

Installation Instructions

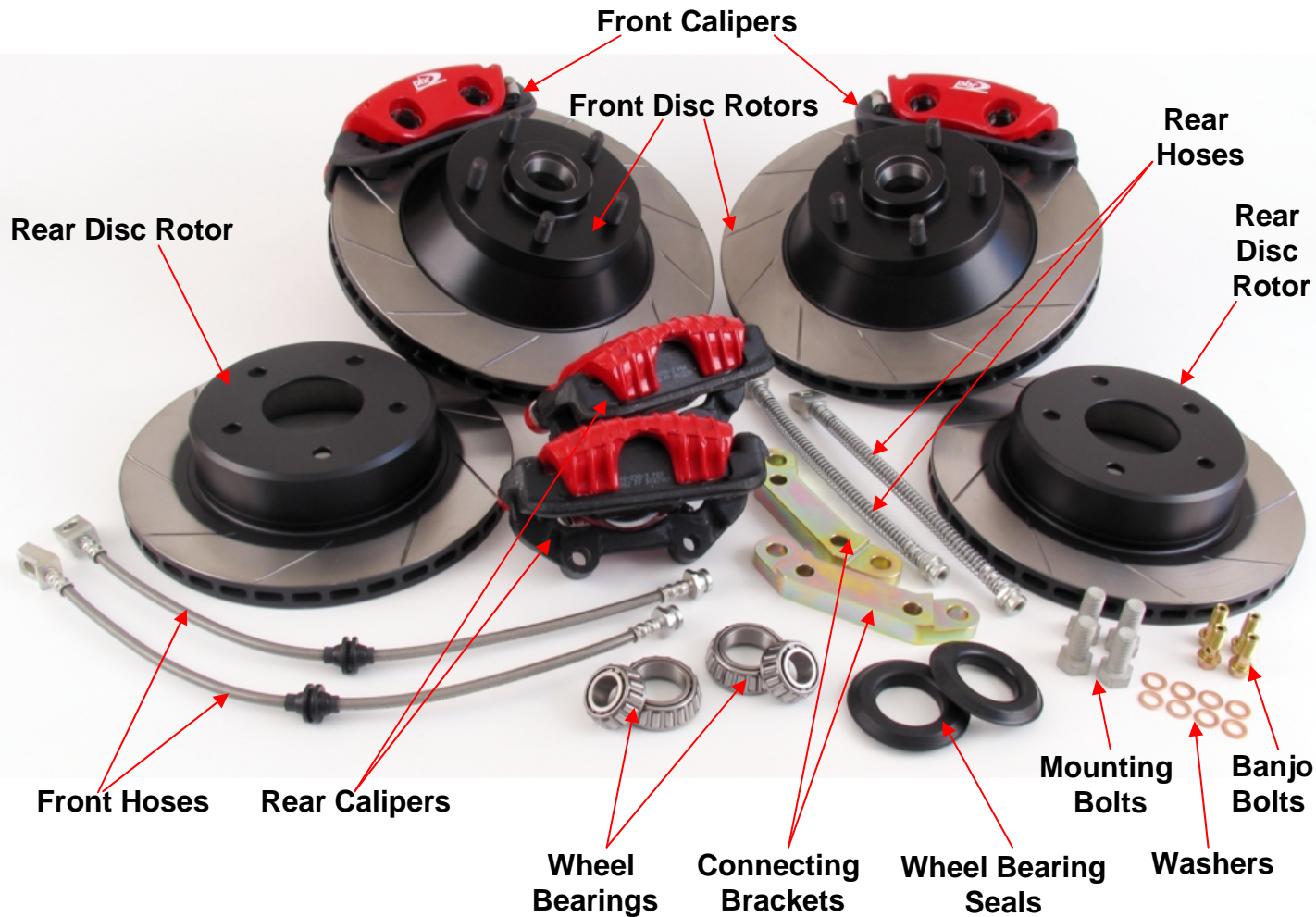
Holden Commodore VB - VP Performance Brake Upgrade



pbr PERFORMANCE

PL745

Holden Commodore VB - VP Performance Brake Upgrade Contents



Tools Required For The Job

- 19mm socket spanner
- 10mm tube nut spanner
- 12mm socket spanner
- Flat blade screwdriver
- 10mm ring spanner
- Torque wrench
- Soft mallet
- Safety glasses
- Wheel bearing grease
- Length of clear plastic tube
- Clear plastic bottle

Holden Commodore VB - VP Performance Brake Upgrade

Important Notes – Please Read Carefully!

The following notes have been compiled to assist with the successful installation of your new PBR Performance brake upgrade.

PBR recommends that these products be fitted by a trained, experienced mechanic.

Wheel Size Limitations

Your PBR Performance brake upgrade has been designed to fit inside most 17” or larger wheels. In order to ensure that you have sufficient clearance around the caliper for it to work effectively you must first check your wheel profile. You can check your wheel profile by using the *Wheelcheck* template on the last page of these instructions and following the steps shown.

If you need to change the front wheels at any stage, and your spare wheel is not the same size as the others, it is advisable to move one of the rear wheels to the front and place the spare on the rear in order to maintain wheel clearance.

PBR accepts no responsibility for product purchased where the wheel fitment has not been checked prior to installation.

Cleaning Of Rotors

The disc rotors supplied should be thoroughly cleaned with a non-residual brake cleaner before fitting to remove all traces of the anti-corrosion agent applied during production.

General Care

Parts must be handled with care during fitment to avoid damage to either the rotors or the caliper coating. PBR accepts no responsibility for brake performance issues arising from the mishandling of product or poor assembly practices.

Brake Noise

The use of slotted disc rotors may generate a slight humming noise under braking.



Holden Commodore VB - VP Performance Brake Upgrade

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Bedding In Procedure

After fitting your new Performance system the brakes will need to be bedded in to maximise their performance. Please ensure that the following procedure is followed:

- Accelerate vehicle to 60km/h
- Apply brakes using moderate to firm pedal effort, reducing speed to 5 km/h
- Drive 100m-200m accelerating to 60km/h
- Repeat steps 1 to 3 between 12-15 times

Warning!

- Under no circumstances should you make repeated brake applications in quick succession
- Do not exceed 60km/h for the bedding in procedure
- Never drive the vehicle with brakes continually applied during the bedding in procedure

Holden Commodore VB - VP Performance Brake Upgrade

Important Notes – Please Read Carefully!

Brake Fluid Flushing Procedure

When fitting a PBR Performance brake upgrade kit it is recommended that you completely flush the old brake fluid from the system and replace with either PBR Gold Dot brake fluid or, for more aggressive driving or club racing, PBR Performance Racing brake fluid. You will need two 500ml bottles of new fluid to complete the flushing process.

Note: During the flushing procedure it is extremely important to ensure that at no time does the master cylinder reservoir become drained of brake fluid. Failure to do so could result in air becoming trapped in the master cylinder. If this should happen we recommend you contact a qualified mechanic for further assistance.

Before commencing to flush the system ensure that all calipers have been fitted so that the bleed screws are located at the topmost position of the installation.

Preparation

This process requires two people. Make sure you have read the instructions through and have an assistant ready before you start work.

Check that you have the following items available.

- Spanner to fit the brake caliper bleed screw
- Length of clear plastic tube which will press fit over the bleed screw nipple
- Clear bottle to catch the old fluid
- Methylated spirits
- Clean rags

Jack up the vehicle so that you can safely remove all four wheels and gain access to the brake caliper bleeder screws. Ensure that the workspace is clean and that you have the tools necessary to do the job.

Note: Any contamination of the brake fluid, with even the slightest traces of mineral oil, during this process will adversely affect the brake seals and could lead to eventual brake failure.

As a minimum, PBR recommends using PBR Gold Dot brake fluid for all Performance brake applications. (ref BFP-500ML for 500ml bottle or BFP-4L for 4litre pack)



For more aggressive driving or club racing PBR recommends using PBR Performance Racing brake fluid. (ref BF-600 for 500ml bottle)



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Holden Commodore VB - VP Performance Brake Upgrade

Important Notes – Please Read Carefully!

Process

1. Clean the master cylinder's brake fluid reservoir (or top and sides of the master cylinder with the integral reservoir), using methylated spirits and a clean rag.

*Note: Do **NOT** remove the reservoir cover until the area is completely clean.*

2. Older style master cylinders (with the integral reservoir) have a rubber gasket fitted. Inspect the perimeter of the gasket for deterioration and replace if necessary.
3. On the right hand front brake caliper, loosen the bleeder screw with a correctly fitting spanner.
4. When the bleeder screw just breaks loose, stop and push the end of the clear hose onto the bleeder nipple. Immerse the other end of the hose into the clear bottle containing the fluid from the reservoir making sure that it remains immersed throughout the procedure.
5. Open the bleeder screw (approximately $\frac{1}{4}$ turn – do **NOT** remove it completely).
6. Have your assistant depress the brake pedal and hold down. Some of the old brake fluid will be transferred into the clear bottle.
7. Lock off the bleeder screw.
8. Release the brake pedal.

*Note: Do **NOT** release the brake pedal with the bleeder screw open as air may get sucked back into the system.*

9. Wait five seconds.
10. Repeat steps 5 to 9 until almost all of the old brake fluid has been drained from the master cylinder reservoir.

*Warning: Do **NOT** allow all of the brake fluid to be drained from the master cylinder reservoir at this stage as it may cause problems in bleeding the rest of the brake system.*

11. Add new brake fluid up to the level mark on the master cylinder reservoir.

Holden Commodore VB - VP Performance Brake Upgrade

Important Notes – Please Read Carefully!

12. Bleed each of the remaining brake calipers in turn as per the instructions below.

Note: Each brake caliper must then be bled in the correct sequence. On front or rear wheel drive vehicles, where the hydraulic system is split left front/right rear and right front/left rear, the correct bleed sequence is.

- *Right rear, left front, left rear, right front.*

On rear wheel drive vehicles where the split is front/rear, the correct bleed sequence is.

- *Left rear, right rear, left front, right front*

The object is to begin at the wheel brake farthest away from the master cylinder and gradually work toward the closest.

13. Loosen the bleeder screw with a correctly fitting spanner.

14. When the bleeder screw just breaks loose, stop and push the end of the clear hose onto the bleeder nipple. Immerse the other end of the hose into the clear bottle containing the fluid from the reservoir making sure that it remains immersed throughout the procedure.

15. Open the bleeder screw (approximately ¼ turn – do **NOT** remove it completely).

16. Have your assistant depress the brake pedal and hold down. Some of the old brake fluid will be transferred into the clear bottle.

17. Lock off the bleeder screw.

18. Release the brake pedal.

*Note: Do **NOT** release the brake pedal with the bleeder screw open as air may get sucked back into the system.*

19. Wait five seconds.

20. Repeat steps 15 to 19 until the brake fluid coming through the tube changes to the colour of the new fluid. This should take about 100ml – 150ml of fluid.

21. Add fresh fluid to the master cylinder reservoir up to the level mark again then move to the next wheel and repeat steps 13 to 20 until all four wheels have been bled.

22. On completion of the fourth wheel, check that the fluid level in the master cylinder reservoir is up to the level mark.

*Note: Do **NOT** reuse the old brake fluid. This must be disposed of properly in accordance with your local council guidelines. Do **NOT** dispose of brake fluid in drains, water ways or in domestic rubbish.*

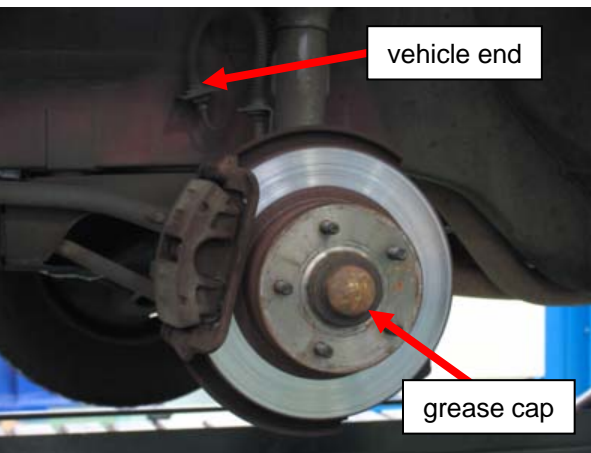
Holden Commodore VB - VP Front Caliper Installation

(Note: All photographs show passenger side installation)



Step 1.

Loosen the wheel nuts. Raise the vehicle and ensure it is stable and secure. Remove the wheel.



Step 2.

Disconnect the brake hose at the vehicle end and block off using the plastic bleed port plug supplied with the rear Performance caliper. Disconnect the hose bracket from the vehicle. Remove the two caliper mounting bolts and remove the standard caliper with brake hose attached.

Note: The hose will need to be twisted about 90° to release the grommet from the hose mounting bracket.

Remove the grease cap, key, nut and washer. Remove the bearing. Remove the disc rotor. It may be necessary to tap the outer edge of the rotor with a soft hammer. Remove the remaining bearing and seal.

Holden Commodore VB - VP Front Caliper Installation

(Note: All photographs show passenger side installation)



Step 3.

Remove the dirt shield by undoing the 3 bolts holding it in place at the front. The dirt shield will not be used with the new Performance caliper. Clean the area to remove any traces of old grease, dirt and surface corrosion.

Note: failure to clean properly may result in rotor/hub run-out which could cause vibration under braking.



Step 4.

Remove the wheel bearings and seals from their packaging and locate a clean workspace to pack them with wheel bearing grease.



Step 5.

Ensure the wheel bearings are well packed with grease to avoid bearing wear which could lead to rotor run-out and increased pad and rotor wear.

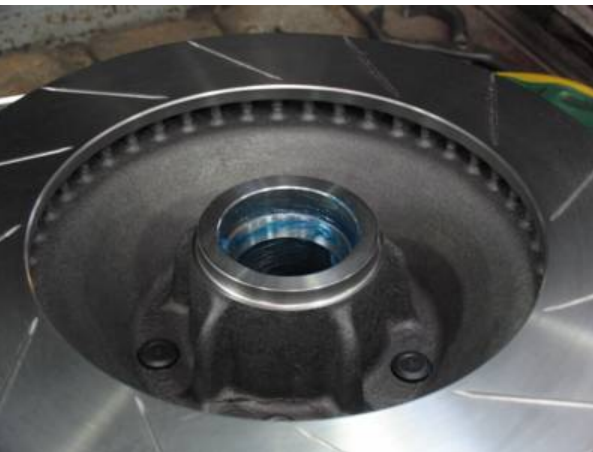
Holden Commodore VB - VP Front Caliper Installation

(Note: All photographs show passenger side installation)



Step 6.

Fit the new wheel bearing seal and rear wheel bearing to the spindle.



Step 7.

Apply wheel bearing grease to the bore of the rotor before fitting.

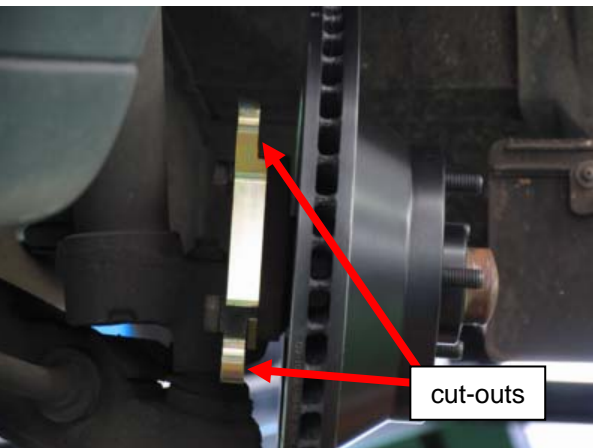


Step 8.

Assemble the new rotor, taking care to ensure it is the correct hand. A quick way to check this is to ensure that the slots closest to the front of the vehicle are pointing up. When the rotor is unpacked it will have a small sticker on the face showing it as either L (left) or R (right). The outer edge is also marked. Make sure the rotor is cleaned prior to assembly.

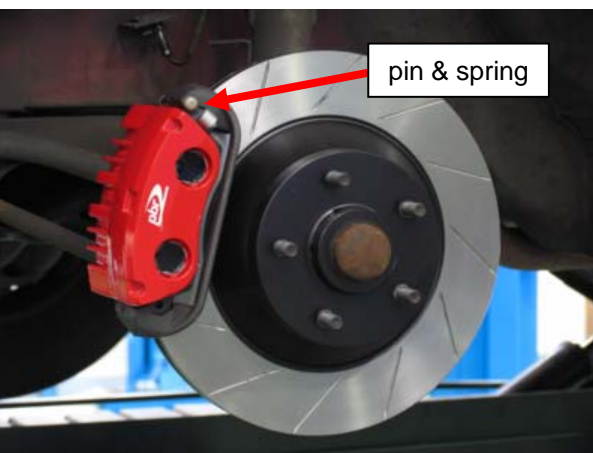
Holden Commodore VB - VP Front Caliper Installation

(Note: All photographs show passenger side installation)



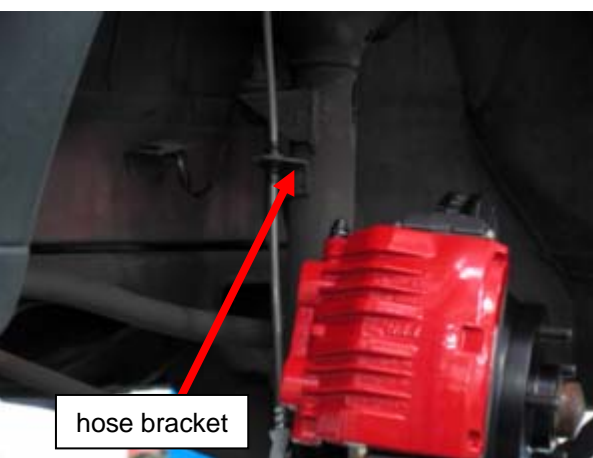
Step 9.

Assemble the caliper connector bracket supplied using the existing mounting bolts. Ensure bolts are tightened to 80-90Nm torque + 40-50°. The bracket should be mounted with the cut-outs facing outwards.



Step 10.

Fit the Performance caliper to the connector bracket using the new bolts supplied making sure that the caliper pin and spring is located at the top of the installation. Ensure bolts are correctly tightened to 80-90Nm torque + 40-50°.

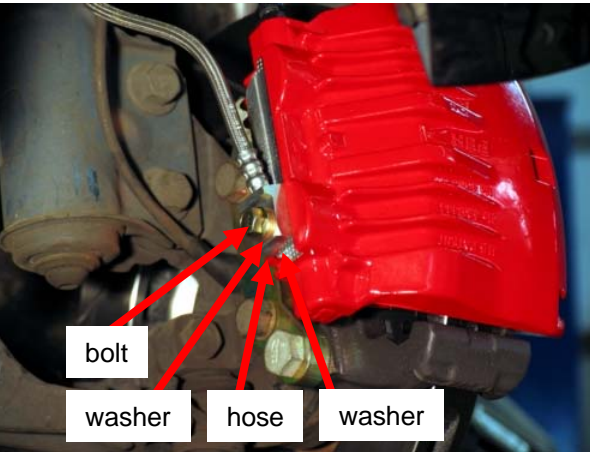


Step 11.

Fit the new braided brake hose into the hose bracket mounted on the suspension strut by inserting the hose grommet and twisting the hose into position.

Holden Commodore VB - VP Front Caliper Installation

(Note: All photographs show passenger side installation)



Step 12.

Connect the braided brake hose to the caliper using the banjo bolt and copper washers supplied and tighten to 30Nm torque.



Step 13.

Connect the other end of the braided hose to the vehicle end. Be careful not to over tighten.

Holden Commodore VB - VP Rear Caliper Installation

(Note: All photographs show passenger side installation)



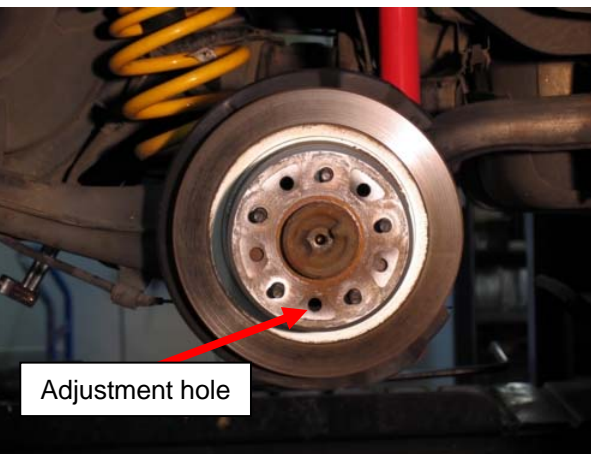
Step 1.

Remove wheel.



Step 2.

Disconnect the standard hose at the vehicle end and block off using the plastic bleed port plug supplied with the new caliper or clamp off the chassis hose using a hose clamp. Remove the two caliper mounting bolts and remove the caliper with hose attached.



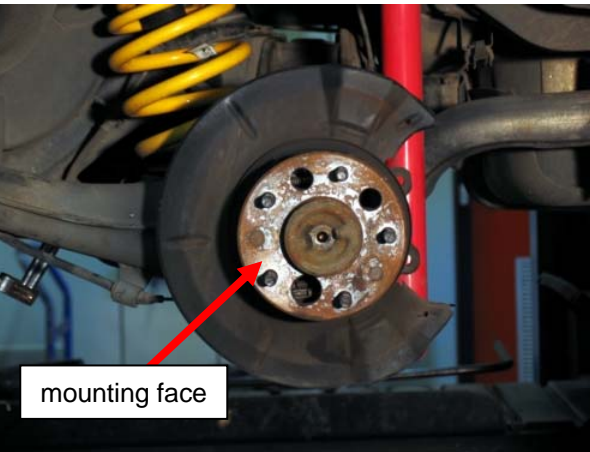
Step 3.

Remove the disc rotor. It may be necessary to tap the outer edge of the disc rotor with a soft hammer if corrosion prevents the rotor from pulling free.

Note: If difficult to remove, the park brake shoes may need to be de-adjusted with a screwdriver through the adjustment hole.

Holden Commodore VB - VP Rear Caliper Installation

(Note: All photographs show passenger side installation)



Step 4.

Clean the disc rotor mounting face on the hub making sure to remove any corrosion.

Note: failure to clean properly may result in rotor/hub run-out which could cause vibration under braking.



Step 5.

Assemble Performance rotor, taking care to ensure it is the correct hand. A quick way to check this is to ensure that the slots closest to the front of the vehicle are pointing down. When the rotor is unpacked it will have a small sticker on the face showing it as either L (left) or R (right). Make sure the rotor is cleaned prior to assembly.

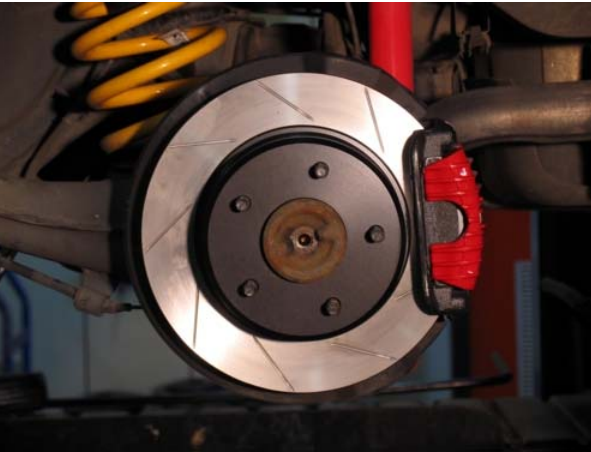


Step 6. (Vehicles with IRS – PK11 suits VB-VP & PK16 suits VP Series2)

Connect brake hose to caliper using the banjo bolt and copper washers supplied. Make sure the banjo bolt is correctly tightened to 30Nm torque.

Holden Commodore VB - VP Rear Caliper Installation

(Note: All photographs show passenger side installation)



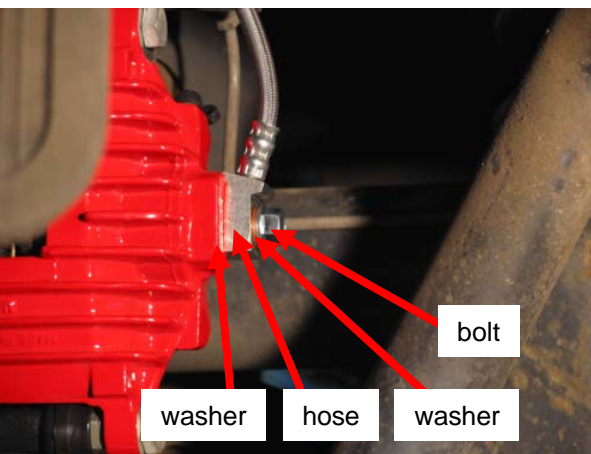
Step 7. (All vehicles)

Fit new caliper to the vehicle using existing bolts and ensure bolts are correctly tightened to 80-90Nm torque + 40-50°.



Step 8. (Vehicles with IRS – PK11 suits VB-VP & PK16 suits VP Series2)

Connect the other end of the hose to the vehicle ensuring that the hose lies comfortably in the position shown.

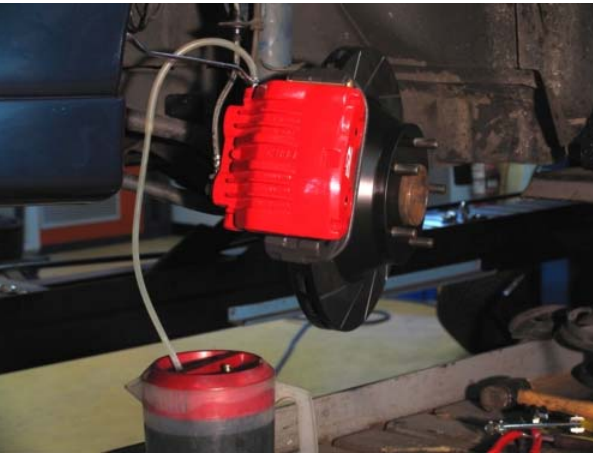


Step 8. (Vehicles without IRS – PK10 suits VB-VP & PK15 suits VP Series2)

Connect brake hose to caliper using the banjo bolt and copper washers supplied then connect the other end to the vehicle. Make sure the banjo bolt is correctly tightened to 30Nm torque.

Holden Commodore VB - VP Rear Caliper Installation

(Note: All photographs show passenger side installation)



Step 9.

When **all** of the Performance components have been fitted the brake system must be bled to remove any air from the system. Failure to complete this step may result in a spongy pedal or a significant loss in brake performance. Please refer to the bleeding procedure at the start of these instructions.



Step 10.

Re-fit wheels.

Note: Please refer to the bedding in procedure at the start of these instructions before engaging in heavy braking.



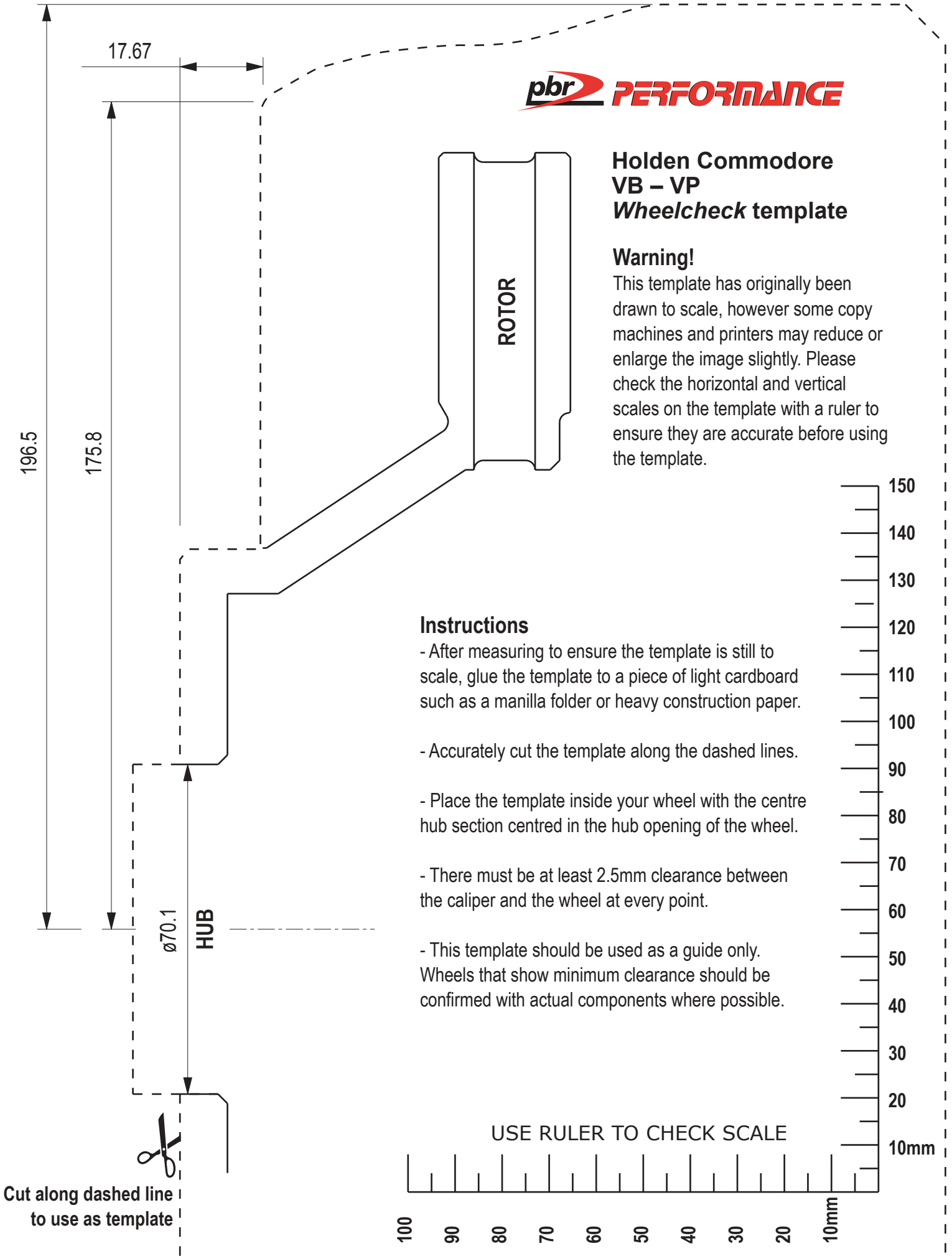
Holden Commodore VB – VP Wheelcheck template

Warning!

This template has originally been drawn to scale, however some copy machines and printers may reduce or enlarge the image slightly. Please check the horizontal and vertical scales on the template with a ruler to ensure they are accurate before using the template.

Instructions

- After measuring to ensure the template is still to scale, glue the template to a piece of light cardboard such as a manilla folder or heavy construction paper.
- Accurately cut the template along the dashed lines.
- Place the template inside your wheel with the centre hub section centred in the hub opening of the wheel.
- There must be at least 2.5mm clearance between the caliper and the wheel at every point.
- This template should be used as a guide only. Wheels that show minimum clearance should be confirmed with actual components where possible.



Cut along dashed line
to use as template

USE RULER TO CHECK SCALE

100 90 80 70 60 50 40 30 20 10mm

150
140
130
120
110
100
90
80
70
60
50
40
30
20
10mm