

PRO LOCKER



TJM **EQUIPPED**
ON AND OFF ROAD. WORK OR PLAY.

Pro Locker 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.

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WHEN A TOP EXTREME 4WD TEAM ADDED THE TJM PRO LOCKER TO THEIR ARSENAL, WE KNEW IT WOULD GET TESTED. AND THEN SOME.

To be tested anywhere in the Australian outback is challenging, but to be tested under 'extreme' competition conditions would leave most 4WD drivers shaking in their boots.

Luckily the TJM Pro Locker had been there before; 20 years before, again and again, as we researched and continued to improve its capability.

Today the TJM Pro Locker stands alone.

With an innovative air operated differential locker that, at the flick of a cabin switch, allows you to send equal drive to both wheels and the unique piston style actuator eliminates the risk of oil entering the airline.

With a unique one piece cross shaft (instead of the usual three) adding to its strength, as does the hardened thrust washers, 3/8 bolts holding the hemisphere together and larger pinion gears.

And with a separate pneumatic system that has no internal 'o' rings or oil seals adding to its operational simplicity and low maintenance, whether you're a hard core competitor or a weekend wheeler.





Wheel not providing drive

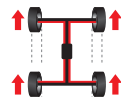


Wheel providing drive

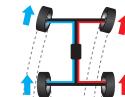


Transmission of torque

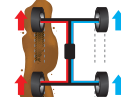
How a standard differential works



4WD in a straight line



4WD cornering

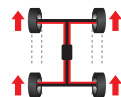


4WD on a slippery surface

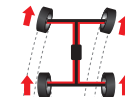
When a vehicle with four wheel drive engaged is driven in a straight line, the standard differentials in most vehicles allow equal transfer of engine torque to all four wheels. When the vehicle turns a corner, torque is delivered to the wheels that experience the least resistance. This principle ensures that the inside wheels will rotate freely and power is delivered to the outside wheel to prevent tyres from scuffing and wearing out prematurely.

Because the standard differentials transfer the torque to the wheels that encounter the least resistance, you will lose drive on loose/slippy ground or if one wheel is suspended in mid air. This becomes a problem as the wheel will spin and won't allow the wheel on firmer ground to drive the vehicle out of a situation.

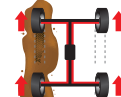
How a TJM Pro Locker works



4WD in a straight line



4WD cornering



4WD on a slippery surface

The operation of the Pro Locker differential is simple and straightforward. Utilising compressed air, the internal selector ring will engage the lock ring. Once the TJM Pro Locker is engaged it forms a solid link between the carrier and the side gears. The differential is now locked and will deliver equal drive to both axles. The vehicle that was once suspended in mid air can now have equal power delivered to the wheel on firmer ground and can be driven out of the situation.

Unlocking the differential involves the pressurised air being redirected through an exhaust port on the solenoid valve. The spring and the actuator pushes the selector ring back, which in turn pulls the locking ring back out of engagement with the side gear. The differential is now unlocked and the gears are free to differentiate as before.

Advantages of a TJM Pro Locker

- ▶ Unique air operated piston style actuator eliminates the possibility of oil being pumped up the airline
- ▶ Hardened thrust washers and the size of the locking ring make Pro Locker extremely strong in operation
- ▶ Contains stronger materials and a thicker carrier compared to most standard differentials
- ▶ Larger pinion gears are used in comparison to most standard differentials
- ▶ No carrier modification needed other than the drilling and tapping of a bulkhead fitting port
- ▶ Large pre-tensioned 3/8" bolts hold the Pro Locker hemisphere together
- ▶ Robust design equals less maintenance
- ▶ Reinforced rubber external hose extension is supplied as standard to minimize the risk of the airline being damaged by debris while driving
- ▶ Recessed coloured L.E.D. cabin switches show clearly when TJM Pro Locker is on or off
- ▶ Patented design that has been used and proven in the field for over 20 years



In 2005, TJM combined a renowned patented design with extensive testing and further engineering. Combining this with TJM's established production facilities resulted in the birth of the TJM Pro Locker.





1 Differential casing

High strength SG iron - these pieces hold the solid one piece cross shaft & 4 pinion gears together by 8 high grade bolts, making the TJM Pro Locker one of the strongest locking differentials on the market.



3 Flange cap assembly

TJM's extra thick flange cap features longer crown wheel bolts for extra strength. (where applicable).



4 Side locking gear

With extra large teeth & featuring a leading edge the TJM Pro Locker is one of the easiest to engage.



5 Pinion gears

Thicker than standard case hardened thrust washers that are perfectly shaped to the internal spider gears.



6 Lock ring

When activated the case hardened lock ring has a full 10mm of engagement over the side locking gear.



7 Hardened one piece cross shaft

This hardened one piece cross shaft is the key strength of the TJM Pro Locker.



8 Hardened selector ring

The all metal, hardened selector ring connects to the lock ring via 4 metal posts.



Actuator

The uniquely designed actuator works like a motor piston. The fork sits on top of the selector ring guiding it across when engaging or disengaging.



Heavy duty airline

This comes standard with the TJM Pro Locker. It will not pull out if hooked on rock or logs.



Solenoid valve

Designed especially for TJM. Sealed against dust & moisture to IP65 standards. Machined & anodised from billet aluminium.



Pro Locker switches clearly lit L.E.D.

switches are recessed into the switch block for protection against accidental engaging or disengaging of the TJM Pro Locker.



TJM released the Pro Locker into the market for a select few models and over six years on the TJM Pro Locker has endured intensive testing which has taken the already proven Pro Locker design and made it even tougher. Based on comparative advantages, there is no doubt the TJM Pro Locker is superior to any other locker available today.

Be assured, the TJM Pro Lockers combination of simplistic design with components of exceptional strength and quality will leave you satisfied with your choice for years to come.

Features

- › Ultra compact
- › Vehicle mounted
- › Powers up to two TJM Pro Lockers
- › Oil-less, non-lube piston & cylinder
- › Stainless steel & silicone valves
- › Light weight plastic components
- › Built-in check valve
- › Balanced, for smooth, low vibration operation
- › Long life, high performance PTFE compound piston seal
- › Integrate air intake
- › Dust & moisture resistant
- › Permanently lubricated motor shaft & connecting rod bearings
- › 180° of rotation adjustment allowing fitment in confined spaces

Performance data

- | | |
|--------------------|--------------------|
| › Voltage | 12 Volts DC |
| › Current draw | Full Load 14amps |
| › Flow rate | 26LPM |
| › Duty cycle | 20% or 12mins |
| › Maximum pressure | 120PSI |
| › Motor type | Permanent magnetic |
| › Thermal cut-out | No |



12 MONTH
WARRANTY





TESTIMONIAL

We have run the TJM Pro Locker for the last 6 years on 'Barbie' until we had three broken axles, one bad call on a track at Tuff Truck ended with three broken axles, one broken CV and two busted Pro Lockers. Having no spares we had no choice but to get help from other competitors with the "other brand" to keep competing.

With huge thanks to the team at TJM we were able to go back to where & what we started with way back in the beginning; two awesome lockers that have pretty much been to hell and back with us. Having competed not only at Tuff Truck for two years and with more than two years of Tough Tracks comprising of three rounds, two years of Superior All Terrain Challenge, again another three series round and at least three years of Xtreme Winch Challenge Series and two XI Extreme International I believe that these lockers have proven to be not just reliable but tough...

It was great to know that while we were at the 2010 Cliffhanger, when I threw those switch's on (sometimes even under pressure while moving) we knew that there would be no drama in the centre not locking, being that these are one of the simplest diff's to fit with far less moving parts to become an issue. Which I believe is a major benefit when having to rebuild or repair the diff out in the field... even if it is just to get home!

For any serious competition truck I would recommend nothing but the TJM Pro Locker. And knowing the strength and reliability that we have experienced over the years with the Pro Locker I would have no hesitation in recommending to any Weekend Wheeler.

Team Barbie | Aaron & Lynda Ward

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 XG5 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.



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