

PBR calipers



Slimline dependability

PBR's Slimline aluminium brake calipers combine lightweight, low drag design with excellent aesthetics to improve the braking performance and look of almost any vehicle on the road.

Every Slimline aluminium caliper is a result of PBR's design-for-manufacture philosophy which utilises state of the art manufacturing to achieve exceptional quality levels and pricing that is competitive with more conventional, heavier calipers.

That's a huge competitive advantage if you're in the Original Equipment market where pricing levels and product quality play an important role in buying patterns.

Another PBR advantage in the OE market is product variety and with bore sizes ranging from single piston 32mm to dual piston 51mm, there is a highly reliable and effective PBR caliper made to suit every application from small vehicles to light trucks.

The benefits of PBR's Slimline calipers are many:

Light weight

A weight saving of up to 30 percent compared to similar iron components. Lighter brake components mean that other items such as suspension can also be lighter. This in turn leads to a reduction in

FRONT CALIPER	
Traditional design Cast Iron – 5.0kg	PBR design Aluminium – 3.5kg
REAR CALIPER	
Traditional design Cast Iron – 3.2kg	PBR design Aluminium – 2.2kg

the wear and tear on high stress parts such as shock absorbers and tyres. Lighter vehicles are also more fuel-efficient and generally less expensive to run and maintain.

High torque output

PBR's Slimline features, like thin bridge, large disc and high piston bore centre work together to achieve the best possible brake effectiveness.

Uniform contact pressure

PBR's Slimline's separate function members, closed loop torque member, box section torque arm and brake-on compliance ensure pad to brake disc contact is uniform. This leads to fade resistance, longer pad life and high energy dissipation.

Minimum dynamic caliper drag

This feature saves energy and prevents brake fluid vaporisation. This is achieved by a low friction, sealed slide, central slide position, rubberless self-aligning characteristic and brake off compliance to pad taper.

TECHNICALLY SPEAKING

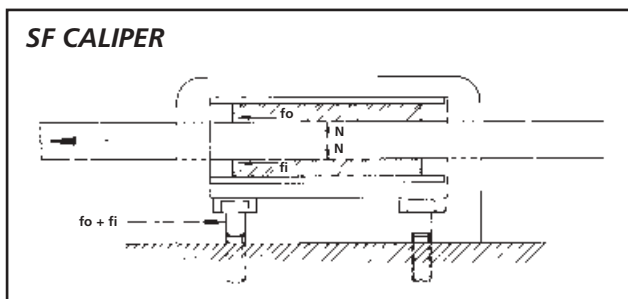
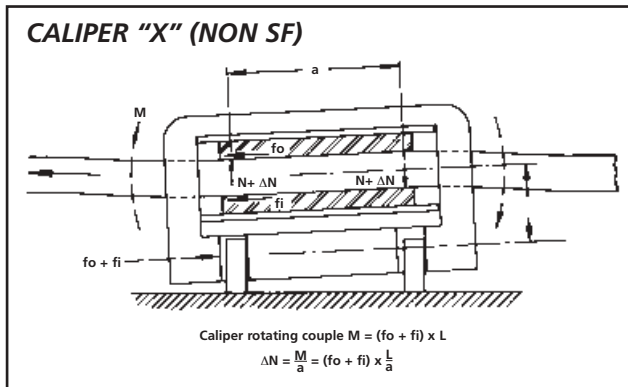
The automotive industry world-wide has embraced disc brake calipers that have separate members or separate function (SF) to provide brake torque reaction and pad clamping functions.

The PBR Slimline caliper is the first production lightweight SF caliper, capable of high torque output and high energy absorption thanks to its uniform contact pressure, low maintenance, minimum dynamic caliper drag, long component life and lower operating temperatures.

SF pad pressure distribution

Tilting of the sliding torque member of a non-separate function caliper produces unfavourable pad contact pressure distribution and excessive pad taper wear. This tilting is avoided with PBR's Slimline separate function caliper as it is rigidly attached to the suspension upright.

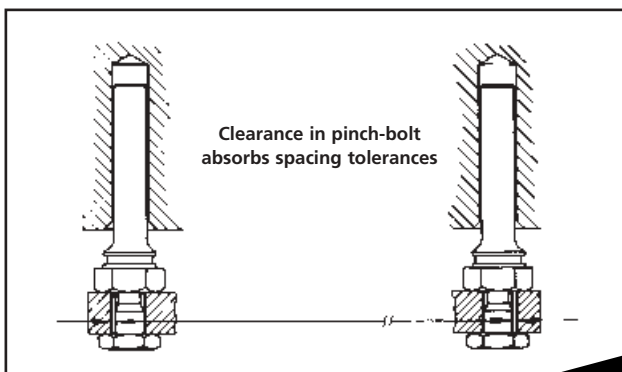
Elastic deflection of the torque member under braking load causes the caliper housing to rotate, resulting in uneven pressure distribution. A closed loop torque member, as featured in the PBR SF caliper, offers a much higher stiffness and therefore improves pad pressure distribution.



Low slide resistance

PBR Slimline's guide pins with low sliding resistance assure free movement of the caliper housing for a low brake off dynamic drag. The guide pins are lubricated and sealed and guarantee perfect centre spacing due to the PBR pinch bolt feature.

Eccentricity between piston load and guide pin frictional reaction is kept to a minimum with the PBR Slimline caliper. This eliminates jamming and reduces slide resistance.



Brake-off drag

Anti-rattle springs bias guide pins parallel to their bores to achieve brake-off self aligning characteristics. And with a generous pin to bore clearance, they also permit angular compliance to reduce brake off drag when pad taper does exist.

Low housing inertia and low slide resistance enable PBR's Slimline caliper housing to move sympathetically to any lateral disc movements. A high piston-to-seal insertion load also guarantees minimum knockback of piston and maintains a low running clearance.

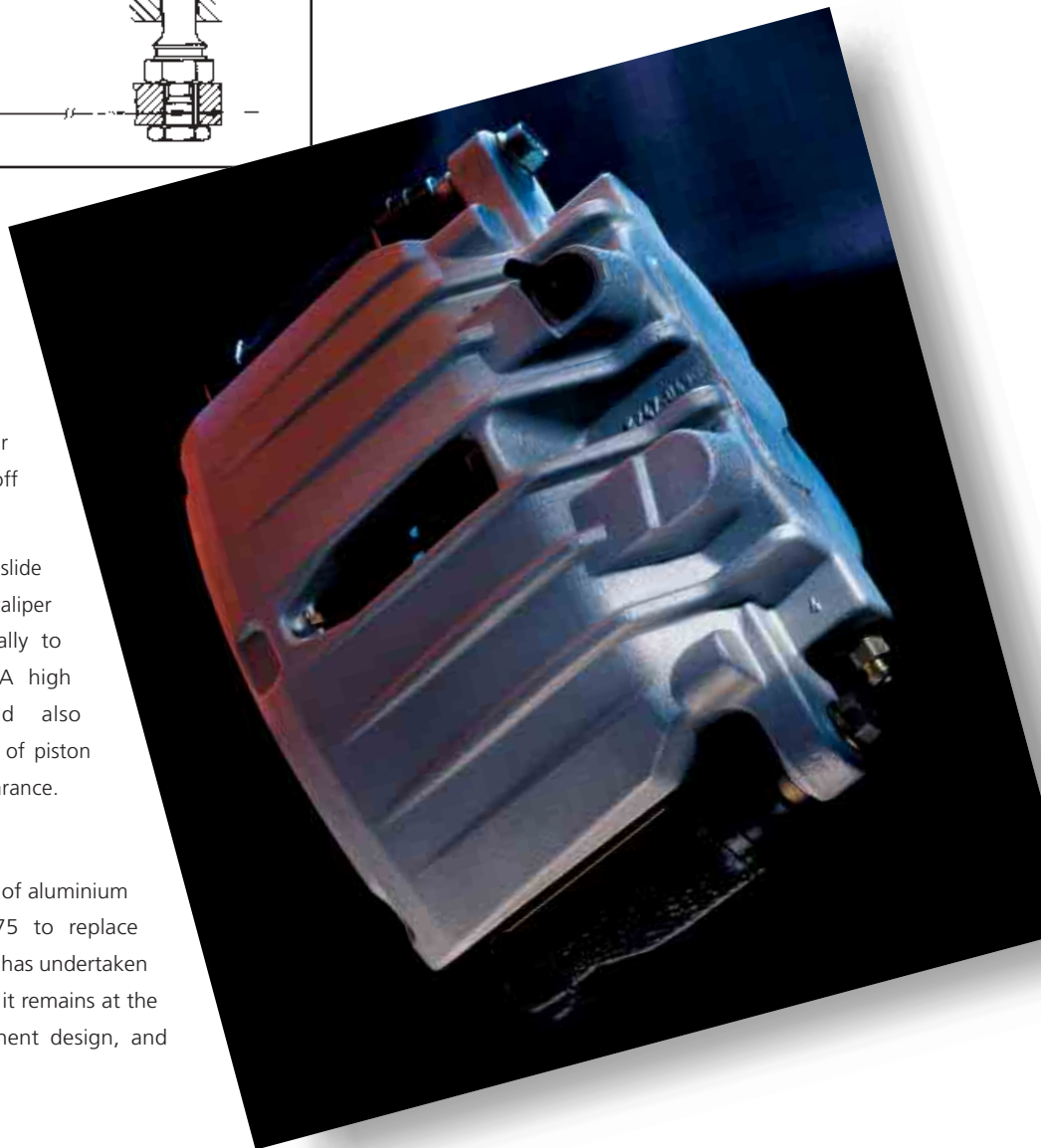
PBR INNOVATION

Since pioneering the application of aluminium to disk brake calipers in 1975 to replace traditional cast iron calipers, PBR has undertaken ongoing development to ensure it remains at the leading edge of brake component design, and manufacture world-wide.

PBR designed the slimline Pad Guided caliper, which is the latest innovation for high quality calipers. In addition to being light weight, it features low drag design (which enhances fuel economy and vehicle performance), fewer parts and ease of replacement.

PBR Slimline calipers are a part of a comprehensive range of brake system components including master cylinders, brake boosters and rotors which have all been considerably improved throughout the years thanks to PBR's dedication to the advancement of automotive and braking technology.

PBR's ability to innovate has led to many world-wide patents for its range of disc brakes and integral park brake calipers that are sold today to car makers in North America, Australia and Korea and for aftermarkets in more than 60 countries.





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