

**Haynes**
shows you how

BMW 3-Series and Z4 (99-05) Includes 2006 325ci/330ci Coupe and Convertible models Haynes Online Manual.

4 Front brake pads - replacement

04:23

Caution:

This video is for familiarization purposes only. Read below for specific information on your vehicle.

Warning:

Replace both sets of front brake pads at the same time - never replace the pads on only one wheel, as uneven braking may result. Note that the dust created by wear of the pads is a health hazard. Never blow it out with compressed air, and do not inhale any of it. An approved filtering mask should be worn when working on the brakes. DO NOT use gasoline or petroleum-based solvents to clean brake parts; use brake cleaner only.

Note:

Before starting work, refer to the precautions in Section 1 and the warnings at the beginning of Section 2 .

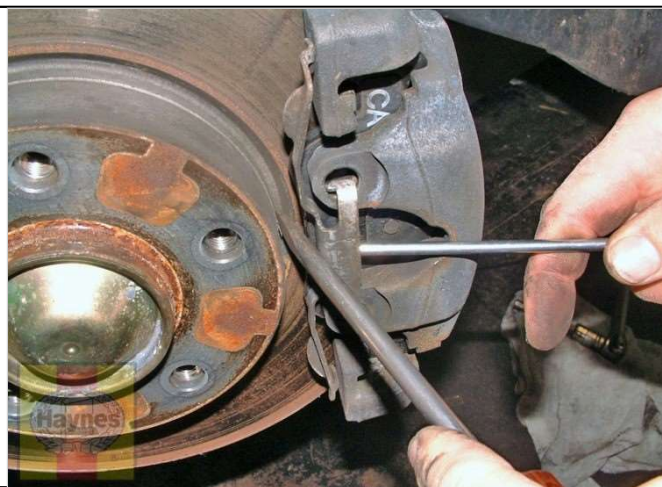
1 Apply the parking brake, then jack up the front of the vehicle and support it on jackstands. Remove the front wheels.

2 Using a screwdriver, carefully unclip the anti-rattle spring from the side of the brake caliper, noting its installed position (see illustrations) .

4.2a Lever the spring away from the hub . .

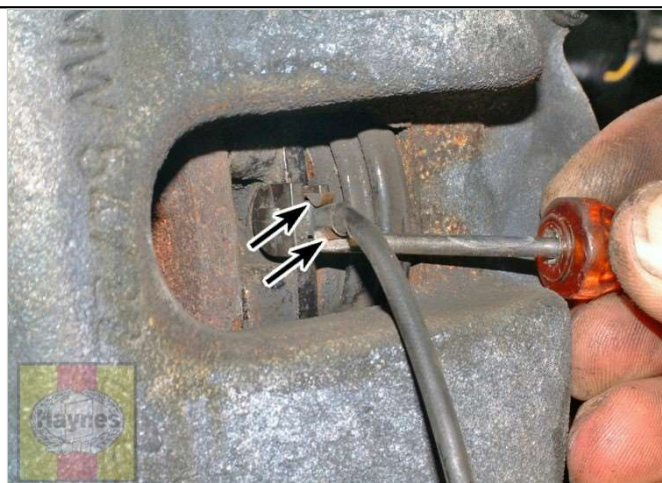


4.2b . . . then lever it out from the caliper



3 Slide the brake pad wear sensor from the brake pad (if equipped) and remove it from the caliper aperture (see illustrations) .

4.3a Release the clips . . .



4.3b . . . and slide the wear sensor from the brake pad



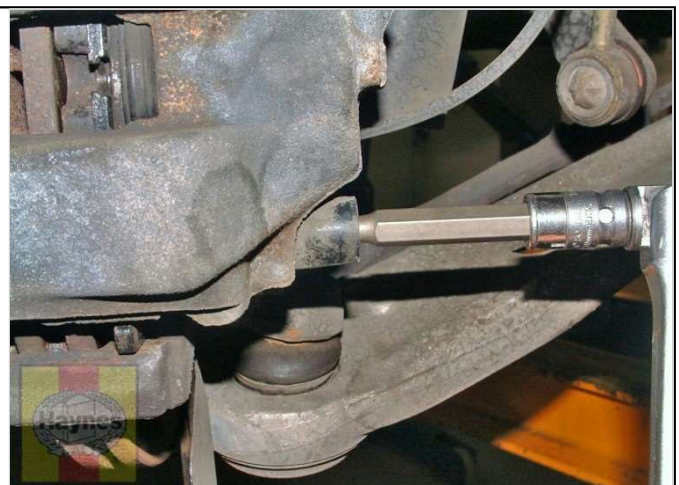
4 Remove the plastic caps from the caliper guide bushings to gain access to the guide pin bolts (see illustration) .

4.4 Remove the plastic caps to access the caliper guide pin bolts



5 Loosen and remove the guide pin bolts. Lift the caliper away from the caliper mounting bracket, and tie it to the suspension strut using a suitable piece of wire (see illustrations) . Do not allow the caliper to hang unsupported on the flexible brake hose.

4.5a Loosen . . .



4.5b . . . and remove the caliper guide pin bolts



4.5c Tie the caliper mounting bracket to the suspension



6 Unclip the inner brake pad from the caliper piston, and withdraw the outer pad from the caliper mounting bracket (see illustrations) .

4.6a Unclip the inner pad from the caliper piston . . .



4.6b . . . and remove the outer pad from the caliper mounting bracket



7 First measure the thickness of each brake pad's friction material (see illustration) . If either pad is worn at any point to the specified minimum thickness or less, all four pads must be replaced. Also, the pads should be replaced if any are fouled with oil or grease; there is no satisfactory way of degreasing friction material, once contaminated. If any of the brake pads are worn unevenly, or are fouled with oil or grease, trace and rectify the cause before reassembly.

4.7 Measure the thickness of the friction material



8 If the brake pads are still serviceable, carefully clean them using a clean, fine wire brush or similar, paying particular attention to the sides and back of the metal backing. Clean out the grooves in the friction material (where applicable), and pick out any large embedded particles of dirt or debris. Carefully clean the pad locations in the caliper body/mounting bracket.

9 Prior to installing the pads, check that the guide pins are a light, sliding fit in the caliper bushings, with little sign of free play. Brush the dust and dirt from the caliper and piston, but do not inhale it, as it is a health hazard. Inspect the dust seal around the piston for damage, and the piston for evidence of fluid leaks, corrosion or damage. If attention to any of these components is necessary, refer to [Section 8](#) .

10 If new brake pads are to be installed, the caliper piston must be pushed back into the cylinder to make room for them. Either use a piston retraction tool, a C-clamp or use suitable pieces of wood as levers. Clamp off the flexible brake hose leading to the caliper then connect a brake bleeding kit to the caliper bleed screw. Open the bleed screw as the piston is retracted; the surplus brake fluid will then be collected in the bleed kit vessel (see illustration) . Close the bleed screw just before the caliper piston is pushed fully into the caliper. This should

ensure no air enters the hydraulic system. **Note:** *The ABS unit contains hydraulic components that are very sensitive to impurities in the brake fluid. Even the smallest particles can cause the system to fail through blockage. The pad retraction method described here prevents any debris in the brake fluid expelled from the caliper from being passed back to the ABS hydraulic unit, as well as preventing any chance of damage to the master cylinder seals .*

4.10 Using a piston retraction tool, with the hose clamped, and the bleed screw open



11 Apply a small amount of brake anti-squeal compound to the backing plate of each pad, and the pad backing plate contact points on the caliper bracket; do not apply excess grease, nor allow the grease to contact the friction material.

12 Install the outer pad to the caliper mounting bracket, ensuring that its friction material is against the brake disc (see illustration) .

4.12 Install the outer pad to the caliper bracket



13 Clip the inner pad into the caliper piston, and maneuver the caliper assembly into position (see illustration) .

4.13 Clip the inner pad into the caliper piston



14 Install the caliper guide pin bolts, and tighten them to the specified torque setting. Install the covers to the ends of the caliper guide pins.

15 Clip the pad wear sensor back into position in the outer pad (if equipped), making sure its wiring is correctly routed (see illustrations 4.3a and 4.3b) .

16 Clip the anti-rattle spring into position in the caliper (see illustration) . Depress the brake pedal repeatedly, until the pads are pressed into firm contact with the brake disc, and normal (non-assisted) pedal pressure is restored.

4.16 Install the anti-rattle spring



17 Repeat the above procedure on the remaining front brake caliper.

18 Install the wheels, then lower the vehicle to the ground and tighten the wheel bolts to the torque listed in the [Chapter 1 Specifications](#) .