

Bendix recommends seeking the advice of automotive professionals when undertaking any braking modifications.

**Bendix**

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## Media Release

### Bendix explains how popular 4x4 mods affect braking

Many 4x4s on our roads have been modified by owners looking to improve performance when touring, for extreme off roading or even just for aesthetics. Sometimes though, these 'upgrades' come at a cost to braking – here are three common modifications that will impact how well your vehicle stops.

#### **Bull bars**

In the case of a steel bull bar, owners could be adding 60-80kg to the very front of their vehicles, and this weight increases after fitting a winch and other accessories. The extra mass means more brake force is needed to slow down – stopping distances grow, and wear and tear on components such as brake pads and rotors increases.

#### **Larger tyres**

One of the first modifications that owners often make is fitting larger tyres to provide greater clearance and allow

them to choose more aggressive tread patterns to the OEM standard. While this is good in many off-road driving conditions, larger tyres (and more aggressive tread patterns), again adds weight and increase a wheel's rotational mass.

**“Upgrade kits give buyers all the benefits of Bendix’s individual components with added convenience and cost effectiveness.”**

Rotational mass refers to any components that rotate with the wheel assembly: tyres, wheels and lug nuts etc. The further away the mass is from the axis of rotation, the larger the rotational mass, and the greater the force that's needed to start and stop the assembly from rotating. Impact on braking performance includes longer stopping distance and reduced durability of braking components.

#### **Suspension lifts**

Suspension lifts are a 'go to' modification that allows fitment of larger tyres without fouling on the inner wheel wells, while also providing better articulation over rough conditions. For those who regularly tow, a lift can also help maintain a level

ride height and can counter the weight of accessories and payload, so the vehicle doesn't bottom out over rough terrain.

On the downside though, along with the benefits of added ride height comes a higher centre of gravity, which impacts handling including braking – the increased weight transfer to the front tyres leads to longer stopping distances and increased brake wear.

#### **Bendix solutions**

To combat these situations, Bendix offers a wide range of braking upgrades for most popular four-wheel-drive models, which restore – and in most cases exceed – OEM performance, even on vehicles that have been modified as mentioned.



*Larger diameter and heavier tyres add to a vehicle's rotational mass increasing braking distance and causing brake components to wear faster.*



*Bull bars and other accessories add weight to a four-wheel drive, while suspension lifts increase the centre of gravity. Some well thought out modifications increase off road capabilities, but often these 'upgrades' come at the cost of braking performance.*

### Disc Brake Pads

Upgrading brake pads is the easiest and most affordable way to improve braking. Bendix's Ultimate 4WD™ Disc Brake Pads are engineered for extreme conditions and hardworking 4WD applications; they also feature a high-tech ceramic formulation that provide low dust and noise and Bendix's advanced Mechanical Retention System (MRS) for improved pad attachment strength.

### Disc Rotor / Drum upgrade

A disc or drum upgrade is the next logical step for improving braking performance. Bendix's Ultimate 4WD™ Disc Brake Rotors feature four-wheel-drive specific metallurgy that increases rotor strength at elevated temperatures while also providing high wear resistance.

Other benefits include high efficiency cooling pillars that channel cool air into the rotor, expelling hot air faster and increasing resistance to thermal cracks. Additional performance comes from Bendix's Diamond Tip Slot technology which helps to expel gasses, dirt and water more efficiently from the rotor surface.

And for vehicles with rear drum brakes, there's the Ultimate 4WD™ Brake Drum Upgrade Kit which features High Carbon Metallurgy, SwiftFit protective zinc coating and Epoxy Coated Hub, which together provide greater stopping power and added durability.

### Complete Bendix Upgrade Kits

Upgrade kits give buyers all the benefits of Bendix's individual components with added convenience and cost effectiveness. Bendix offer several options including the Ultimate 4WD™ Brake Upgrade Kit (contains brake pads, rotors, braided brake hoses, brake fluid, Ceramasil lubricant, rotor wipes and more).

Then there's the Ultimate 4WD™ Big Brake Upgrade Kits, Bendix's premium package with larger diamond tip slot front rotors, powerful 6-piston front calipers (front kit), a rear drum to disc conversion and all the

associated parts required to complete the work (rear kit), along with Ultimate 4WD™ Brake Pads, braided brake hoses and the ancillary products listed in the standard Ultimate 4WD™ Upgrade Kit.

### Brake booster upgrade

For even stronger braking, Bendix also offers its ADR-approved Ultimate 4WD™ Brake Booster Upgrade for selected models; these can deliver up to 30 per cent greater stopping power, thanks to a dual diaphragm design which significantly reduces pedal effort.

Given the impact that common 4x4 modifications can have on braking and general vehicle dynamics, Bendix recommends enlisting the help of a reputable workshop when undertaking this work, and to strongly consider braking upgrades as part of the process.



*Bendix has a wide range of brake upgrades available along with comprehensive brake upgrade kits from its Ultimate 4WD™ range, helping to enhance the braking performance of modified four-wheel drives.*



### FOR MORE INFORMATION

Freecall the Bendix Brake Advice Centre on 1800 819 666 (8am-5pm Monday to Friday EST) or +61 3 5327 0211 from overseas. [brakeadvicecentre@bendix.com.au](mailto:brakeadvicecentre@bendix.com.au) [bendix.com.au](http://bendix.com.au) or [bendix.co.nz](http://bendix.co.nz)



\*Bendix brake components are appropriate for the purpose intended and if installed by qualified staff, to the vehicle manufacturer's specifications, can be used in logbook servicing.

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