



## **WABCO TRAILER EBS INSPECTION & SERVICE PROCEDURES**

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**"Safety - Technology - Support"**

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## Additional Driver's Daily Tasks

- Make sure that the trailer ABS/EBS connector is plugged in and locked into place.
- Confirm that the connectors between multiple trailers are also plugged in.
- Switch on the ignition and observe the ABS warning lamps.  
The Trailer ABS lamp should light up for approximately 2 seconds and then go out.
- If the trailer warning lamp does not switch on, please perform a cycle test. This is done by turning the key to the ignition indent and listening to the trailer ABS valves. They will click in sequence if the power supply is present and the faulty warning lamp must be reported. If there are no clicks then the trailer ABS power must be checked and repaired.
- If the trailer warning lamp remains on you perform a driving check by exceeding 7 km/h. If the lamp remains on after this driving check then there is an active fault in the system that will need repairing. This must be reported and repaired as soon as possible.

Please note that the trailer brake systems on these trailers are the most advanced available. This technology includes electronic brake application, load-proportioning and Roll Stability Support (RSS). The RSS system will intervene from time to time which may cause some irritation however this system may prevent an accident or roll over. This technology is about to become mandatory in all countries using the UNECE brake code and ultimately will be mandated in Australia.

The most common failures are due to power supply and sensor failure.

Please report any dirty, damaged or corroded ABS connectors.

Do not force any connectors that do not have matching keyways.

Sensor faults need to be corrected by a workshop as explained on the following pages.

Please report any braking issues and warning lamps to your service department.

# Technical Service Bulletin

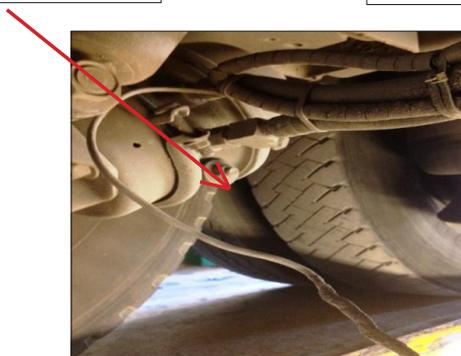
## Wheel Speed Sensors- Service and Maintenance

### General Description

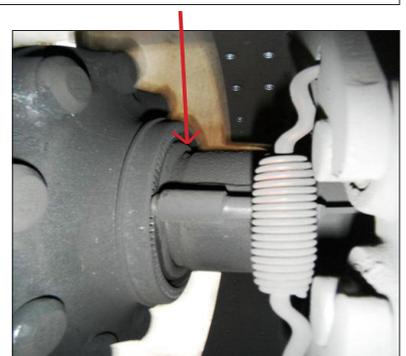
The wheel speed sensor is an electro-magnetic device used to obtain vehicle speed information for an ABS or EBS controller (ECU). When the wheel rotates, the sensor and exciter (pole) ring generate a simple AC signal. This signal is sent to the ECU system accordingly. The sensor is available in both straight and right angle versions to accommodate axle/wheel space limitations.



Example of a damaged sensor cable:



Example of a correctly installed Sensor



## Inspection Procedures

The wheel speed sensor is a critical factor in ensuring the ABS/EBS system is operating to its full capacity. It is the most common in field service issue when it comes to faults being activated via the warning lamp. Once a cable has been damaged or the air gap between the sensor and exciter (pole) ring has become too big the warning lamp will be activated and repairs must be undertaken to rectify and clear the fault/s.

### Service Intervals

If you are running a fleet of ABS or EBS equipped trailers we recommend that the following inspections be made at every A or B Service:

#### Check all Sensor cables for damage:

- If the sensor cable is damaged it must be replaced using same genuine part number (marked on the cable).
- Remove and discard the old spring clip from the sensor bushing and fit new spring clip with the new sensor.
- Apply the lubricant supplied in the replacement kit to the sensor spring clip, sensor and in the bore of the sensor bushing
- Push the sensor completely into the sensor spring clip until it contacts the exciter (pole) ring.
- If the Sensor cable has not been damaged or broken then the sensor should be gently pushed back into place until it bottoms out on the face of the ring. Upon revolution of the rotor the sensor will automatically adjust to its desired gap.

NOTE: After installation, there should be no gap between the sensor and toothed ring. During operation, a gap of up to 0.07inch is allowable.

### EBS Diagnostics

- All EBS equipped trailers should have the diagnostic memory for service faults cleared using the appropriate software programs at every A or B service.
- Live "Red" must be fixed immediately as the EBS system may not be operating to its full function.
- Memory "Blue" faults must have the memory cleared to ensure the system is clear of all history faults.
- Fault reports should be saved as a PDF document for future reference.

The screenshot displays the WABCO diagnostic software interface. On the left, there are three panels for ECU data:

- ECU DATA TEBS-E:** Device number: 481 102 031 0, Production date: 2007-03-17, Serial number (ECU): 48625348, Serial number (modulator): 000050280214, Software version: TE000502, Diagnostic id: 08020500 (E2.5), Odometer reading: 87345.5 km, Trip reading: 356.7 km, Operating hours: 159139h 44min, ECU type: Premium, Next service at: 100000 km.
- ECU DATA ELEX:** Device number: 481 102 031 0, Production date: 2007-03-17, Serial number (ECU): 48625348, Software version: E0101122, Diagnostic id: 7C000200.
- ECU DATA TRC:** Device number: 481 102 031 0, Production date: 2007-03-17, Serial number (ECU): 48625348, Software version: E0101111, Diagnostic id: 7F010200.

The central area shows a wiring diagram of the air brake system with various pressure points labeled: 1.2 bar, 7.7 bar, 4.4 bar, 2.4 bar, and 2.2 bar. A diagnostic memory window is open, showing a 'Wear sensor' message with a sun icon and the text 'see note'. The window includes buttons for 'OK', 'Cancel', 'Help', 'Info', 'Additional data', 'Clear diagnostic memory', and 'Refresh'. Below the message, there is a section for 'Additional information' with the following details:

Path:	75
Type:	12
Priority Level:	5
Counter:	17
Duration:	
Number:	

At the bottom of the window, there is a section for 'Information about the message selected above':

At least one brake pad is worn. Check linings and wear sensors and replace if necessary. It is also possible that the cable is not connected or defective.

For further technical assistance and advice please contact **Air Brake Systems**  
**E:sales@airbrake.com.au Ph:02 94821733 Fax:02 94761828 www.airbrake.com.au**

**Notes:**

This is a generic service schedule for trailers equipped with WABCO EBS. Please check the OEM maintenance schedule for additional service items for the equivalent kms.

“A Service” to Coincide with Truck “A & B Service”

“C Service” to Coincide with Truck “C Service”

\* For Wear Tolerances, Refer To N.R.T.C Heavy Vehicle Roadworthiness Guidelines

<b>Date</b>		<b>Make / Model</b>	
<b>Fleet Number</b>		<b>Service Providers Trading Name</b>	
<b>Registration Number</b>		<b>Service Technician Name</b>	
<b>Hub Meter Reading</b>		<b>Service Technician Signature</b>	
		<b>Workshop Managers Signature</b>	

X Carried out – without Comment      1 Action Recommended      2 To be rectified immediately      - Does not apply

A SERVICE			C SERVICE		
1	Lubricate Chassis		1	Lubricate Chassis	
2	Check and adjust Brakes		2	Check all Lights	
3	Check all Lights		3	Check functioning of Park Brake	
4	Check functioning of Park Brake		4	Remove and check wheel bearings re pack or replace	
5	Check wheel bearing for excessive free play		5	Check rocker / hangers for cracks and wear	
6	Check suspension		6	Check for broken Springs and U Bolts	
7	Check Chassis and cross members		7	Check radius rods, bolts and bushes	
8	Check condition and secureness of all air hoses		8	Check Air Bag Condition and ride height	
9	Check all EBS power plugs and sockets to ensure fit for purpose		9	Check all EBS power plugs and sockets to ensure to fit for purpose	
10	Check all EBS cables and connections for damage		10	Check all EBS airlines and connections for damage	
11	Visually inspect EBS wheel end sensors for damage		11	Visually inspect EBS wheel end sensors for damage	
12	Check of tyre wear and wheel nut indicators for alignment		12	Check of tyre wear and wheel nut indicators for alignment	
13	Check and inspect spring brake chamber for damage		13	Check and inspect spring brake chamber for damage	
			14	Check for cracked axles	
			15	Check chassis and cross members	
			16	Check and adjust brakes	
			17	Record brake lining thickness from front to back	
			Right		
			Left		
			18	Check King pin for wear and tightness	
			19	Check skid plate for wear and cracks	
			20	Check for loose or cracked wheels, broken wheel	

### Donkey Motors

- 1 Change engine oil & filters every 250 hours
- 2 Change fuel filters every 250 hours
- 3 Check and replace air filter if required (every 6 months)
- 4 Check & adjust clutch
- 5 Remove covers & check all fuel lines for leaks
- 6 Replace all covers
- 7 Inspect engine, engine mounts and exhaust system
- 8 Run & test the operation of engine & clutch

No.	Action – Description
	If Trailer EBS Warning Lamp is on, trailer needs to be inspected for immediate fault rectification. Failure to do so puts trailer in risk as brakes maybe running as redundant and not fully operating the trailer EBS system.
	The EBS system should be diagnostically checked via lap top software- to clear out any memory faults or live faults. Operating reports can also be downloaded if required. (Every 3 months)