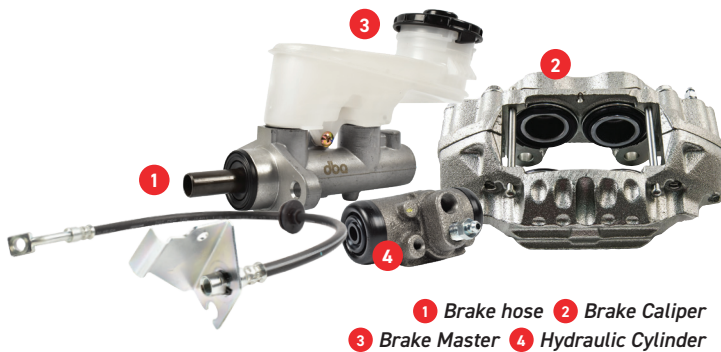


# **BEST PRACTICES FOR CHANGING HYDRAULIC BRAKE COMPONENTS**

**The hydraulic components in brake systems all play crucially important roles in ensuring reliable braking performance, so it makes good sense to observe some basic best practices when replacing hydraulic brake components. Here is what you need to know-**

## **Know what you need to replace**



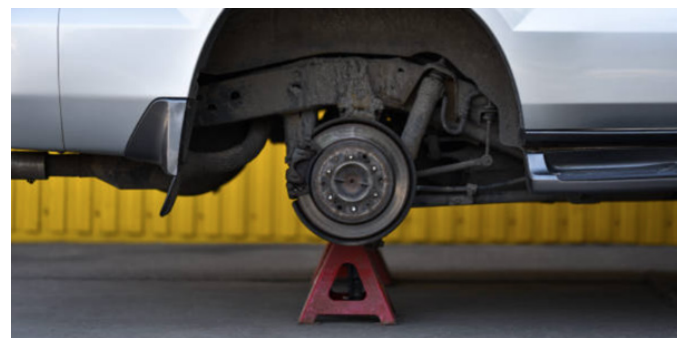
The hydraulic part of the brake systems on all modern vehicles largely consists of the same parts. These include the master cylinder that generates brake pressure in conjunction with a vacuum system, the ABS pump, two or more brake callipers, or two wheel cylinders if the vehicle has drum brakes on the rear axle, and a brake force proportioning valve to regulate brake pressure to the rear wheels. All of these components are linked by a network of steel and flexible hoses that distribute the brake pressure to the wheels.

Based on the above, it should be clear that modern brake systems offer many possible sites for hydraulic issues to develop. These include leaking brake lines, worn or damaged seals in master and wheel cylinders, and contaminated brake fluid, all affecting braking performance. Therefore, it is always a good idea to inspect the entire brake system for obvious signs of brake fluid leaks or other

issues such as mechanical damage to brake lines before you start to disassemble any brake components. The purpose of such an inspection is to determine which parts are actually damaged or defective, and which parts are merely suspect or unlikely to be defective. Bear in mind that all brake components fall into the 'life-and-limb' category, so be sure about your diagnosis to ensure that you address the actual hydraulic problem as opposed to what you assume the problem to be.

## **Work in a dust-free environment**

The single most important thing to observe when replacing hydraulic brake parts is cleanliness. All foreign objects like sand, dust and engine grime have the potential to damage and degrade moving parts like seals and pistons, so pay particular attention to your work environment. Ideally, the best place to perform repairs to hydraulic systems is under cover, such as in a garage or carport, and while the wind is not blowing.



**Fig. Work in a dust free environment**

Introducing contaminants into brake systems is very easy, so even if you are going to work under cover, make sure your hands are clean and free of oil and grease, both of which only need microscopic trace amounts to attack and degrade components that contain natural rubber such as seals in master cylinders and brake callipers.

### Use only high-quality parts



The best defence against catastrophic brake system failures has always been and still remains is using only the highest quality hydraulic brake parts available, as opposed to parts one can afford.

In this regard, it is important to remember that the global aftermarket parts market has become flooded with cheap but mostly counterfeit versions of OEM and OEM-equivalent parts that can never be relied upon to work as expected even in non-emergency situations.

We strongly recommend that you only source hydraulic brake parts from vendors such as Disc Brake Australia (DBA), which has a proven record of accomplishment in manufacturing and supplying safety-critical hydraulic brake parts such as flexible brake hoses to the aftermarket. DBA's Street Series hydraulic components meet and often exceed OEM specifications in terms of fit, form, function, and reliability.

### Follow the manufacturer's repair procedures

One of the leading reasons why repairs to hydraulic brake components fail or are not reliable is a failure to observe and follow car manufacturers' recommended repair procedures.

These procedures include but are not limited to the routing and securing of brake lines, tightening torque

values of joints and fittings to prevent brake fluid leaks, and replacing complete assemblies, as opposed to just replacing, say, rubber seal kits in master cylinders. For instance, failing to route and secure flexible brake hoses correctly can cause the hose(s) to rub against sharp or rotating parts, or place undue strain on the hoses during suspension and steering movements. Both conditions can cause the hoses to rupture, break, or otherwise fail unexpectedly, thus causing potentially catastrophic brake system failures.

Equally importantly, all car manufacturers specify the use of specific brake fluid formulations that are designed to cope with the extreme heat modern brake systems generate. Failing to use the specified brake fluid could cause unpredictable brake behaviour, such as brake fade, increased stopping distances, failure of the ABS to engage, and generally unsatisfactory, not to mention unsafe braking performance.