



## Going the extra mile

FOLLOWING ROLL STIFFNESS TESTING BY **SMEDLEY'S ENGINEERS**, **MAXIPARTS** HAS RELEASED ITS TRIED AND PROVEN MAXUS AIRMAX AXLE AND SUSPENSION PACKAGE TO SUIT THE BOOMING PERFORMANCE-BASED STANDARDS MARKET.

It's safe to say that Australia's axle and suspension market is one of the most contested in the world of transport equipment, with a vast variety of local and international businesses courting what is a relatively small and highly specialised transport community. Now, MaxiPARTS has brought a new generation of the axle and suspension package to the market that has the potential to fire up the competition even more. Backed by parent company MaxiTRANS – a multi-brand powerhouse with decades of experience in trailer design and manufacturing – the AirMAX system “has been extensively tested to suit the gruelling Australian market,” says Justin O'Brien, National Sales Manager at MaxiPARTS. “Designed and tested for Australian conditions, our AirMAX suspension has

been in testing for well over a decade, with hundreds of rows travelling millions of kilometres in a variety of applications,” he explains. “Based on that experience, we've now made it available to the general market and competitive in a wide variety of applications, including Performance-Based Standards (PBS).” Daniel says the development of the company's highly effective design involved “state-of-the-art computer finite element techniques to measure and compare fatigue” – with the end result being a suspension that is long lasting, hardworking and reliable. “To us, it was especially important to ensure the AirMAX system can also be used on High Performance Freight Vehicles (HPFV) built under the PBS scheme, which is why we brought in Smedley's Engineers as

an independent consultant,” he adds – pointing out that MaxiPARTS' engineering team worked with Smedley's Bob Wright to ensure the AirMAX system is ready for use in what is widely considered the most advanced transport equipment in the world. “To be eligible for PBS use, a suspension system must be subjected to a special roll stiffness test where we determine how the axle moves relative to the chassis,” Bob explains. “Roll stiffness cannot be reliably determined from simplified calculations, but has to be physically tested as a large proportion of the energy stored in rolling the suspension is taken up in combined torsion and bending deflections of rubber and steel.” The test design itself is relatively simple, Bob says, but the devil is in the detail. “Put simply, the test method involves applying

a known, measurable moment to the suspension and physically measuring the roll angle of the chassis relative to the suspension. Naturally, you have to cover a whole range of roll moments so the test points can be mapped against the resulting roll angle.”

system used.” All up, Smedley's put four different configurations of the AirMAX axle and suspension package to the test, says Justin, including under and over slung models, with ride heights from 190mm to 430mm. “As one of Australia's largest truck and

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In real life, he says, the set-up is much more complicated to ensure the suspension is 100 per cent safe to use in a HPFV context, with high-tech equipment measuring each and every movement of the axle under varying load conditions: “It's important to take into account each ‘what if’ scenario when certifying an axle and suspension package for PBS use, and I'm glad to say the AirMAX system has consistently performed just as well or better than the reference

trailer parts outlets, MaxiPARTS is in a prime position to bring innovative technology to market. But what's equally important is to keep evolving and adjusting to the market, which is exactly what has driven the AirMAX release. “MaxiTRANS believes PBS combinations are not just the future, but the present of transport technology, due to their ability to increase productivity for owners. We have produced literally thousands of PBS trailers

and rigid bodies, so it was important that any new suspension was able to be used in PBS applications as a minimum.” He adds, “With Smedley's help, we have created what we believe is a very appealing value proposition for both OE use and aftermarket: Our AirMAX system is now not only fully ADR and RFS approved, but also PBS ready and backed by the support of the 22 MaxiPARTS retail and wholesale outlets around the country. Functionally, it is designed with a two-piece axle saddle and three-arm assembly, allowing for ease of fitment and assembly, so both vehicle designers and workshop personnel will benefit from it.” Agrees Bob, “PBS is an incredibly dynamic market segment, so suppliers large and small need to be prepared to go the extra-mile to stay ahead of the pack. MaxiTRANS has proven it is 100 per cent committed to doing so, and we're incredibly proud to have been part of that process.”

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