



Sealed Integrated Brake System

Reliable, low-maintenance and safe wet brake systems



SIBS® IV Wheel End Brakes for Light Commercial Vehicles

A failsafe brake system for vehicle fleets with demanding applications

Vehicle Range:

SIBS[®] IV Wheel End Brakes can be fitted to a wide range of light commercial vehicles:

- Toyota Landcruiser 70 Series & 100 Series
- Toyota Hilux
- Isuzu NPS 300

They can also be easily adapted to a range of other manufacturer's models.

SIBS[®] IV Brakes:

SIBS® IV Brakes consist of a single brake rotor and unique grooved brake pads, all immersed in a sealed oil-filled housing. SIBS® IV Brakes experience minimal wear due to their low operating temperatures and the exclusion of foreign abrasive and corrosive materials. This means more reliable brakes, less vehicle maintenance, improved vehicle availability and an overall safer brake system.

SIBS® IV Wheel End Brakes are fitted with a "spring applied hydraulic release" park brake system functioning as an integrated Park and Emergency Brake. This brake is automatically fully applied when:

- The E-Stop button is pressed,
- The engine key is turned off, or
- A vehicle door is opened

This system ensures that the vehicle cannot roll away unexpectedly (uncontrolled vehicle movement) – a feature that provides an unprecedented level of safety for vehicle operators and site personnel.

SIBS® IV Brakes reduce vehicle operating costs, improve brake reliability and significantly enhance vehicle safety.

Standard vehicle park brakes are notoriously unreliable due to their high wear rates.

Key Components of the SIBS[®] Brake:

The SIBS[®] brake for Light Commercial Vehicles consists of the following key components:

Wheel End Brake Assembly:

- A fully enclosed wet brake assembly that replaces the standard brake rotor (or drum) and brake calliper assembly
- Can be fitted to the rear brakes only or to all four wheel ends
- Includes a "spring applied hydraulic release" system. Hydraulic pressure from the EMMA Pump is used to overcome the force of disc springs contained within the rear Wheel End Brake Assembly. When the hydraulic pressure is released the park brake applies automatically

EMMA Pump Module:

• An electrically operated hydraulic pump module that is used to pressurise the park brake system integrated into the rear wheel end brakes. The hydraulic pressure is used to release the park brake.

SIBS[®] IV Control Box:

 A dash mounted control box used to control the application of the park brake. The control box also applies the park brake if one of the safety interlocks is activated (door opened, key turned off).

Operating the SIBS® IV Wheel End Brakes

- The vehicles standard brake pedal, master cylinder, load proportioning valve and brake lines are retained
- Operation of the service brake is transparent to the vehicle driver

Operation of the Park and Emergency Brake:

- The vehicle's original park brake lever, cables and park brake are completely removed
- Operation of the park brake is now controlled by an E-Stop button on the vehicles dash. The E-Stop button is simply depressed to apply the park brake. The park brake is released by resetting the E-Stop button





Wheel End Brake Assembly

EMMA Pump Module



SIBS® IV Control Box

Product Features

Reliable service and park brake systems:

- The brake calliper, rotor and brake pads are fully enclosed and protected in an oil-filled housing This completely protects the brake from contamination and reduced brake component temperatures virtually eliminate brake component wear:
 - This results in a very reliable service brake and park brake as there is no deterioration of the critical brake system components.
- The "spring applied hydraulic release" park brake ensures that the park brake is fully applied every time:
 - Coupled with the low wear of the brake components this means that the vehicle is reliably restrained every time. There is no longer any need for vehicle chocking.

Low maintenance requirements:

- Minimal maintenance is required as all the key brake system components are now enclosed and protected in an oil-filled housing.
 - The reduction in maintenance costs and vehicle downtime quickly overcome the initial capital outlay for the SIBS[®] IV Brakes.

Improved safety:

- The extremely low wear rate of the brake means that the service brakes and park brakes perform properly every time
- The brake system components are enclosed in a robust housing – they are not exposed to contaminants or corrosion that might otherwise lead to deterioration of the brake performance
- The "spring applied hydraulic release" ensures that the park brake is fully applied each time, eliminating the potential for partial application of the park brake – a significant risk for "uncontrolled vehicle movements"

- The park brake is electronically interlocked to ensure the park brake is applied every time the engine is turned off or a door is opened. This eliminates the risk of the park brake not being applied when the driver gets out of the vehicle
- The park brake is "fail safe" in other words if there is a component failure in the brake system the park brake is automatically and fully applied. This is unlike conventional Light Commercial Vehicle brake systems where a failure in the brake system may result in vehicle run-away.

Brake Installation

SIBS[®] IV Brakes are designed to replace the OEM dry brake system on light commercial vehicles and trucks.

Installation Manuals:

 ABT supplies a comprehensive manual for each SIBS[®] brake. This manual describes the brake installation process and the maintenance procedures.

Training and Certification:

 ABT provides training for customer's fitters in SIBS[®] brake installation and maintenance procedures. Fitters who complete this training are issued with "Certificates of Competency" to ensure that the brakes are installed and maintained according to the SIBS[®] Manual.

Brake Maintenance

- Standard vehicle dry brakes can experience very high wear and corrosion rates when used on mine sites. This can lead to very high maintenance requirements to maintain the vehicle with fully functional brakes. This impacts on vehicle availability and high maintenance costs (labour and parts).
- SIBS[®] IV Brakes are fully enclosed in an oil-filled housing. The very low brake wear rate means that the only regular service requirement is SIBS[®] oil replacement. This typically lines up with the engine oil change interval.

	SIBS [®] IV Brakes	Standard Brakes
Minor service	Replace SIBS [®] oil and check system – Under ground use – Monthly – Above ground use – 5,000km	Replace worn brake pads Replace worn rotors Adjust park brake Replace corroded brake callipers
Major service	System overhaul and general inspection every 2 years	System overhaul and inspection as required

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