



MFC

Driver Manual



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MFC

Driver Manual

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Introduction

This vehicle is equipped with an automatic trailer coupling. The coupling can only be activated when the vehicle is stationary. Please read the Driver Manual before starting to use the coupling to familiarise yourself with the buttons and displays, and so that you can operate the coupling safely.

The functions of the coupling are controlled from the control panel on the dashboard. The control panel continuously receives information on the status of the coupling. The system also includes a positioning system, which during the connection process describes the vertical and horizontal position of the drawbar wedge and the distance to the coupling in graphic format.

Carry out function and safety checks once a week. Contact a workshop in the event of defects in the coupling's functionality. Stop driving and check, and where appropriate replace any damaged parts, if the coupling parts (truck/vehicle) have been damaged as a result of jackknifing, off-road driving, or reversing. At least once every year the coupling must be examined for wear, corrosion, cracks or deformation. Defective or worn parts must be replaced. *Servicing must always be carried out by specially trained personnel/authorised workshop.*

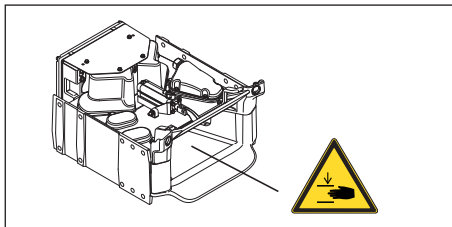
Explanation of symbols



The text by a WARNING symbol indicates the risk of damage if the instructions in the warning are not followed.



Pinch risk



The driver of the truck is obliged when parking or disconnecting a trailer to ensure that:

- **Parking does not involve danger or obstruction to other traffic or road users.**
- **The requisite measures are taken to prevent the trailer from moving.**
- **Where appropriate, the trailer is correctly marked.**



It is always the responsibility of the driver to ensure that no unauthorised persons are within the working area of the coupling.



During any work within the coupling, both air and electricity must be switched off/cut off and hydraulic pressure must be eliminated due to the risk of injury/damage.



MFC couplings with hydraulics have their own hydraulic system (with accumulator) that can be pressurised even when the vehicle is switched off. Activation and deactivation of hydraulic connections is controlled by the MFC coupling's own system pressure. The couplings can therefore move without actuation by the driver.

- When working on the coupling, the main current must therefore first be cut off in the vehicle to eliminate a risk of pinching with hydraulic couplings.
- If work must be performed on the vehicle's or the coupling's hydraulic system, pressure in the accumulator must first be evacuated. Pressure is evacuated using MFC Tool.

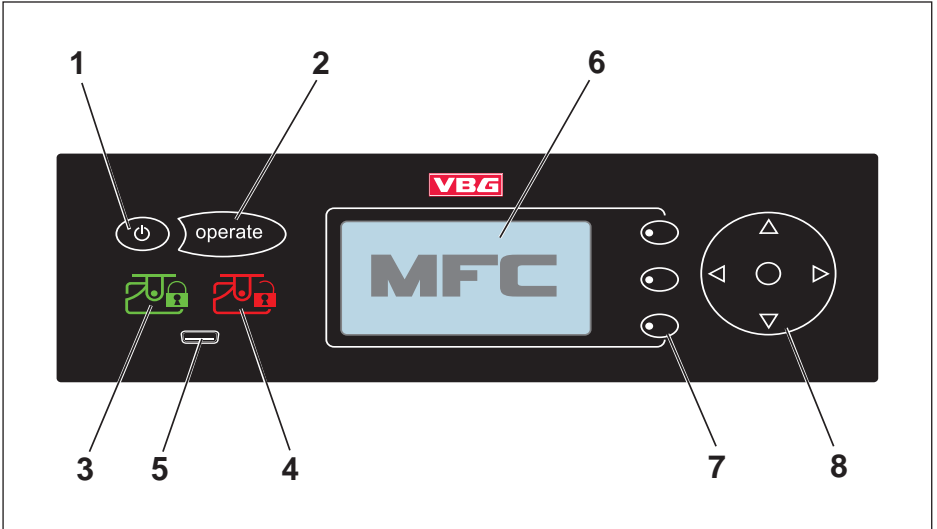
Give the Driver Manual to the customer to be kept in the vehicle for future service and maintenance.



Never touch the connector terminals on the coupling part if the current has not been disconnected since this can cause short circuiting.

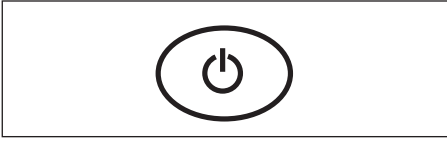


It is prohibited to wash the inside of the coupling with high-pressure jets. Never direct high-pressure jets to the power plug and air ducts on the drawbar wedge.



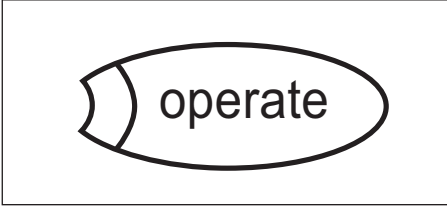
- 1 ON/OFF
- 2 Operate button
- 3 Coupling secured
- 4 Coupling not secured
- 5 Diagnostic output
- 6 Display
- 7 Function selector (3)
- 8 Navigation buttons

Functions of the control panel



1 ON/OFF

Activates and deactivates the control panel.



2 Operate button

Starts connection and disconnection



3 Coupling secured

Always goes on when the coupling is secured.



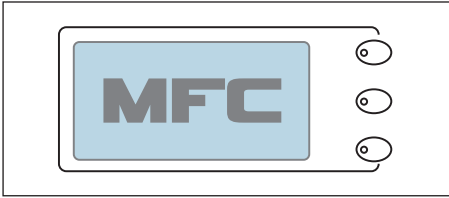
4 Coupling not secured

NOTE "Coupling not secured" is shown when a fault occurs in the system.



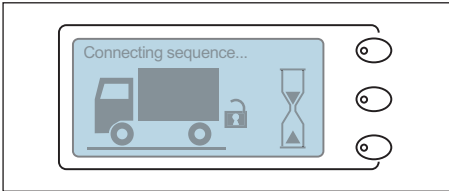
Stop the vehicle immediately. It is not permitted to continue driving with the trailer. Contact workshop.

Functions of the control panel

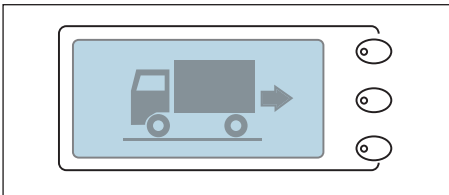


5 Display

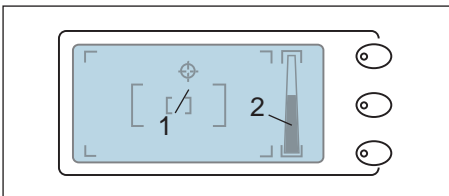
Always shown on the display when the truck ignition is on. The display lights up when the system is activated.



Prepares to connect.

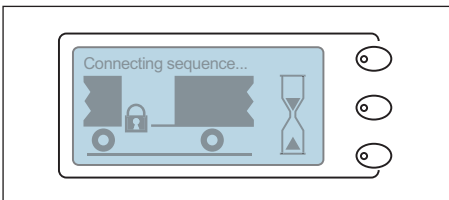


Start reversing.



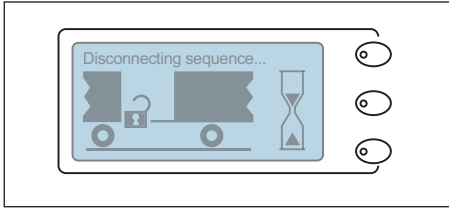
The positioning system - shows two functions.

1. Position of drawbar wedge in relation to coupling.
2. Shows distance between coupling and drawbar wedge.

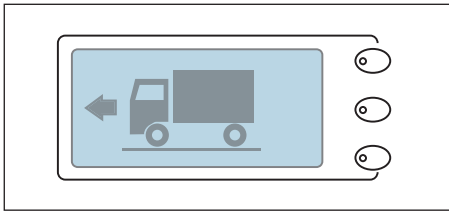


Connection in progress.

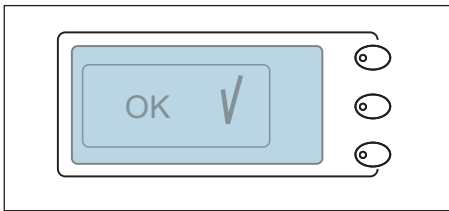
Functions of the control panel



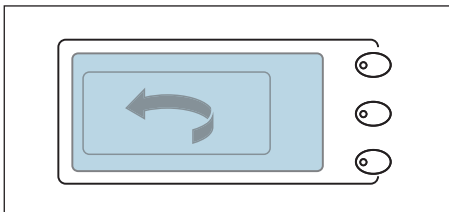
Prepares to disconnect.



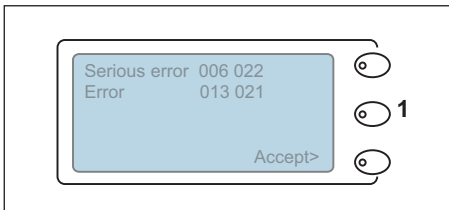
Start driving forwards without trailer.



Shown when trailer has been connected or disconnected correctly.



The symbol is shown when the Operate button is pressed to reverse the sequence.




Shown when a fault has occurred.



Error information


Serious error

Safety-related error active.

This is always shown together with the symbol “Coupling not secure”  and a constant buzzer signal sounds while travelling with a trailer. Stop the vehicle immediately. Contact a workshop.

Error

Function-related error active.

This is always shown together with the symbol “Coupling secure”  and an intermittent buzzer signal sounds while travelling with a trailer.

Accept

This button hides/shows error information. To hide error information, hold the button depressed while the vehicle is stationary. To once again show error information, press the button again.

Error code

A six-digit code that indicates what error occurred.

Function-related errors can often be remedied by the driver. For more information on errors, refer to the section “Function-related error codes”.

Handling



If a red error occurs during coupling, the ignition must not be switched off. Instead, first reverse the coupling sequence and uncouple the vehicle and the trailer.

If the ignition is nonetheless switched off, the coupling locks and uncoupling will not be possible when the ignition is switched back on.

Example

■ 011 021

During travel, error information is shown in the display and an intermittent buzzer signal sounds (with coupled trailer).

Stop the vehicle – the buzzer signal stops.

Check what the error codes mean (see section “Error codes”).

To hide error information and get the buzzer signal to stop during travel with a trailer, press the “Accept” button.

Example

■ 014 061

During travel, error information is shown in the display and a constant buzzer signal sounds (with coupled trailer).

Stop the vehicle immediately – the buzzer signal stops.

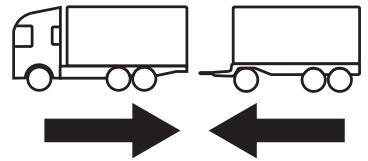
Check the error codes. Note the error code.

To hide error information, press the “Accept” button.

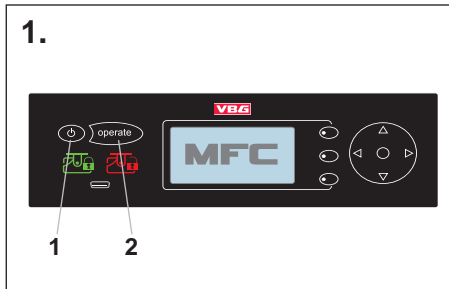
The buzzer signal cannot be switched off.

- Try to uncouple the trailer.
- Contact a workshop.
- Continued transport with trailer is not permitted.

CONNECTION

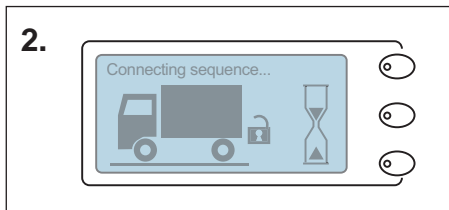


Connection

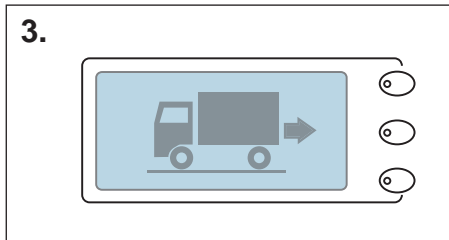


⚠ The vehicle must be stationary.

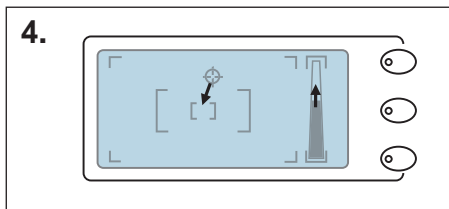
Activate the control panel by pressing the **ON** button (1).
Start the connection by pressing in the **Operate** button (2) for 2 seconds.



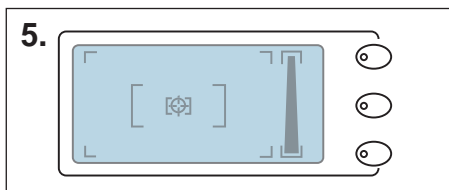
Wait.
Prepares to connect.



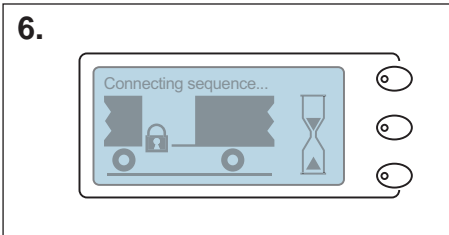
Start reversing.



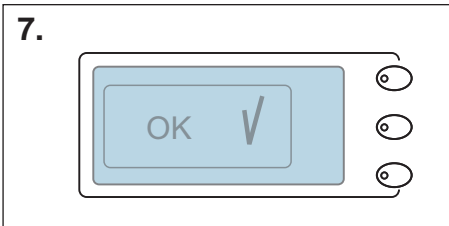
Reverse and steer in to the drawbar wedge with the help of the positioning system.



This image shows the correct position during connection.



Wait.
Connection in progress.

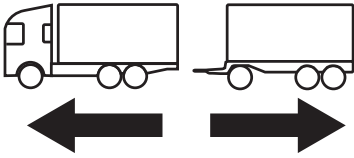


Connection ready.




The symbol "Coupling secured" goes on.
Ready to start driving with the trailer.

DISCONNECTION



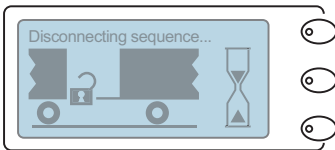
1.



 **The vehicle must be stationary.**

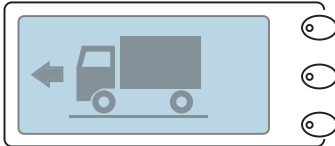
Activate the control panel by pressing the **ON** button (1).
Start the disconnection by pressing in the Operate button (2) for 2 seconds.

2.



Wait.
Prepares to disconnect.

3.



Start driving forwards without trailer.

4.



Disconnection ready.

5.



The symbol "Coupling secured" goes on.

Maintenance

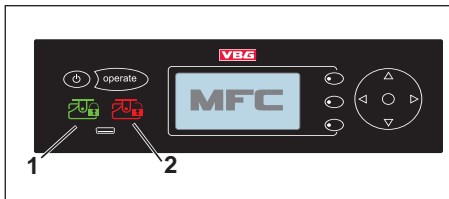
Maintenance includes items that should be continuously checked every week, or on conjunction with daily driving, and which are important for the coupling to function without interference.

Maintenance display

- Before cleaning the display - make sure that the ignition is switched off. Wipe the display with a soft, dry cloth.
- A soft piece of cloth moistened with a neutral detergent can be used to remove any spots. Avoid getting the display wet.
- Coarse rags, detergent or wet tissues, must not be used on the display.
- The display must be kept dry. Spilled liquids etc. can cause functional errors and damage.

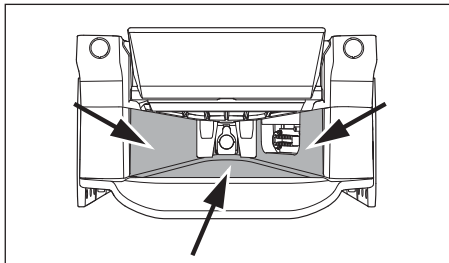
If the trailer is parked for a prolonged period the drawbar wedge should be covered to protect it from dirt.

Daily inspection



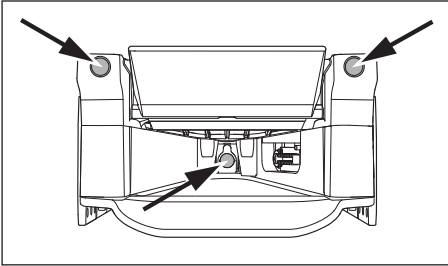
Control panel

Check that the symbols “Coupling secured” (1) and “Coupling not secured” (2) light up by switching the ignition on and off.



Coupling part

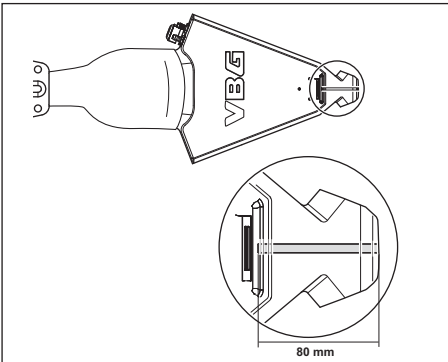
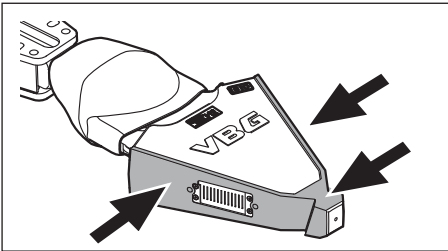
Clean the inside from dirt, gravel, or snow and ice.



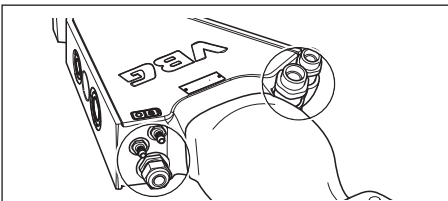
Make sure that the ultrasonic sensors are free from dirt, snow and ice.

Drawbar wedge

The surfaces shown in the images must be kept clean to ensure reliable functioning.



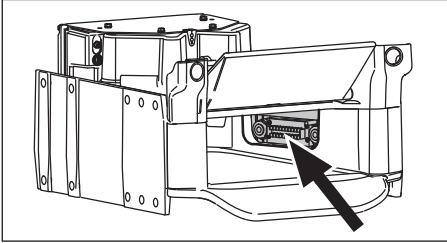
Clean the hole in the sensor. Never go deeper than 80 mm. Observe care to avoid damaging the sensor.



Check that air is not leaking from the air connections on the drawbar wedge. Check the power connections for damage. Check hydraulic connections. In the event of an error, contact a workshop.

Weekly inspection

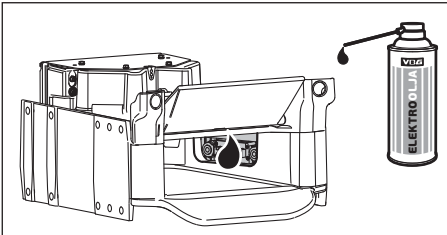
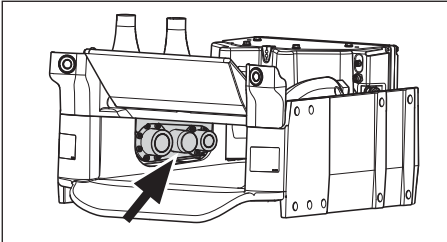
  Coupling part



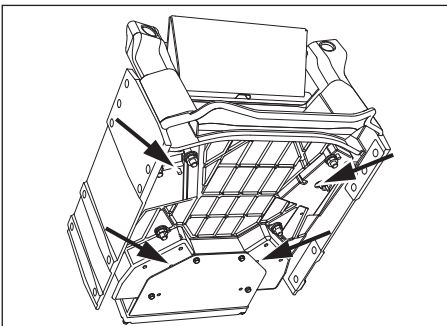
Blow clean the power points and hydraulics connectors inside the coupling by means of compressed air.

Check that the terminals on the power plug are not bent, damaged or coated with oxide.

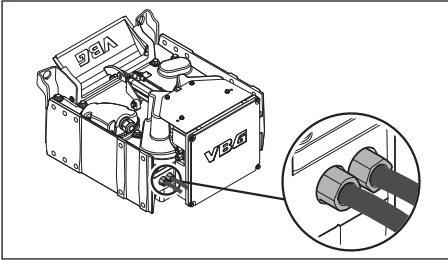
Check that the hydraulic connectors are not damaged.



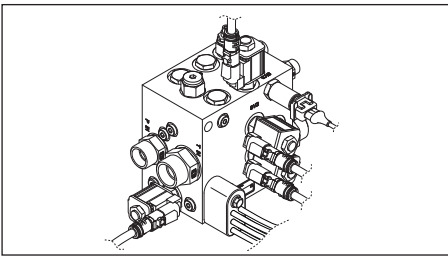
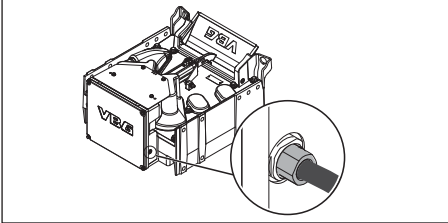
Lubricate the power plug with VBG Electro Oil.



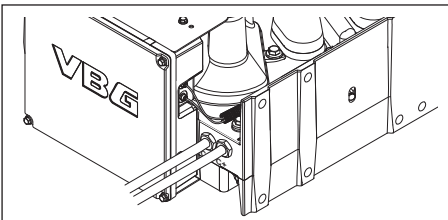
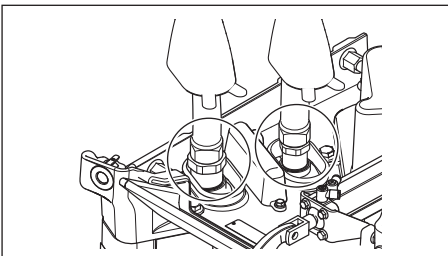
Keep the drainage hole on the underside of the coupling open.



Check that air is not leaking from the air connections. Contact a workshop if there is any leakage.

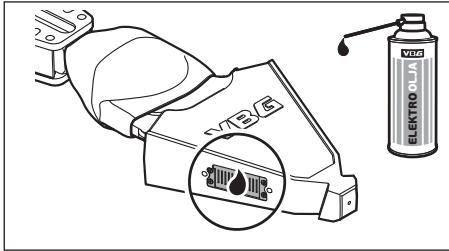


Check that oil is not leaking from the hydraulic connections. Contact a workshop if there is any leakage.

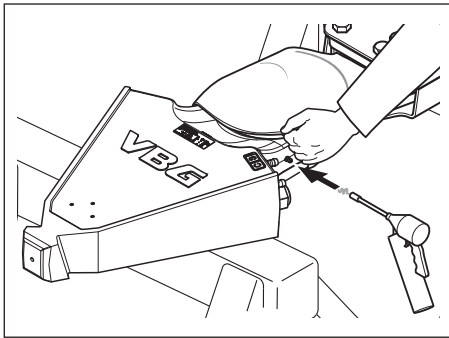


Maintenance

Drawbar wedge standard and hydraulic

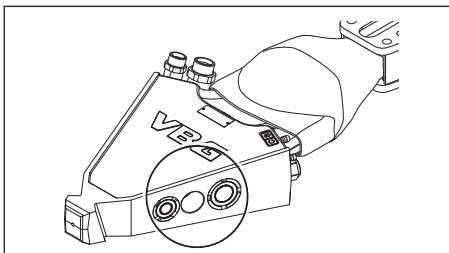


Keep the power plug clean by wiping it with a rag, or blowing with compressed air. Lubricate the power plug with VBG Electro Oil.



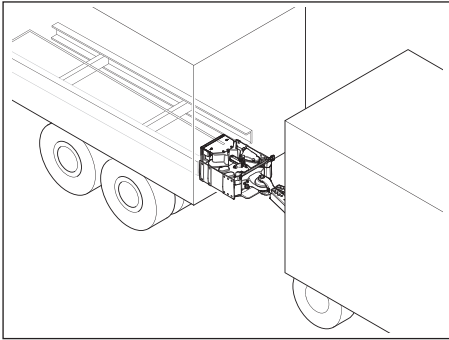
Lubricate the ball joint at least once a week with NLGI grease class 2 chassis grease (LB), Lithium + EP additive.

Drawbar wedge hydraulic



Keep the hydraulic connections clean by wiping it with a rag.

Monthly inspection

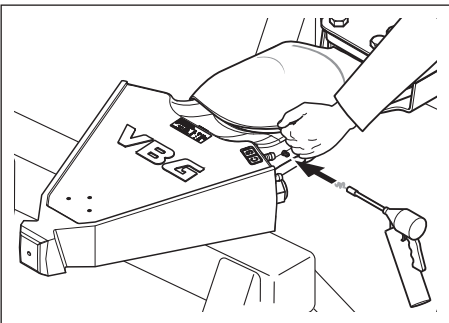
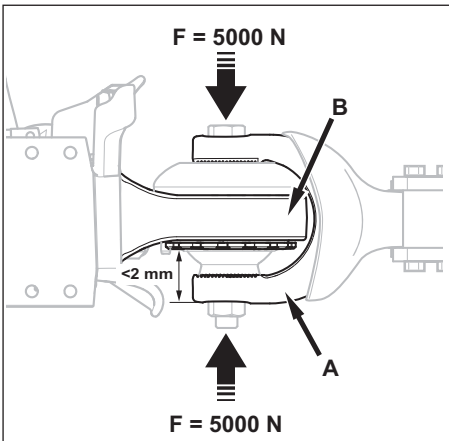


When checking for wear between the ball and ball seat, the coupling and drawbar wedge must be connected to each other.

Drawbar wedge

Check for any wear between the ball and ball seat as follows.

1. Pull aside the seal.
2. Measure any vertical play between A (tow fork) and B (drawbar wedge) with a pressure of $F=5000\text{ N}$.
Max. wear play 2 mm.
Replace worn parts as and when required.



Lubricate with NLGI grease class 2 chassis grease (LB), Lithium + EP additive.

Make sure the seal is tight around the drawbar wedge when it is pulled back.

Function-related error codes

Severity	Error code	Part of product	Failure information	Description	Coupling possible	Uncoupling possible
■	011 021	Draw Bar Wedge Sensor	Sensor Incorrectly Activated	The draw bar wedge was expected not to be in position (sensor not activated), but was in position (sensor activated).	NO	YES
■	011 022	Draw Bar Wedge Sensor	Sensor Incorrectly Not Activated	The draw bar wedge was expected to be in position (sensor activated), but was not in position (sensor not activated).	NO	YES
■	013 021	Cover Sensor Open	Sensor Incorrectly Activated	The cover was expected to be closed (sensor not activated), but was opened (sensor not activated).	NO	YES
■	013 022	Cover Sensor Open	Sensor Incorrectly Not Activated	The cover was expected to be opened (sensor activated), but was closed (sensor not activated).	NO	YES
■	025 021	Trailer Info	Sensor Incorrectly Activated	No telegrams were expected to be received from the trailer info unit, but telegrams were received.	NO	YES
■	025 022	Trailer Info	Sensor Incorrectly Not Activated	Telegrams were expected to be received from the trailer info unit, but no telegrams were received.	YES (Treated as std trailer)	YES
■	025 069	Trailer Info	Value unknown	Trailer info was expected to be present or absent. Correct telegrams were received at a too slow rate or of different values. Signals are received, but signal not good enough.	YES (Treated as std trailer)	YES

Function-related error codes

■	027 021	Hydraulic Sensor Disconnected	Sensor Incorrectly Activated	The Hydraulic Connector was expected to be connected(sensor not activated), but was disconnected(sensor activated).	NO	NO
■	027 022	Hydraulic Sensor Disconnected	Sensor Incorrectly Not Activated	The Hydraulic Connector was expected to be disconnected(sensor activated), but was not disconnected(sensor not activated)	NO	NO
■	028 021	Hydraulic Sensor Conn	Sensor Incorrectly Activated	The Hydraulic Connector was expected to be disconnected(sensor not activated), but was connected(sensor activated).	YES	YES
■	028 022	Hydraulic Sensor Conn	Sensor Incorrectly Not Activated	The Hydraulic Connector was expected to be connected(sensor activated), but was disconnected(sensor not activated)	YES	YES
■	034 061	Hydraulic Pressure Sensor	Value Lower than expected	The Hydraulic Pressure Sensor input measures a value that is lower than expected.	YES	YES
■	034 063	Hydraulic Pressure Sensor	Value Higher than expected	The Hydraulic Pressure Sensor input measures a value that is higher than expected.	YES	YES
■	034 069	Hydraulic Pressure Sensor	Value unknown	The Hydraulic Pressure Sensor input measures an unknown value.	YES	YES

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