks

- Remove **WHEELS** .

Checking thickness difference:

- Measure thickness difference within brake surfaces at 8 point (spread over the circumference) with a micrometer gauge
- Compare measurement result with **SETPOINT VALUE**

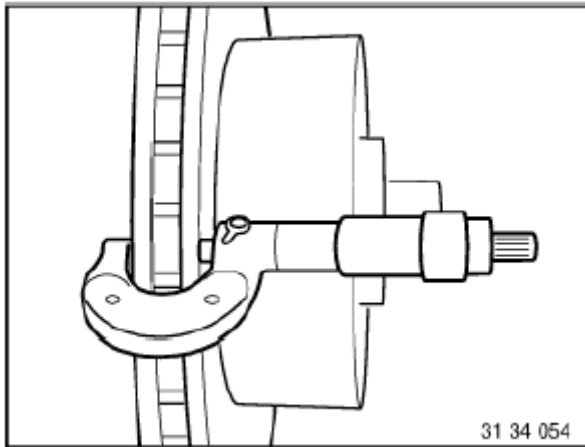


Fig. 17: Checking Brake Surface Thickness Using Micrometer Gauge
Courtesy of BMW OF NORTH AMERICA, INC.

Check minimum brake disc thickness:

- Position special tool **34 1 280 GAUGE** at three measuring points in area (1) and measure.
- Compare measurement result and lowest value with **SETPOINT VALUE**

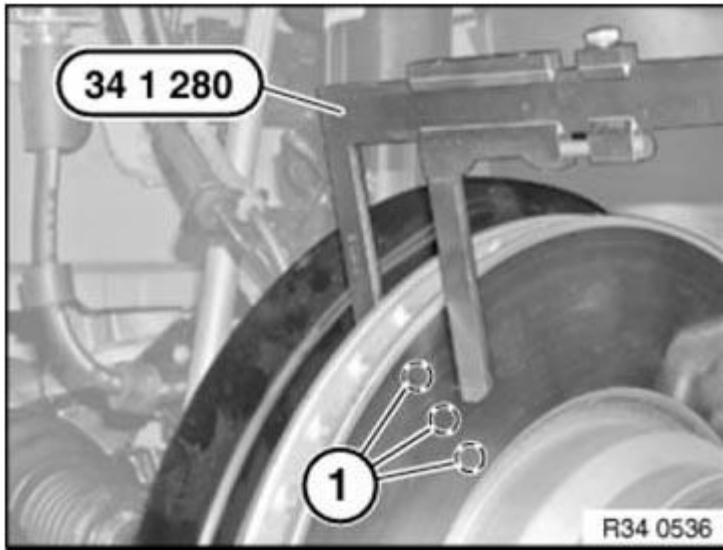


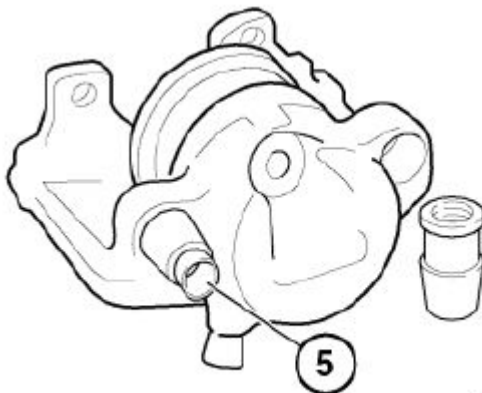
Fig. 18: Checking Minimum Brake Disc Thickness Using Special Tool 34 1 280
Courtesy of BMW OF NORTH AMERICA, INC.

34 11 552 OVERHAULING LEFT OR RIGHT FRONT BRAKE CALIPER (BRAKE CALIPER REMOVED)

WARNING: In the following work step, large forces occur at the brake caliper piston (up to more than 2800 N).
Risk of injury!

NOTE: Use repair kit, refer to BMW Parts Department.

Check guide sleeves (5), fitting repair-kit guide sleeve if necessary.



31 34 045

Fig. 19: Identifying Guide Sleeve
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully force piston out through connection bore with compressed air.

To protect piston, place a protective plate (e.g. hard wood or hard felt) in caliper recess.

Do not grip piston with fingers - risk of trapping!

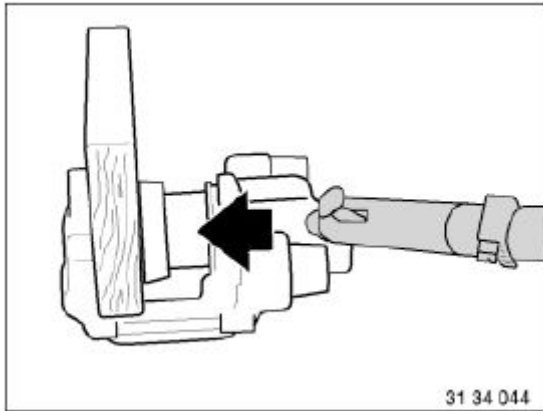


Fig. 20: Forcing Piston Through Connection Bore Using Compressed Air
Courtesy of BMW OF NORTH AMERICA, INC.

Press off dust sleeve (1).

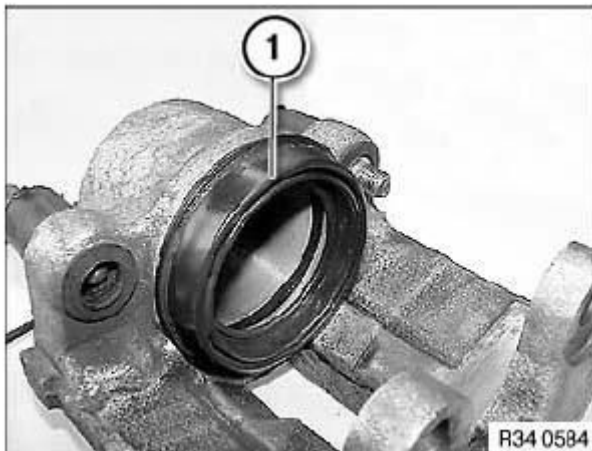


Fig. 21: Identifying Dust Sleeve
Courtesy of BMW OF NORTH AMERICA, INC.

Carefully remove sealing ring (1) special tool **009316 WEDGE** .

Clean cylinder bores and parts with alcohol and dry with compressed air.

Thoroughly inspect cylinder bore, piston and flange surfaces. Machining of cylinders and pistons is not permitted.

Install new seal.

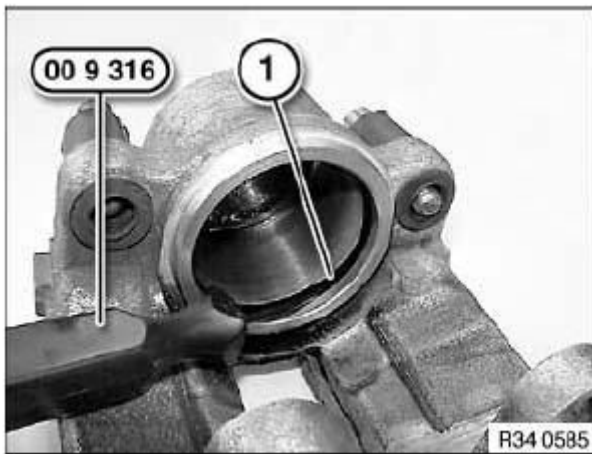


Fig. 22: Removing Sealing Ring Using Special Tool (00 9 316)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Apply a light coat of brake fluid to cylinder bore, piston and seal,

refer to **BRAKES - OPERATING FLUIDS** .

Fit dust sleeve (1) in annular groove of piston (2).

IMPORTANT: Do not twist brake piston.

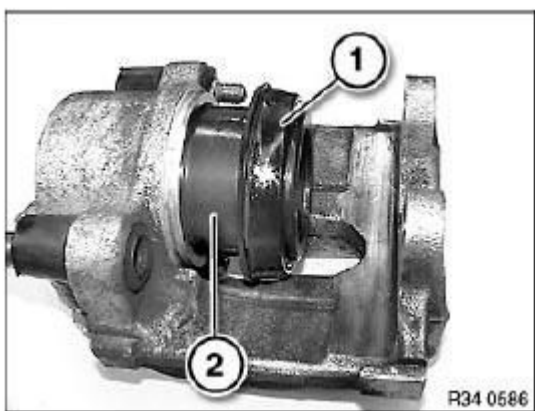


Fig. 23: Identifying Dust Sleeve And Piston
Courtesy of BMW OF NORTH AMERICA, INC.

Press piston into cylinder bore.