



TOUGH DOG

4WD Suspension

... Making Tracks

Across the World



Product Catalogue

www.toughdog.com.au



41mm Bore Foam Cell Shock Absorber

Features:

- 40mm internal bore
- 60mm outer casing
- 18mm chrome rod
- External wiper seal
- Multi lip oil seal
- Hi Temp synthetic oil
- Velocity Sensitive Valving
- Addition welds on pins and eye rings
- 2-Year / 40,000km warranty

The use of Micro-cellular foam inserts has produced a new breed of shocks, which are more resistant to fade. After heavy work, all shock absorbers, whether they are hydraulic, gas or foam cell shocks, show signs of fade or lack of damping force. However, Foam Cell shock absorbers are far more resistant to fade than other types of shocks. Tests have shown that foam cell shocks maintain almost optimum efficiency in conditions that can cause gas and especially hydraulic shocks to lose much of their dampening force. To understand how foam cell shock absorbers could produce such superior performance, we will look at the common causes of fade and how foam cell inserts affect shock absorber operation.

AERATION is the mixing of the oil with gas or air in the oil reservoir, i.e. the outside cylinder of the shock. This causes the oil to "FROTH", reducing its viscosity so that it passes more freely through the valving. This causes the shock to lose some of its damping force and the air bubbles passing through the valving causes the shock to operate unevenly and noisily. Also, when aerated, the oil is compressible. Instead of the oil being forced through the valving and into the outer cylinder, the action of the shock absorber compresses the oil within the pressure cylinder. When extremely aerated, a shock provides a cushioning effect rather than a controlled resistance to movement. This is loosely called "FADE".

CAVITATION occurs when the oil inside the pressure chamber starts to boil. This is due more to LOW pressure than to high temperature, although both contribute to cavitation.

The pressure drop is caused when the shock extends Rapidly, but the flow of oil into the pressure chamber is insufficient to fill the space left by the retreating piston and rod. A vacuum is created in the pressure cylinder and the oil begins to boil. Under low pressure, a liquid can in fact boil without heating, and this is what occurs when a vacuum is created inside a shock absorber- instantaneous boiling due to a sudden drop in pressure. The boiling of the oil produces air bubbles within the shock, which produces the same effects as aeration of the oil.

The FOAM CELL shock absorber performs with an almost negligible reduction in dampening force. To do this, it must virtually eliminate aeration & cavitation. How does it do this?. Quite simply. The foam cell insert occupies the space in the oil reservoir which in the case of hydraulic or gas shock absorbers would contain air or gas. While oil can mix with air and even pressurized nitrogen, it cannot mix with the foam. The foam used in shocks has tiny closed cells, which contain bubbles of gas. The oil inside the shock cannot mix with the gas bubbles inside the foam because they are enclosed inside the foam. Hence, no aeration and minimal cavitation for unrivalled resistance to fade.



40mm Bore Foam Cell Strut and Assemblies



Features:

- 40mm internal bore
- 60mm outer casing
- 18mm chrome rod
- External wiper seal
- Multi-lip oil seal
- Hi Temp synthetic oil
- Addition welds on pins and eye rings
- Velocity sensitive valving
- 2-Year / 40,000km warranty

The Tough Dog tradition of quality and reliability is carried on in our strut and strut assemblies.

Introduced to Tough Dog around 7 years ago, this shock has proven itself. With a 60mm casing for greater oil capacity and a 40mm internal bore, this shock has proven that it has the pedigree to take you to your destination and back again.

We fitted an external seal to wipe the rod clean BEFORE it hits the main seal thus offering an extra layer of protection. Foam cell technology means that the foam sleeve encapsulates gas bubbles and as the shock heats up the gas expands, placing the oil under pressure thus raising the boiling point of the oil so the shock performs longer. As the gas and the oil can not mix, there is no chance for the gas to dissolve into the oil and cause "fade".

ONE TOUGH SHOCK!

Available for:

Ford Ranger • Mazda BT50 • Mitsubishi: Challenger, Pajero, Triton
Nissan: D40 Navara, R51 Pathfinder • Toyota: Hilux, 95, 120 and 150 Prado, FJ Cruiser, 200 Series Landcruiser

COMPLETE STRUT ASSEMBLIES

Pre-assembled struts have been proven to be very popular as it will save you a minimum of one hour per side fitment time.

Range covers Mitsubishi (Pajero, Triton and Challenger) Nissan (D40 and Pathfinder) and Toyota (Hilux, 95, 120, 150 Prado, FJ Cruiser and 200 series Landcruiser) Ford (Ranger) and Mazda (BT50).





40mm Bore Adjustable Shocks

Features:

- 9 Stage Adjustment
- 40mm internal bore
- 60mm outer casing
- 18mm chrome rod
- External wiper seal
- Multi-lip oil seal
- Hi Temp synthetic oil
- Addition welds on pins and eye rings
- 2-Year / 40,000km warranty

The world biggest 40mm internal bore, 60mm external casing struts and shock absorbers with 9 stage adjustable settings, foam cell sleeve and valving that can be tuned to a softer or firmer ride (by just turning the adjustment knob) depending on whether you are taking your vehicle for an offroad or onroad drive, carrying a full load, towing something behind or just to suit your personal style of driving.

The large twin tube design will allow longer travel (which is very crucial in an off-road situation) and a bigger oil reservoir to reduce heat built-up that will lead to shock fade. The foam cell insert will eliminate foaming in the oil to give a constant performance under the most severe, tough and rough driving conditions.

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The built-in internal bump stop and striker head piston rod guide at the top of the shock will protect the top seal and prevent piston rod sway and damage when fully extended during rough off-road driving especially over undulating and steep terrains.

To make it short, Tough Dog Adjustable Struts and Shocks have everything that is required to give you a trouble free and worry free performance.



40mm Bore Adjustable Strut and Assembly



Features:

- 9 Stage Adjustment
- 40mm internal bore
- 60mm outer casing
- 18mm chrome rod
- External wiper seal
- Multi-lip oil seal
- Hi Temp synthetic oil
- Addition welds on pins and eye rings
- 2-Year / 40,000km warranty

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45mm Bore Adjustable Shocks

Features:

- 9 Stage Adjustment
- 45mm internal bore
- 70mm outer casing
- 22mm chrome rod
- External wiper seal
- Multi-lip oil seal
- Hi Temp synthetic oil
- Addition welds on pins and eye rings
- DU Bushing
- 2,4,5,& 6" shocks available
- 12 Months Warranty (over 50mm lift) (except for competition use)
- 2-Year / 40,000km warranty (up to 50mm lift)

Another 1st!!

Tough Dog 45mm bore, 9 stage adjustable shocks are the biggest bore, externally adjustable 4WD shocks on the market today.

Developed for 2" to 6" raised vehicles, these Big bore shocks are as TOUGH as they look. With a huge 70mm casing, there is no other adjustable shock that even comes close. Viton seals, external bump stops, 22mm chrome rod, extra welds on all studs and eyerings made this shock one mean shock.

Favoured by the offroad boys for it's strength and durability, this shock will get you to where you are going and back again.



45mm Bore Adjustable Strut and Assembly



200 Series Landcruiser

Features:

- 9 Stage Adjustment
- 45mm internal bore
- 70mm outer casing
- 22mm chrome rod
- External wiper seal
- Multi-lip oil seal
- Hi Temp synthetic oil
- Addition welds on pins and eye rings
- DU Bushing
- 2,4,5,& 6" shocks available
- 12 Months Warranty (over 50mm lift)
- 2-Year / 40,000km warranty (up to 50mm lift). Please see Tough Dog warranty sheet

Another 1st!!

Tough Dog 45mm bore, 9 stage adjustable struts are the biggest bore, externally adjustable 4WD strut on the market today.

With a huge 70mm casing, there is no other adjustable shock that even comes close. Viton seals, external bump stops, 22mm chrome rod, extra welds on all studs and eyerings made this one mean shock and the only shock for heavy duty extreme use.

The 200 Series Landcruiser has many application. From shopping trolley to off-road leisure machine to life saving Armour plated vehicle, Tough Dog has a suspension for all applications.

Armoured Vehicle Suspension



Tough Dog's Armoured Vehicle suspension is designed to work in the most extreme terrain.

Huge, 45mm bore, 9 stage adjustable front and rear shocks ensure you are in control. Coils that are engineered to complement the suspension package completes the setup allowing you to drive with confidence and safety.



Ralph

Features:

- 53mm bore
- 70mm casing
- 22mm Chrome Rod
- External wiper seal
- Multi-lip oil seal
- Hi Temp synthetic oil
- Addition welds on pins and eye rings
- Various Warranty conditions apply. Please see Tough Dog warranty sheet

Biggest Bore!
Biggest Chrome Rod!
Biggest Casing!

Born in a factory that makes shocks for 18 wheelers, Tough Dog Ralph shocks are the biggest 4WD shocks ever made. We took a prime mover shock and valved it for 4WD applications.

Biggest Bore - 53mm
Biggest Chrome Rod - 22mm
Biggest Casing - 70mm

No other shock can match these vital statistics.

There is so much oil in these shocks that they will run cool even under the toughest conditions and with a huge outer casing to dissipate heat you can drive all day long with confidence.

Made for Landcruisers, Nissan Patrols, Landrover Discovery and Defender, the Tough Dog Ralph ensures that you have a "big" shock for a "big" 4WD.



Nitrogen Gas Charged Shocks



Features:

- 35mm internal bore
- Nitrogen Gas Charged
- Hi Temp synthetic oil
- Velocity Sensitive Valving
- Addition welds on pins and eye rings
- 2-Year / 40,000km warranty

Tough Dog Nitrogen Gas Charged shock absorbers are designed for on-road and moderate off-road use.

Valved softer for small to medium 4WD's, these shocks are ideal for the 4WDer that spends a lot of time on road with moderate offroad useage.

Velocity Sensitive Valving,(VSV) works on size of vehicle, road surface condition and load carried. This determines the piston speed. The higher the piston speed the firmer the valving as more oil is forced through the orifice, the slower the piston speed, less oil is being forced so the ride is softer.

Nissan



Suzuki Vitara



Suzuki Jimny

- 40mm Lift Kit
- 60mm Lift Kit
- 80mm Lift Kit

- 4 x Coils
- 4 x Shocks
- 2 x Panhard Rods
- 1 x 3 Degree Castor Bush Kit
(Not required for 40mm Lift Kit)





Duty Damper. 35mm bore, great price and durability combine to make this damper a heavy duty, affordable replacement damper.



bilizer. Shake or Shimmy in your steering wheel? Just dial up the adjuster until it washes out. The only damper of it's kind where you available for most applications including 4, 5 and 6" lifts for Nissan Patrol and 80,100 series Landcruiser.



Stabilizer, (RTC) has a core principle, "For every action, there is an equal and opposite reaction" Newton's 3rd law of motion. This C is the reason that this product has won many awards and is still our biggest selling steering damper. A huge range is available.



Developed for 4, 5 and 6" lifts on Nissan Patrol and 80,100 Series Landcruiser.

Installing a RTC Steering Stabilizer



John Agostino accepting the "BEST NEW PRODUCT" award from 4WD ACTION magazine for the SV Adjustable Steering Stabilizer





Lift Kits Toyota 80/100 Series

PLEASE NOTE: Engineering certification may be required when fitting this suspension



4" Lift Kit Toyota 80/100 Series

Available options:

Coils:

TDC948/4 or TDC948/4H
TDC949/4 or TDC949/4H

Shocks:

BMX1002/4
BMX1111/4

Panhard Rods:

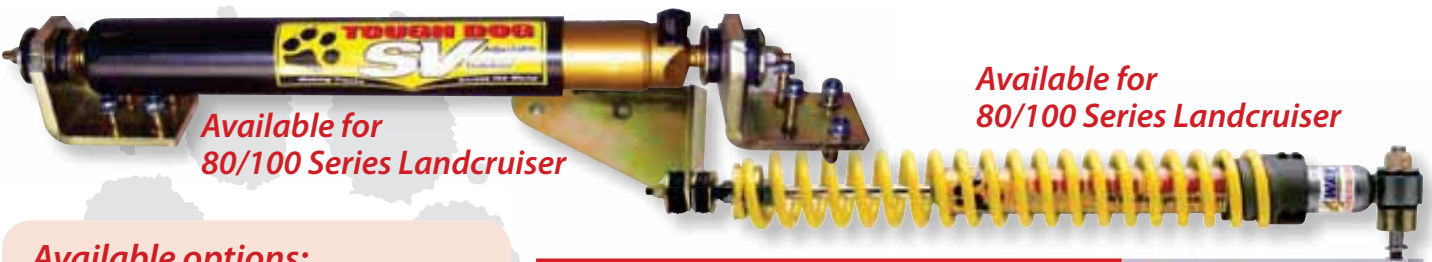
TDPR-006 and 007 - RHD
TDPR-001 - LHD Front

3 Degree Castor Bushes:

TDUK-054/3

Brake Hoses:

TDBH-003-Non ABS-Rubber 80/100 Series
TDBH-197-Non ABS-Braided 80/100 Series
TDBH-300-w/ABS-Rubber-80 Series
TDBH-200-w/ABS-Braided-80 Series
TDBH-398-w/ABS-Rubber-100 Series
TDBH- 198- w/ABS-Braided-100 Series



*Available for
80/100 Series Landcruiser*

*Available for
80/100 Series Landcruiser*

Available options:

Coils:

TDC948/5 or TDC948/5H - 5"
TDC949/5 or TDC949/5H - 5"
TDC948/6 or TDC948/6H - 6"
TDC949/6 or TDC949/6H - 6"

Shocks:

BMX1002/6 - 5 and 6" - Front
BMX1111/6 - 5 and 6" - Rear

Panhard Rods:

TDPR-006 and 007 - RHD
TDPR-001 - LHD Front

5 Degree Castor Plates:

TDCP-005

Brake Hoses:

TDBH-003-Non ABS-Rubber 80/100 Series
TDBH-197-Non ABS-Braided 80/100 Series
TDBH-300-w/ABS-Rubber-80 Series
TDBH-200-w/ABS-Braided-80 Series
TDBH-398-w/ABS-Rubber-100 Series
TDBH- 198- w/ABS-Braided-100 Series

5" and 6" Lift Kit Toyota 80/100 Series



Lift Kits Nissan Patrol GQ and GU



PLEASE NOTE: Engineering certification may be required when fitting this suspension



4" Lift Kit Nissan Patrol

Available options:

Coils:

TDC734/4 or TDC734/4H
TDC732/4 or TDC732/4H

Shocks:

BMX1047/4
BMX1206/4

Transmission Spacer Kit:

TDSP-004

Panhard Rods:

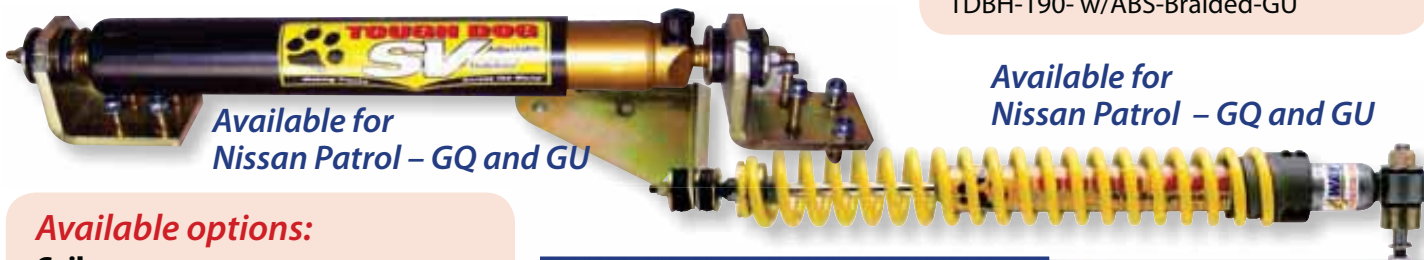
TDPR-004 and 005 - GQ - RHD
TDPR-012 and 013 - GU - RHD
TDPR-014 - GQ - LHD F (w/out ball joint)
TDPR-016 - GQ - LHD F (with ball joint)

3 Degree Castor Bushes:

TDUK-054/3

Brake Hoses:

TDBH-001-Non ABS-Rubber-GQ&GU
TDBH-194-Non ABS-Braided-GQ&GU
TDBH-390-w/ABS-Rubber-GU
TDBH-190- w/ABS-Braided-GU



Available for
Nissan Patrol – GQ and GU

Available for
Nissan Patrol – GQ and GU

Available options:

Coils:

TDC734/5 or TDC734/5H - 5"
TDC732/5 or TDC732/5H - 5"
TDC734/6 or TDC734/6H - 6"
TDC732/6 or TDC732/6H - 6"

Shocks:

BMX1047/4 BMX1206/4 - 5"
BMX1047/6 BMX1206/6 - 6"

Transmission Spacer Kit:

TDSP-004

Panhard Rods:

TDPR-004 and 005 - GQ - RHD
TDPR-012 and 013 - GU - RHD
TDPR-014 - GQ - LHD F (w/out ball joint)
TDPR-016 - GQ - LHD F (with ball joint)

5 Degree Castor Plates:

TDPC-005

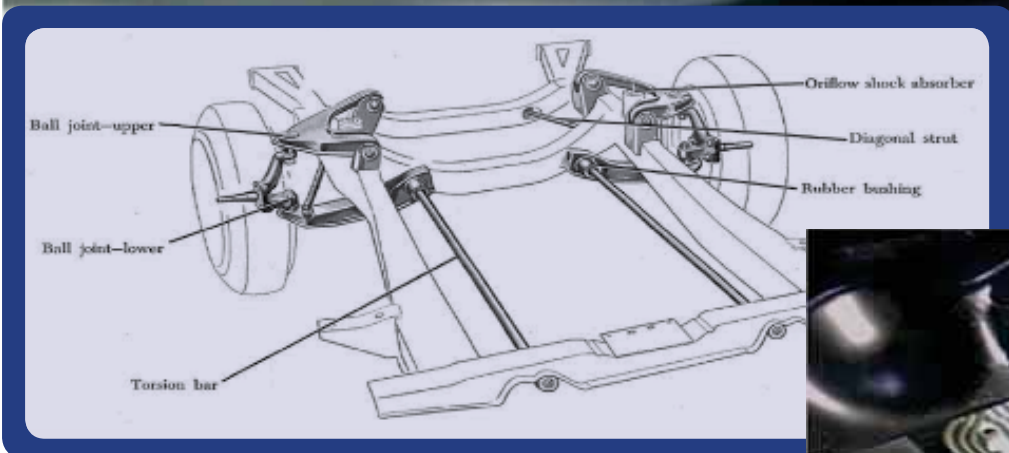
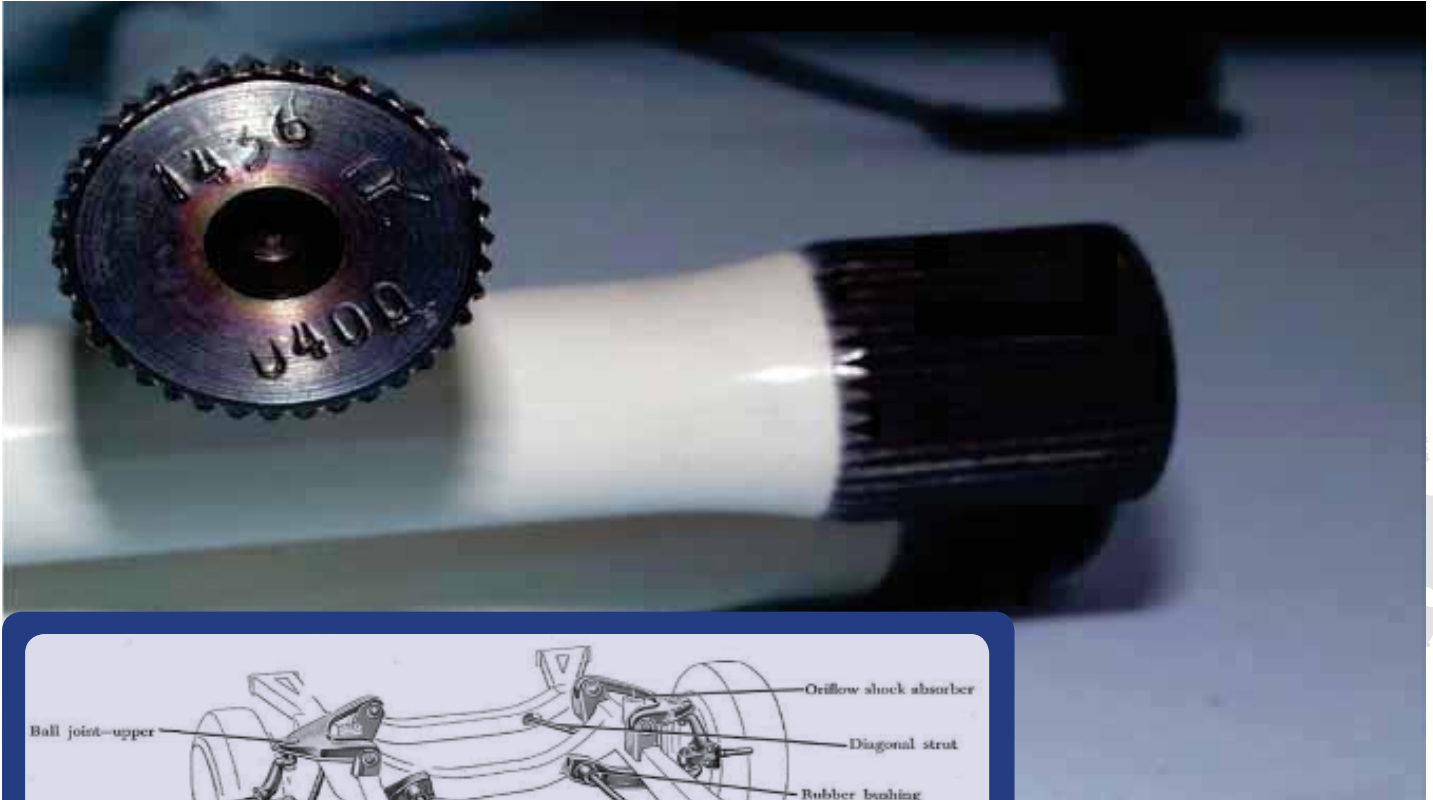
Brake Hoses:

TDBH-001-Non ABS-Rubber-GQ&GU
TDBH-194-Non ABS-Braided-GQ&GU
TDBH-390-w/ABS-Rubber-GU
TDBH-190- w/ABS-Braided-GU

Remember to
turn the drive shaft
around so the narrow
end is facing
the front

5" and 6" Lift Kit Nissan Patrol





Tough Dog Torsion bars are approximately 30 percent uprated to factory OE bars to prevent bottoming out and to carry a Bullbar and winch at a particular height.

The torsion bar extends from the front suspension to a point towards the rear of the vehicle, where it is bolted to the chassis with a bracket. This acts as the pivoting point for the torsion bar. The spring rate depends upon the length of the bar. The shorter and thicker the bar, the stiffer its spring rate.



4WTB-1610BKT
Strengthening kit for the 100 series Landcruiser

Associated Products



Urethane Bushes



U-Bolts



Greasable Shackles



HiLux Diff Locators



Adjustable King Pins



Coil Spacers



Brake Hoses – Rubber and Braided



Adjustable Camber Bolts – Vitara



3 Degree Castor Bushes



Nissan Patrol Transmission Spacers



Panhard Rods



Nissan Patrol & 80/100 Series Landcruiser 5 Deg Castor Plates



International "ACCO" cab mount



International "T Line" cab mount





Premium Pack Leaf Springs

Tough Dog Premium leaf springs are a truly progressive rate leaf spring. Each leaf is set slightly higher than the leaf above so there is contact along the whole length of the leaf.

There is "Single Stage" and "Two Stage" springs available for different applications.



When a load carrying capacity is desired, then a "Two Stage" leaf pack can be used. This will ensure that the vehicle rides on the 1st stage when empty thus ensuring a safer and more comfortable ride. And when loaded, the 2nd stage progressively comes into play, bumping up the spring rate and maintaining correct height. The 2nd stage section will also ensure that the 1st stage section does not become overstressed.

Each leaf is formed to a template, is oil quenched and tempered prior to being assembled. The spring is then Scragged and load tested, (turned inside out) to ensure that the spring retains it's height. Some springs have anti-friction pads inserted before assembly.



Tough Dog Coil Springs

X5K, is a new generation, high strength spring steel grade designed to withstand higher operating stresses with superior resistance to sag and improved toughness and corrosion fatigue properties. These properties are enhanced by the addition of Silicon, Chromium, Vanadium Nickel along with lower Carbon than conventional spring steel grades. This steel is of such high quality that it performs substantially better than other spring steel grades.

Tough Dog coil springs are Australian made. Most applications have two and three different spring rates available to cater for the lightest or heaviest vehicle.



One customer who did not upgrade his suspension prior to his trip found a novel way to stop his vehicle from sagging. He filled the rear coils with tennis balls!!!



Strut Tops



Toyota 200 Series Landcruiser TOY-1020



Toyota Prado 95 Series TOY-1081



Toyota HiLux and FJ Cruiser TOY-1083



Toyota Prado 120 & 150 Series TOY-1084



Mitsubishi Pajero MN-MT MIT-4038



Mitsubishi Triton ML MIT-4040



Ford / Mazda BT50 MAZ-4051



Nissan D40 Navara, Challenger and R51 Pathfinder NIS-3030

Replacement Strut Tops

Replacement strut tops are available for a wide range of vehicles that utilise a mini strut for their front suspension.

As new vehicles come on the market, Tough Dog will add these strut tops to their range. Manufactured to the highest quality standards and priced well below O.E equipment, Tough Dog replacement struts are the perfect, low cost replacement strut top. *Ask about our complete strut assembly option.*



Boom Spray Shocks

Tough Dog has supplied shock absorbers to the Boom Spray industry for over 20 years.

A variety of shock lengths and coil rates are available depending on your application.



Promotional Gear and Apparel



Window Poster 2 x 1.5mtrs
Part No: WIN215- Solid Vinyl
WIN216-Perforated Vinyl



300 x 900 Corflute Sign
Part No: Promo-007/1



600 x 900 Corflute Sign
Part No: Promo-007/2



300 x 600 Car Sticker
Part No: Promo-010



Paw Prints
Part No: Promo-005

Tough Dog Caps



Part No: TD-001



Part No: TD-002



Part No: TD-003



Stubby Holders
Part No: TD-007



Tough Dog Polo T-Shirt
Part No: TD-004
Available in S,M,L,XL,XX



Tough Dog T-Shirt
Part No: TD-005
Available in S,M,L,XL,XXL



Tough Dog Polo T-Shirt
Part No: TD-006
Available in S,M,L,XL,XX

Tuff Truck Challenge



Tough Dog Tuff Truck Challenge is an annual event held at Milbrodale in the Hunter Valley usually 2 weeks before Easter. This event which is held over the course of 3 days, attracts competitors and spectators from all over Australia. Suspension and tempers are tested to the limit with the navigator usually getting the short straw as demonstrated in the picture. Roll overs are spectacular to see and plenty of revs and tyre spinning usually keep the spectators in fine voice.





Bruce's Opinion

From the moment we drove out from the fitting bay, I knew there was something impressive underneath the 'Cruiser. They gave the 'Cruiser almost unmatched pitch balance front to rear that controlled the vehicle superbly where other shocks were simply unsettled. They were able to soak up the uneven ground with ease without ever letting the vehicle skip across the track. They gave a satisfying amount of confidence to the driver and always stayed predictable even across the roughest sections of the track. The balance of comfort inside the vehicle and driver control was ideal. Soft enough to soak up the rough stuff, while remaining stiff enough to give you plenty of confidence behind the wheel.

Distributed by:



Tested by **Bruce Garland**
Off-Road 4WD legend



4Way Suspension Products Pty Ltd
2a Bessemer St, Blacktown NSW 2148 Australia
Ph: 61-2-9672 8899 • Fax: 61-2-9672 8099
Email: sales@4waysuspension.com.au