



Installation Guide
BMW E46 M3
Front Brake Upgrade Kit



Installing this product indicates your acceptance of the responsibility and liability associated with the fitment and use of this product. Please ensure the owner and all drivers of the vehicle are aware of their responsibilities and liabilities as indicated below.

Thank you for purchasing this Harrop brake hardware upgrade kit which has been designed and made with pride in Australia.

It is the owner's/driver's responsibility to accept any consequences and liabilities of using the enhanced vehicle and any subsequent effect it may have. Harrop Engineering is to be held harmless and shall not be liable for any direct and/or indirect/consequential losses, costs, damages, expenses, injuries or liabilities whatsoever incurred by the owner/driver of the vehicle or other parties arising from this product, its installation and/or its operation.

Warranty

This Harrop brake hardware upgrade kit is covered by a limited warranty on components and workmanship for a period of 12 months from the date of purchase, subject to the following:

- Installation must be completed by a technician who has undertaken appropriate training.
- The enhanced vehicle has been driven in accordance with the conditions specified by the vehicle manufacturer's normal use of operation, driving care and vehicle service program.
- The enhanced vehicle has not been used for competitive racing.

No warranty shall apply where Harrop have determined improper fitment or handling, misuse in operation, neglect, or accident damage. Modifications made prior to or in conjunction with the Harrop brake hardware upgrade kit fitment may invalidate the Harrop limited warranty. Any warranty claims must be made immediately & directly to Harrop Engineering so that a determination can be made promptly. Involvement of a third party or an attempt to repair a perceived/actual fault may invalidate the warranty. To the extent of the law, the determination on any warranty claim & associated costs will be at the sole discretion of Harrop Engineering.

By installing the Harrop brake hardware upgrade kit you acknowledge that all conditions pertaining to this product and its operation have been read, understood and accepted.

Brake hardware upgrade installation guide.

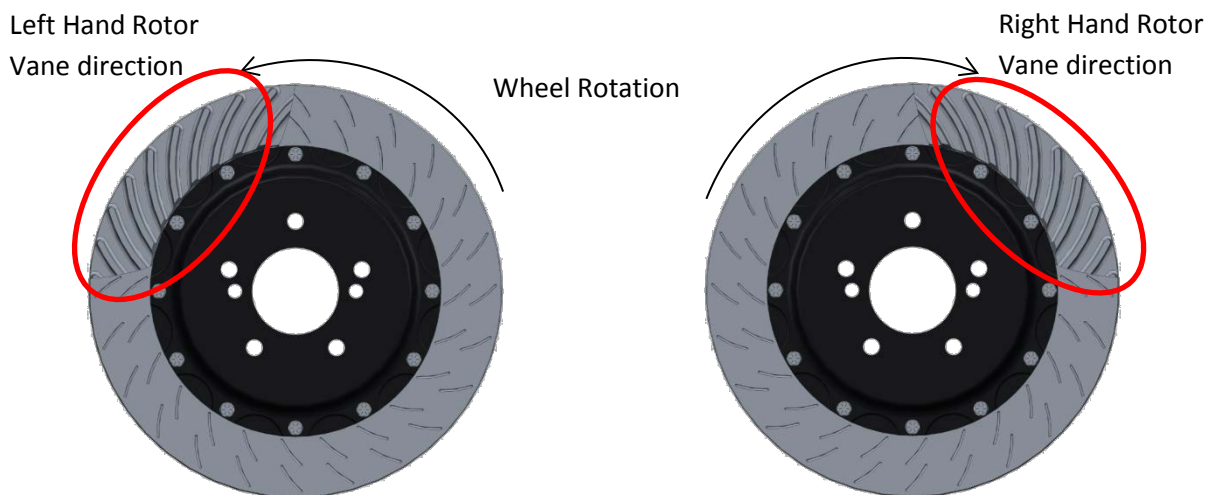
- Park the vehicle on level ground and place the transmission in neutral with the hand brake off.
- Ensure that the brake fluid reservoir is full and free from dirt etc.
- Raise the vehicle off the ground using appropriate equipment and remove the wheels.

Brake disassembly and Assembly.

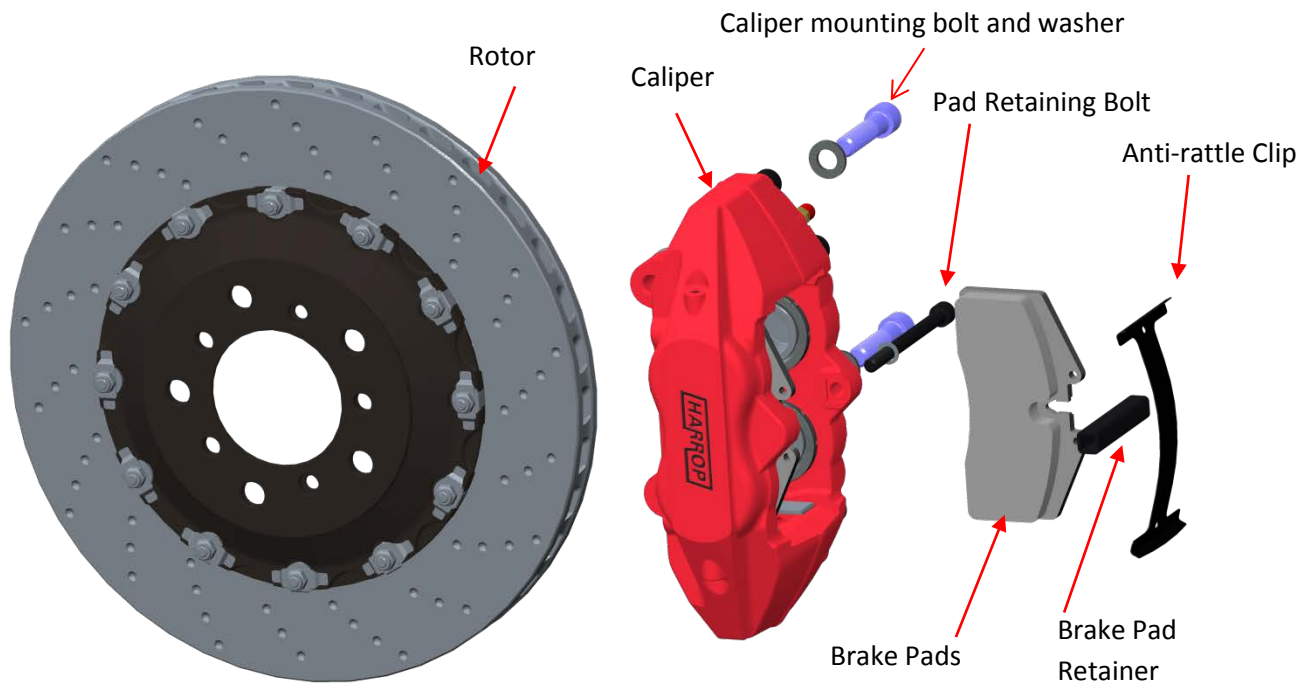
- It is recommended to work on one wheel at a time.

Front Brakes

1. Remove the flexible brake hose at the end of the hard brake hose line and let the brake fluid drain into a container.
2. Remove the two caliper mounting bolts that secure the standard caliper to the front upright, slide the caliper off the rotor and set aside.
3. Remove the two set screws in the front rotor.
4. The standard rotor will be free to slide off of the upright spigot; set aside.
5. Slide the front rotor onto the hub and secure with the two set screws removed in step 3.

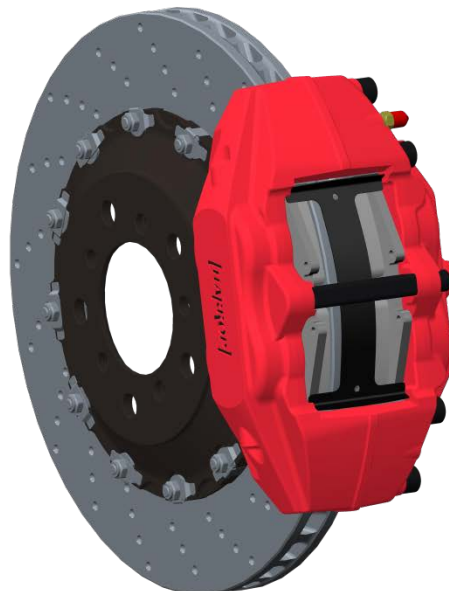


6. Slide the caliper onto rotor and locate on the mounting bosses on the upright. Secure in place with the supplied caliper mounting bolts and washers. **(Use blue loctite 243 or equivalent on bolts.)**
7. Ensure that the caliper lugs are seated squarely onto the standard upright and tighten the caliper mounting bolts to **110Nm**.
8. Fit the new brake hose supplied to the end of the hard brake line.
9. Connect the new brake hose to the caliper inlet port using the banjo bolt and two new copper sealing washers supplied. Tighten to **35 Nm**.
Do not apply loctite to the Banjo Bolt.
10. Ensure that the pads, anti-rattle clip and pad retainer are all in place and seated correctly.
Apply blue loctite 243 or equivalent to the M8 pad retaining bolt thread and tightened to **15 Nm**.
11. Front left brake assembly complete.
Repeat Process for the front right brake assembly.



Assembled caliper with pads, anti-rattle clip and pad retaining bolt correctly seated.

Note: Brake pad retainer and anti-rattle clip as shown below.



Hydraulic bleeding of brake system

It is critical to remove all air and old fluid from the brake hydraulic system for effective operation.

Bleeding should be carried out as per standard practices noting the following:

- Have an assistant apply the brake pedal as the brake calipers are bled one at a time.
- Start at the rear left then rear right followed by front left then front right.
- Avoid excessive pedal pressure when bleeding the hydraulic system. Stomping on the pedal can cause the brake system to isolate the open caliper, making further bleeding impossible until the isolating valve is reset.
- Ensure that the fluid reservoir never empties and is re-filled once bleeding is complete.
- The new brake system should be bed-in per standard practices.
- The friction material supplied with Harrop brake hardware is a 'best fit' in terms of brake performance, pad and rotor life with noise, vibration and harshness minimisation.

Bedding New Pads and Discs

- While the vehicle is stationary pump the brakes to ensure a firm pedal.
- Drive the vehicle cautiously to check the function of the brakes.
- Brakes should be smooth with no harsh shudder.
- The car should pull up evenly, not pull to either side.
- In a safe location perform at least 30 applications of the brakes, starting slow and gradually building up speed.
- The Brake pads should now be bed to the disc and the system is ready for normal use.

Important note:

Larger rotors, rotor slots, pad material, wheel and tyre combination and suspension modifications can all contribute to increased apparent brake noise. Harrop brakes are tested and developed to maximise performance while minimising brake noise on otherwise standard vehicles. As it is impossible to account for the countless combinations of aftermarket components and modifications available for your vehicle platform, some installs may exhibit more brake noise than others.

Brake Pads

Replacement brake pads can be ordered through Harrop on: 03 9474 0900

If you wish to source pads independently the pad shape is a Bendix Brakes DB439.

<https://ecat.ferodoracing.com/index.php/car-tuning/brake-pads/FDS560#detail>