



PEDDERS

SPORTS RYDER
SUSPENSION



Performance inspired by PIT LANE



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PEDDERS
SUSPENSION

Straight advice, specialists you understand and... No  Bull



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SPORTS RYDER

SUSPENSION

Few companies have played such a significant role in street and performance car culture as Pedders Suspension. In its highly specialised field, Pedders has continually set new benchmarks for precise vehicle balance, optimum traction and maximum street appeal since the 1950s.

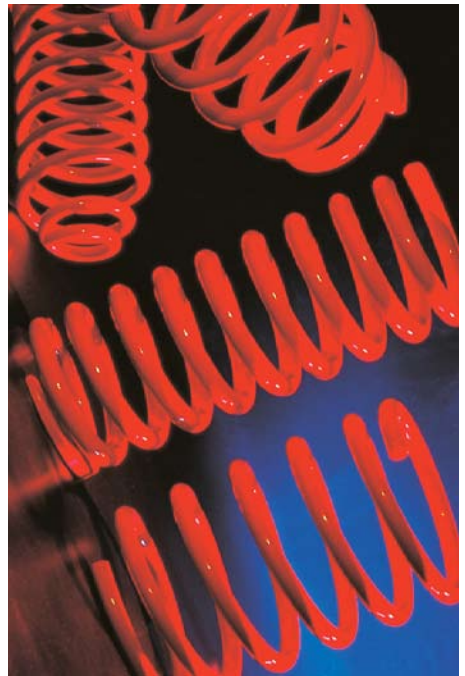
Pedders' SportsRyder Suspension range represents the ultimate in performance lowering suspension. SportsRyder products, when integrated into a fully balanced SportsRyder system make a great enhancement to a vehicle's handling and safety. SportsRyder coil springs, bushes, shocks, sway bars, sway bar links, strut mounts, struts and tower bars improve traction, ride quality, turn-in and cornering ability with greater steering precision and stability under braking.

With SportsRyder products, you can minimise body roll, reduce pitch and float, extend the life of your tyres and gain a greater safety margin in performance driving conditions. After all Pedders "SportsRyder Suspension is performance inspired by pit lane"

SportsRyder Coils

Coil springs are the foundations of the modern suspension system. Their spring rate and 'loaded' or installed height are fundamental in influencing chassis dynamics, vehicle balance and ride quality. And of course, the loaded height determines the vehicle's ride height and its 'trim' or attitude.

Pedders SportsRyder coils are designed and engineered to the highest quality standards to deliver unrivalled performance, consistency and reliability.



Pedders SportsRyder coils are manufactured under the following certifications:



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SportsRyder Coils Quality Without Compromise

Behind the superior performance of SportsRyder coil springs is Pedders' decades of experience in suspension development and tuning, combined with state-of-the-art manufacturing processes.

The primary function of performance springs is to provide suspension travel which allows the tyres to follow the bumps and depressions in the road surface, while maintaining dynamic camber, i.e. the angle of the tyres and wheels in relation to the road while the car is in motion.

For precise vehicle balance and handling, the spring rate must be matched to the weight of the car and the other suspension component. It must also be matched with the rate of the

shock absorbers or struts to provide the required degree of wheel and tyre control.

The handling of most vehicles is substantially improved by making a minor increase in the original spring rate to a rate which reduces body roll. This in turn aids tyre adhesion - without causing undue harshness or rigidity. Sports Ryder coils will enhance the tyre footprint on the road, thus improving traction and will also improve performance and overall handling.

Coil spring design and manufacture is a craft which requires strict adherence to a demanding series of procedures, all of which are critical to the performance of the final product.

SportsRyder Coil Manufacture Process

- **High Quality Steel**
- **Hot Coiling**
- **Oil Quenching**
- **Furnace Tempering**
- **Shot Peening**
- **100% Scragging**
- **Individual Unit Testing**
- **Loaded Height and Rate Testing**

The base material for SportsRyder coils is **premium quality BHP steel** wire which is heated in a furnace to nearly 1000°C before it is hot coiled. Unlike cold coiling, hot coiling reduces stress in the steel during winding.

The hot steel is wound (a process called **Hot Coiling**) to the precise shape and number of coils within each spring for a particular application, after which it is quenched in an oil bath. Maintaining a flow in the oil bath ensures no bubbles attach themselves to the coil during **oil quenching** which can cause hot spots on the steel and reduce the uniformity of the material.

From the oil bath, the coil springs are transferred into a second **furnace** for **tempering**; the process which produces the desired hardness of the steel. A precise hardness setting is required to prevent the spring from sagging or cracking when in use. After tempering, the coil spring is shot peened to clean the coil and to relieve surface stress. **Shot peening** involves thousands of tiny hardened steel balls being fired at the surface of the spring. The steel balls work like a multitude of miniature hammers, pounding the surface molecules of steel to relieve the stresses built up during winding and tempering. As it is the surface layers of steel which are subjected to the greatest forces when a spring twists under compression, shot peening is crucial to spring durability and reliability.

The next critical stage of coil manufacture is known as **scragging**/or presetting of the spring. Each coil spring is fully compressed to the point at which all the coils are touching.



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At full compression, the spring is said to be coil bound. This procedure twists the steel to its limits - throughout its lifetime the spring will never again be twisted to this degree because full spring compression is prevented by a vehicle's bump stop. Upon completion of scragging, the height of the coil spring has been set.

Each SportsRyder coil is then tested to ensure the spring rate is accurate and the loaded height - the height of the spring when installed in the vehicle - is within 2mm of the coil height specified for the application.

The design, manufacturing and testing process ensures SportsRyder coils are equal to the best in the world in consistency of rate, loaded height and reliability.

The SportsRyder coil is then ready for the final process: powder coating. The springs are electrostatically charged and are sprayed with an oppositely charged powder. The red powder is attracted by the spring's charge, ensuring an even surface coating. When coated, the springs are oven baked so that the powder melts onto the spring surface.

The coil now has an extremely smooth, high gloss finish which makes SportsRyder coils the first choice for competition show cars.

For performance enthusiasts, it's the lifetime of superior performance of SportsRyder coils which sets them apart from all other brands.

No matter what the application, SportsRyder coils guarantee consistency of ride heights, precise vehicle balance, superb ride quality and unsurpassed durability.



Bushes

Bushes are used to position and align suspension and steering parts. Worn bushes can cause rapid tyre wear, loose or pulling steering and also lead to increased braking distances and unsafe handling.

Pedders' urethane bushes make an ideal replacement, offering a high capacity to bear tension, compression and friction. They are also well suited to applications that require firm suspension control.

And while you're vehicle is being fitted with Pedders'

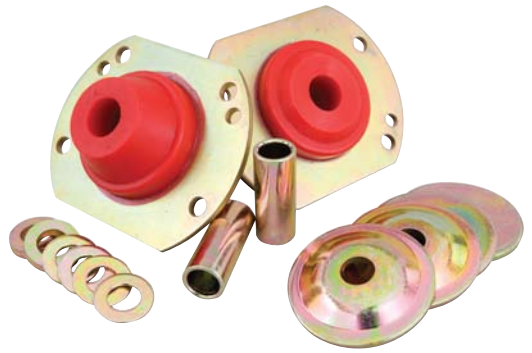


urethane bushes, why not have the wheel alignment checked. Poor wheel alignment, while damaging to tyres, can also result in unsafe driving conditions.

Apart from uneven tyre wear, other warning signs of incorrect wheel alignment include play or slack in the steering wheel, vibration in the steering wheel at certain speeds, a tendency for the car to pull to one side when in motion and overly light or heavy steering.

If your vehicle is showing any of these symptoms, take it to your nearest Pedders Suspension store for a comprehensive \$14 / 28pt Steering & Suspension Safety Check.* Pedders Suspension recommends a suspension inspection every 12 months.

*conditions apply



Tower Bars

Tower bars are available for both front and rear applications. They connect between the two strut towers, giving the added rigidity needed to maintain dynamic alignment. The strut towers no longer lean inwards during hard cornering to cause camber change. So therefore the fitment of a tower bar ties the chassis together thus improving the suspension performance resulting in better dynamic wheel angles, improved tyre life and better all round handling.

SportsRyder tower bars

have steel mounting plates and a polished aluminium brace with adjustable ends. Each bar is made with the finest quality materials and is designed to specifically fit each application





Shock Absorbers

Pedders has built its reputation on the ability to fine tune shock valving for precision handling and ride control. Utmost durability is also part of Pedders' commitment to our customers. All Pedders shocks and struts are manufactured with features specially designed for long life performance and reliability.

Beyond all else, Pedders has a comprehensive range to meet the needs of all drivers and applications.

The gas-charged GSR SportsRyder shock range use tailored nitrogen gas pressure to enable precise control without compromising on ride comfort.

Gas SportsRyder sealed struts and cartridges are high performance, heavy duty replacement units which deliver a new standard of comfort and road holding ability for today's hi-tech vehicles.

Sway Bars

Pedders Suspension has a comprehensive range of front and rear adjustable and non adjustable SportsRyder sway bars to suit most makes and models.



Pedders SportsRyder sway bars (or anti-roll bar) connect the left and right wheels together through short lever arms linked by a high quality torsion spring. A Pedders sway bar increases the suspension's roll stiffness-its resistance to roll in turns, independent of its spring rate in the vertical direction. This delivers the following benefits:

- Reduction of body roll during cornering thus providing more stable ride and handling.
- Tunes the understeer & oversteer characteristics of the vehicle. This enhances the cars performance characteristics whilst reducing unwanted camber change that adversely affects tyre wear.
- Pedders SportsRyder Sway Bars have a minimal effect on general ride quality.

Adjustable Pedders SportsRyder Sway Bars

- Most Pedders SportsRyder adjustable Sway bars have between 2 & 4 positions depending on application. These adjustments enable you to fine tune the understeer/oversteer handling characteristics to suit your driving conditions.

- Fine tuning adjustments can be made with the use of a few spanners.



SPORTSRYDER

eXtreme^a

ADJUSTABLE COIL-OVER



Pedders **SportsRyder** shock absorbers and struts combine the most advanced technology with Pedders' renowned expertise in the fine tuning of damping rates for superior handling. At the forefront of sports suspension is Pedders **eXtreme XA**, height adjustable coil-over built to Pedders stringent quality standards. Pedders **eXtreme XA** features sports calibrated tunable damping, motorsport coil springs individually tuned to suit each application and a host of other high performance features including engineered mounting bracketry. The **eXtreme XA** is the pinnacle of performance suspension technology and the flagship of Pedders' **SportsRyder** range of specialist performance suspension products.

....Click. Tune. Play.

Pedders **eXtreme XA** is the result of Pedders Suspensions commitment to being a leader in the steering and suspension industry with outstanding product success in both the motorsport arena and sports performance markets.

The Pedders **SportsRyder eXtreme XA** adjustable coil over features a 30 position adjustable bump and rebound damping setting at the **CLICK** of a button which enables you to fine **TUNE** your suspension for whenever you want to **PLAY**.

With a host of selected makes and model fits including Audi, BMW, Ford, Honda, Holden, Lexus, Mazda, Mitsubishi, Nissan, Subaru, Toyota, Volkswagon and many more...the Pedders **eXtreme XA** coil over is a great fit for the sports and performance enthusiast driver. Please see our separate brochure for further detailed information.

