

# Land Cruiser wet brakes for the mining industry

Axiom Hydraulics is the agent for Ausco Products' wet enclosed LC brake for the Toyota Land Cruiser, the mining industry's utility vehicle choice.

**T**he Toyota Land Cruiser is the vehicle of choice for mining, commonly used for moving people, maintenance teams and equipment or emergency response personnel. The toughness of the Land Cruiser is well proven. It is robust, relatively inexpensive, easy to maintain and enjoys excellent parts availability.

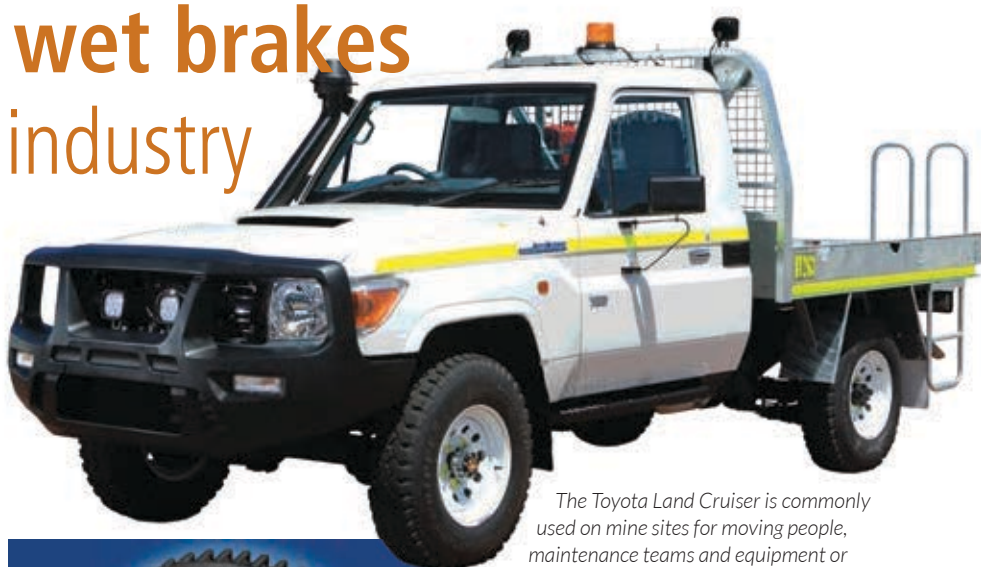
Unfortunately, the vehicle's OEM brakes are not built for mining, compromising safety while suffering frequent and expensive maintenance. Simply put, the brakes were never designed for use in the highly corrosive and abrasive mining world. The linings are exposed to mud, as well as acidic or salty water. The result is brake deterioration and wear. In addition, if the operator forgets to set the parking brake on a steep incline, or if the parking brake is inoperable – not an uncommon occurrence – vehicles can run away. Clearly, a better solution is needed.

Ausco's LC brake system is an ideal alternative. The LC brake is made by Ausco Products in the US. Ausco has a reputation as an expert in brakes for harsh environments and the company is the number one brake supplier to John Deere as well as being a major supplier to Caterpillar, JCB, CNH, Bell and others. Ausco manufactures more than 30 different brakes for underground mining equipment worldwide.

The Ausco LC brake is a sealed wet brake system. Similar to other off-highway equipment, the LC uses an oil-immersed, multi-disc brake design. To minimise maintenance and maximise safety, Ausco recognised the need to keep the environment out of the brake and the need to keep the brake cool.

To keep the environment out, Ausco uses its mine-proven double grease barrier sealing system. Ausco's experience shows that this is the only sealing system that reliably prevents water and contamination intrusion in mining. Moreover, not only does Ausco's seal design protect the brake, it also protects the axle, as many customers report a dramatic drop in wheel bearing and differential repairs when the LC brake is used.

To keep the brake cool, the LC brake uses an internal cooler that suppresses oil temperatures even in the heaviest braking con-



*The Toyota Land Cruiser is commonly used on mine sites for moving people, maintenance teams and equipment or emergency response personnel.*



*Ausco invented the spring-applied, hydraulically released, multi-disc brake and, through Axiom Hydraulics, is making its sealed wet brake system for Toyota Land Cruiser mining vehicles available in South Africa.*

ditions. The internal cooler allows the brake to be used at highway speeds, an important feature when a Land Cruiser is required to drive both underground and on-road, when used as an ambulance, for example.

The LC features both service and failsafe braking. The service brake works with the OEM master cylinder and booster without the need for intensifiers or other modifications. The failsafe brake insures that the brake automatically sets to prevent runaways.

The unit comes pre-assembled, ready to drop in and bolt into place. No vehicle modifications or heavy lift equipment are needed for installation or service. The system includes a hose kit that comes with stainless steel lines, pre-bent for easy installation. The LC braking system is designed to enable 30-minute brake replacement for minimal downtime.

The LC system also includes a sealed, stainless steel pump pack. The pump kit includes Ausco's patented tow mode, which allows the operator to safely release the failsafe brakes for towing. No jumpers or hand pumps are required, and the system automatically returns to normal operation upon engine start up.

In two recent studies at South African mines, the LC brake outlasted a competi-

tive product by 17:1, lasting 34-36 months compared to the competitor's two-month life.

The Ausco LC brake for the Toyota Land Cruiser is approved for both mining and on-road use in South Africa and has SABS 1589 and ECE R13.08 approval. It is locally available from Axiom Hydraulics' Johannesburg facility. □

## Ausco wet enclosed LC brake features

### Simpler:

- Drop-in and pre-assembled design: bolts to existing knuckle in one piece.
- Uses Toyota OEM master cylinders.
- Lightweight anodised housing to reduce wear on CV joints.
- Removable slave cylinder enables servicing without bleeding the systems.
- Uses widely available Cat TO4 oil.

### Safer

- 4-wheel parking makes for safer emergency stops with less driveline damage.
- Aluminium housing for faster cooling, less fade and longer life.
- Double 2-Stage Technology offers excellent pedal feel for smooth stopping.
- Exceeds many mining safety standards.

### More cost-effective

- High-energy metallic linings for longer.
- Internal cooling chamber for more effective cooling, low maintenance and less downtime.
- Dual grease barrier sealing prevents ingress and reduces wear rates.
- Proper running clearance for operation at higher speeds.