

SUSPENSION



TJM EQUIPPED
ON AND OFF ROAD. WORK OR PLAY.

Suspension Information

ON AND OFF ROAD.
WORK OR
PLAY





We started it

Founded on mateship in 1973, TJM is the Aussie pioneer of 4WD equipment.

We're tried and proven

Australia's rugged, yet diverse landscape has provided the ideal testing ground. Whether your journey takes you on or off road, for work or play, TJM has the gear you can depend on.

We're tough, yet sophisticated

Using the latest engineering and manufacturing technology, our products are exposed to stringent testing and thorough quality assurance procedures to guarantee our customers receive nothing but the best.

Everybody wants a piece of us

Our research and development team brings leading-edge and performance-driven products. We're the experts not just on our home turf but also offshore, so it's not surprising TJM's Aussie innovations are exported around the globe.

TJM EQUIPPED
ON AND OFF ROAD. WORK OR PLAY.

IF YOU'RE GOING BUSH, BOUNDING OVER A BUMPY BUILDING SITE OR HAULING A CARAVAN ACROSS THE COUNTRY, TJM HAS A SUSPENSION SYSTEM TO SUIT YOUR 4WD.

If wheels were your car's feet, then suspension would be the legs. Just as the strength, length and flexibility of your legs impact on the way in which you move and the way you connect to the ground, different types of suspension determine the functionality, safety and comfort of your vehicle on different terrain. Made up of several parts that work together like joints and bones, suspension affects absolutely every aspect of driving.

Given the importance of suspension, it's surprising how frequently people place priority on installing bull bars, roof racks and other 4WD accessories without even considering their suspension needs. Whether you're tackling corrugated roads, rough terrain, or you need to tow a caravan, the right TJM suspension will contribute to the car's road handling, braking ability, cushion the ride from bumps, noise and vibration for occupants and protect the vehicle and its contents from wear and tear.

4WD's have factory-engineered suspension, but it's usually only enough to accommodate a boot load of gear and general road driving or limited off-road driving. Installing a set of shock absorbers, a pair of springs or a full TJM XGS suspension kit will immediately transform your vehicle's ride, handling, load carrying and towing capabilities. So don't forget to talk with your local TJM distributor about your individual suspension needs.



TJM XGS Gold suspension kit

Whether you install only shock absorbers, springs or a complete TJM XGS Gold suspension kit you are sure to notice an immediate improvement in the vehicle's ride, handling, towing & load carrying qualities. That's why TJM XGS Gold suspension is the wise choice for the four wheel driver or light commercial vehicle user who values optimum performance on and off road.



Does your vehicle have any of the following undesirable characteristics?

The TJM XGS GOLD solution

TJM XGS GOLD SUSPENSION

Lack of ground clearance?



Uncontrolled bounce?



Nose dives under brakes?



Excessive body roll?



Steering wheel wobble?



Tail drag under load?



Unstable when towing?



Rough, harsh ride?



Limited wheel travel off road?



**N2 charged**

Nitrogen is an inert gas and therefore not affected by the elements such as heat.

**Twin tube design**

Reduces aeration, active damping tube is protected from external elements such as rocks.

**High durability bushes**

Smoother action & increased longevity from improved bonding processes.

**36mm big bore hi-flow piston**

Designed for the vehicle, designed for your needs.

**Cold drawn seamless cartridge**

Perfectly round & definitely stronger, making it more resistant to cracking & piston wear.

**18mm hard chromed shaft**

Strong, hard to bend & tougher against Australian conditions.

**2.5mm outer tube wall**

The strongest on the market.

**Seamless welds & stitch welded construction**

Incredibly strong & less likely to break.

**High grade damper oil**

Less impurities & more resistant to aeration this increases performance & longevity.

**Internal hydraulic stop**

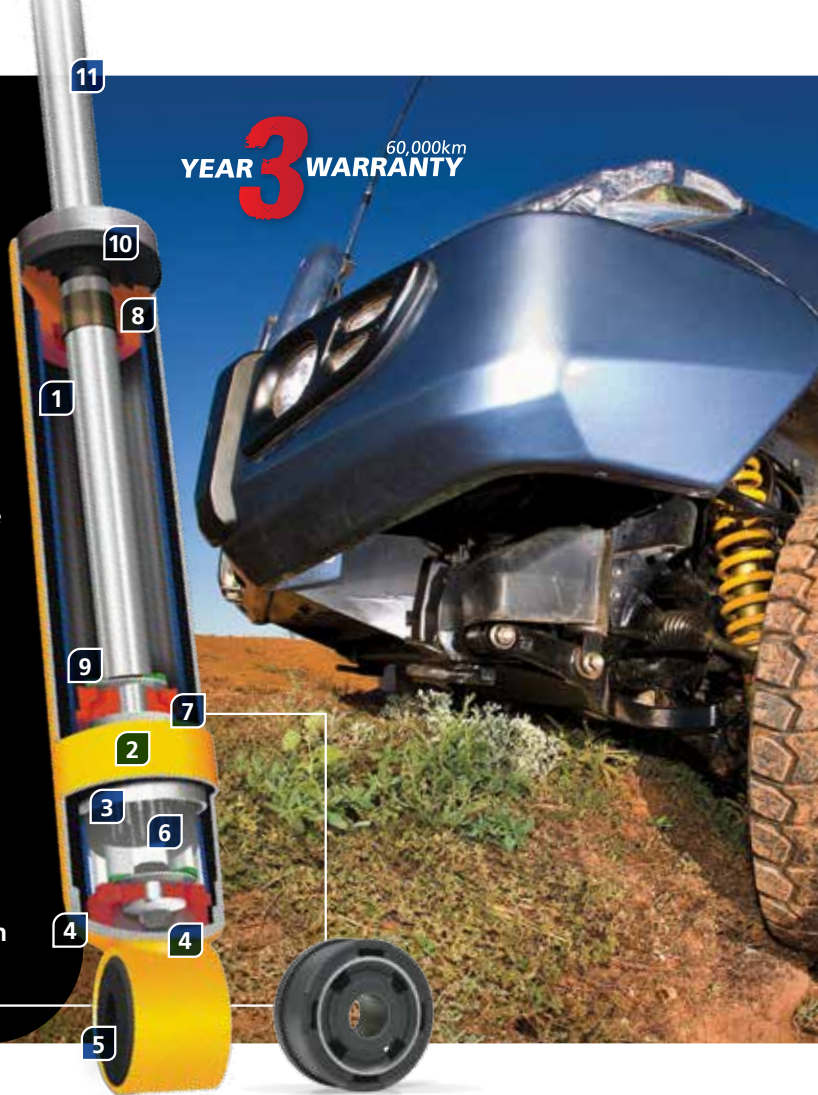
Reduces the shock on 'Top Out'.

**German quality teflon bushes & seals**

Smooth action & longevity from an improved bonding process.

TJM XGS Gold features the most advanced piston configuration of any available shock absorber.

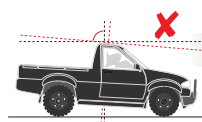
YEAR 3 ^{60,000km} **WARRANTY**





WHILE DEVELOPING THE MOST ADVANCED 4WD SHOCK ABSORBER, WE CREATED THE SIMPLEST & MOST EFFECTIVE HEIGHT LEVELLING STRUT EVER.

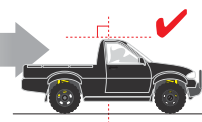
The TJM XGS Gold strut utilizes a unique multi-adjustable spring seat which can be adjusted for different vehicle springs/heights to effectively level the front end of the vehicle.



Factory Rake

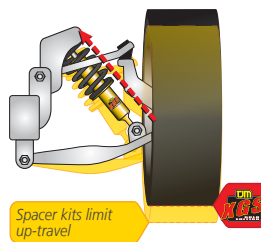


TJM XGS Gold
Multi-adjustable spring seat

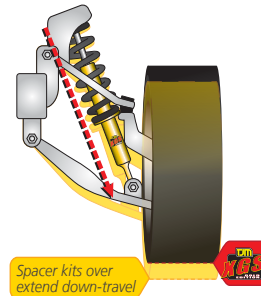


Corrected with TJM XGS Gold

Suspension up-travel (Bump)



Suspension down-travel (Droop)



TJM XGS Gold avoids problems found in spacer kits.

When strut spacer kits are fitted above the top mount assembly the shock assembly can bottom out before the lower control arm reaches the bump stop. This can possibly lead to major structural damage and/or complete shock failure.

TJM XGS Gold maintains complete up-travel (bump) to the original factory design.

When strut spacer kits are fitted above the top mount assembly it can create over-extended down-travel (droop) this over-extension can cause ball joint, CV joint and/or component damage.

TJM XGS Gold prevents over-extension whilst still providing an increase in overall wheel travel.

Struts available For:

Toyota Prado 90, 120 & 150 Series, Toyota Hilux 2005+, Toyota Landcruiser 200 Series, Toyota FJ Cruiser, Nissan D40 Navara & R51 Pathfinder, Mitsubishi Challenger, Mitsubishi NM-NP & NS-NT Pajero, Mitsubishi ML-MN Triton.

SHOCK ABSORBER

- › **Longer suspension travel**
Increased wheel articulation
- › **Up to 40% larger tube body**
Increased strength
- › **Up to 50% thicker tube**
To resist stone damage
- › **Increased oil volume**
Longer life
- › **Double welded mounts**
Increased strength
- › **Stronger tube welding**
Increased strength
- › **One piece mounts**
Increase strength



XGS Gold Edition

Machined one piece mounts for extra strength

Up to 40% thicker piston rod size

Up to 40% larger tube body

Increased oil volume for longer life

Up to 50% increase in tube thickness

Stronger welding on mounts doubling the strength

Higher density rubber for improved longevity



STEERING DAMPER

- › **Foam cell technology**
To resist shock fade & works at every angle
- › **Up to 50% larger tube body**
Increased strength
- › **Up to 50% thicker tube**
To resist stone damage
- › **Increased oil volume**
Longer life
- › **Stronger tube welding**
Increased strength



XGS Gold Edition

Easily replaceable bushes
Stronger welding

Enhanced valving system to control bigger wheels & tyres

Foam cell technology inside, which maintain absolute control during rapidly changing on & off road conditions

Up to 50% larger tube body

Twin tube construction

Up to 50% increase in tube thickness

Increased oil volume for longer life

Stronger welding on mounts doubling the strength

Stronger mounting system



YEAR 3 WARRANTY
50,000km



Seamless billet mounts

The strongest possible construction available.



18mm hard chromed shaft

Strong, hard to bend & tougher against Australian conditions.



Massive 40mm piston

The large internal bore assists performance.



9 stage external adjustment

With a simple adjustment it gives you the flexibility to suit varying terrains.



High performance viton seal

Smooth action and long lasting durability against leakage.



Next generation high density foam cell

Increased comfort and performance that is built to last.



Big bore 60mm external reservoir tube

For increased oil capacity, it improves heat dissipation and reduces shock fade.

TJM Tiger struts feature an adjustable spring seat for fine tuning ride height.

From the consistency of bitumen roads, to the rugged terrain encountered in the outback - TJM Tiger adjustable shock absorbers will provide unwavering performance for every situation, providing you with the ultimate control. Simply adjust for optimum performance to seize the track ahead.

Engineered and tested in Australia, you can share the confidence, control and raw attitude invested in each big bore, 9 stage adjustable TJM Tiger shock. For the complete terrain solution - TJM Tigers will tackle every situation with mastered precision.

TJM XGS leaf springs

TJM XGS leaf springs provide a significant improvement to your vehicle's load carrying ability, towing safety, ride comfort and directional stability.

TJM XGS quality leaf springs use high grade spring steel and are available for today's four wheel drive and tradesman vehicles. Off road, the improved flexibility of TJM XGS leaf springs result in better traction from increased wheel travel and ground clearance. Cutting edge design and manufacturing techniques produce a smooth riding spring. For most vehicles, the TJM XGS leaf springs are available in either medium or heavy duty load carrying capacities and for certain applications, TJM XGS suspension also provides a commercial range of leaf springs.



- ▶ **Precision moulded & die-formed:**
Ensures consistency to the design specifications.
- ▶ **Load rate tested:**
To ensure product meets our specifications.
- ▶ **Prestressed:**
To eliminate the possibility of sagging.
- ▶ **Accurately heat treated:**
To ensure product performance meets our requirements.
- ▶ **Quality assured:**
A strict quality program is adhered to throughout all stages of manufacturing.

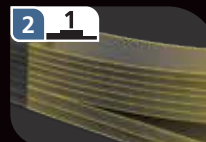
YEAR 2 40,000km **WARRANTY**



Military & ½ wraps* for safety

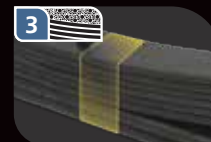
If the main leaf should break, the spring is retained in a drivable position.

*Where available



High strength spring steel

Used to maximise strength and improve the overall life of the leaf pack.



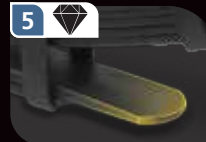
Graphite coated

Reduces friction for supple performance.



Bolt clips

Used for better rebound control. Bolt clip liners also reduce any chance of squeaks.



Tapered & diamond cut ends

Reduces inter-leaf friction and improves distribution of pressure.



Graphite grease

Lubricated with graphite grease in between each leaf to reduce friction and improve corrosion resistance.

See & feel the difference

Our new range of leaf springs offers increased strength, improved load carrying and added comfort.



TJM XGS coil springs

Springs are one of the hardest working suspension components in any vehicle, supporting the vehicle's weight, 24 hours a day. Often the original springs will fatigue and perform less than adequately with additional load or when used in extreme environments. TJM XGS suspension offers one of Australia's largest range of coil springs. Each spring is made to our exact specifications designed by local engineers and incorporate many unique design features to suit today's four wheel drives.

TJM XGS coil springs are available in linear and progressive designs. They come in various heights and load carrying capacities enabling the optimum suspension system to be achieved. TJM XGS coil springs are manufactured on computer controlled coiling machines, scragged before and after shot peening, load tested and supplied in a durable powder coat finish.



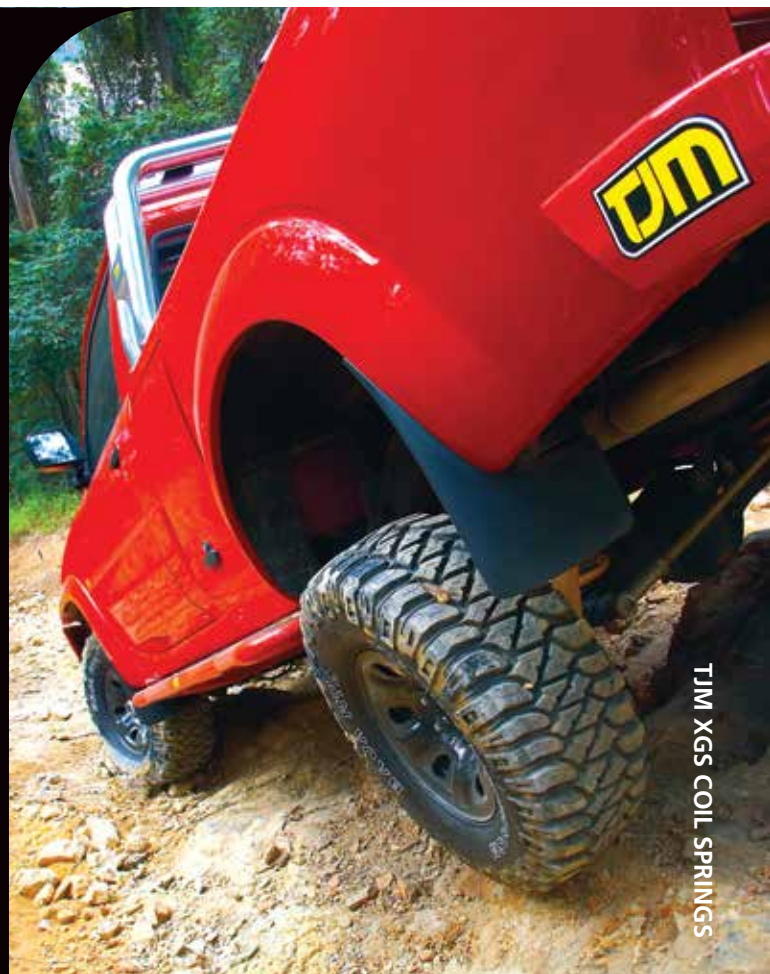
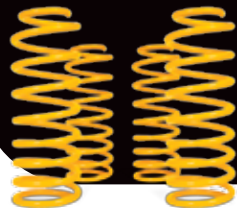
Linear coil springs

Linear or constant rate coils offer consistent spring rate in all situations. This coil spring design is suited to most 4WD vehicles to increase ride height and improve stability. They are ideally suited for installation to vehicles equipped with accessories such as steel bull bars and winch combinations.



Progressive coil springs

Progressive rate coils provide a smooth and comfortable ride when the vehicle is unladen, and improved stability and load carrying ability when the vehicle is loaded. Designed to increase the spring rate as the load increases, the vehicle displays less tendency to bottom out, thus improving ride comfort. It's an ideal solution for vehicles that carry weight periodically.



TJM XGS COIL SPRINGS

TJM XGS torsion bars

TJM XGS torsion bars have been designed to carefully match the complete XGS suspension range.

Torsion bars are designed to be used on the front of many two and four wheel drive vehicles. While providing excellent ride quality, some vehicles fitted with torsion bars may suffer in their ability to carry loads and nose-dive under braking which results in loss of ground clearance. TJM XGS torsion bars are available as an upgrade to improve a vehicle's load carrying ability and stability, both on and off road. TJM XGS torsion bars are often larger in diameter to the original unit, increasing spring rate which ensures ride height is maintained and vehicle handling both on and off the road is improved. To significantly improve your vehicle's suspension performance TJM XGS torsion bars work best when TJM coil or leaf springs are fitted to the rear of your vehicle.



- » Premium grade spring steel with an unobtrusive powder coat to avoid unnecessary attention and to protect against corrosion.
- » Hardened and tempered to exact specifications for improved ride and performance.
- » Drop forged ends are precision drawn for excellent strength and integrity.
- » Pressure rolled splines increases spline durability and allow precise fitment.
- » Preset and hardened which increase life cycle and prevent sagging.

1. TJM XGS greasable shackles

TJM XGS greasable shackles make the relatively messy and time consuming task of bush lubrication incredibly easy. A greased shackle pin greatly reduces friction and operating temperatures and prolongs the life of the bush. However, grease will dissipate over time and is therefore necessary to regrease. Standard shackles make this an arduous task but TJM XGS greasable shackles and pins allow the greasing of bushes without the need to remove the springs.

Available for most leaf spring vehicles, TJM XGS greasable shackles are heavy duty replacement components made to exacting tolerances and nickel plated for long service life.

2. TJM XGS u-bolts

When springs are installed on a vehicle, quite often the existing u-bolts are re-used, which could create a potentially dangerous situation. If the original u-bolt is re-used the pitch of the thread may be stretched and the u-bolt nut may loosen allowing the spring pack to become loose.

It is advisable to replace U-bolts when new springs are installed. TJM XGS u-bolts are matched in length to the TJM XGS leaf spring range to accommodate the increased stack height of the TJM XGS spring.

3. TJM XGS panhard rods

The purpose of suspension is to allow the wheels to move vertically with respect to the body, when raised height suspension is applied to some coil-sprung 4WD vehicles, the fixed length of the original front or rear panhard rod can cause the axle to shift, allowing it to move forward and backwards, or from side to side.

TJM adjustable panhard rods are designed to eliminate this problem by enabling you to set the rod to the most appropriate position for whatever suspension type or lift height your 4WD has.

4. TJM XGS castor correction kits & bushes

Raising the suspension height on certain vehicles can result in a reduced amount of positive castor. Reducing the castor angle is when the top of the steering axis pivot is tilted towards the



front of the vehicle or the lower steering axis pivot is tilted towards the rear of the vehicle.

Undesirable driving characteristics such as vague steering, understeer and straight line instability are common side effects of low castor. To permanently correct this TJM have developed a range of castor correction kits and bushes to suit many vehicles.

5. TJM XGS sway bar link pins

A sway bar in general terms is a torsion bar mounted laterally on a vehicle's suspension and chassis and is designed to reduce body roll. The sway bar transfers movement from one side of the suspension to the other. This is done through the connection of a torsion bar to each side of an axle by sway bar links.

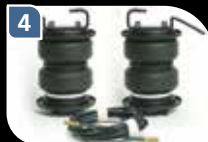
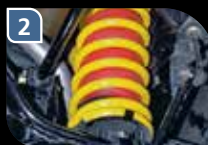
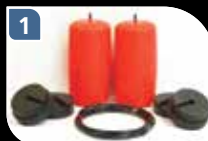
Extending the sway bar links is a common practice as this corrects the sway bar angle in raised vehicles. TJM have an extensive range of extended sway bar links to suit most popular model four wheel drives.

6. TJM XGS polyurethane bushes

The TJM XGS polyurethane suspension bushes offer longer life when compared to rubber bushes in their specific applications. They ensure positive location of suspension components leading to direct responsive steering, low maintenance and improved stability. TJM offers a wide range of bush kits including leaf spring, panhard rod and control arm bushes.

7. TJM XGS brake line extension kit

TJM XGS brake line extension may be essential when lifting your 4WD.



Optional pressure gauge 'in cab' adjustment kits and pressure gauges are available.

1. Air adjustability is the difference

Stiff steel factory suspensions must compromise between ride comfort and load hauling capacity. Smooth ride suspensions can't carry heavy loads; heavy springs ride rough, especially when the vehicle is unloaded.

Polyair adjustable air springs solve these problems by allowing you to tune your suspension under all load and road conditions. Just add air when towing or hauling and then remove air for a softer ride when unloaded.

2. Coil spring fitment

With coil springs, the Polyair unit is fitted into the coils. Hoses are attached with one end connected to each air spring and the other attached to a valve mounted on the vehicle to allow air pressure to be altered. A pressure increase of between 5 to 25 psi will give a load increase between 10 to 60%.

3. Leaf spring fitment

For leaf spring suspension, the air springs are supplied with their own auxiliary coil spring. One end of the air lift coil is attached to the leaf spring by the brackets provided, the other is bolted to the vehicle's frame. Hoses are then attached in the same way as on coil spring vehicles. Kits come complete with all necessary hardware, air lines, and valves. A pressure increase of between 5 to 25 psi will give a load increase between 10 to 60%.

4. Bellows fitment

For heavy duty applications on leaf spring suspension, the bellow air system is supplied with their own vehicle specific brackets and unique flex member bag designed to carry up to the GVM of the vehicle, while maintaining normal ride characteristics when unladen. A pressure increase of between 5 to 100 psi will give a load increase between 10 to 60%. All kits come complete with all necessary hardware and allows for individual adjustments.

TJM about us

Back in the 70's when 4WD's were few and far between, three adventure seeking mates got their 'off road thrill' with customised FJ40s, F100s & Rovers. Each fitted with custom made bull bars, roll bars and sand tyres – they drew the attention of friends and bystanders. Before long, Lloyd Taylor, Cliff Jones and Steve Mollenhauer were making hand-made custom bars for a growing number of fans. As the demand continued to grow, they decided it was time to get serious.

In 1973, with little more than their combined initials, shared passion and appreciation for quality products - TJM was founded and the rest is history. They were pioneers and TJM became the first company in Australia to manufacture and distribute quality 4WD equipment.

Our product range has extensively grown to include; steel and alloy bull bars, nudge bars, side and rear protection bars, side steps, trade racks, roof racks, TJM recovery equipment, TJM winches, TJM XGS suspension, Airtec snorkels, TJM Pro Lockers and TJM roof top tents & awnings.

While TJM has grown to be a sophisticated operation, we have never forgotten the key elements that resulted in the formation of the brand.

Trust; from the quality of manufacturing.

Pride; in our innovative designs.

Adventure; heading out from suburbia and experiencing the wonders of our unique and breathtaking country, Australia.

TJM Products Pty Ltd has made every effort for the information contained within this brochure to be correct at the time of printing. However TJM Products Pty Ltd reserve the right to alter any specifications and to alter the range of products stocked without notice. Always consult your local TJM distributor for the latest information on TJM Products and its specifications.

Discover other suspension systems on our website.