

ON THE MOVE

The Newsletter of PBR International Limited

July 2003



3 | 20 - Years of advanced technology



1983



2003

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Introduction



Mike McKinstry Vice President Global Engineering, Sales & Marketing.

Welcome to the latest edition of *ON THE MOVE*. At PBR we are seeing the acceptance of our unique technology and the demand for our innovative solutions continuing to grow. We have expanded into the realm of brake and corner module development, further improving our brake system capability. We are building new facilities to increase the level of research and development into future technologies such as "by-wire". We have further expanded our operations in Europe. And we are increasing our portfolio of Aftermarket brake solutions in response to market needs.

In this edition we are pleased to announce the acquisition of AP Brakes in Italy. This represents a very important phase in our European growth. You can also read

about our aftermarket success in Australia where we are pioneering some new programs. A very successful Australian Aftermarket trade show has confirmed that we are on the right track and we are very excited about our future prospects.

We also see this as an opportunity to stop for a moment and recognise the significance of our 20year involvement with the Chevrolet Corvette program. This was our first OE contract into North America and a point from which we have never looked back.

Thank you for allowing us to keep you informed.

Mike McKinstry

Cadillac brake module leads the way



Production has commenced on the new Cadillac XLR brake module at PBR's Columbia plant in North America. Following a 20-year relationship with General Motors supplying lightweight performance brake systems, PBR has now extended their involvement to incorporate entire brake modules.

Allowing one source to control the design and development of brake and corner modules is the most effective way to maximise product performance. Modularisation also offers the potential to reduce plant inventories and assembly line complexities.

"Allowing one source to control the design and development of brake and corner modules is the most effective way to maximise product performance."

The Cadillac XLR modules comprise knuckles, bearings, calipers, disc rotors and park brakes and were designed and developed at PBR's technology centre in Melbourne. Equipment for the production of the new modules was also designed and developed by PBR.

The distinctive new Cadillac XLR will feature PBR's highly regarded lightweight

aluminium caliper technology coupled with the Banksia single-shoe park brake.

The design and development of brake and corner modules is an important part of PBR's ongoing strategy to provide innovative braking solutions into the automotive industry.

20-Years of advanced technology



“The introduction of PBR’s patented aluminium twin-piston, pad-guided front calipers and lock actuator integral park brake rear caliper set a new standard in Corvette braking.”

In 1984 General Motors introduced the first all-new Chevrolet Corvette since 1968. It was an important moment for the company having produced no saleable Corvettes in the previous year. As a result it became the most eagerly awaited Corvette in the vehicle’s 50-year history. Named Motor Trend’s “Car of The Year” the new Corvette featured an all-new body, upgraded suspension, advanced electronic instrumentation and a new cockpit.

That was the same year PBR commenced supplying the Corvette with lightweight brake systems and thereby, for the first time, entered the world’s largest automotive market as an original equipment supplier.

It was the beginning of PBR’s emergence as a global supplier and a recognised innovator in brake technologies.

PBR’s contribution to the highly successful 1984 Corvette came through the development of brake systems incorporating lightweight aluminium calipers and complementary technologies that delivered weight reduction coupled with performance. The following year, PBR provided further weight reduction through a world first - the polyester brake booster.

When the overall performance of the Corvette was lifted in 1986 by increasing maximum horsepower to 230 from its 5.7 litre V8, PBR responded by upgrading the

brake system. The introduction of PBR’s patented aluminium twin-piston, pad-guided front calipers and lock actuator integral park brake rear caliper set a new standard in Corvette braking.

The release of the C5 (fifth generation) Corvette in 1997 heralded the first Corvette not to share parts with other Chevrolet models. In another significant design overhaul it saw the release of a new body, frame, engine and rear mounted transmission. In keeping with this technology shift PBR increased the brake performance through the introduction of Slimline aluminium twin-piston pin-guided front calipers and the all-new single-shoe Banksia park brake coupled with pin-guided rear calipers. The Banksia was hailed at the time as the most radical change in park brake design for more than 40 years.

With the final year of C5 Corvette production now heading down the assembly line PBR is still providing strong brake system support through the familiar black PBR Performance calipers on the base model Corvette and the very distinctive red PBR Performance calipers on the Z06 model. Rest assured that as the Corvette continues to grow in the future, so will PBR’s brake technology.

During the course of PBR and the Corvette’s 20-year relationship PBR’s business in North America has grown significantly. PBR technology can now be found over a wide range of North American built sedans, light trucks and SUVs. But despite all of that nothing will change the fact that it all began with the Corvette.

PBR acquires Italian brake business

PBR International has just acquired the Italian based drum brake manufacturer, Automotive Products Italia (SV) SpA (“AP Brakes”).

AP Brakes is a profitable, high volume drum brake and park brake manufacturer, with a diverse customer base. Presently the company supplies drum brakes and park brakes for Fiat, Ford and Nissan and have licensees in Turkey, Brazil and Japan.

Located in the province of Savona in Northern Italy, AP Brakes has approximately 340 employees. The plant is currently being expanded to accommodate future growth.

In addition to Fiat, Ford and Nissan, supply will commence to Renault, Land Rover, Toyota, Opel and other Ford platforms between 2004 and 2006.

AP Brakes has patented technology in several key components of the drum brakes

and park brakes it manufactures and continues to apply significant resources to research and development.

The acquisition of AP Brakes is consistent with PBR International’s strategy to provide innovative brake solutions for vehicle manufacturers within the European, North American and Asia/Pacific automotive markets.

Industry awards Aftermarket excellence



The Australian Automotive Aftermarket Association has recognised PBR Aftermarket's commitment to excellence and innovation by awarding the company five awards, including two Gold Awards, at the recent AAAA Trade Show in Melbourne.

The show featured a large cross-section of Australian and international Aftermarket suppliers. The awards are held in conjunction with the show and are hotly contested. Being judged by industry peers adds considerable prestige and credibility to the awards.

The PBR awards are:

- Gold Award for the Best Trade Catalogue
- Gold Award for Export Achievement
- Silver Award for Excellence in Manufacturing
- Bronze Award for Best New Aftermarket Product Parts for the PBR Sports Brake Calipers
- Bronze Award for Best New Packaging for the PBR Sports Brake Calipers

The Gold Award for Best Trade Catalogue is a very significant milestone as it recognises PBR is leading the industry with its web-based catalogue.

The 2003 AAAA show also provided the ideal venue to launch the new PBR Sports brake caliper range which was extremely well received. Other products featured on the PBR stand included Performance brake upgrades, the Jetstream rotor system and the broader range of aftermarket passenger and commercial vehicle products.

PBR Performance on show

PPG Industries, one of the largest manufacturers of automotive paint have chosen a PBR Performance brake system to provide the stopping power on their latest show vehicle.

Designed to showcase the latest in paint technology, this stunning Ford BA XR8 has been transformed from its original basic black by applying three coats of Blue to Red Harlequin followed by seven coats of Winberry candy and finished with three coats of clear. The result is breathtaking with the chameleon-like body virtually changing colour every time you blink.

The Flame coloured PBR Performance brakes provide the perfect match for the vehicle

which will be on display at the Holden/Ford show in August and the forthcoming rounds of the V8 Supercar series.





Product spotlight

PBR SPORTS HITS THE STREET

PBR chose the recent Australian Automotive Aftermarket Association show in Melbourne as the venue for the formal release of their new PBR Sports product line.

The response from all areas of the market was overwhelming with the company also winning awards for Best New Aftermarket Product and Best New Packaging as a result.

“The Australian automotive market has seen a significant increase in the desire for products that allow vehicles to become more of a reflection of their owner’s personality.”

The PBR Sports product has been specifically designed to cater for the growing market of vehicle owners who are looking to personalise their vehicle.

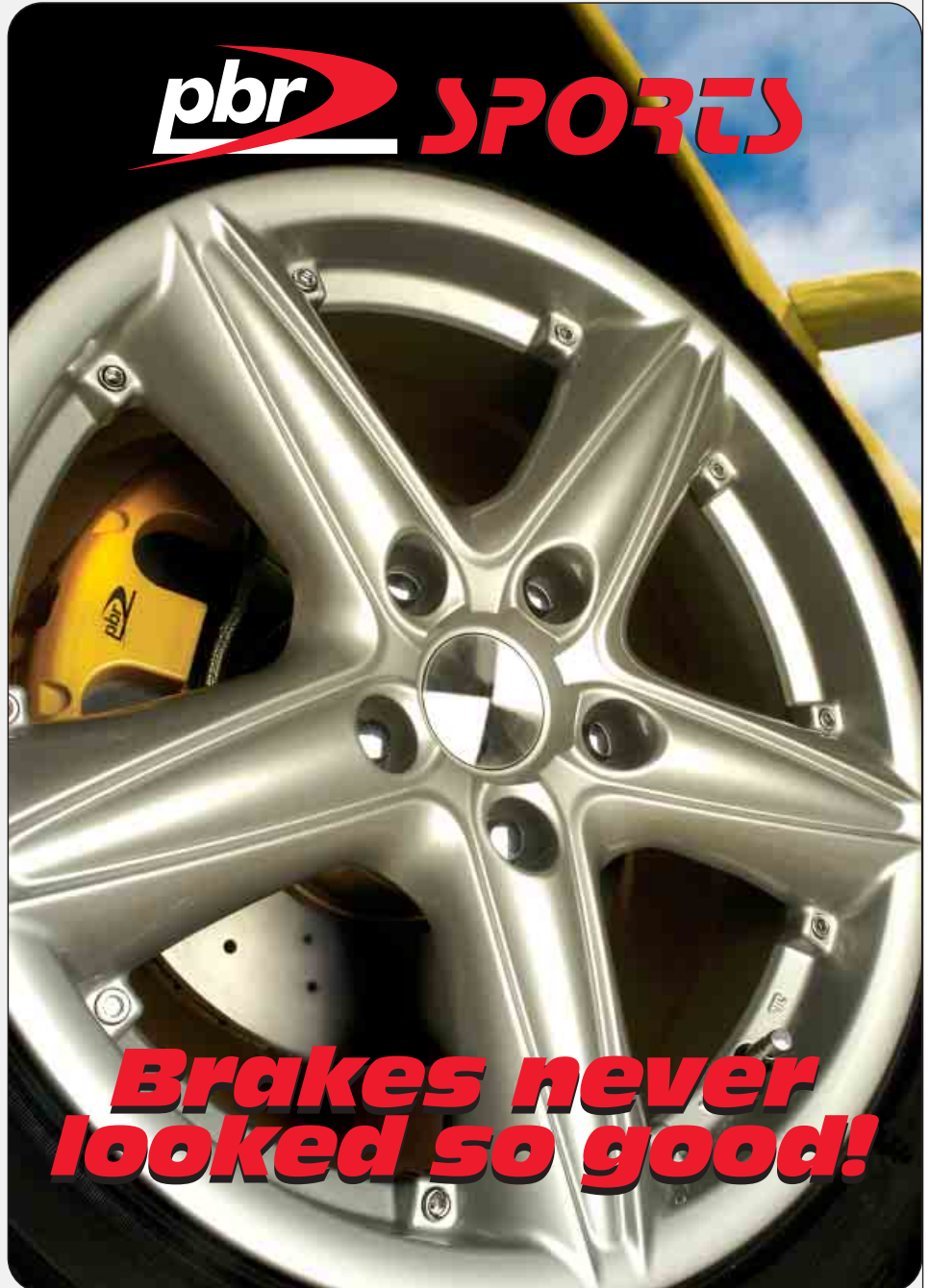
The Australian automotive market has seen a significant increase in the desire for products that allow vehicles to become more of a reflection of their owner’s personality. Mag wheels, body kits and lights are just a few of the add-ons becoming increasingly popular.

Earlier in 2003 PBR commissioned Roy Morgan Research to undertake some market research in an effort to better understand consumer needs in this growing phenomenon. As a result the PBR Sports range was developed.

PBR Sports provides vehicle owners with the opportunity to select a coloured replacement caliper that significantly lifts the appearance of their vehicle.



PBR Sports Colour Matching System



The initial Sports range is available in three colour variations, Blaze, Flame and Midnight. PBR is already investigating other colour options which could be made available in the future.

PBR has extensive experience in the supply of high quality coloured calipers through high profile vehicles such as the Chevrolet Corvette in the USA and the Holden Special Vehicles and Ford Performance Vehicles programs in Australia.

In support of the new range PBR has launched a dedicated website (www.pbrsports.com.au) which has been designed to facilitate ongoing interaction with PBR Sports fans. In addition to the catalogue and ease of finding PBR Sports distributors, the website also allows people to “try before they buy” through the unique colourmatch system.

PBR Sports product is currently only available in Australia.

University of Wollongong's winning formula



From left to right: Craig McLauchlan, Kevin Quirk, Luke Neeson, Steve Selby (UOW Staff), Oliver Kennedy (Faculty Advisor), Evan Brown, Justin Ulland (In Car), Dan Plumb, Michael Lepke, Chris Wood, Michael McNaught, Tim Woods, Edward Martin.

The University of Wollongong (UOW) has created history by becoming the first Australian team to win the world Formula SAE competition in the United States, beating 139 other teams from around the world, many of whom have long histories of competing in this prestigious event.

This was the UOW's second attempt at the U.S. competition following their rollercoaster debut in 2002. In what was a closely contested event they beat the University of

Missouri-Columbia and Michigan State University for the title and were the only Australian competitor.

As sponsor of the Australasian Formula SAE competition's Brake Design Award, PBR extended their commitment to the event by sponsoring the UOW team's recent U.S. campaign.

The UOW team comprised 11 engineering students who were required to design,

build, and then compete with their small formula-style racing car. The competition provides students the opportunity to obtain experience in project and financial management, intense teamwork and critical decision making, the application of complex

"In what was a closely contested event they beat the University of Missouri-Columbia and Michigan State University for the title and were the only Australian competitor."

analysis techniques and hands-on manufacturing of a racing car. The SAE has been running these events in the United States since 1981.

The students are judged on static and dynamic events. The static events include design qualities, cost effectiveness and sales presentation. The dynamic events cover an endurance/economy race, acceleration over 75 metres, skid pan performance and an auto-cross race.

PBR has been a strong supporter of the Formula SAE program for some time now, which it sees as an opportunity to promote technological excellence at the university level so that the students of today can become the industry leaders of tomorrow.

On-line catalogue a winner

The aftermarket division of PBR Australia has recently been recognised for their efforts in developing a web-based catalogue system, enabling much broader access to the company's extensive range of aftermarket brake products, when they received a Gold Award for the Best Trade Catalogue at the recent Australian Automotive Aftermarket Association awards.

Many companies are now developing electronic or web-based catalogues for the trade but PBR saw an opportunity to extend that service to consumers, thereby making it easier for everyone to find PBR parts when they need them.

The new service provides access to three types of information.

Finding the PBR part you need (www.pbr.com.au/findapart)

Finding where you can buy PBR parts (www.pbr.com.au/buyapart)

Finding where you can have PBR parts fitted (www.pbr.com.au/findamechanic)

By establishing an internet facility PBR has effectively given all of their customers real-time access to the definitive PBR brakes catalogue.

"The moment we add a new product to the range, our customers have immediate access to that information," said PBR's Director Sales and Marketing, Mr Peter Culley. "And it covers every aftermarket product PBR has ever sold, which means no more time lost flipping through piles of old paper catalogues."

At a time when speedy access to the latest information can make the difference in getting a sale, the new PBR on-line catalogue is sure to make its presence felt.



Around the globe

NEW HEAD OF PBR AUSTRALIA / ASIA

Following the recent appointment of Mr Mike McKinstry to the position of President, PBR USA, Mr Grant Anderson has been appointed to the position of President PBR Australia/Asia.

Mr Anderson will play a leading role in developing and implementing strategies to drive the international growth of PBR in Australia and Asia.

This will include developing strategic relationships with joint venture partners, technology providers and customers. In addition to developing Australia, Malaysia and Thailand, he will be seeking new customers and new markets in countries



**Mr Grant Anderson,
President of PBR
Australia / Asia**

such as China, Korea and Japan.

Mr Anderson is also Vice President of the Federation of Automotive Products Manufacturers (Australia).

He was previously Regional Managing Director- Asian Rim, for Schefenacker, a private German automotive components company. In this role, he had responsibility for operations in India, Korea, China and Australia. Mr Anderson was also a Director and Chairman of a number of Schefenacker companies. These companies manufacture vision systems (mirrors) and lighting systems for the automotive industry.

Leading the way in 'BY-WIRE'



The New By-Wire Research Facility in Melbourne

Brake-By-Wire technology is now available through PBR, but it is only just the beginning. PBR park brake systems incorporating "by-wire" technology are currently being engineered for specific applications thanks to the high quality research provided by an Australian team of "by-wire" specialists.

With Australia's first "by-wire" research centre now established the rate of development is set to escalate. The Research Centre for Advanced By-Wire Technologies or RABiT as it is known, is "up and running" with the recent appointment of Mr Graeme Bullock as Centre Manager and significant support from PBR and its associated businesses.

Recently the centre conducted its first industry seminar in Melbourne, which drew a strong response from the automotive and aerospace industries, research institutes, universities and government.

The seminar – "By-wire technology: Driving the future of Australia's automotive and aerospace industries" – was delivered by Austrian-based TTTech Computertechnik AG, a global leader in supplying Time-Triggered Protocol and "by-wire" technology to the world's major automotive and aerospace companies.

In a series of sessions over five days, TTTech provided an overview of the technologies, first-hand examples of time-

triggered communications and by-wire applications in action, a window to the future of automotive and aerospace technology and hands-on tuition at both basic and advanced level.

A new technology centre that will incorporate RABiT and PBR's associated research and engineering activities is currently being built at the company's Australian headquarters and scheduled for completion by the end of 2003. It will ultimately host a number of like-minded organisations that are dedicated to the development of "by-wire" technologies.

RABiT is a joint venture between Pacifica Group Technologies Pty Ltd (PGT), University of Melbourne, Swinburne University of Technology, Bishop Technology Group Ltd and the Victorian Government's Science, Technology and Innovation initiative.

PGT is an associate business of PBR and both are subsidiaries of the listed Australian company, Pacifica Group Limited. PGT undertakes PBR's future research and development activities which are currently focused on brake-by-wire technologies and the processes that support these technologies.