SIBS® Driveline Braking System
Operator Manual
## Revision History

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<th>Author</th>
<th>Comments</th>
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1. Important Information

1.1 About This Manual

This manual applies to the Sealed Integrated Braking System (SIBS®). The manual details how to operate the SIBS® system correctly to ensure optimum safety and performance. While every effort has been made to address all aspects of operation, please advise Advanced Braking of any omissions or suggestions on how this manual may be improved.

1.2 Web Page

The most up to date version of the manual can be obtained by contacting ABT Customer Service Manager or downloaded from the web page: www.advancedbraking.com

1.3 Ownership

The SIBS® and EMMA™ Trademarks are owned by Advanced Braking Pty Ltd.

1.4 Contact Information

Street Address: Advanced Braking Pty Ltd
Unit 1, 3 McDonald Street West
Osborne Park WA 6017
AUSTRALIA

Postal address: PO Box 1177
Osborne Park WA 6916
AUSTRALIA

E-mail: sales@advancedbraking.com

Website: www.advancedbraking.com

Phone: +61 (08) 9273 4800

Fax: +61 (08) 9201 9986
2. Terminology

<table>
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<tr>
<th>Term</th>
<th>Description</th>
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<tr>
<td>ATF</td>
<td>Automatic transmission fluid</td>
</tr>
<tr>
<td>Driveline brake</td>
<td>Single brake unit acting on the rear axle differential</td>
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<tr>
<td>Emergency brake</td>
<td>Brakes automatically applied in an emergency</td>
</tr>
<tr>
<td>EMMA™</td>
<td>Electronically Modulated Mechanically Applied</td>
</tr>
<tr>
<td>Park brake</td>
<td>Brakes applied independently of the service brake</td>
</tr>
<tr>
<td>SIBS®</td>
<td>Seal Integrated Braking System</td>
</tr>
<tr>
<td>SIBS® cooling fluid</td>
<td>Specially formulated cooling fluid for use in SIBS® brakes</td>
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3. SIBS® Control Box

Figure 1: SIBS® control box.

3.1 Standard Operation

The EMMA™ park brake is engaged and released via the red “operator button”.

- To engage the brake, push the red “operator button”.
- To release the brakes, twist the red “operator button” clockwise, approximately 15° and allow it to spring outwards.
- The hydraulic pump will then activate and release the park brake.
The brake is intended as an emergency brake only for use in the event of a service brake system failure. The system is not designed as an additional service brake. The system does not replace the vehicle’s park brake.

Do not perform more than one emergency stop from 40 kmph or more every 20 minutes as the brake may overheat.

The SIBS® emergency driveline brake system is primarily designed for “off highway” use. Whilst it is possible to operate the brake at highway speeds without damage, unintended application of the brake will rapidly and effectively arrest the vehicle. ABT recommends that the brake is disabled for highway use by installing the supplied retractor bolts. This recommendation applies to delivery of the vehicle to site and any other extended “on highway” use. Refer to “MAN-028 SIBS® Service Manual – Driveline Braking Systems” for the procedure to disable the brake.

Applying the SIBS® driveline brake activates the inter-axle differential lock. For this reason the SIBS® brake must be released prior to driving, even when disabled with retractor bolts.
3.2 Emergency Operation

Emergency operation of the EMMA™ brake will occur in the following scenarios:

- Red “operator button” is pushed
- Electrical power is lost
- Hydraulic pressure is lost
- Ignition is switched off
- A door is opened

**NOTE:**

The door interlock is an optional feature.

The LED indicator light will be extinguished when an interlock has been activated. The system must be reset to disengage the brake:

- Ensure the ignition is switched to the ‘ON’ position.
- Ensure all doors are closed.
- Push the red "operator button”.
- To release the brakes, twist the red “operator button” clockwise and allow it to spring outwards.
- The brake will now return to standard operation mode.
3.3  Momentary Release Operation

If the vehicle brakes need to be released when no ignition key is available the momentary release procedure can be used:

- Push and hold the “momentary release” button
- While the “momentary release” button is depressed the park brake can be released using the red “operator button”.

![Momentary release button](image)

Figure 2: Momentary release button.

**NOTE:**

The brake will automatically re-apply as soon as the “momentary release” push button is released.

The momentary release is an emergency override function only.
3.4 Display Interface

When the **GREEN LED** is **ON** the brakes are **RELEASED**.

Figure 3: Brake released indication.
When the LED is **OFF** a brake interlock has been activated. The system must be reset to return to normal operation.

Figure 4: Brake transition indication.
When the **RED LED** is **ON** the brakes are **APPLIED**.

![Image of brake applied indication](image)

**Figure 5**: Brake applied indication.
Pre-Start Check

The prestart check involves a quick check of the fluid levels and confirms proper brake system operation.

4.1.1 Check EMMA™ reservoir level; if low, top up with automatic transmission fluid and check system for leaks.

**IMPORTANT:**

<table>
<thead>
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<th>![Warning Symbol]</th>
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<td>Use only automatic transmission fluid (ATF Dexron III) for the EMMA™ pump.</td>
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Figure 6: EMMA™ pump.

4.1.2 With the doors closed, ignition switched to ‘ON’ position, press the E-stop button:

a) The “red” light on the SIBS® control unit should be on.

b) The park/emergency brake should be applied.
Pre-Start Check

4.1.3 Twist and reset the E-stop button:
   a) The LED light will change to “green”.
   b) The park/emergency brake should now be released.

4.1.4 Check the park brake applies when:
   a) The E-stop is pressed.
   b) The door is opened (if function installed).
   c) The ignition is switched to the ‘ACC’ position.

**NOTE:**
The E-Stop must be pressed and then reset between each test.

4.1.5 Check the service brake (foot brake) firmly applies the brake.

4.1.6 Drive the vehicle at 10 kmph. Press the E-stop button. The vehicle must stop within 5 metres or within 3 seconds.

**IMPORTANT:**
The dynamic brake test should be conducted on a loose surface (gravel or similar).

The dynamic brake test should be used as an indication of correct brake function only. The test does not give an indication of pad wear. Normal service intervals as described in this manual should be followed.
5. Notes