

# Installation Instructions

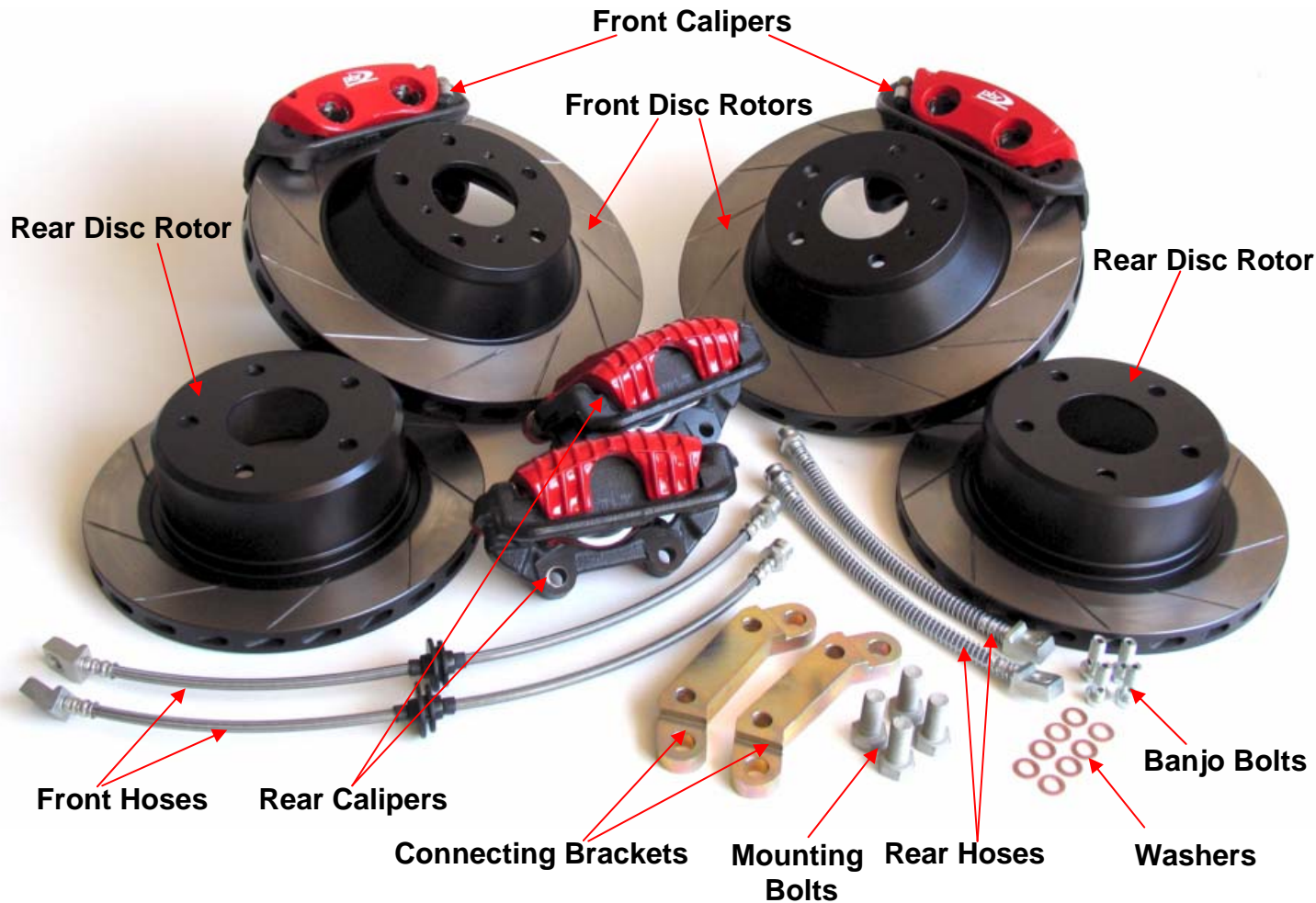
## Holden Commodore VR - VS Performance Brake Upgrade



**pbr PERFORMANCE**

PL736

# Holden Commodore VR - VS 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
- 8mm drill bit
- Power drill

# Holden Commodore VR - VS 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 VR - VS Performance Brake Upgrade

## Important Notes – Please Read Carefully!

### 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 VR - VS Performance Brake Upgrade

## Important Notes – Please Read Carefully!

### Bleeding Procedure

Please read this procedure in its entirety before attempting to bleed the brakes.

The purpose of bleeding is extremely important to the overall effectiveness of the brake system. Bleeding removes any air that may get trapped in the hydraulic system which could otherwise result in a “spongy” brake pedal and reduce brake effectiveness.

This is a two person procedure where one person works at the wheel end and the other operates the brake pedal.

The order in which the brake calipers are bled is important and we recommend that it be done in the following order.

- 1.Rear left hand
- 2.Rear right hand
- 3.Front left hand
- 4.Front right hand

**Note:** During the bleed 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 the bleed ensure that all calipers have been fitted so that the bleed screws are located at the topmost position of the installation.

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)



**pbr** PERFORMANCE

# Holden Commodore VR - VS Performance Brake Upgrade

## Important Notes – Please Read Carefully!

### Bleeding Procedure (cont.)

#### Steps

1. Place one end of a piece of clear silicon hose with an inside diameter of 6mm over the bleed screw of the caliper.
2. Place the other end into an empty bottle suitable for catching the excess brake fluid.
3. Person 1 undoes the bleed screw half a turn to allow the free flow of brake fluid.
4. Person 2 applies the brake pedal and holds it in the down position.
5. Person 1 shuts off the bleed screw.
6. Person 2 allows the brake pedal to return to the rest position.
7. Repeat steps 3 through 6 watching the flow of brake fluid through the tube each time. When the flow of fluid contains no air bubbles, close off the bleed screw, remove the clear tube and move to the next caliper.
8. After completing the rear calipers check the fluid level in the brake master cylinder reservoir and top up as required.
9. To bleed the front calipers it is necessary to undo the topmost mounting bolt so that the caliper can be tilted forward into the vertical position. **Note – failure to do this may result in air becoming trapped in the system which could result in a “spongy” pedal and reduced brake effectiveness.**
10. With the caliper in the vertical position repeat steps 3 through 6 watching the flow of brake fluid through the tube each time. When the flow of fluid contains no air bubbles, close off the bleed screw and remove the clear tube. **Note – care should be taken not to apply the brake pedal when the bleed screw is closed as it may damage the brake pads.**
11. Swing the caliper back into its normal position and tighten the mounting bolt to the torque specification noted in the installation instructions. Move to the next caliper.
12. When both front calipers have been bled check the fluid level in the brake master cylinder reservoir and top up as required.



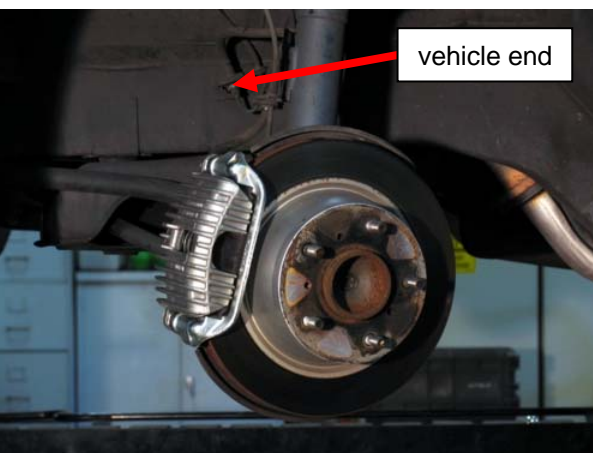
# Holden Commodore VR - VS Front Caliper Installation

(Note: All photographs show passenger side installation)



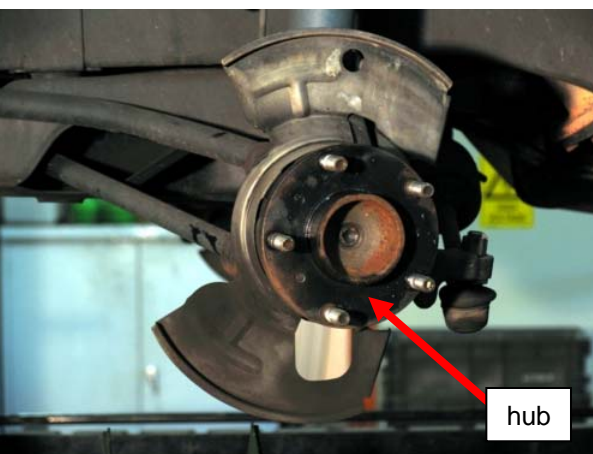
## Step 1.

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.



## Step 3.

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

**Caution:** Beware not to lose the ABS sensor 'O'-ring.

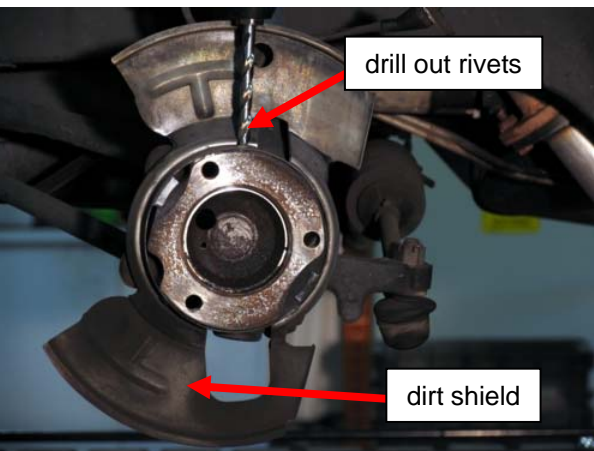
# Holden Commodore VR - VS Front Caliper Installation

(Note: All photographs show passenger side installation)



## Step 4.

Remove the hub by undoing the 3 bolts holding it in place at the rear. Be careful not to damage the hub mating faces during removal.



## Step 5.

Remove the dirt shield by drilling out the 3 retaining rivets. The dirt shield will not be used with the new Performance caliper. Clean the area to ensure there are traces of swarf from removing the rivets.



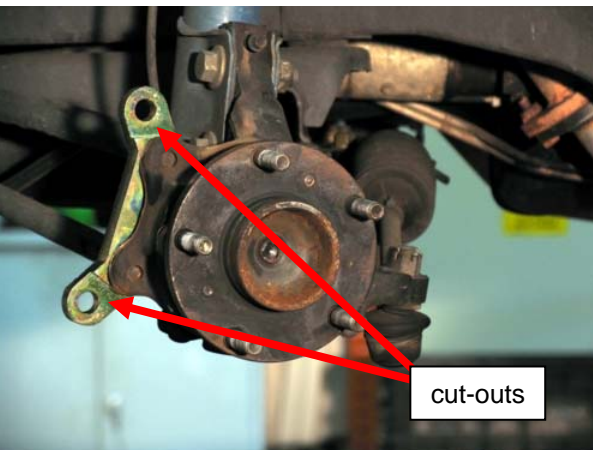
## Step 6.

Ensure the hub mounting faces are clean from dirt and corrosion then re-assemble to the knuckle, making sure the location spigot is correctly located before tightening the bolts. Re-connect the ABS sensor to the rear of the hub.

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

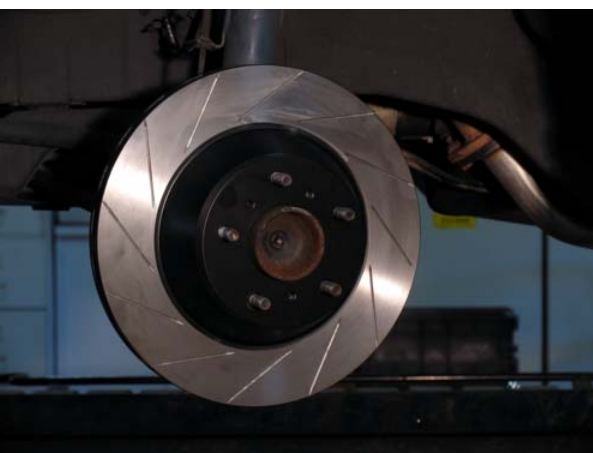
# Holden Commodore VR - VS Front Caliper Installation

(Note: All photographs show passenger side installation)



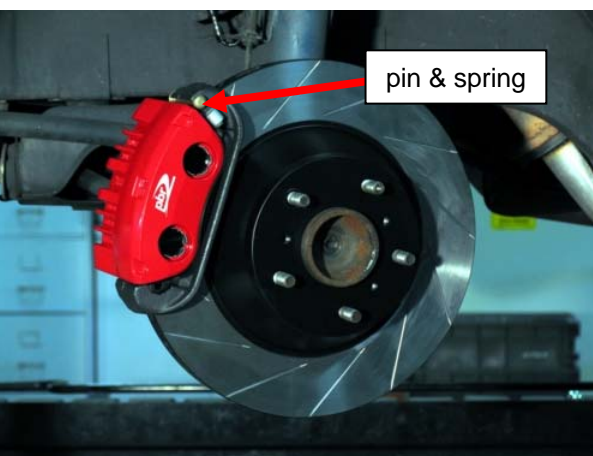
## Step 7.

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 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.

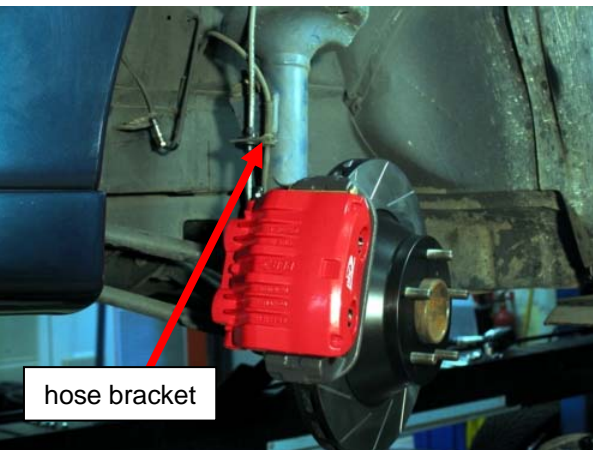


## Step 9.

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°.

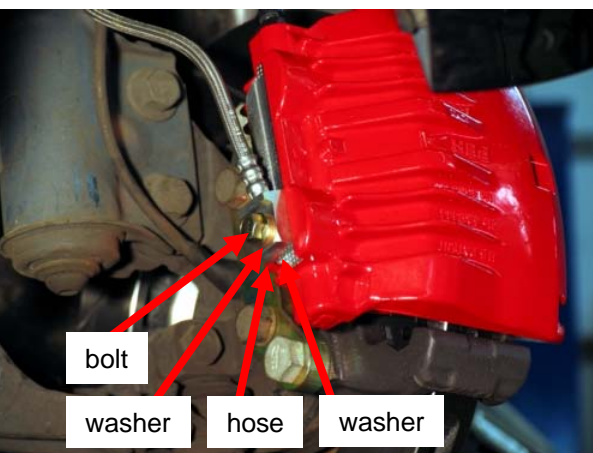
# Holden Commodore VR - VS Front Caliper Installation

(Note: All photographs show left side installation)



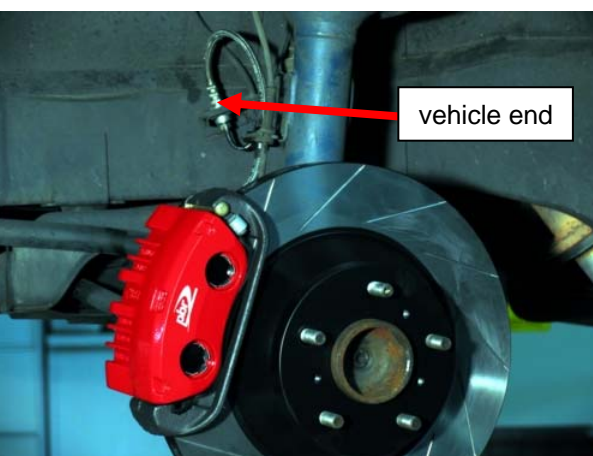
## Step 10.

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.



## Step 11.

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



## Step 12.

Connect the other end of the braided hose to the vehicle end.

# Holden Commodore VR - VS Rear Caliper Installation

(Note: All photographs show left side installation)



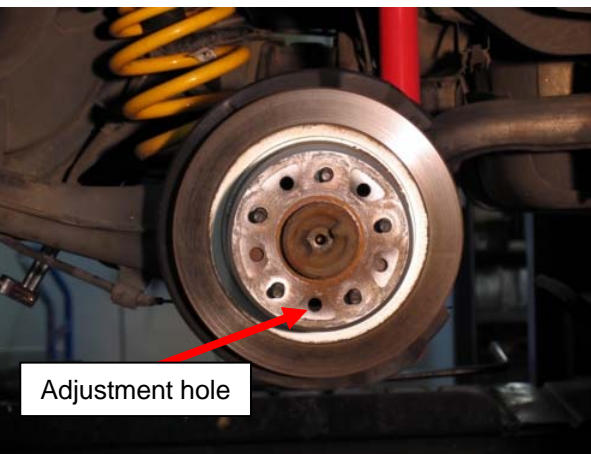
## Step 1.

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.



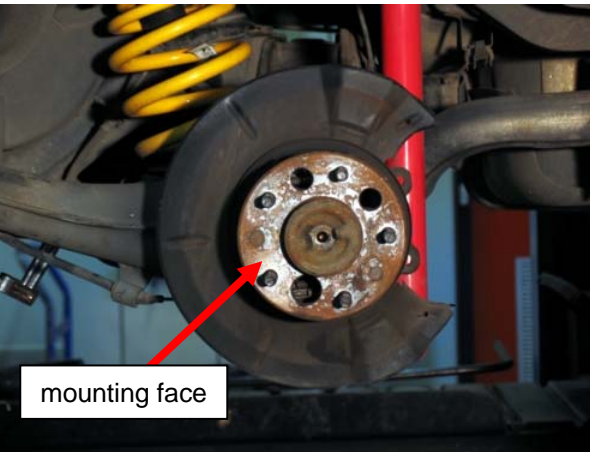
## Step 3.

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.

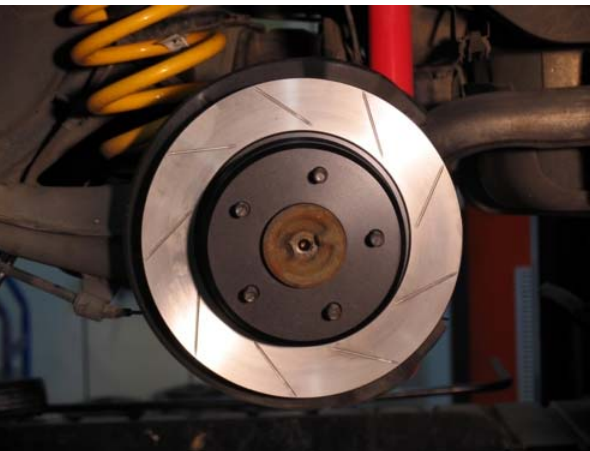
# Holden Commodore VR - VS Rear Caliper Installation

(Note: All photographs show left side installation)



## Step 4.

Clean the disc rotor mounting face on the hub. 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.

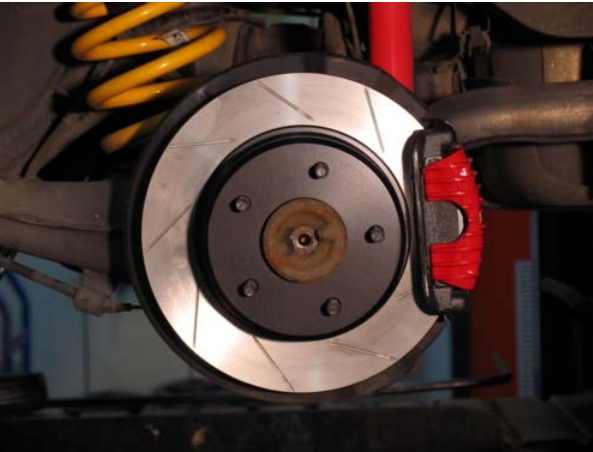


## Step 6. (Vehicles with IRS – PK13)

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 VR - VS Rear Caliper Installation

(Note: All photographs show left side installation)



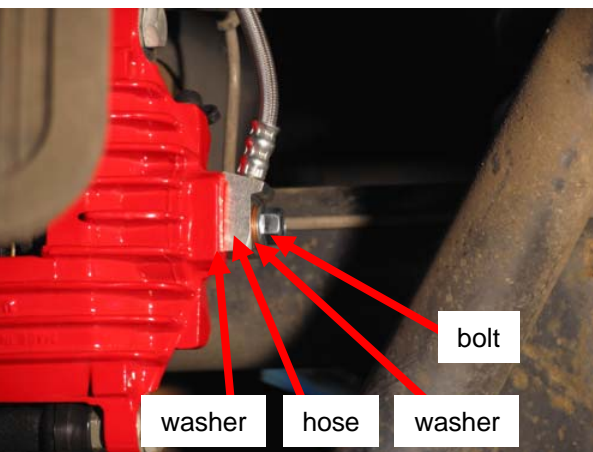
## Step 7. (All vehicles)

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



## Step 8. (Vehicles with IRS – PK13)

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

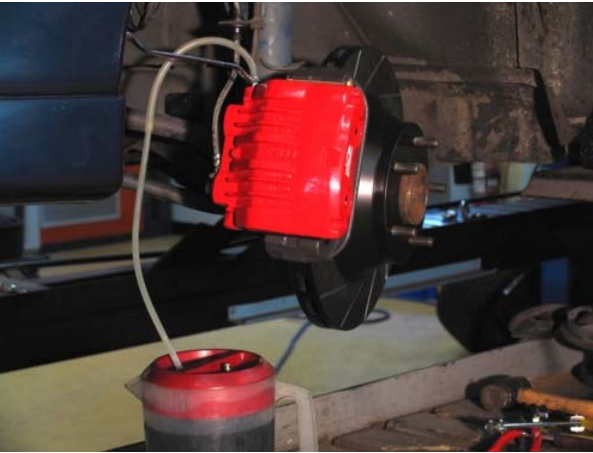


## Step 8. (Vehicles without IRS – PK12)

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 VR - VS Rear Caliper Installation

(Note: All photographs show left 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.



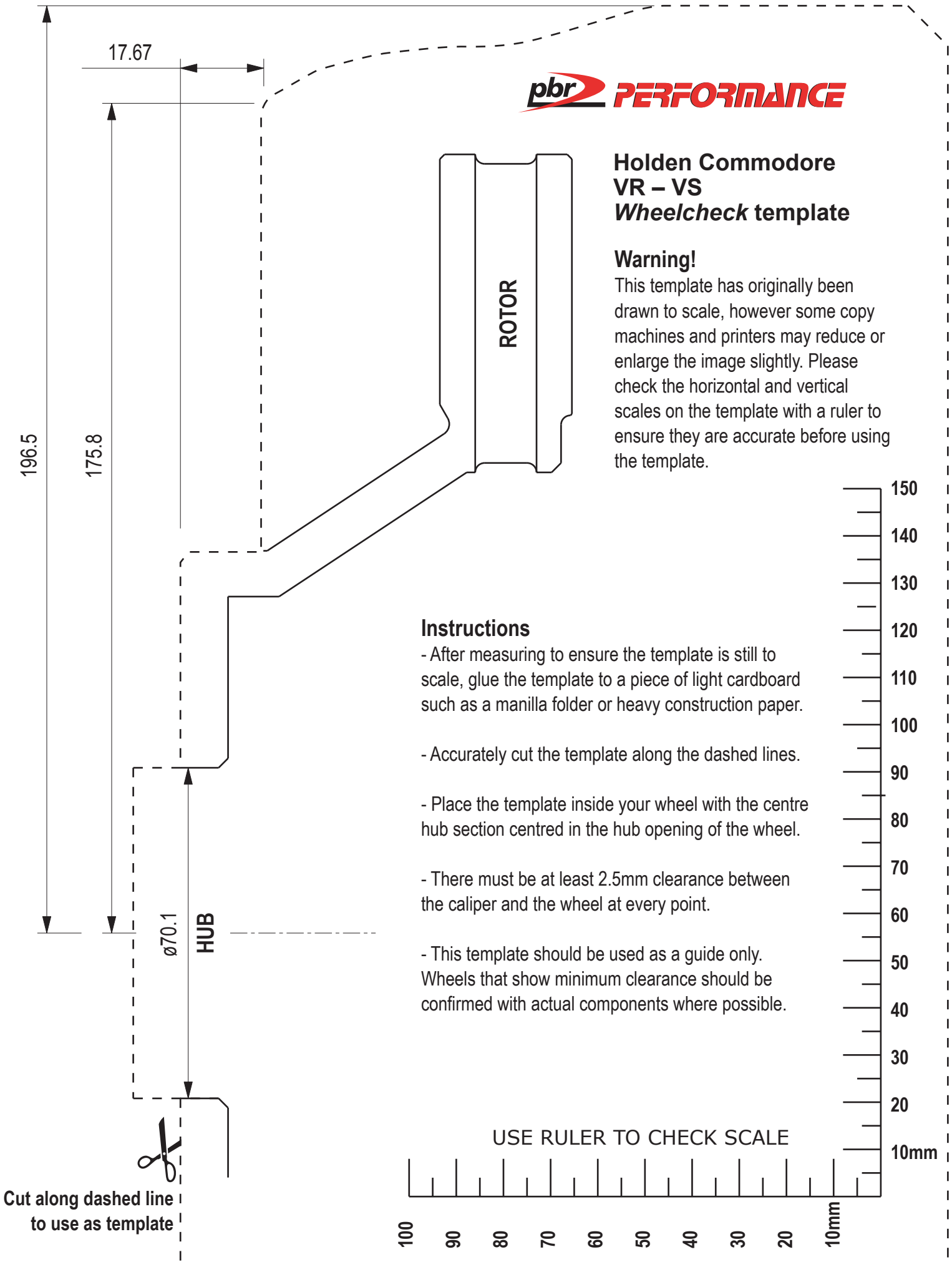
## Holden Commodore VR – VS Wheelcheck template

### 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