Replacing the locking sensor
JSK 37C
EN    Repair instructions
Sensor-enabled fifth wheel couplings are parts that must comply with very high safety requirements.

This repair manual is designed to act as a guide to completing repair work on our sensor set.

The use of JOST spare parts is essential. Changes or modifications of any kind invalidate any warranty claims and will lead to the component type approval being forfeited.

Operation and installation are described separately in dedicated publications.

Explanation of symbols

![WARNING!]

Means that death, serious physical injury or significant material damage can occur if the relevant safety instructions are not followed.

![ATTENTION!]

Means that slight physical injury or material damage can occur if the relevant safety instructions are not followed.

![ADVICE!]

Contains additional important information.

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The relevant safety regulations in your country (Health & Safety at Work, for example) apply to work with sensor-enabled fifth wheel couplings and vehicles. The relevant safety instructions included in the vehicle and semi-trailer's operating instructions must also be complied with. The permitted load data and safety information must be complied with during operation and installation. For maintenance and repair work, the following sections contain safety information that is directly related to each specific activity. It is essential that you follow this safety information.
2 Intended use

2.1 Use

JOST fifth wheel couplings are mechanical connecting devices and establish a connection between the tractor and the semi-trailer. They are designed for mounting on a tractor unit.

Fifth wheel couplings, mounting plates and kingpins are vehicle-connecting parts that must comply with very high safety requirements and must also undergo design approval tests. Modifications of any kind will render both the warranty and the design approval void and therefore also cancel the vehicle's operating licence.

JOST fifth wheel couplings are specified to comply with Regulation ECE R55 in class 50 and may be used solely in conjunction with kingpins of class H50, steering wedges and mounting plates of class J, or comparable licensed equipment. The sensors conform to Regulation ECE R10.

JOST fifth wheel couplings are suitable for use in power steering systems.

ADVICE!
Technical modifications reserved.
The latest information can be found at www.jost-world.com
Conversion work must be carried out by trained personnel in suitable workshops.

Repair work must be carried out using suitable tools and state of the art methods.

Instructions for assembly are identified by a diamond ◊.

Unless described separately, assembly is in reverse order.

The torque values shown in the diagrams are required for the subsequent assembly process.

Clean all parts thoroughly before assembly.

After completing the repair work, the fifth wheel coupling locking mechanism must be greased and its function tested.

**ATTENTION!**
The prescribed tightening torques must be adhered to!  
Worn, damaged and cracked parts must always be replaced.  
Repair welds must not be used.
4 Standard/special tools and auxiliary materials

4.1 Standard tools

4.2 Special tools

- Workbench
  - Hot air blower
  - Ejector tool for Tyco HDSCS flat connector 1.6 (Tyco article number 0-0539960-1)
  - Ejector tool for Tyco HDSCS flat connector 2.8 (Tyco article number 1-1579007-6)

4.3 Auxiliary materials

We recommend high-pressure grease (EP), e.g. JOST high-performance lubricant (JOST Art. No. SKE 005 670 000).
5 Sensor function test

Before replacing the locking sensor, all sensors must first undergo a function test to ensure that only the locking sensor is faulty.

To do this, see the repair instructions "Replacing sensor set JSK 37/JSK 40/JSK 42".
ATTENTION!
Worn, damaged and cracked parts must always be replaced. Repair welds must not be used. After completing the repair work, the entire fifth wheel coupling locking mechanism must be greased and its function tested.

With the diagrams, the work steps should be carried out in alphabetical order (e.g. a, b, c). Assembly is carried out in reverse order. Instructions for assembly are identified in the diagram number or in the diagram itself with a diamond ◊. The torque values shown in the diagrams are required for the subsequent assembly process. The prescribed tightening torques must be adhered to!

6.1 Preparing the fifth wheel coupling

- Disconnect the electrical connection to the tractor vehicle.

ATTENTION!
The fifth wheel coupling may only be raised using suitable lifting gear.

- Remove the fifth wheel coupling from the tractor vehicle and place on a suitable surface, e.g. workbench. Also see the repair instructions for the fifth wheel coupling in question.

6.2 Removing cable fastenings and connectors

ADVICE!
Depending on the design, the cable routing, position and number of cable ties and cable clamps may vary.

ADVICE!
Make sure the cable sleeve is not damaged during the following step.

- Using a cable cutter, remove the cable ties securing the connection cable from the locking sensor (1) to the connector (2).

- Slide the safety slide (10) in the direction of the arrow (C) away from the plug.
- Pull the plug (11) out of the retaining plate towards the centre of the coupling plate (D).

ADVICE!
Installation is performed in the reverse order.
6.3 Removing the locking sensor

- Position of locking sensor (1).

**Variant 1**

- Remove the head of the blind rivets (23) using a 5.5 mm drill bit
- Undo the hex bolt M10 (24).
- Remove the latch (25) and the sensor with holder (22).

**Variant 2**

- Undo the hex bolt M10 (24).
- Remove the latch (25) and the sensor with holder (22).

**ADVICE!**
If you removed the locking sensor as shown in Figure 2b, skip Item 3.

- Drive the rivets (23) into the hole using a Ø 3 mm pin punch.

6.4 Removing contacts

**ATTENTION!**
Take care not to damage the cable during the next step.

- Cut open the cable tie (31) on the connector cap (32).
- Using a flat screwdriver, open the locking clip (33) of the connector cap and remove the cap.
Unlock the second contact lock of the connector.
To do so, insert a flat screwdriver into the hole provided. Light pressure moves the contact lock into the pre-detent position.

**ATTENTION!**
Never pull the wire before unlocking the contact. Light pressure against the cable lead-out direction facilitates unlocking.

- Press the contact out of pin 3 using the ejectortool for the Tyco flat connector 2.8.
- Press the contacts out of pins 4 and 5 using the ejectortool for the Tyco flat connector 1.6.
- To press out the contacts, press the blades of the ejectortool into the two slots in the corresponding contact chamber as far as they will go.
- When the ejectortool is inserted and the contact released, you can remove the contact from the wire.

Nip off the pushed-out contacts directly behind the seal using a cable cutter (A).
Next, pull the sensor cable out of the shrink-fit hose (B).
6.5 Installation

6.5.1 Installing contacts

ATTENTION!
When inserting the contacts, make sure they are aligned correctly. The contacts must click audibly into place in the connector.

- Inserting the contacts of the new locking sensor
  Pin 3 = black
  Pin 4 = red
  Pin 5 = brown
- Close the contact lock on the connector.

ATTENTION!
The shrink-fit hose, cable sleeve and wire insulation can be damaged by the heat from the hot air blower.

- Re-shrink the shrink-fit hose around the remaining two cables using a hot air blower.
- Next, secure the jacket cable of the new locking sensor (34) to the two other jacket cables using a cable tie (35).
- Put on the connector cap (32).
- Secure the cable to the connector cap (32) with another cable tie (31).

ATTENTION!
It is clear when contacts are in their end position due to the following:
- The contacts have audibly clicked into place.
- The single-wire seal is fully inserted in the connector hole.
- The second contact lock (yellow clip) can be engaged effortlessly after the contacts have been pinned.

6.5.2 Installing the connector

The connector is installed in the reverse order. After this, use the supplied cable ties to refasten the cable at the points indicated in Section 6.2. Don’t forget to also secure cables and hoses that were unfastened during removal of the cable ties.

ATTENTION!
When repair is complete, a function test of the fifth wheel coupling must be performed (see the repair instructions of the fifth wheel coupling in question).

Sensor installation and cable routing must not have disturbed/influenced the function of the fifth wheel coupling. On the other hand, cables and lines must not be disturbed/damaged by the mechanisms of the fifth wheel coupling.

ATTENTION!
When repair is complete, a function test of all sensors must be performed, see the repair instructions "Replacing sensor set JSK 37/JSK 40/JSK 42".
6.5.3  Installing the replacement lockingsensor

Add-on parts of locking sensor JSK 37C

22  Locking sensor with holder
24  Hex bolt M10
25  Latch with magnet
26  Lock nut M10
29  Allen screw M5 x 10 mm
30  Washer D10
31  Sleeve
31  Spring

ATTENTION!
Only use a new lock nut (26) for installation.

ATTENTION!
Also note the “Repair instructions for the JSK 37 fifth wheel coupling”.

Install the locking sensor with holder (22) in the following sequence, as shown above: Allen screw M10 (24), locking sensor with holder (22), washer D10 (26), sleeve (27), spring (28) and lock nut (26).

Position the latch (25) in installation position.

Tighten the lock nut (26) so it is finger-tight.

ATTENTION!
Next, check that the lock is functioning correctly. After it has been deflected to the open position, the latch (25) must move independently to the stop on the holder (22).

6.5.4  Fitting the guard plate

Unscrew the mounting dome (1) by turning it anti-clockwise out of the threaded hole.

Route the cable of the replacement locking sensor through and under the handle (arrow).

Attach the cable to the second mounting dome (30) using a cable tie.

Tighten the hex bolt (24) to the specified torque.
ATTENTION!
Make sure the cable is within the intended radius range (1) of the plate.

- Insert the cable under the guard plate (2).
- Fit the guard plate (2) with the screw (3) and washers (4) as shown.
- Push the guard plate (2) onto the fin (arrow) and tighten the screw (3) to the specified torque.
Disposal instructions

Installed parts are valuable raw materials that can be recycled.

They can be split into plastics, rubber and metal materials.

Plastic and rubber are labelled in accordance with VDA recommendation 260.

Before disposal, clean parts to remove any residual oil or grease.