

# OPERATOR'S GUIDE



**EB+** Info Centre



Innovative Vehicle Solutions

## Notes on the use of this manual

This manual has been designed to assist personnel in satisfactorily operating the Haldex EB+ Info Centre on trailers.

This manual is based on the EB+ Info Centre using software release G548 (G585 with TPMS from mid-2011) or higher. If previous versions of software are being used, some of the functionality and menus will be greyed out and not usable. Refer to "Information / Trailer / ECU version" on page 37 to check the installed software release.

The intention has been to illustrate the various areas of operation. It is expected that this manual will be in possession of the appropriate person throughout their 'training' and 'experience' and that the manual will be used as:

- a) A teaching aid following supervision of a Haldex engineer.
- b) A reminder of the correct operating procedure of the Haldex EB+ Info Centre.

- › Use appropriate spare-parts documentation when obtaining spare parts.
- › Use only genuine Haldex parts in repairs.
- › Due to continuous development the right is reserved to alter the specification without notice.
- › No legal rights can be derived from the contents of the manual.
- › Duplication, translation and reprinting are prohibited without permission from Haldex Brake Products.

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## Introduction

The EB+ Info Centre is a side of trailer mounted diagnostic unit used for readout of odometer, diagnostic codes and other information as available in the EB+ 4.0 EBS (all current features available when an EBS Gen2 is programmed and using C497 / 498 / 499 onwards or when an EBS Gen3 is programmed and using E653 onwards) and U-ABS (programmed and using A650 or higher level of software).

The EB+ Info Centre is connected permanently to the ECU's diagnostic connection. While the ECU is powered from its normal source (ISO 7638 permanent) information is transferred to the Info Centre memory, which can be recalled. Power is supplied from the vehicle system via the ECU diagnostics connector.

EB+ Info Centre comprises an LCD (Liquid Crystal Display) and three buttons marked with up / down arrows and an OK button.

EB+ Info Centre also has an internal battery which allows readout of information (including fault indication) when the trailer is uncoupled and unpowered.

With the internal battery, the EB+ Info Centre is not ADR approved (for further information on ADR approval see "General" on page 77).

# Front panel operation



OK Button

This button is used to:

- Switch 'on' the EB+ Info Centre Unit
- Enter into sub menus
- Enter / confirm EB+ Info Centre actions
- Enter / confirm EB+ Info Centre value changes
- Enter / confirm EB+ Info Centre configuration changes



Up Arrow

This button is used to:

- Switch 'on' the EB+ Info Centre Unit
- Scroll up the main & sub menus
- Select EB+ Info Centre configuration units
- Select numerical numbers



Down Arrow

This button is used to:

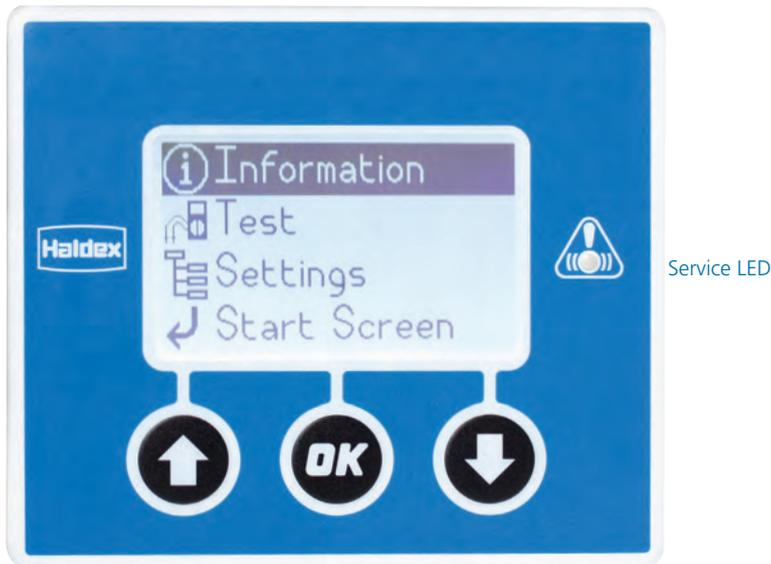
- Switch 'on' the EB+ Info Centre Unit
- Scroll down the main & sub menus
- Select info centre configuration units
- Select numerical numbers



Service LED

This indicates the status of the Info Centre and EB+ (see "Service LED" on page 6)

# Service LED



Service LED

The service LED is used to indicate the status of the EB+ Info Centre and EB+. Its operation can be configured using the LED settings menu (see "Settings / LED settings" on page 69). Indicates that active DTCs are present or that the service interval period has expired.



Flashing "on"



Flashing "off"

The light will flash for 10 minutes after the power is removed, or after the EB+ Info Centre switches itself 'off'.



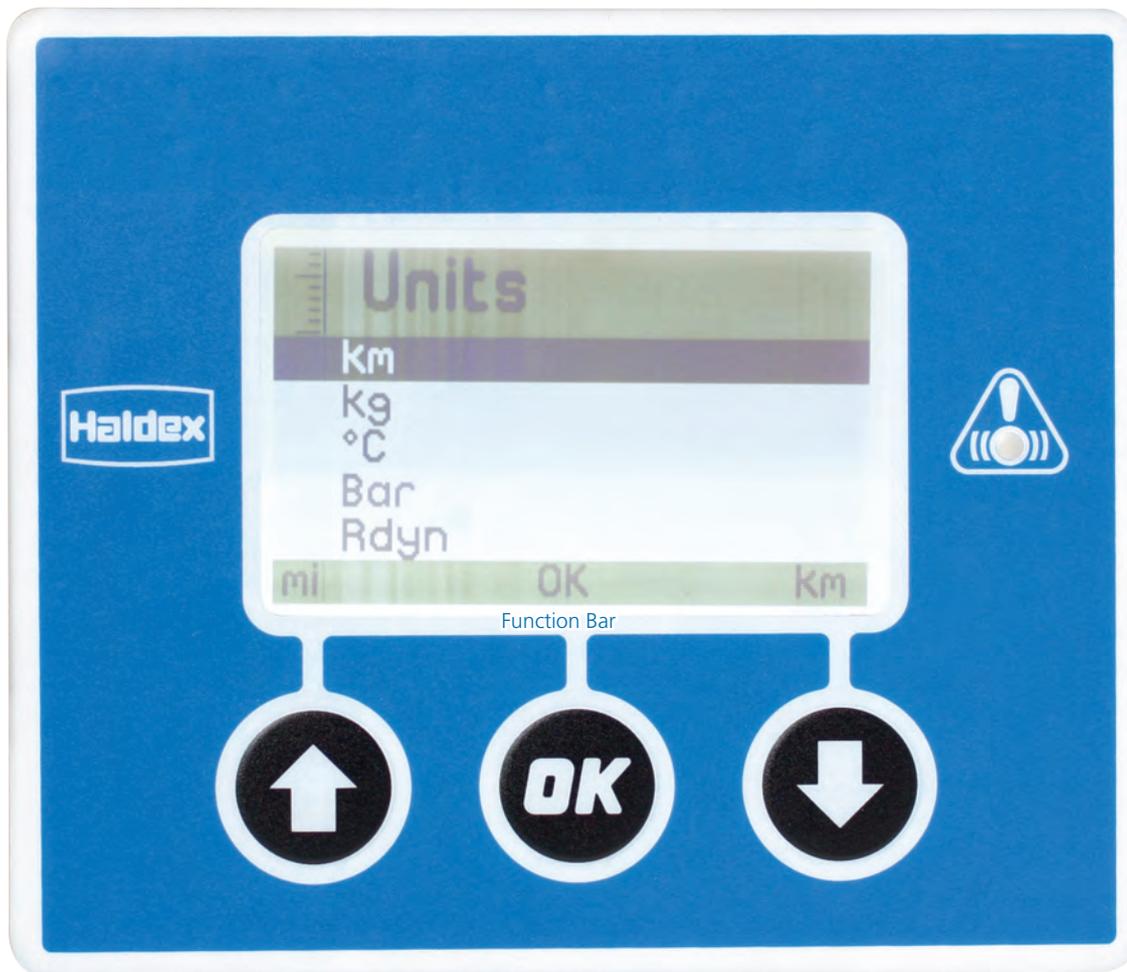
Service LED off

Indicates that the EB+ Info Centre is OK (only when running on its internal battery) or that the EB+ power is connected, and it is configured to show faults (see "Settings / LED settings" on page 69).

## Function bar

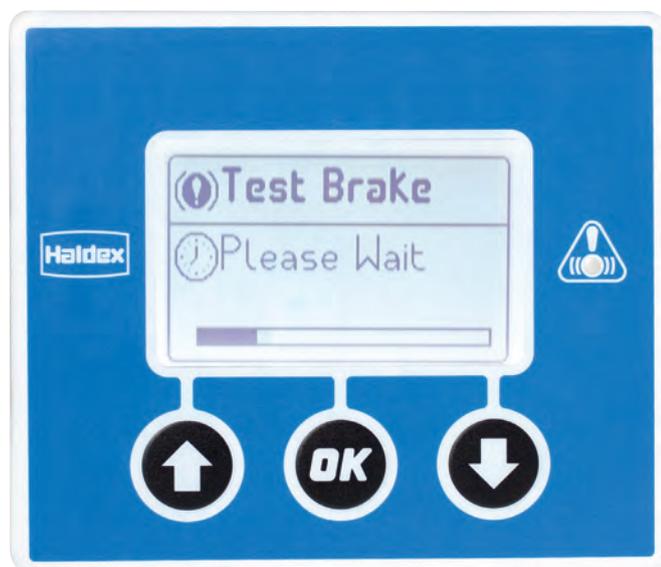
The function bar is used in the sub menus to extend the actions of the,   and  buttons.

Example:



 is used to select imperial units (mi)     is used to select metric units (Km)

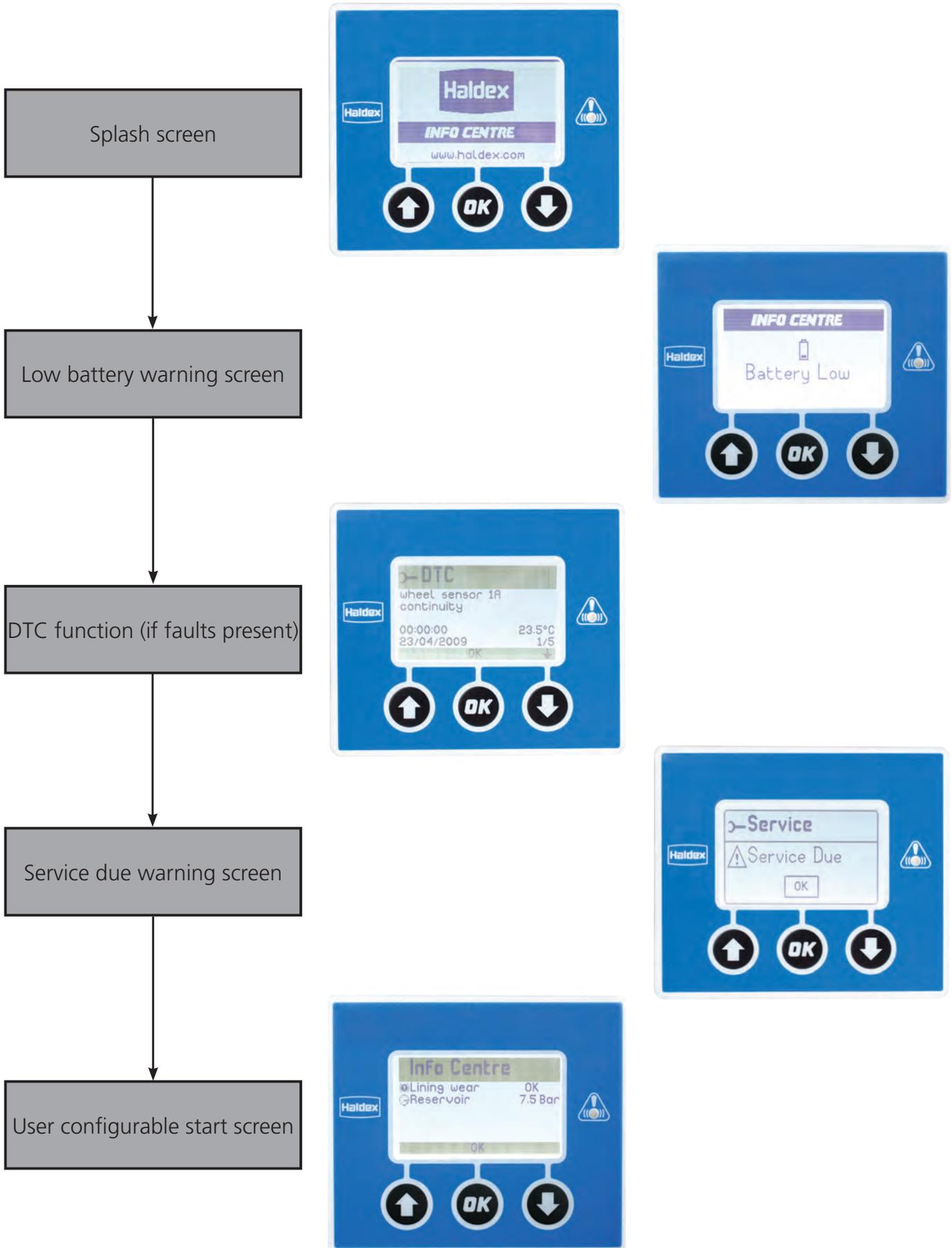
## Please wait display



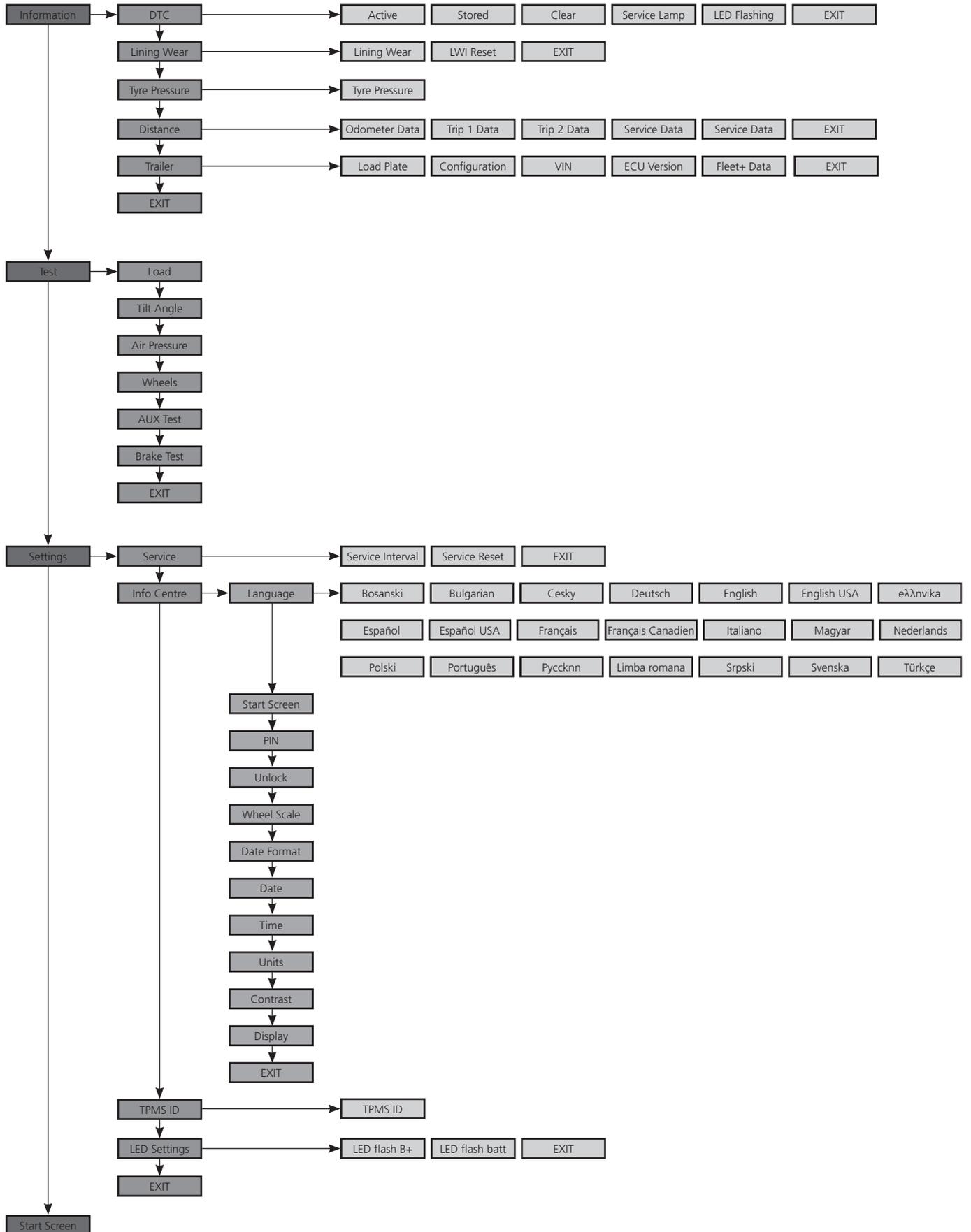
International standards for diagnostic commands demand a minimum of 10 seconds wait between diagnostic sessions.

The please wait display indicates that the EB+ Info Centre wants to start a new diagnostic session within the 10 seconds. Once the 10 seconds has elapsed, the menu system will again become active.

# Info Centre menu overview



# EBS menu

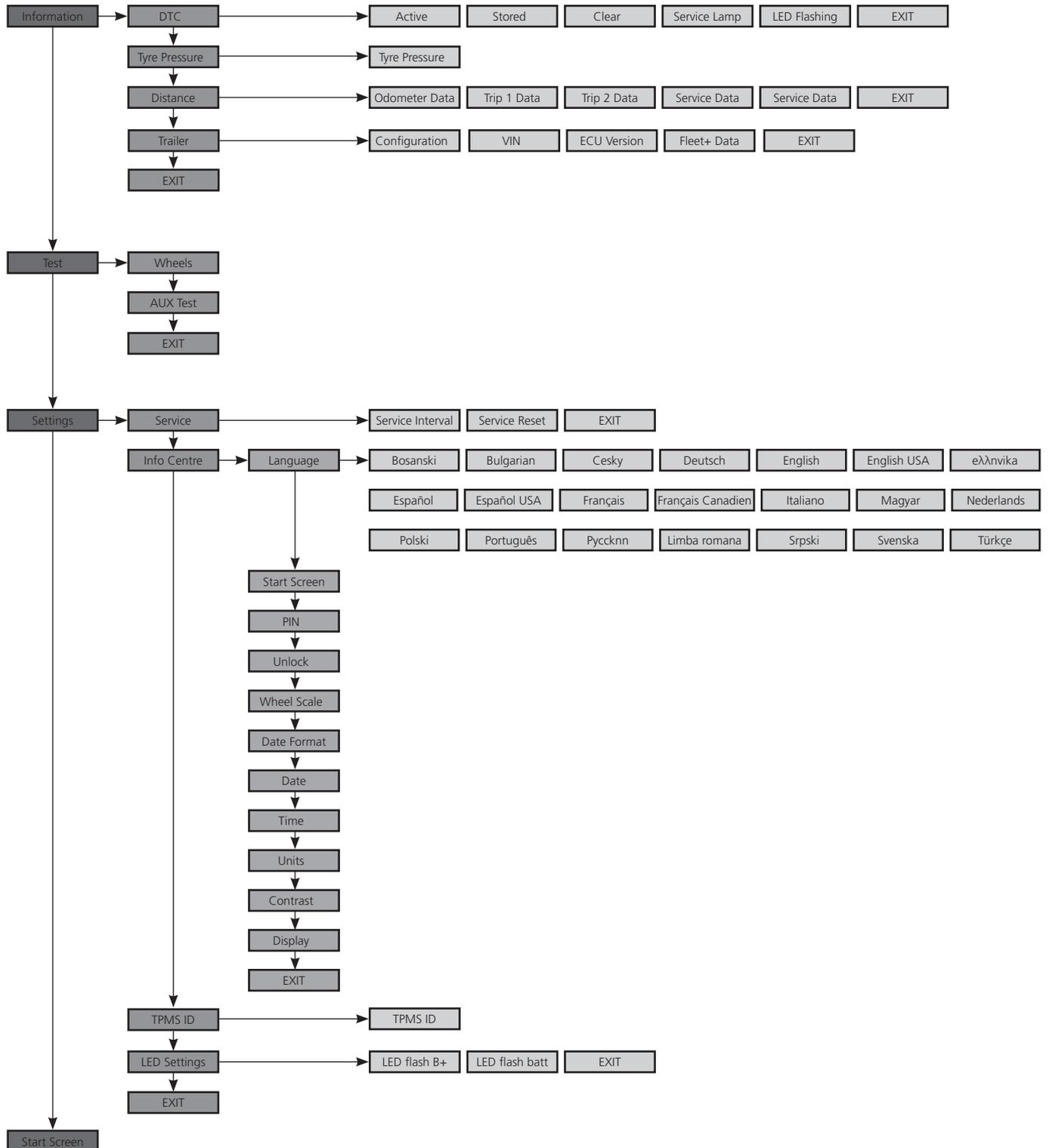


# U-ABS menu

When connected to an U-ABS, the EB+ Info Centre will not provide the same functions as when it is connected to an EBS.

Examples:

- › The information menu will not display the Lining Wear System.
- › On the trailer menu, it will not be possible to access the load plate information.
- › The load, tilt angle, air pressure and brake test functions will not be active in the test menu.



## Password protection



All of the screens which allow the user to change any of the data fields are password protected.

The user may enter the password using the unlock function in the settings menu (see "Settings / EB+ Info Centre / Unlock" on page 58).

Note: as standard the EB+ Info Centre will be supplied with the PIN set to 0123.

The EB+ Info Centre will stay unlocked whilst in use but will re-lock if it is idle for 1 minute in a menu or 2 minutes in a function.

If the user enters a function whilst the EB+ Info Centre is locked they will be prompted to enter the PIN as per the unlock function in the settings menu.

## Information menu

### DTC:

Diagnostic Trouble Codes (see "Information / DTC" on page 14).

### Lining wear:

Displays lining wear status (OK or service).

This menu will be greyed out if it is not configured in the EB+ using the diagnostic software (see "Information / Lining wear" on page 21).

### Tyre pressure:

The Tyre Pressure Monitoring System constantly measures the air pressure and temperature in the trailer tyres (see "Information / Tyre pressure" on page 25).

### Distance:

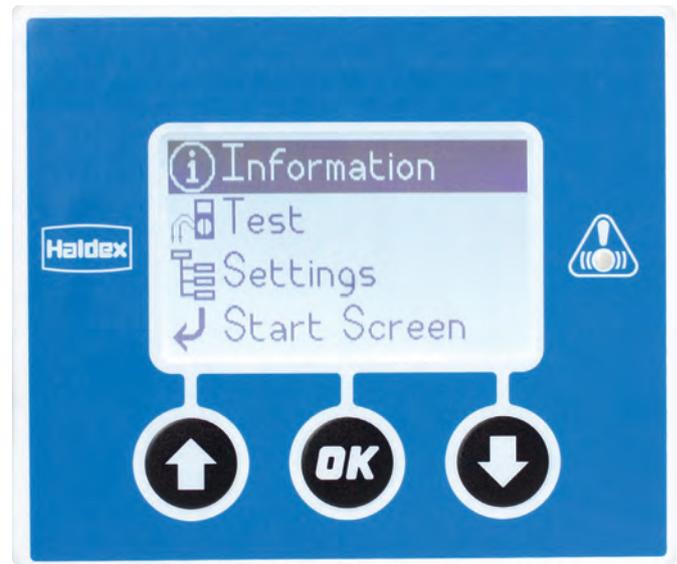
Displays the mileages stored in the EB+. It can be configured to display in miles or Km (see "Information / Distance" on page 31).

### Trailer:

Trailer and EB+ information (see "Information / Trailer" on page 33).

### Exit:

Return back to information menu.



## Information / DTC



### Active [8]:

Displays up to 8 active DTCs (Diagnostic Trouble Codes).

### Stored [8]:

Displays up to 8 stored DTCs.

### Clear:

Clears all DTCs from the EB+  
Confirmation of this action is required.

### Service lamp:

Displays the reason for the flashing trailer warning lamp.

### LED flashing:

Displays the reason for the flashing EB+ Info Centre service LED.

### Exit:

Return back to the information menu.

## Information / DTC / Active

Displays up to 8 active DTCs.



No active DTCs present.



Displays up to 8 Active DTCs.

Information displayed:

AUX4	Fault condition.
10:35	The time the fault condition was stored.
05/01/2011	The date the fault condition was stored.
26.2°C	The temperature the fault condition was stored.



Use the  and  buttons to navigate through the Diagnostic Trouble Codes.

Use the  button to exit the active menu.

## Information / DTC / Stored



Displays up to 8 stored DTCs.

Contains the history of repaired active faults.

All active faults are transferred into the stored memory once they are corrected.



No stored DTCs present.



Displays up to 8 stored DTCs.

Information displayed:

AUX4 Fault condition.

10:35 The time the fault condition was stored.

05/01/2011 The date the fault condition was stored.

26.2°C The temperature the fault condition was stored.

Use the  and  buttons to navigate through the Diagnostic Trouble Codes.

Use the  button to exit the Stored DTC menu.

## Information / DTC / Clear

Clears all the DTCs from the EB+, a confirmation of action using the password is required.



Use the  button to clear the stored DTCs.

Use the  button to exit the clear DTC menu without clearing the stored fault codes.



# Information / DTC / Service lamp



Displays the reason for the flashing trailer warning lamp.



This indicates that there are no faults present.



This indicates that there is a DTC fault present.

## Information / DTC / LED flashing

Displays the reason for the flashing EB+ Info Centre service LED.



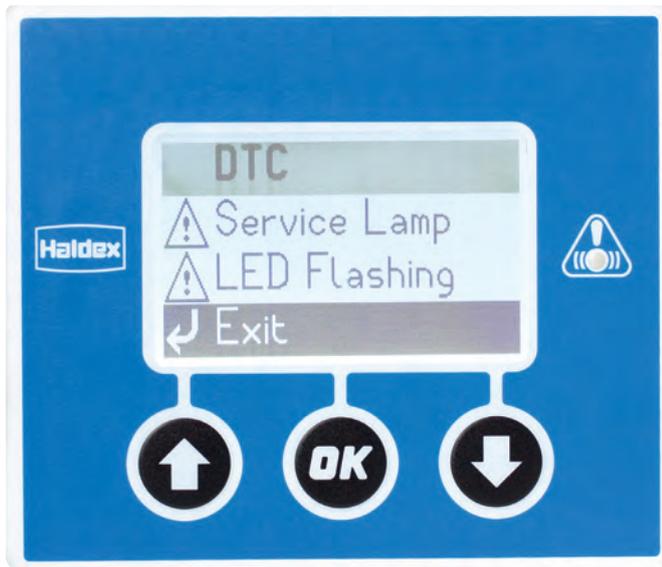
This indicates that there are no faults present.



This indicates that there is a DTC fault present.



## Information / DTC / Exit



Returns back to the information menu.

Use the  and  buttons to highlight the exit option.

Use the  button to return back to the information menu.

## Information / Lining wear

### Lining wear:

Displays the brake lining wear status (OK or service) of the trailer.

This menu will be greyed out if it is not configured in the EB+ using the diagnostic software (see "Diagnostic software" on page 77)

### Status:

Displays the trailer brake lining wear condition.

### LWI Reset:

Used to reset the lining wear status indicator following the replacement of the brake linings.

### Exit:

Returns back to the information menu.



# Information / Lining wear / Status



Displays the trailer brake lining wear condition.



Brake lining wear is ok.

No service action is required.



Service action is required.

Brake lining wear is not ok.

Brake linings need replacing.

Use the **OK** button to return back to the information menu.

## Information / Lining wear / LWI reset

Used to reset the lining wear indicator (LWI) following the replacement of the brake linings.

Before using the reset ensure that the EB+ system has been switched 'off', then switched 'on' and wait for the completion of the 'blow down' cycle.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / PIN" on page 57).



Use the  button to reset the LWI memory.

Use the  button to exit the LWI Reset menu without resetting the LWI memory.

Note:

- › Resetting the LWI memory will cause the EB+ to power cycle and the EB+ Info Centre to return to its start menu.
- › Check the status of the trailer brake lining wear using the lining wear menu following the replacement of the brake linings (i.e. OK or service).



## Information / Lining wear / Exit



Return to the information menu.

Use the  and  buttons to highlight the exit option.

Use the  button to return back to the information menu.

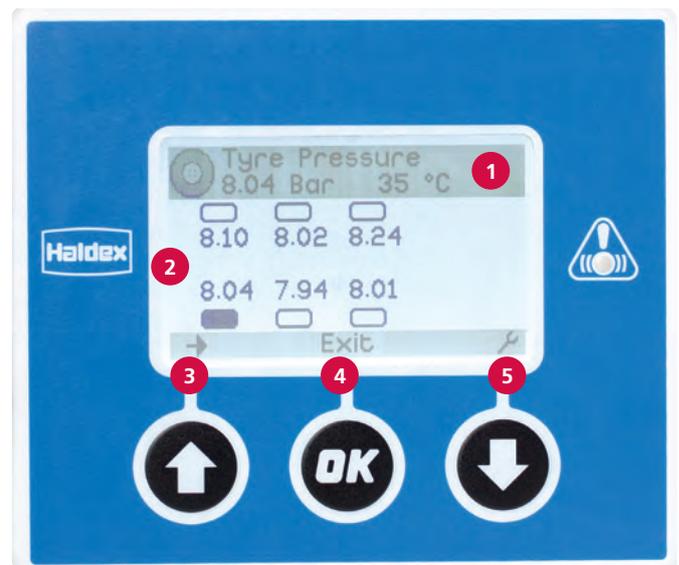
## Information / Tyre pressure

The Tyre Pressure Monitoring System constantly measures the air pressure and temperature in the trailer tyres.



Key

- 1 Pressure and temperature of highlighted tyre e.g. Axle 1 left
- 2 Trailer king pin
- 3 Tab key
- 4 Function bar
- 5 Tyre data key





The trailer and TPMS configuration are setup using the diagnostic software (see "Diagnostic software" on page 77)

Trailer configuration examples:



Tri-axle trailer

Individual tyre pressures will be displayed.



Twin wheeled tri-axle trailer

Individual tyre pressures will not be displayed on this screen, the tyre information is displayed in the sub menu via the tyre data key.



Multi-axle trailer

Individual tyre pressures will not be displayed on this screen, the tyre information is displayed in the sub menu via the tyre data key.

\*Spare wheel

## Displaying individual tyre information

Use the button to move and highlight individual tyres.

Use the button to display the highlighted tyre data.



Information displayed:

0C0543A1	Wheel Unit Sensor ID
8.04 Bar	Tyre pressure
35°C	Tyre temperature

Axle 1 Axle nearest to the king pin  
 Left Left tyre on the axle looking towards the king pin.



Whilst in the information menu use the and buttons to scroll and display other fitted tyre information.

Use the button to return back to the graphical display.



Use the button to return back to the information menu.



## Tyre fault condition examples

No signal from TPMS wheel unit sensor



Use the button to move and highlight the faulty tyre.

Use the button to display the highlighted tyre data.



Tyre pressure low warning



Use the button to move and highlight the faulty tyre.

Use the button to display the highlighted tyre data.



Tyre temperature high warning



Use the button to move and highlight the faulty tyre.

Use the button to display the highlighted tyre data.



Key:

- No signal received yet from this tyre.
- Faulty tyre.

# Trailer and wheel configuration examples

## Tyre position on trailer



Use the button to display the highlighted tyre data.



Use the button to display the highlighted tyre data.



Use the button to display the highlighted tyre data.

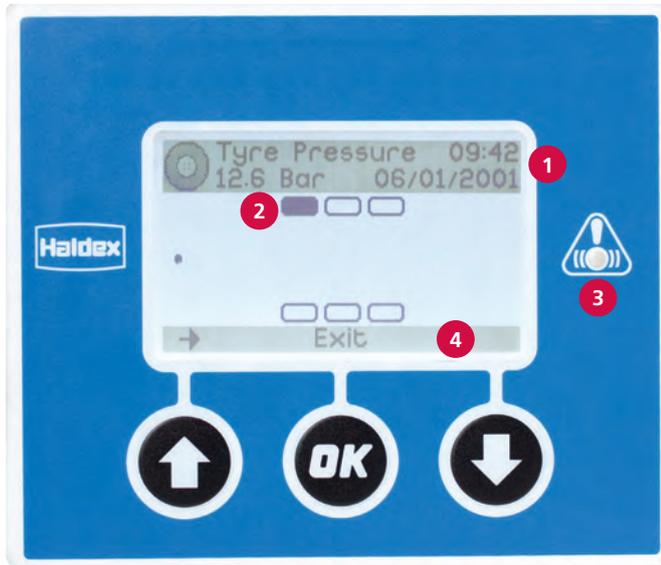


Use the button to display the highlighted tyre data.

## Tyre data



## TPMS start screen



Key:

- 1 Time and date selected tyre
- 2 Selected tyre
- 3 Service LED
- 4 Tab key

Tyre pressure information screen:

The tyre pressure information screen is used to display historical journey fault information.

Service LED Flashes to indicate a TPMS fault must be configured (see "Settings / LED settings" on page 69).

Time and date Time and date of the last recorded data

Tab key Used to select the faulty tyre

There are two modes of operation:

- › The screen will be displayed in the EB+ Info Centre start screen section during power-up following a problem during the last journey. Faulty tyre(s) will be highlighted displaying recorded data. The faulty tyre can be selected using the tab key and the stored data will be displayed.
- › The screen can be set to be displayed as the start screen (see page 56 for instructions). Once configured the information screen will be displayed every time the EB+ Info Centre is powered.

# Information / Distance

## Odometer:

Displays the mileage that is stored in the EB+. It can be configured to display in miles or Km.

## Trip 1:

Displays the mileage recorded by the EB+ since trip 1 was last reset.

It can be reset by pressing the OK (clear) button and following the screen prompts.

## Trip 2:

Displays the mileage recorded by the EB+ since trip 2 was last reset.

It can be reset by pressing the OK (clear) button and following the screen prompts.





Service:  
Displays the distance (Miles or Km) until the next service.



Service:  
Displays the number of days until the next service.



Exit:  
Press the **OK** button to return to the information menu.

## Information / Trailer

### Load plate:

Displays the EB+ load plate information (see "Information / Trailer / Load plate" on page 34).

### Configuration:

Shows a graphic display of the EB+ configuration (see "Information / Trailer / Configuration" on page 35).

### VIN:

Displays the VIN from the EB+ (Diagnostic software programmable).

Displays the OEM from the EB+ (Diagnostic software programmable) see "Information / Trailer / VIN" on page 36.

### ECU version:

ECU version     Displays the EB+ software version

Serial No        Displays the EB+ serial number

IC version       Displays the EB+ Info Centre software version (see page 37)

### Fleet+ data:

The Fleet+ PC program enables the operator to view trailer information.

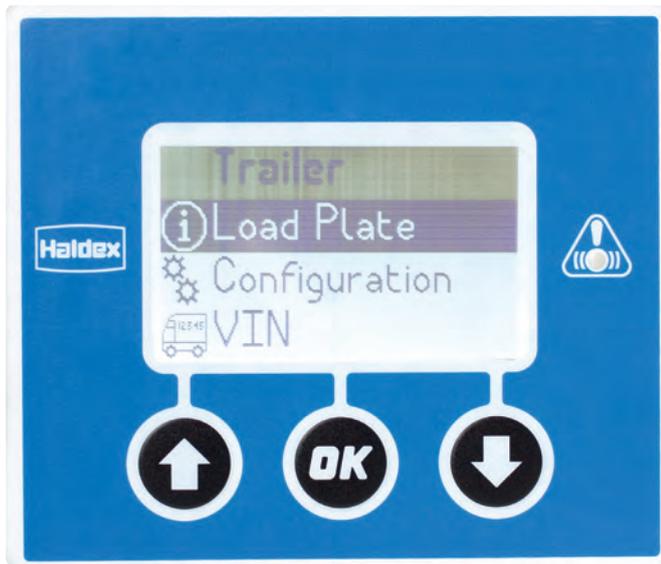
The EB+ Info Centre extracts summary data to provide an understanding of recorded events (see "Information / Trailer / Fleet+ data" on page 38).

### Exit:

Return to the information menu (see "Information / Trailer / Exit" on page 40).



# Information / Trailer / Load plate



**Load plate:**  
Displays the EB+ load plate information.

Use the and arrows to navigate up and down the load plate contents.

Exit using the button.



**Load plate settings:**  
The EB+ load plate settings are setup using diagnostic software.

Refer to diagnostic software user guide for a full description of each setting.

- |              |             |
|--------------|-------------|
| susp unladen | PP1 laden   |
| susp laden   | PP2 control |
| PO threshold | PP2 laden   |
| PD control   | PP3 control |
| PD laden     | PP3 laden   |
| PP1 control  | PP3 unladen |

## Load plate displays:

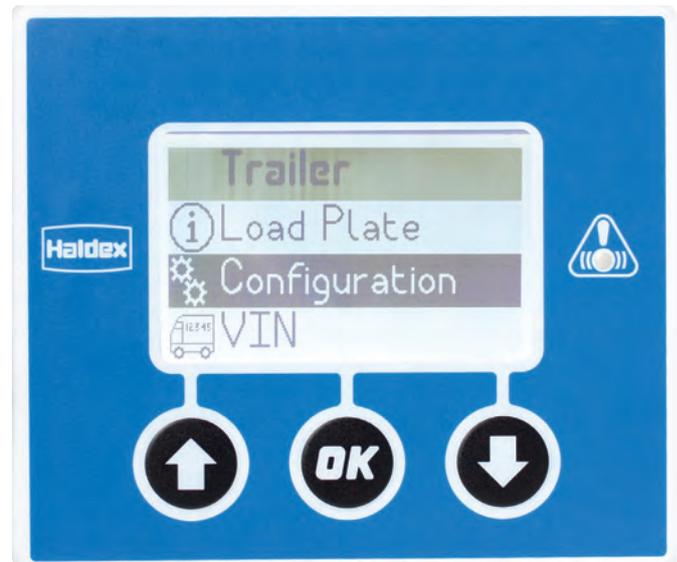
Depending on the EB+ configuration, the EB+ Info Centre will automatically change its load plate display. Each configuration contains 3 x pages for each load plate.

System load	Plate name
EB+ 2M	Load plate
EB+ 3M	Master slave

## Information / Trailer / Configuration

### Configuration:

Shows a graphic display of the EB+ configuration.



Shows a graphic display of the EB+ brake configuration.

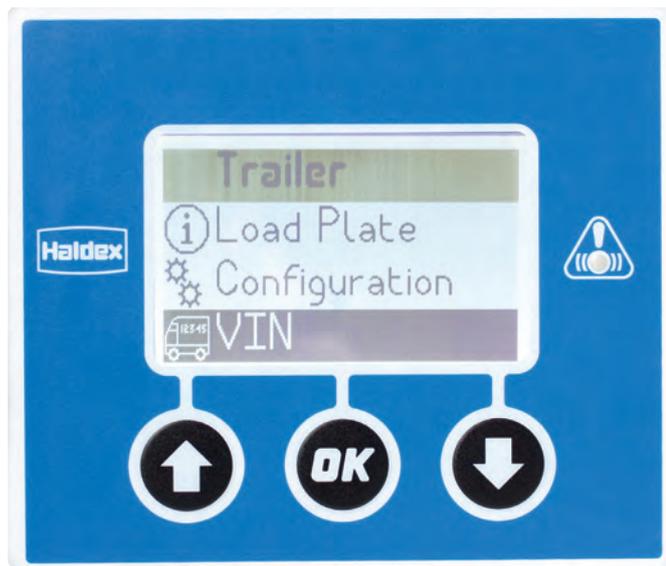
Press the  button to return to the trailer menu.



Available configuration options:

- › REV or Non REV
- and any of the following:
- › LSV on 24N
  - › Lift on move
  - › Axle load sum
  - › 180° Orientation
  - › DAR (Dolly Axle Regulation)

# Information / Trailer / VIN



VIN:

Displays the VIN from the EB+ (Diagnostic software programmable)

Displays the OEM from the EB+ (Diagnostic software programmable)



Press the  button to return to the trailer menu.

## Information / Trailer / ECU version

### ECU version:

ECU version	Displays the EB+ software version
Serial No	Displays the EB+ serial number
IC version	Displays the EB+ Info Centre software version



# Information / Trailer / Fleet+ data



The Fleet+ PC program enables the operator to view trailer information. The EB+ Info Centre extracts summary data to provide an understanding of recorded events.



## Fleet+ data

EB+ Info Centre downloading latest Fleet+ data from the EBS.



## Trips

A trip is recorded from when the vehicle achieves 10 km/h and a 1 km distance until ISO power is switched 'off'.

Displayed information:

ISO km                      Number of km when ISO powered.

ISO +24N km              Estimate of total km when ISO and 24N powered.

Trips                         Number of vehicle journeys meeting the trip criteria.

## Snapshots

A snapshot is recorded when certain conditions are triggered.

Displayed information:

DTC	Number of new trouble codes. Stability number of roll stability braking interventions.
Over speed	Number of trips where programmed speed threshold is exceeded (default 100 km/h).
Over load	Number of trips where the vehicle was overloaded (default 130%).
Reservoir	Number of trips where the reservoir was above set value (default 9.75 bar).
B+	Number of times that excessive supply voltage was measured (default 32V).



## Events

Counters are kept for certain events.

Displayed information:

24N brake	Number of 24N brake applications.
ISO brake	Number of ISO brake applications.
ABS	Number of modulation events.
Stability	Number of stability interventions.



## Activations

Counters are kept for the activation of each auxiliary.

Displayed information:

AUX 1 drive e.g.	Number of COLAS® operations or the
AUX 2 drive	Number of ILAS® operations.
AUX 3 drive	
AUX 4 analogue e.g.	Number of times a switch on a GPI is activated.
AUX 5 analogue	



## Information / Trailer / Exit



Exit:

Return to the main menu.



Use the  and  buttons to highlight the exit option.



Use the  button to return back to the main menu.

# Test menu

## Load:

Displays the current axle load (see "Test / Load" on page 42).

## Tilt angle:

Displays the current lean angle of the trailer (see "Test / Tilt angle" on page 43).

## Air pressure:

Displays the current trailer air pressures (see "Test / Air pressure" on page 44).

## Wheels:

Displays the current trailer wheel speeds (see "Test / Wheels" on page 45).

## AUX test:

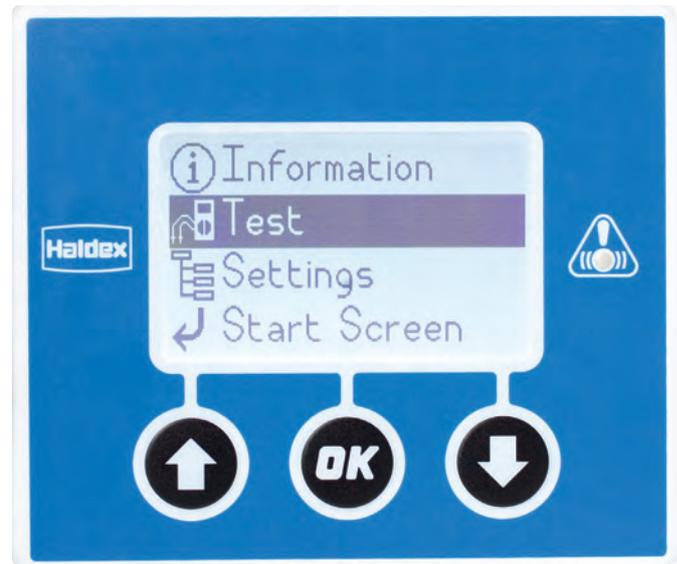
This menu is used to switch 'on' or 'off' the EB+ auxiliary functions (see "Test / AUX test" on page 46).

## Brake test:

Used to switch 'on' or 'off' the EB+ load sensing function (see "Test / Brake test" on page 47).

## Exit:

Return to main menu.



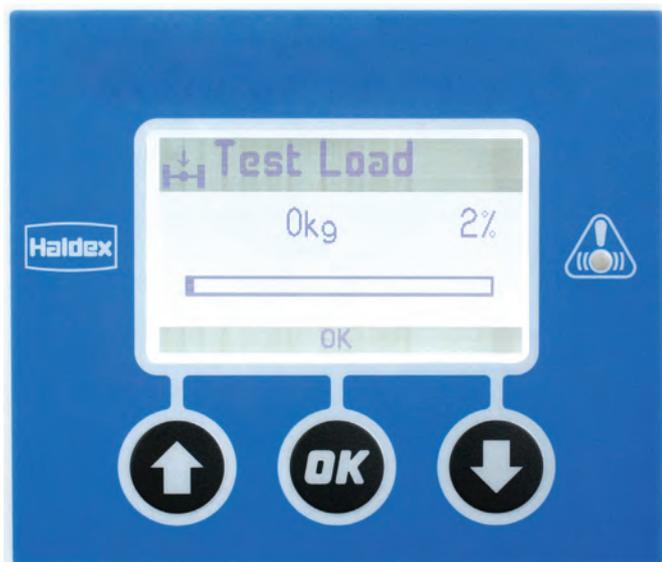
# Test / Load



**Load:**  
Displays the current trailer load.

**Display units:**  
kg or lbs as configured.

%  
Bar chart



The accuracy of the load readout is dependent on correct information setup during the programming of the ECU using diagnostic software.

Press the  button to return to the test menu.

# Test / Tilt angle

## Tilt angle:

Shows the angle of the trailer in degrees as read from the EB+.



It displays the angle in two modes:

- › Numerical readout
- › Arrow indication (see below)



Indicates that the trailer is leaning to the left (as viewed from the rear of the trailer) by more than 6°.



Indicates that the trailer is vertical (as viewed from the rear of the trailer) by less than 6°.



Indicates that the trailer is vertical (as viewed from the rear of the trailer) greater than -2° & less than +2°.



Indicates that the trailer is vertical (as viewed from the rear of the trailer) by less than 6°.



Indicates that the trailer is leaning to the right (as viewed from the rear of the trailer) by more than 6°.



Press the button to exit.

# Test / Air pressure



Air pressure:

Displays the EB+ air pressures in either PSI or bar depending on the EB+ configuration.



The bar chart will display values up to a maximum of 8 bar.



Use the  and  arrows to navigate up and down the air pressure contents.

Exit using the  button.

## Displayed EB+ system pressures

3M Full Trailer	3M Semi Trailer	2M	1M
Reservoir pressure	Reservoir pressure	Reservoir pressure	Reservoir pressure
Control pressure	Control pressure	Control pressure	Control pressure
ISO demand pressure	ISO demand pressure	ISO demand pressure	ISO demand pressure
Master suspension pressure	Suspension pressure	Suspension pressure	Suspension pressure
Slave suspension pressure	Delivery pressure 21	Delivery pressure 21	Delivery pressure 2
Delivery pressure 21	Delivery pressure 22	Delivery pressure 22	--
Delivery pressure 22	Delivery pressure 2	--	--
Delivery pressure 2	--	--	--

## Test / Wheels

### Wheels:

Displays the current trailer wheel speeds in either Kilometers (maximum of 20 Km/h displayed) or miles per hour depending on the EB+ configuration.



Press the  button to return to the test menu.



## Test / AUX test



### AUX test:

This menu is used to switch 'on' or 'off' the EB+ auxiliary functions.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the and arrows to navigate up and down the AUX 1,2 and 3.

Press the button to switch between the commands

### Valid commands:

ON - Auxiliary 'on'

OFF - Auxiliary 'off'

ECU - Return the auxiliary device to EB+ control

### Notes:

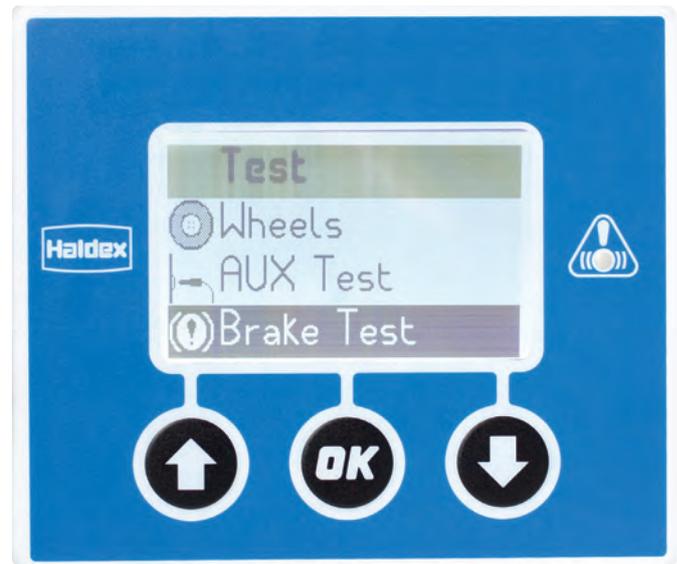
- › The auxiliary test function will default back to EB+ control when you exit from this menu.
- › More than one auxiliary can be 'on' at the same time.

Press the button to return to the test menu.

## Test / Brake test

### Brake test:

Used to switch 'on' or 'off' the EB+ load sensing function.



Use the  arrow to switch 'off' the EB+ load sensing function.

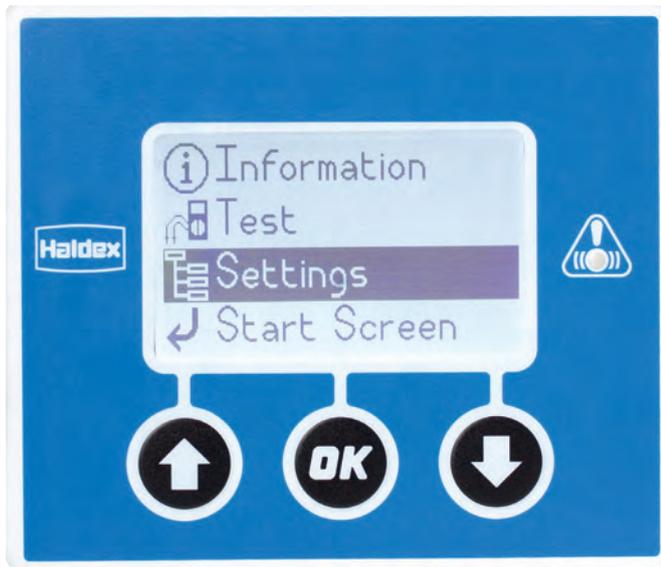


Use the  arrow to switch 'on' the EB+ load sensing function.



Press the  button to return to the test menu and switches 'on' the EB+ load sensing function.

## Settings menu



### Service:

Used to set and reset the EB+ service interval (see "Settings / Service" on page 49).

### Info Centre:

EB+ Info Centre settings menu (see "Settings / EB+ Info Centre" on page 53).

### TPMS ID:

Displays a complete list of configured wheels and sensor ID's and allows the operator to swap over wheel sensors (see "Settings / TPMS ID" on page 67).

### LED settings:

Used to configure the action of the service LED (see "Settings / LED settings" on page 69).

### Exit:

Return to main menu.

## Settings / Service

### Interval:

Used for altering the EB+ service indicator.

Both days and distance (miles or km) can be altered.

The entered durations will be added to the current odometer reading and only become active when the service reset is actioned.

### Reset:

Used for resetting the EB+ service indicator.

Note: The amended duration will be the internally stored service interval.

### Exit:

Return to main menu.



## Settings / Service / Interval



### Interval:

Used for altering the EB+ service indicator.

Both days and distance (miles or km) can be altered.

The entered durations will be added to the current odometer reading and only become active when the service reset is actioned.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the  and  arrows to change the value of the highlighted days digits.

Once the correct value is displayed (0-366 days), use the  button to move onto the Kilometres.

Use the  and  arrows to change the value of the highlighted kilometres digits.

Once the correct value is displayed (0-250 Km), use the  button to exit.



Use the  button to exit the service interval menu without saving the data.

Use the  button to exit the Service Interval menu saving the data.

### Note:

If the days and kilometres are set to zero, no service warning will be given.

## Settings / Service / Reset

### Reset:

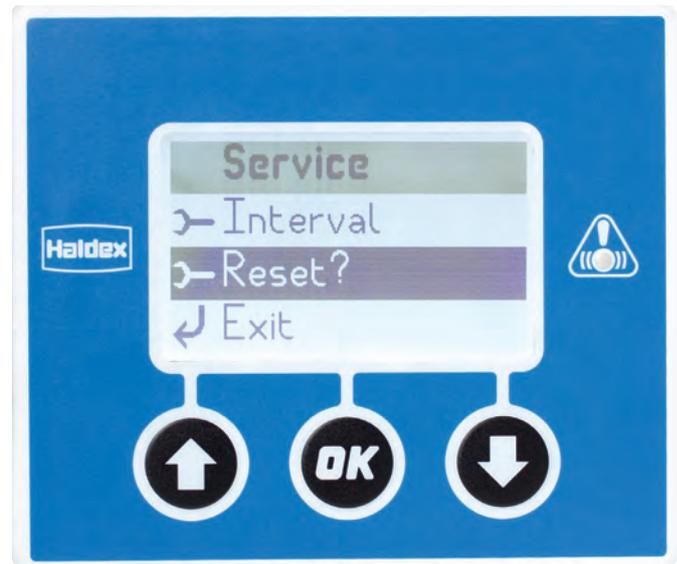
Used for resetting the EB+ service indicator.

Note: The amended duration will be the internally stored service interval.

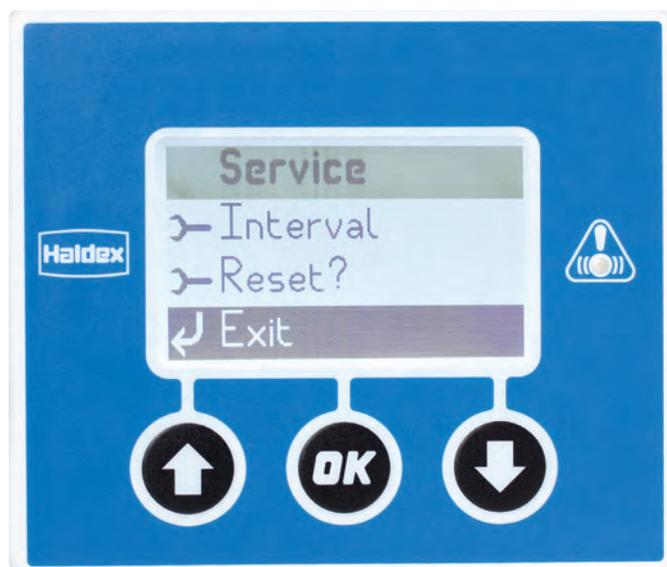
The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).

Use the  button to exit the service reset menu without activating the service interval indicator settings.

Use the  button to exit the service reset menu and activating the service interval indicator settings.



## Settings / Service / Exit



Exit:

Return to the main menu.

Use the  and  buttons to highlight the exit option.

Use the  button to return back to the main menu.

## Settings / EB+ Info Centre

### Language:

The EB+ Info Centre has multiple language options.

### Start screen:

This menu allows the user to choose EB+ Info Centre functions to be displayed at start up, before the main menu.

### PIN:

A PIN is used to protect a number of the EB+ Info Centre menus.

### Unlock:

Use this menu to unlock the EB+ Info Centre via a valid PIN.

### Wheel scale:

Displays the EB+ wheel scale and sensor teeth settings.

### Date format:

Allows the user to set the date format.



**Date:**

The time and date stored in the EB+ Info Centre are used to record the time and date at which EB+ faults occur.

**Time:**

Used to set the 24hr clock time.

**Units:**

Use to select metric or imperial units for the EB+ Info Centre.

**Contrast:**

Use this menu to adjust the LCD screen contrast.

**Display:**

Self test function for the EB+ Info Centre display.

**Exit:**

Return to the settings menu.

## Settings / EB+ Info Centre / Language

### Language:

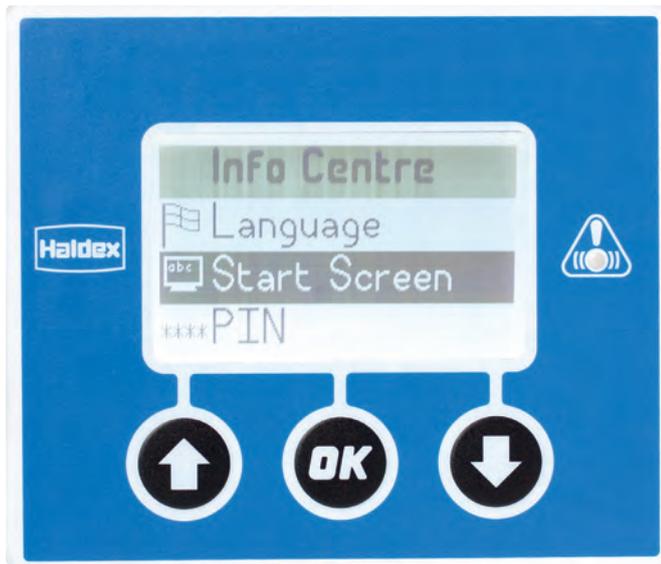
The EB+ Info Centre has multiple language options.



Enter into the language menu and use the  and  arrows to navigate to the required language, and select using the  button.



## Settings / EB+ Info Centre / Start screen



### Start screen:

This menu allows the user to choose EB+ Info Centre functions to be displayed at start up before the main menu or by selecting the 'start screen' option on the main menu.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).

The user can choose 1 from 10 options available:

- › None - If selected there will be no start screen option
- › Distance
- › DTC
- › AUX
- › Axle load sum
- › Language
- › Unlock
- › Tilt angle
- › Tyre pressure
- › User defined - If selected go to user defined section below.

The user defined start screen can display up to 5 of the following items:

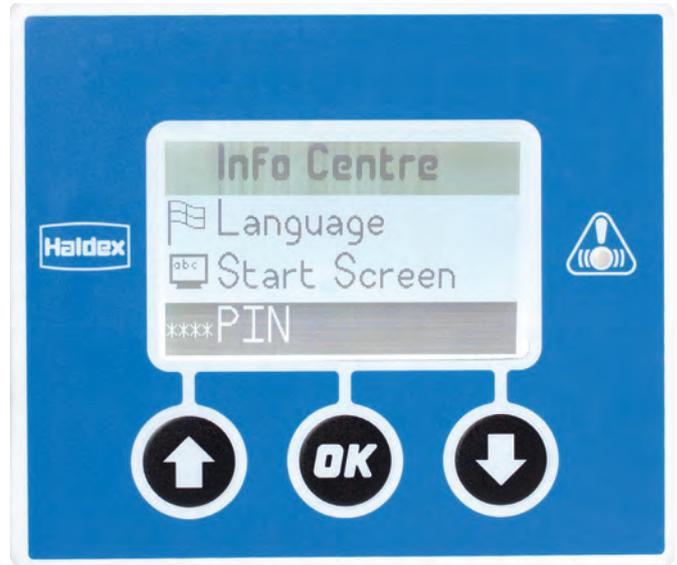
- › Odometer
- › Service
- › Service Interval
- › DTC
- › Stored DTCs
- › Lining Wear
- › Reservoir
- › Axle Load Sum

# Settings / EB+ Info Centre / PIN

A PIN is used to protect a number of the EB+ Info Centre menus, as standard the EB+ Info Centre will be supplied with the PIN set to 0123. If necessary this number can then be reset by the operator to any 4-digit number using the EB+ Info Centre buttons.

Sequence for Resetting the PIN number:

- > Enter the current PIN to unlock the EB+ Info Centre (see "Settings / EB+ Info Centre / Unlock" on page 58).
- > Use the button to enter the PIN menu.
- > Use the and arrows to increment / decrement the digits.
- > Use the button to move onto the next digit.
- > Use the button to save the PIN selection.



Use the button to save the PIN selection

or

Use the arrow to exit without saving the PIN selection



## Permanent PIN removal

To permanently remove the PIN function from the EB+ Info Centre menus, set the PIN number to be 0000.

This will stay active until an alternative PIN is entered again.



# Settings / EB+ Info Centre / Unlock



Unlock:

Use this menu to unlock the EB+ Info Centre via a valid PIN.

PIN activity:

The Info Centre PIN remains active for 1 minute in a menu.

The Info Centre PIN remains active for 2 minutes in a function.



A PIN is used to protect a number of the EB+ Info Centre menus, as standard the EB+ Info Centre will be supplied with the PIN set to 0123.

If necessary this number can then be reset by the operator to any 4-digit number using the EB+ Info Centre buttons (see "Settings / EB+ Info Centre / PIN" on page 57).



Sequence for Entering the PIN number:

- › Use the **OK** button to enter the unlock menu.
- › Use the **↑** and **↓** arrows to increment / decrement the digits.
- › Use the **OK** button to move onto the next digit.
- › Use the **OK** button to confirm the PIN selection.

Use the **OK** button to confirm the PIN selection



If any of the numbers entered into the unlock screen are wrong, the PIN Incorrect screen will be displayed.

Use the **OK** button to exit and retry.

# Settings / EB+ Info Centre / Wheel scale

## Wheel scale:

Displays the EB+ wheel scale and sensor teeth settings.

## Odometer:

This field allows the user to fine tune the odometer scaling (odyscale), this can be in either dynamic radius (Rdyn) or turns per mile (Tpm).

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the and arrows to change the value of the highlighted digit.

Once the correct value is displayed, use the button to move onto the next digit.



Use the button to exit the wheel scale menu without saving the data.

Use the button to exit the wheel scale menu saving the data.



## Settings / EB+ Info Centre / Date format



Date format:

Allows the user to set the date format.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Three options available:

dd/mm/yyyy

yyyy/mm/dd

mm/dd/yyyy

Use the  and  arrows to highlight the required option.

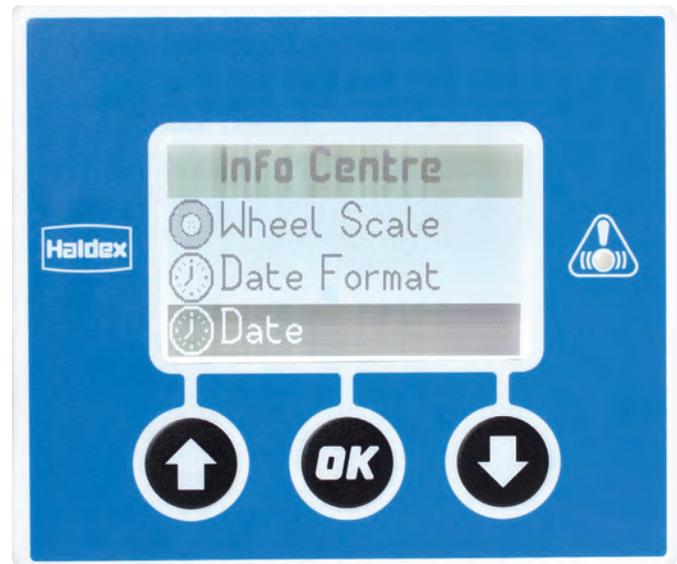
Once the correct option is displayed, use the  button to set and exit.

## Settings / EB+ Info Centre / Date

### Date:

The time and date stored in the EB+ Info Centre are used to record the time and date at which EB+ faults occur.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the  and  arrows to change the value of the year.

Once the correct value is displayed, use the  button to move onto the month.

Use the  and  arrows to change the value of the month.

Once the correct value is displayed, use the  button to move onto the days.

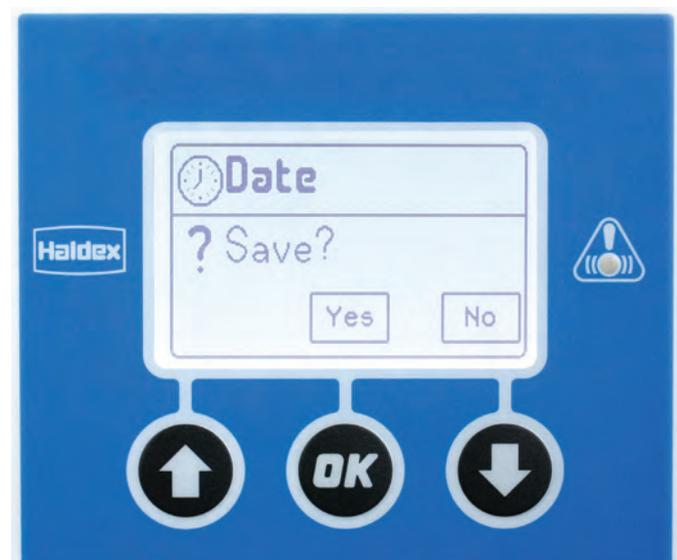
Use the  and  arrows to change the value of the days.

Once the correct value is displayed, use the  button to exit.



Use the  button to exit the Date menu without saving the data.

Use the  button to exit the Date menu saving the data.



# Settings / EB+ Info Centre / Time



Time:

Used to set the 24 hr clock time.

The time will be set at the factory to Coordinated Universal Time (UTC).

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the and arrows to change the value of the highlighted digit.

Once the correct value is displayed, use the button to move onto the next digit.

Use the and arrows to change the value of the highlighted digit.

Once the correct value is displayed, use the button to enter the value and exit.



Use the button to exit the time menu without saving the data.

Use the button to exit the time menu saving the data.

## Settings / EB+ Info Centre / Units

### Units:

Use to select metric or imperial units for the EB+ Info Centre.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).

Use the  arrow to select miles per hour.

or

Use the  arrow to select kilometers per hour.

Once the correct unit is displayed, use the  button to move onto the next setting.

Use the  arrow to select pounds.

or

Use the  arrow to select kilograms.

Once the correct unit is displayed, use the  button to move onto the next setting.

Use the  arrow to select degrees fahrenheit.

or

Use the  arrow to select degrees centigrade.

Once the correct unit is displayed, use the  button to move onto the next setting.

Use the  arrow to select pounds per square inch.

or

Use the  arrow to select bar.

Once the correct unit is displayed, use the  button to move onto the next setting.

Use the  arrow to select turns per mile (TPM).

or

Use the  arrow to select dynamic radius (Rdyn) .

Once the correct unit is displayed, use the  button to exit.



Example for kilometers

## Settings / EB+ Info Centre / Contrast



### Contrast:

Use this menu to adjust the LCD screen contrast.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



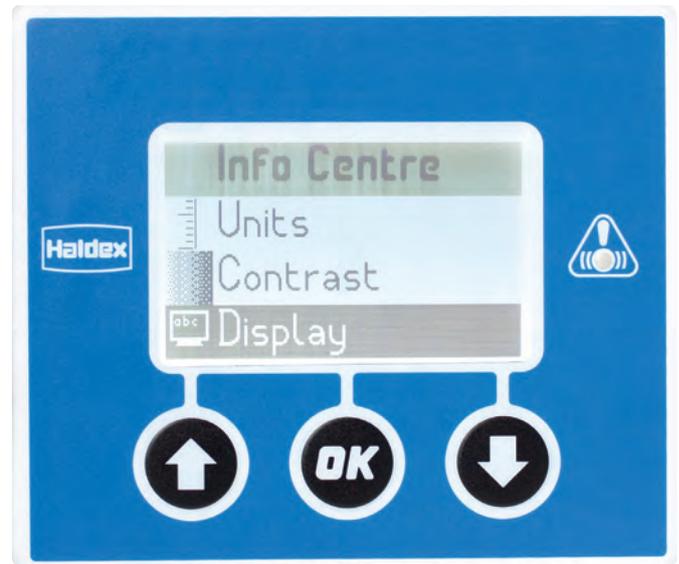
Use the  and  arrows to change the contrast value.

Use the  button to exit.

## Settings / EB+ Info Centre / Display

### Display:

Self test function for the EB+ Info Centre display.

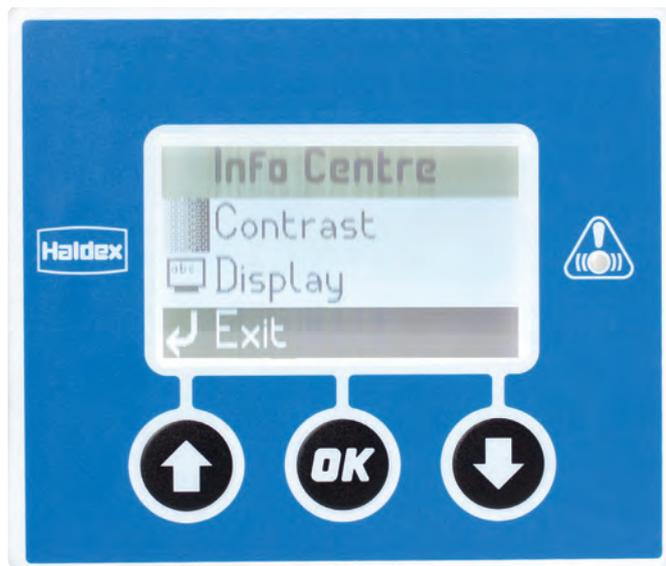


The display will automatically scroll down.

Press any key to exit the display test.



## Settings / EB+ Info Centre / Exit



Exit:

Return to the settings menu.

Use the  and  buttons to highlight the exit option.

Use the  button to return back to the settings menu.

## Settings / TPMS ID

### TPMS ID:

Displays a complete list of configured wheels and sensor ID's and allows the operator to swap over wheel sensors.

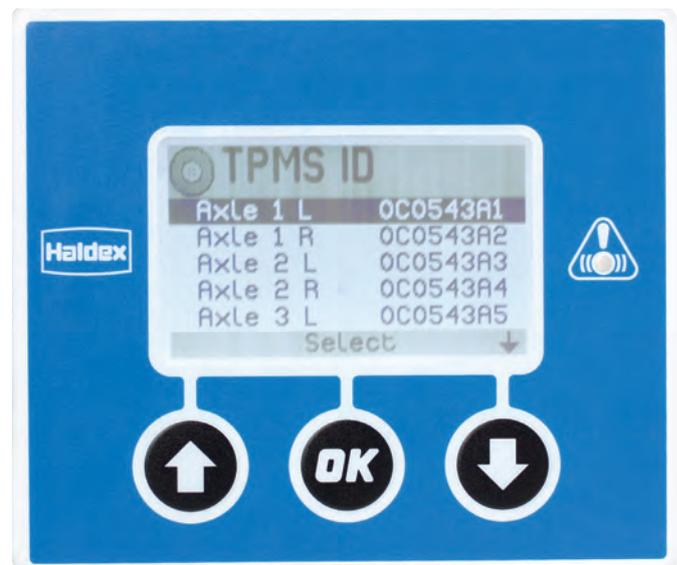


Use the  button to show the configured sensors.

Use the  and  buttons to show the configured sensors.

Use the  and  buttons to select the exit option.

Use the  button to exit back to the settings menu.



## Using the EB+ Info Centre to swap TPMS wheel unit sensors

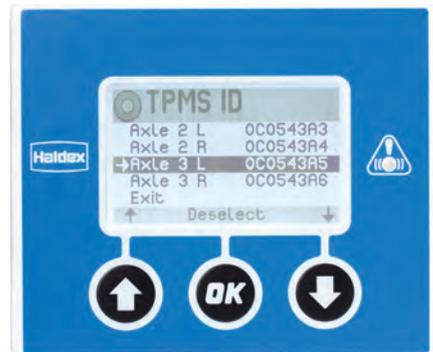


Use the and buttons to highlight the first sensor to swap.

Use the button to select the highlighted sensor.

An arrow indicates that the sensor has been selected.

If required, use the button to deselect the highlighted sensor.

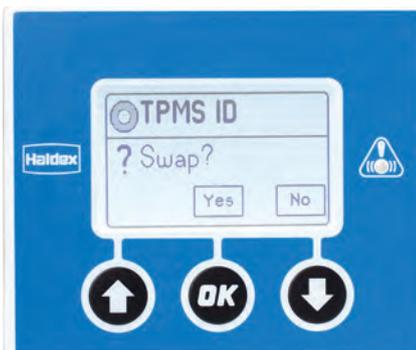
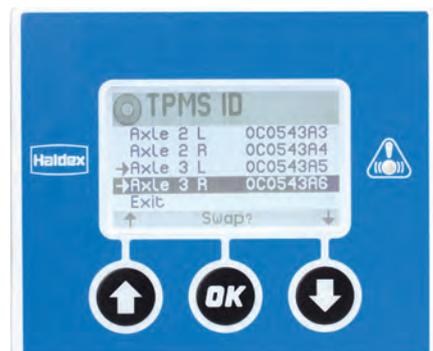


Use the and buttons to highlight the second sensor to swap.

Use the button to select the highlighted sensor.

Use the button to swap the selected sensors.

Use the button to swap the selected sensors and exit.



Use the button to exit without swapping the sensors.

## Settings / LED settings

### LED settings:

Used to configure the action of the service LED.

As default all of the flash options will be selected.

### LED flash B+:

Used to configure the action of the service LED when the EB+ Info Centre is powered by the EBS.

### LED flash batt:

Used to configure the action of the Service LED when the EB+ Info Centre is battery powered.

### Tilt angle threshold:

Used to set the tilt angle before the Service LED flashes.

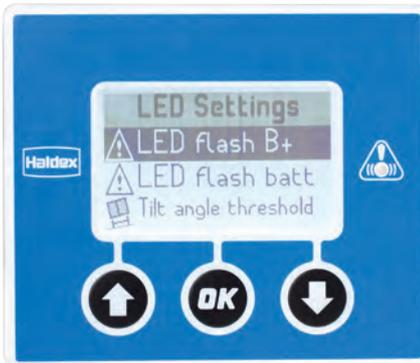
### Exit:

Used to return back to the settings menu.



\* Service LED

# Settings / LED settings / LED flash B+



**LED flash B+:**  
Sets the configuration of the service LED when the EB+ Info Centre is powered by the EBS.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the and buttons to highlight the action from the list.

Use the button to select the highlighted action.

The selected line is identified with a tick on it.



Use the button to clear the highlighted action. All number or combinations of the actions can be selected.



**Exit:**  
Use the and buttons to highlight the exit action from the list.

Use the button to select the exit option and go to the save menu.

Press the button to save and exit to the LED settings menu.

or

Press the button to exit without saving.



# Settings / LED settings / LED flash battery



LED flash batt:  
Sets the configuration of the service LED when the EB+ Info Centre is battery powered.

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the and buttons to highlight the action from the list.

Use the button to select the highlighted action.

The selected line is identified with a tick on it.

Use the button to clear the highlighted action.



All number or combinations of the actions can be selected.

Exit:  
Use the and buttons to highlight the Exit action from the list.

Use the button to select the exit option and go to the save menu.

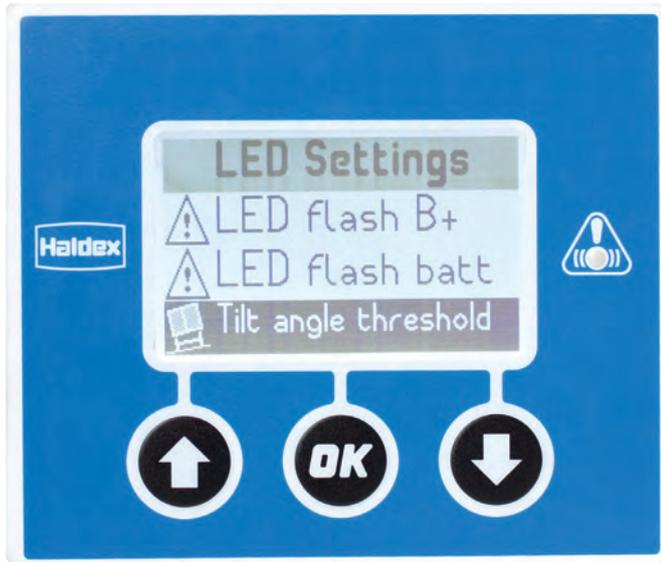
Press the button to save and exit to the LED settings menu.

or

Press the button to exit without saving.



## Settings / LED settings / Tilt angle threshold



Tilt angle threshold:

This is the angle which is used to trigger (i.e. if selected) the service LED.

Note: The default angle is 7°

The PIN will need to be entered before commencing (see "Settings / EB+ Info Centre / Unlock" on page 58).



Use the  and  buttons to set the required tilt angle threshold.

Use the  button to exit to the save menu.



Press the  button to save and exit to the LED settings.

Press the  button to exit without saving.

# Battery

The EB+ Info Centre contains a replaceable battery.

The two main functions of the battery are:

- › Provide power for the operation of the EB+ Info Centre when it is not connected to the EBS / ABS
- › Provide power for the service LED when it is not connected to the EBS / ABS

When power is supplied from the EBS / U-ABS, the EB+ Info Centre will remain switched 'on' until this power is removed.

When power is supplied from the internal battery, the EB+ Info Centre will switch 'off' automatically after 30 seconds, if no buttons have been depressed.

When power is supplied from the EBS / U-ABS, the EB+ Info Centre display screen will be brighter than if power is supplied from the battery.

After one minute, if no buttons have been depressed, the display screen will become less bright.

The battery voltage is checked each time the EB+ Info Centre is switched 'on', and it will display a battery low warning screen during its initialization phase if it is not correct (i.e. running low), this will have to be acknowledged before proceeding to the main menu options.

Note: None of the EB+ Info Centre data will be lost if the battery voltage is low as it is stored in non-volatile memory.

## Battery replacement

If necessary the battery must only be replaced by an approved Haldex service centre.

Note: The ADR EB+ Info Centre does not contain a battery.



## EU batteries directive 2006 / 66 / EC

Haldex Brake Products Ltd has identified the need to register, as a small producer of batteries, under the batteries directive.

The batteries directive 2006 / 66 / EC applies across the EU, but the exact requirements differ slightly in each country.

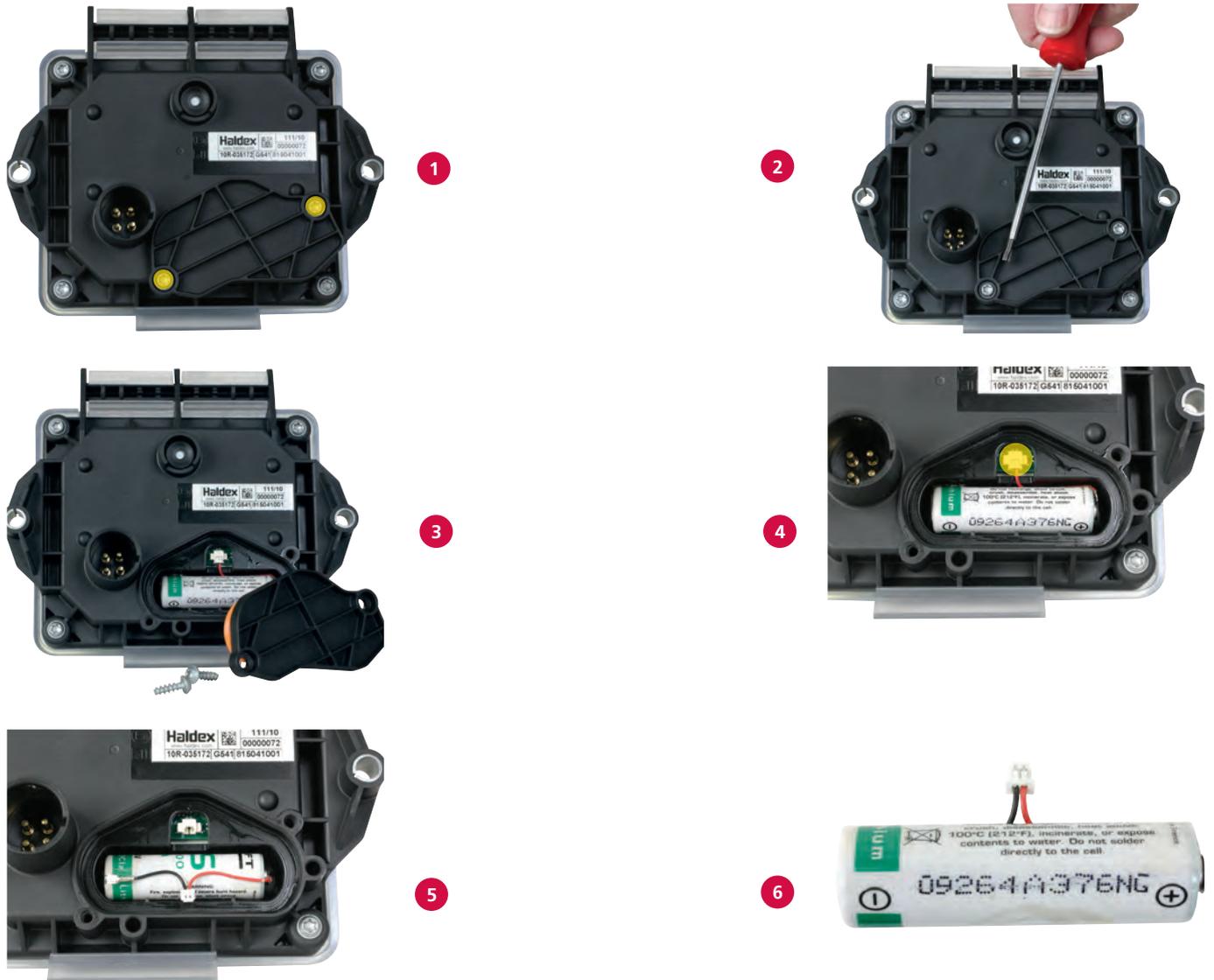
There are two pieces of UK legislation that are derived from the EU Batteries Directive 2006 / 66 / EC. They are, namely, the batteries and accumulators (placing on the market) Regulations 2008, and the Waste Batteries and Accumulators Regulations 2009. The former relates to labelling requirements for new batteries introduced onto the market, and the latter to producer responsibility for the recycling of waste batteries.

Haldex Brake Products Ltd has fulfilled its obligations under this Directive; but as an end user you must discard your old batteries, or any products containing fixed batteries, by either of the following methods:

- › At an authorised disposal point.
- › Via a registered hazardous waste contractor – in line with the hazardous waste regulations.

# Battery removal

## Battery removal procedure



- 1 Locate the two battery cover retaining screws (highlighted in yellow).
- 2 Remove the screws using a Torx T20 driver.
- 3 Pull gently to remove the cover
- 4 Locate the battery connector (highlighted in yellow)
- 5 Carefully remove the connector from the EB+ Info Centre
- 6 Dispose of the battery in accordance with the Batteries Directive 2006/66EC

## Alternative PIN

There is an alternative PIN that can be used in the event of the operator forgetting the current reset PIN which uses numbers taken from the trailers VIN (vehicle identification number).

Note: This is only valid if the VIN digits 14 to 17 are numbers.

Password calculation

The alternative PIN is made up of the following:

1st digit = 3 + digit 14 of the VIN

2nd digit = 1 + digit 15 of the VIN

3rd digit = 4 + digit 16 of the VIN

4th digit = 1 + digit 17 of the VIN

Note: If the result of the password digit calculation is greater than 9, you must only use the last digit,

e.g.  $4 + 8 = 12$  use the 2 in the new PIN.

Here is a worked example:

VIN = Haldex 80123456789

1st digit      3 + 6 (digit 14 of the VIN) = 9

2nd digit      1 + 7 (digit 15 of the VIN) = 8

3rd digit      4 + 8 (digit 16 of the VIN) = 12

4th digit      1 + 9 (digit 17 of the VIN) = 10

The alternative PIN would be 9820

## General

### EB+ Info Centre flash upgrade

The EB+ Info Centre software can be updated by an approved Haldex service centre.

### Maintenance of the EB+ Info Centre

The buttons should not be pushed with any sharp pointed objects.

Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the Info Centre.



### EB+ Info Centre ADR version

The ADR version of the EB+ Info Centre has no battery fitted and therefore cannot operate in the battery mode. Other functions which relate to the battery, (e.g. clock) are not available when the EB+ Info Centre is powered from the EB+ system.

### Diagnostic software

The following software should be used to programme / setup the EBS and ABS:

DIAG+ software - Gen3 EBS and U-ABS

or

DIAG++ software - EB+ 4.0 EBS.

Haldex develops and provides reliable and innovative solutions focused on brake and air suspension products to the global commercial vehicle industry. In 2019, the company had net sales of approximately SEK 5.1 billion and employed 2,172 people.



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