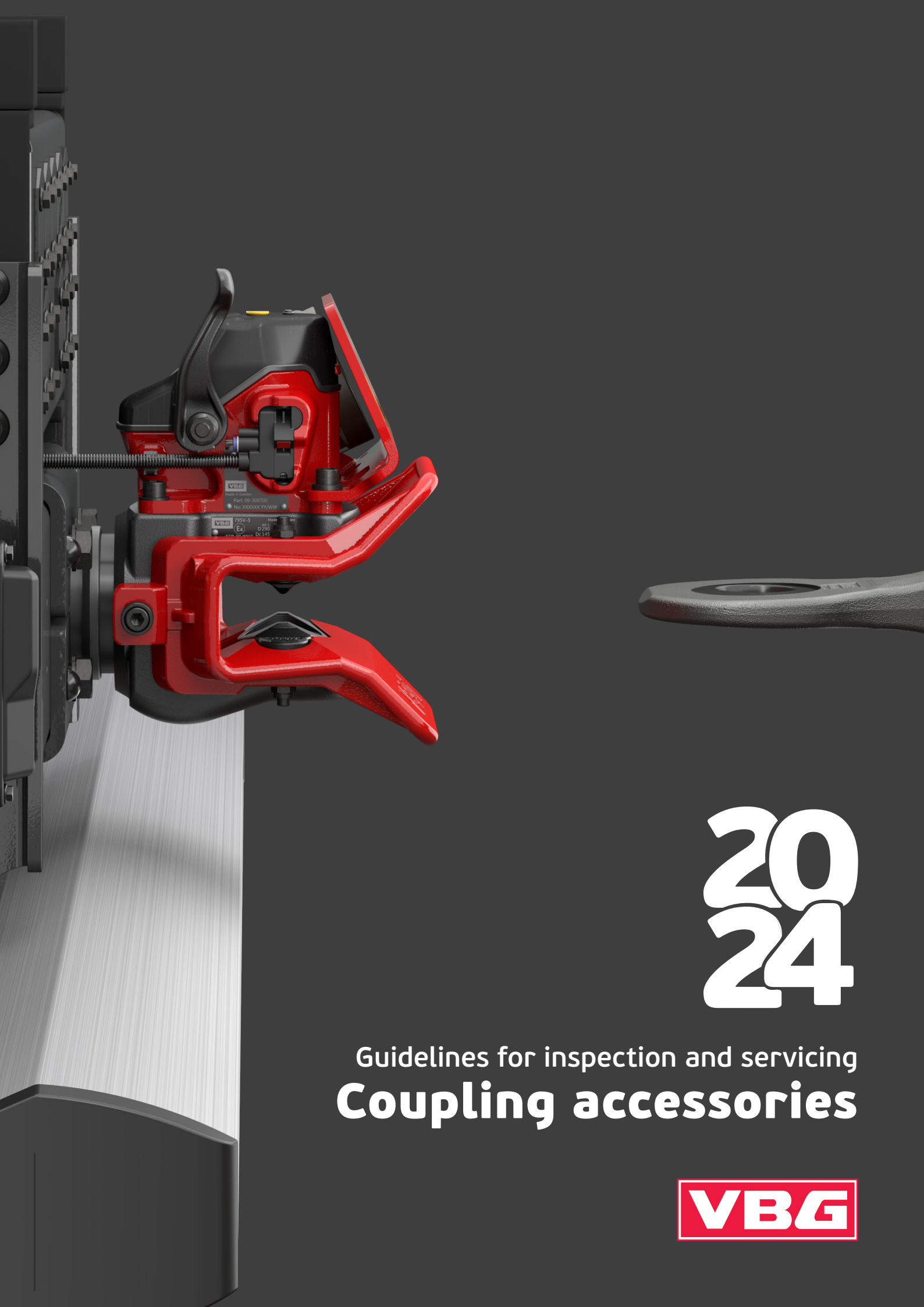

2024

Guidelines for inspection and servicing

# Coupling accessories

VBG

# General information

**General**
The components used to connect a vehicle and trailer are exposed, even during normal use, to very high tensions. Regular service and maintenance is a prerequisite if the coupling is to function well during its entire service-life. Clean and lubricate the coupling every week.
The length of the service intervals depend on the type of trailers, the loads, roads and climatic conditions etc. The service should ideally be carried out in conjunction with other inspection of the vehicle, e.g. every 60,000 or 90,000 km.
***If daily inspection or safety checks show that any of the wear limits have been exceeded, or that the function of the product has been impaired, servicing must be carried out immediately.***
***If any of the product's wear limits have been exceeded, this is an indication that other parts also require servicing.***
Check that all type plates and warning/information labels are legible and have not been painted over, washed off or otherwise damaged. Illegible labels must be replaced and can be ordered from VBG Truck Equipment.
If the coupling is damaged as a result of jackknifing, off-road driving or reversing, the vehicle must be stopped and the coupling replaced.

NB! All coupling equipment must be pressureless and without voltage before servicing is carried out, I.e. disconnect the supply air and disconnect the power to actuator-assisted couplings and drawbars.

Always follow VBGs instructions and the vehicle manufacturer's bodybuilding instructions.

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**Guidelines for inspection and servicing Coupling accessories 2024**

Version e, 01/06/2024



**Explanation of symbols**

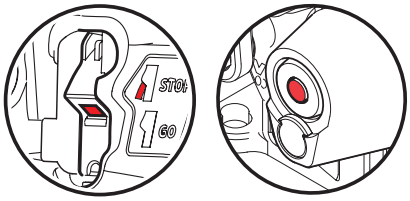
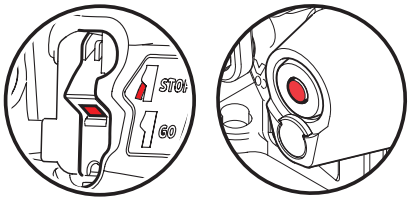
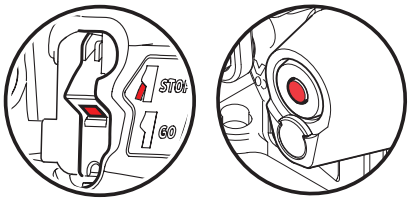
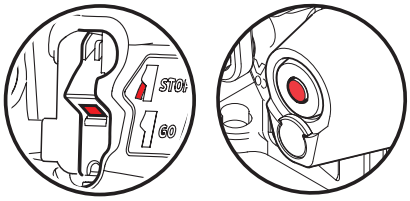

**Severity**
3 = STOP to ensure future use.
2 = Rectify as soon as possible, within four weeks.
1 = Rectify when able or during next service. Within no more than one year.

**Warning!**
Never put your fingers into the coupling mouth as they may be crushed.An open coupling always involves a risk of crushing due to the powerful springs that constitute the coupling's closing function.

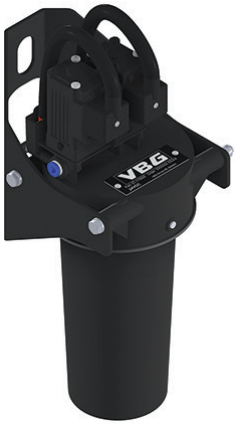
# Contents

| Checkpoint | Symptom | Fault |
|---|---|---|
| **General information on control unit**<br>Vehicle specification. | No symptoms of power actuator-equipped couplings, but e.g. MechMatic does not lubricate during driving. | No air supply when driving at speeds above 30 km/h. |
| **Control unit**<br>**Valve box**<br>Complete valve box.<br>  | The cover cannot be closed/locked.<br>There is dirt ingress.<br>The control unit rattles. | The control valve's box cannot be closed due to damaged cover/hinges/ lock. |
| **Control unit**<br>Complete control unit. | Difficult to move. | The valve spindle is jammed. |
| **Control unit**<br>Complete control unit. | The coupling's opening and closing handle can be turned without the securing plate being actuated. | Does not lock when opening and closing the handle.<br>The securing plate for the yellow handle is deformed. |

| Inspection method | Requirements, wear limits, etc. | ① ② ③ Instructions for rectification |
|---|---|---|
| Check in the vehicle specification. Is the vehicle equipped with a speed-controlled valve for the auxiliary equipment outlet? | If there is a need for a continuous air supply, follow the vehicle manufacturer's instructions. | |
| Visually check that the cover seals tightly against the control unit's base unit and that the catch is working. | The cover should fit snug against the control unit's base unit. | ② Replace the whole valve box excl. valve. |
| Must be easy to operate by hand. | Max. torque 5 Nm. | ① Loosen the hose at port one, apply a few drops to the hose and refit. Move the valves. If they continue to jam, replace the entire control unit. |
| Check whether the handle can be operated without the securing plate being pressed in. | It must not be possible to operate the handle without the securing plate being pressed in. | ① Replace the handle. |

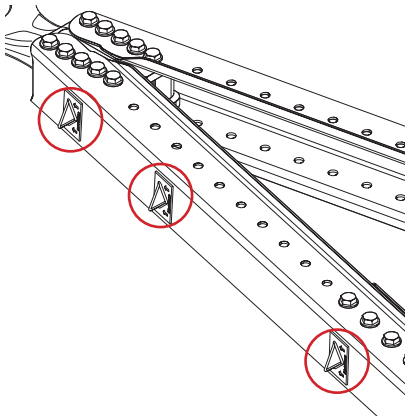
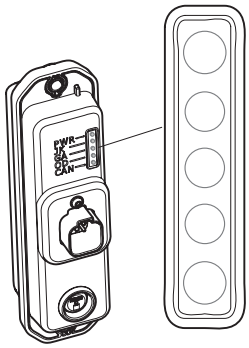
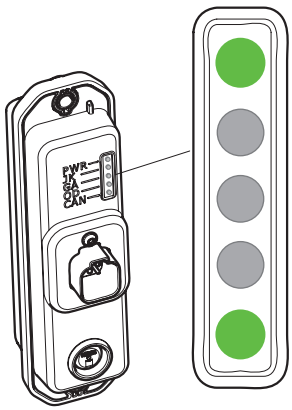
| Checkpoint | Symptom | Fault |
|---|---|---|
| **Indication equipment for open/closed and locked mechanism.**<br>Signal and locking pin.<br>Sensor.<br>Display and wiring. | Cluster or indicating panel is constantly red.<br><br>Indication on the sensor lights up red. | Sensor does not give the correct signal, shows red indication when the mechanism is locked.<br>(Signal pin shows locked mechanism.)<br>  |
| **Indication equipment for open/ closed and locked mechanism.**<br>Signal and locking pin.<br>Sensor.<br>Display and wiring. | No indication given. | Sensor gives no signal when the mechanism is locked. (Signal pin shows locked mechanism).<br>  |
| **Indication equipment for open/ closed and locked mechanism.**<br>Signal and locking pin.<br>Sensor.<br>Display and wiring. | Unstable signal, switches between red and green. | Sensor does not give correct signal; sometimes shows red.<br>(Signal pin shows locked mechanism.)<br>  |
| **Indication equipment for open/ closed and locked mechanism.**<br>Signal and locking pin.<br>Sensor.<br>Display and wiring. | Shows red when the coupling is open and does not show green when the coupling is closed. | Sensor does not give correct signal.<br>(Signal pin shows locked mechanism)<br>  |
| **Indication equipment at risk of jackknifing.**<br>Sensor locations. | Continuous audible signal. | Sensor does not give correct signal. |
| **Indication equipment at risk of jackknifing.**<br>Sensor locations and electrical systems. | No audible signal. | The indication system does not give the correct signal. |

| Inspection method | Requirements, wear limits, etc. | ①②③ | Instructions for rectification |
|---|---|---|---|
| Check that the coupling signal pin is in the locked position.<br>Check visually that cables, connectors, display and sensor are correct mounted and not damaged. | Green signal will be displayed when the signal pin is in the locked position. | ② | Troubleshoot using the diagram; see mounting instructions.<br>Replace the faulty component. Spare parts according to the mounting instructions.<br>Make sure that the signal pin is visibly in the locked position. Use the red handle to shut off the air supply to the valve box. Drive to a service workshop. |
| Check that the coupling signal pin is in the locked position.<br>Check visually that cables, connectors, display and sensor are correct mounted and not damaged. | Green signal will be displayed when the signal pin is in the locked position. | ② | Troubleshoot using the diagram; see mounting instructions.<br>Replace the faulty component. Spare parts according to the mounting instructions.<br>Make sure that the signal pin is visibly in the locked position. Use the red handle to shut off the air supply to the valve box. Drive to a service workshop. |
| Check that the coupling signal pin is in the locked position. Check visually that cables, connectors, display and sensor are correct mounted and not damaged. | Green signal will be displayed when the signal pin is in the locked position. | ② | Lubricate mechanism and signal/locking pin using VBG MechOil. If the fault persists, troubleshooting should be carried out using the diagram, see mounting instructions.<br>Replace the faulty component. Spare parts according to the mounting instructions.<br>Make sure that the signal pin is visibly in the locked position. Use the red handle to shut off the air supply to the valve box. Drive to a service workshop. |
| Check that the coupling signal pin is in the locked position. Check visually that cables, connectors, display and sensor are correct mounted and not damaged. | Green signal will be displayed when the signal pin is in the locked position. | ② | Troubleshoot using the diagram, see mounting instructions.<br>Replace the faulty component. Spare parts according to the mounting instructions.<br>Make sure that the signal pin is visibly in the locked position. Use the red handle to shut off the air supply to the valve box. Drive to a service workshop. |
| Visually check the sensors' position. | The sensors must be fitted approx. 1 mm from materials. | ② | Adjust the positions as necessary.<br>In the event of further signal-related troubleshooting, replace the sensor. |
| Press one sensor at a time until at least 6 mm away from the materials. | Each will give a signal. | ① | If the fault persists, troubleshoot using the diagram, see mounting instructions. |

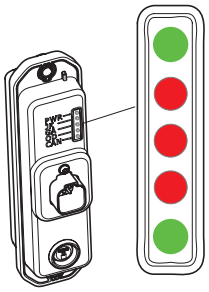
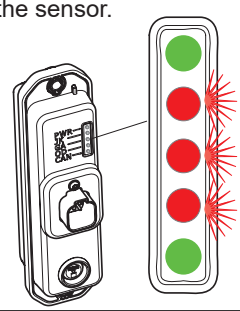
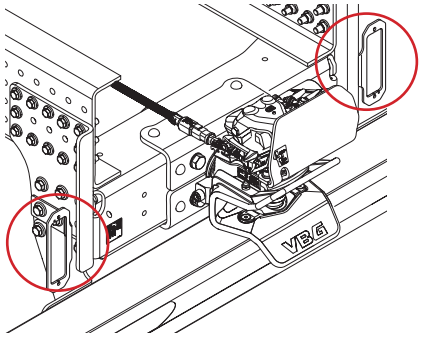
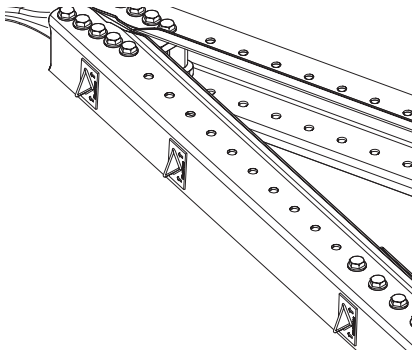
| Checkpoint | Symptom | Fault |
|---|---|---|
| Upper part of MechMatic.<br>  | Oil around the valve. | Leakage oil valve. |
| Upper part of MechMatic. | If there is moisture or wetness, bubbles may form around the valve body. | Leakage air valve. |
| The power outlet for MechMatic. | High oil consumption. | Empties the container very quickly due to incorrect connection of the power supply. |

| Inspection method | Requirements, wear limits, etc. | ①②③ Instructions for rectification |
|---|---|---|
| Visually inspect around the valve. | No leakage. | ① If there is leakage, replace the valve. |
| Visually inspect around the valve | No leakage. | ① If there is leakage, replace the valve. |
| Switch off the ignition key, no light will illuminate on MechMatic. | MechMatic must be electrically connected to the ignition lock, +15. | ① Follow mounting instructions. |

| Checkpoint | Symptom | Fault |
|---|---|---|
| DSM reflectors on the drawbar. | No buzzer signal in the cab when the vehicle reverses with jackknifing angles > 40 degrees. | Drawbar not equipped with 6 reflectors in specified location. |
| DSM units. | No buzzer signal in the cab when the vehicle reverses with jackknifing angles > 40 degrees and no guiding information when reverse against the drawbar with mounted sensors. | Interruption in voltage supply to the DSM and/or between the DSM units. |
| DSM units. | No buzzer signal in the cab when the vehicle reverses with jackknifing angles > 40 degrees and no guiding information when reverse against the drawbar with mounted sensors. | Sensors covered by dirt and ice. |

| Inspection method | Requirements, wear limits, etc. | Instructions for rectification |
|---|---|---|
| Visually inspect that the drawbar is equipped with 6 undamaged reflectors.<br>  | | (1) Replace missing and damaged reflectors with new ones. |
| With the ignition on, check the lights on both DSM units.<br>If none of the lights on any of the sensors lights up, there is no power to that device.<br>  | | (1) Check cabling and connectors for damage. |
| Check if the sensors are covered by a thick layer of dirt and/or ice. | Turn on the ignition and check that only the upper and lower lights are green and test the function.<br>  | (1) Clean the sensors. |

| Checkpoint | Symptom | Fault |
|---|---|---|
| DSM units. | No buzzer signal in the cab when the vehicle reverses with jackknifing angles > 40 degrees and no guiding information when reverse against the drawbar with mounted sensors. | Changing the sensor or moving the sensor without performing calibration. |
| DSM units. | No buzzer signal in the cab when the vehicle reverses with jackknifing angles > 40 degrees and no guiding information when reverse against the drawbar with mounted sensors. | Interruption in signal cable or internal error in sensor. |
| DSM units, brackets and reflectors. | Incorrect guidance or jackknifing. | Sensors out of position and/or missing reflectors on the drawbar. |

| Inspection method | Requirements, wear limits, etc. | Instructions for rectification |
|---|---|---|
| With the ignition on, check the lights on both DSM units.<br>If the middle sensors light up red, this indicates that calibration has not been completed when changing the sensor or changing the position between the sensors.<br>  | | ① Carry out a calibration of the system according to the mounting instruction. |
| With the ignition on, check the lights on both DSM units.<br>If the middle sensors are flashing red, this indicates a communication error, an error in other control devices in the system (CSM and BCM) or an internal error in the sensor.<br>  | | ① 1. Check cables and connectors for damage.<br>2. Check the function of the indicator light on the coupling sensor (CSM).<br>3. Check the function of indication in cab (BCM).<br>4. Check the indicator lights on the DSM.<br>5. Replace the units and recalibrate the system if the problem continues. |
| Check that the sensor brackets are not deformed and that no reflectors are damaged or missing.<br>  <br>  | | ① Replace damaged brackets and missing and damaged reflectors with new ones. |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