

<b>Montage- und Betriebsanleitung Sattelkupplung JSK 26 D</b>	<b>5</b>	Deutsch
<b>Installation and operating instructions for fifth wheel coupling JSK 26 D</b>	<b>17</b>	English
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**The safety information is compiled in one section. Where the user of the fifth wheel coupling is in danger, the safety information is repeated in the various sections and marked with the danger symbol shown adjacent here.**

The relevant safety regulations in your country (for example Health & Safety at Work) apply for working with fifth wheel couplings, tractor units and semi-trailers. The appropriate safety information in the owner's handbook for the tractor unit and the semi-trailer are valid and must be followed. The following safety instructions apply to operation, servicing and installation. Safety information directly linked to the activity is listed again individually.

## 1.1 Safety information for operation

- ▶ The fifth wheel coupling may only be used by authorised persons.
- ▶ Only use the fifth wheel coupling and skid plate on the semi-trailer if they are in perfect technical condition.
- ▶ The front of the skid plate must not be sharp, otherwise it may damage the fifth wheel coupling or the liner.
- ▶ Comply with the relevant safety regulations when connecting a semi-trailer, for example the Health and Safety at Work Regulations.  
Only connect a semi-trailer on firm, flat ground.
- ▶ The skid plate must be at the same height or preferably lower – no more than 50 mm lower – than the coupling plate on the fifth wheel coupling. Pressure losses in the air suspension may change the height of the semi-trailer.
- ▶ Check the locking mechanism before starting your journey to ensure that it is properly locked.  
Only drive the vehicle with the locking mechanism locked and secured, even when driving without a semi-trailer (solo driving).

## 1.2 Safety instructions for servicing

- ▶ Only use the specified lubricants for servicing work.
- ▶ The servicing work should only be completed by trained personnel.

## 1.3 Safety information for installation

- ▶ Do not change the installation area defined by the tractor unit's manufacturer.
- ▶ The installation work may only be completed by authorised specialists.
- ▶ Refer to the instructions issued by the vehicle manufacturer, for example the type of fastening, fifth wheel position, fifth wheel height, axle load, cavity, mounting plate, slider, etc.
- ▶ Follow the installation instructions supplied by the mounting plate and slider manufacturers.
- ▶ On vehicles that are used to transport hazardous goods, a ground connection must be put in place between the fifth wheel coupling and the vehicle chassis.

It is a basic principle that screw connections must be tightened to the specified tightening torque as the setting for the torque wrench acc. to DIN ISO 6789 in classes A or B.

The fifth wheel coupling must be installed on the vehicle in accordance with the requirements of Annex VII of Directive 94/20/EC or Appendix 7 of Directive ECE R55-01. It may also be necessary to comply with the licensing regulations of the appropriate country. §§ 19, 20 and 21 of the Road Traffic Act apply in Germany. In addition, your attention is drawn to the requirements of § 13 of the Vehicle Registration Ordinance in Germany relating to the data in the vehicle documents in terms of the maximum trailer load.

## 2.1 Utilisation

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 Directives 94/20/EC and Regulation ECE R55-01 in class 50 and are to be used only in conjunction with kingpins of class H50 and class J mounting plates or comparable licensed equipment.

JOST fifth wheel couplings type JSK 26 D are intended for vehicles with a gross combination weight of maximum 12 t.

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



**Technical modifications reserved. The latest information can be found at: [www.jost-world.com](http://www.jost-world.com).**

## 2.2 Specification

The fifth wheel coupling is specified with the vehicle by the vehicle manufacturer (the design must comply with Directive 94/20/EC, Appendix VII or Regulation ECE R55-01 Appendix 7).

In addition to the fifth wheel load the D value is a criterion for the load capacity of fifth wheel couplings and mounting plates.

It is calculated using the following formula:

- D = Drawing bar value [kN]
- g = 9.81 m/s<sup>2</sup>
- R = Permissible total weight of the semi-trailer [t]
- T = Permissible total weight of the towing vehicle, including U [t]
- U = Permissible fifth wheel load [t]

$$D = g \cdot \frac{0.6 \cdot T \cdot R}{T + R - U} \text{ [kN]}$$

Sample calculation:

- T = 5 t
- R = 8 t
- U = 3 t

$$D = 9.81 \cdot \frac{0.6 \cdot 5 \cdot 8}{5 + 8 - 3} \text{ kN} = 23.5 \text{ kN}$$

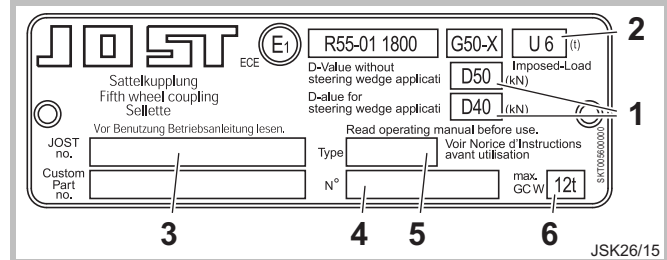
## 2 Correct use

Refer to the table below to find the permitted load data for JOST fifth wheel couplings. This information is also listed in the relevant JOST catalogue sheets and stamped into the type plate. They are applicable for proper usage pursuant to Directive ECE R55. If they are subject to dynamic tensile forces, for example if they are used on uneven road surfaces or on construction sites, do not use the complete imposed load and D value or use a stronger fifth wheel coupling or consult JOST.

### Permitted load data

ECE Test symbol and approval number	Type	Fifth wheel coupling	Fifth wheel load [t]	D value [kN]
E1 55R-01 1800	JSK26D	JSK 26 D	6	50 a)
				40 b)

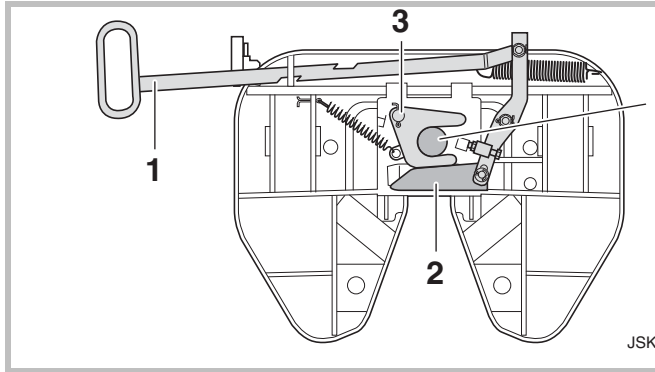
- a) Without forced steering  
 b) With forced steering



- 1 Maximum D value in kN
- 2 Maximum imposed load U in t
- 3 Article no.
- 4 Serial no.
- 5 Type JSK26D
- 6 Maximum gross combination weight

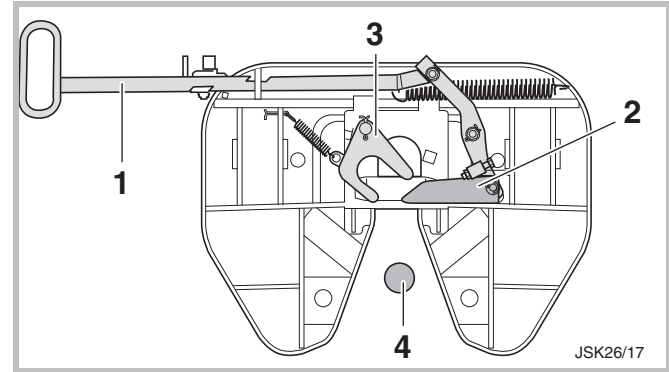
Every fifth wheel coupling has a serial number, which is embossed on the type plate and also on the underside of the coupling plate. This is designed to give the coupling a unique identity.

#### 3.1 Fifth wheel coupling closed and locked



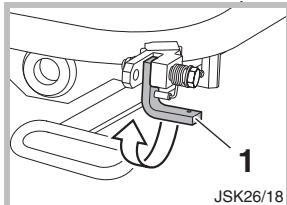
- 1 Handle
- 2 Locking bar
- 3 Lock jaw
- 4 King pin

#### 3.2 Fifth wheel coupling ready for engagement

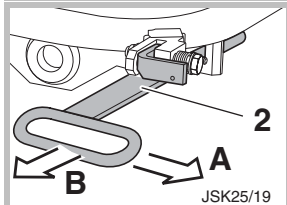


- 1 Handle
- 2 Locking bar
- 3 Lock jaw
- 4 King pin

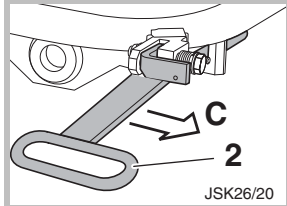
#### 3.3 Opening the fifth wheel coupling



- ▶ Lift the catch (1).



- ▶ Swing the handle (2) towards the front into position **A** to release the lock.
- ▶ Pull out the handle (2) as far as possible into position **B**.



- ▶ With the handle (2) pulled out, swing it forwards into position **C** and engage it on the edge of the plate.

#### 3.4 Coupling up a trailer

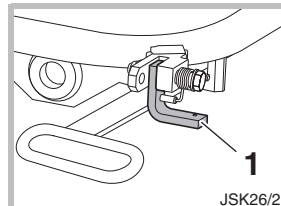
- ▶ Secure the semi-trailer to prevent it from rolling away.
- ▶ The fifth wheel coupling must be ready to engage (see section 3.2). Otherwise open the fifth wheel coupling (see section 3.3).
- ▶ Check the height of the semi-trailer. The skid plate must ideally be at the same height as or no more than 50 mm lower than the coupling plate on the fifth wheel coupling.
- ▶ Drive the tractor unit under the semi-trailer.
- ▶ The locking mechanism will close automatically.

- ▶ Perform a moving-off test in a low gear.
- ▶ Check the locking mechanism (see section 3.5).
- ▶ Connect the supply lines.
- ▶ Retract the landing gear as described in the operating manual.
- ▶ Release the parking brake and remove the chocks.

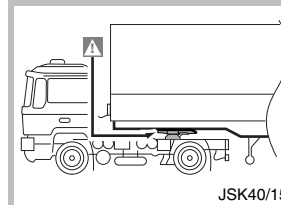


**Check the locking mechanism status before starting any journey (see section 3.5).**

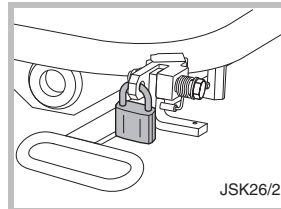
#### 3.5 Checking the locking mechanism



- ▶ The catch (1) must be down as shown.



**The skid plate must rest on the fifth wheel coupling without a gap.**



#### Note

To prevent the fifth wheel coupling being opened without authorisation, a security device (for example a padlock) can be inserted into the hole in the latch holder as shown.

### 3.6 Uncoupling a trailer

- ▶ Park the vehicle on flat, firm ground.
- ▶ Secure the semi-trailer to prevent it from rolling away.
- ▶ Extend the landing gear as described in the operating manual until the fifth wheel coupling has almost no strain on it. Disconnect the supply lines.
- ▶ Open the fifth wheel coupling (see section 3.3)
- ▶ Drive the tractor unit out from under the semi-trailer.
- ▶ The fifth wheel coupling is automatically ready for engagement again

### 4.1 Servicing instructions

The skid plate on the semi-trailer that engages with the fifth wheel coupling must meet the following conditions to provide a long service life and trouble-free function:

- ▶ Max. 2 mm unevenness
- ▶ Smooth and groove-free surface if possible, without weld bumps (smooth existing groove burr)
- ▶ Rounded or chamfered front and side edges
- ▶ Complete coverage of the fifth wheel coupling support area with adequate reinforcement appropriate to the situation.



**Effective lubrication of the top of the fifth wheel plate, the lock, the pivot bearing and the king pin before using for the first time and each time after cleaning is essential to ensure their long service life.**

#### Note

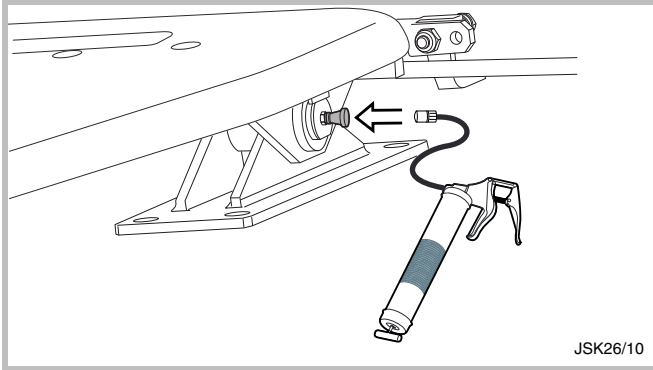
When you clean the fifth wheel coupling you may produce waste that contains pollutant substances. We would like to point out that you must comply with the various national waste regulations for the disposal of this waste.

#### 4.1.1 Fifth wheel coupling with manual lubrication

At short intervals, at the latest every 5,000 km:

- ▶ Uncouple the semi-trailer
- ▶ Clean the fifth wheel coupling and the skid plate
- ▶ Grease the fifth wheel plate, locking parts and king pin
- ▶ Grease specification: High-pressure grease (EP), e.g. JOST high-performance lubricant (art. no. SKE 005 670 000).
- ▶ Lubricate pivot bearings using grease nipples.





### 4.2 Test instructions

Depending on the conditions of use, but no later than every 50,000 km or every six months, the fifth wheel coupling, the mounting plate, the slider, the king pin and their fastening elements should be checked for:

- ▶ Correct functioning
- ▶ Wear
- ▶ Correct position of the fastening elements (check prescribed torque values)
- ▶ Damage or distortion
- ▶ Cracks
- ▶ Corrosion
- ▶ Adequate lubrication
- ▶ Smooth running of the mechanisms

Repair them if necessary.

### 4.3 Checking for wear

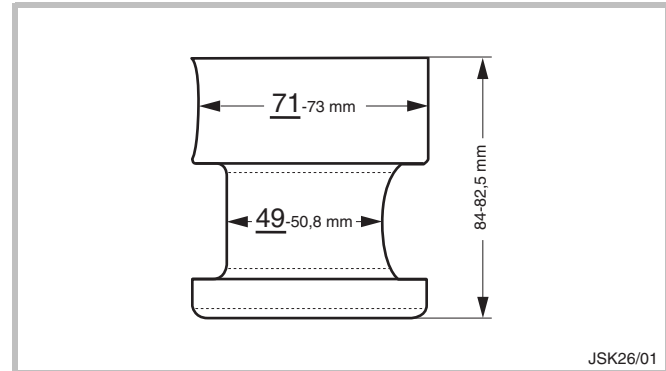
Fifth wheel couplings and king pins are subject to more or less wear depending on the conditions in which they are used, and this wear is noticeable by play towards the front of the vehicle.

Excessive play causes shocks and may lead to instability on the road and damage to the fifth wheel coupling, mounting plate and vehicle chassis.

JOST fifth wheel couplings JSK 26 D offer the possibility of setting the function play.



**The wear on the king pin must not be compensated by the adjustment facility.**

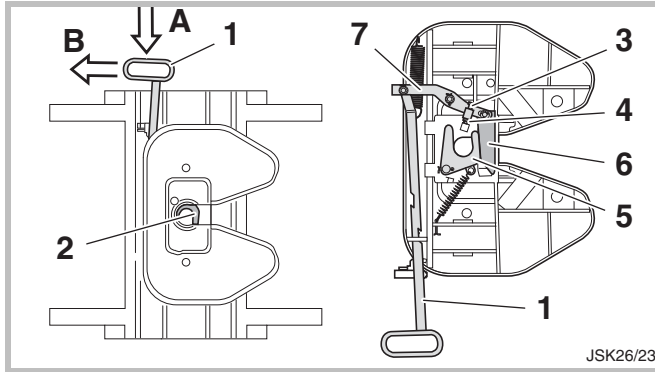


When the wear limit on the king pin has been reached, it must be replaced.

After the king pin has been replaced, the locking mechanism must be adjusted again.

Play caused by wear on the king pin should either be accepted if within the permitted wear limit for the king pin (see illustration) or should be rectified by fitting a new king pin.

## 4.4 Adjusting the locking mechanism



- |   |                   |   |             |
|---|-------------------|---|-------------|
| 1 | Handle            | 5 | Lock jaw    |
| 2 | Locking mechanism | 6 | Locking bar |
| 3 | Adjusting screw   | 7 | Lever       |
| 4 | Lock nut          |   |             |

- ▶ To set the recommended basic play of 0.3 mm, tighten the adjusting screw (3) by a further 2 turns and secure it with the lock nut (4).
- ▶ Apply the semi-trailer brake.
- ▶ Move off with the tractor and check the maximum play in the locking mechanism.

**Note**

If there is still excessive play, the lock jaw must be replaced as described in the repair manual.

The locking mechanism must be set as follows using a semi-trailer without forced steering with a new king pin:

- ▶ Park the vehicle on flat, firm ground and uncouple the trailer.
- ▶ Undo the lock nut (4).
- ▶ Unscrew the adjusting screw (3) by approx. 5 turns.
- ▶ Couple the semi-trailer up, if necessary lightly tapping the handle (1) in the closing direction **A** to bring the locking bar into its limit position.
- ▶ Unlock the handle (1) (raise the catch), swing the handle into position **B** and hold it there (get an assistant to hold it).
- ▶ Tighten the adjusting screw (3) again until the handle (1) starts to move (have an assistant check this).

### 5.1 General installation instructions

To attach the JOST fifth wheel coupling on the mounting plate or on the flitch, use 8 bolts size M14, preferably M14 x 1.5, in strength class 10.9. These must be positioned in a symmetrical pattern to the longitudinal and lateral axes of the fifth wheel coupling.

We recommend securing the pedestals in the longitudinal and lateral directions, and the mounting plates in the longitudinal direction, by pre-welded thrust plates without play. Use the welding methods set out by the manufacturers of the vehicle and mounting plate for this purpose. There is no need to use thrust plates, however, if the permitted D-value will not be completely utilised and it can be ensured that the correct tightening torque for the bolts and therefore the perfect friction contact can be generated and maintained at all times.

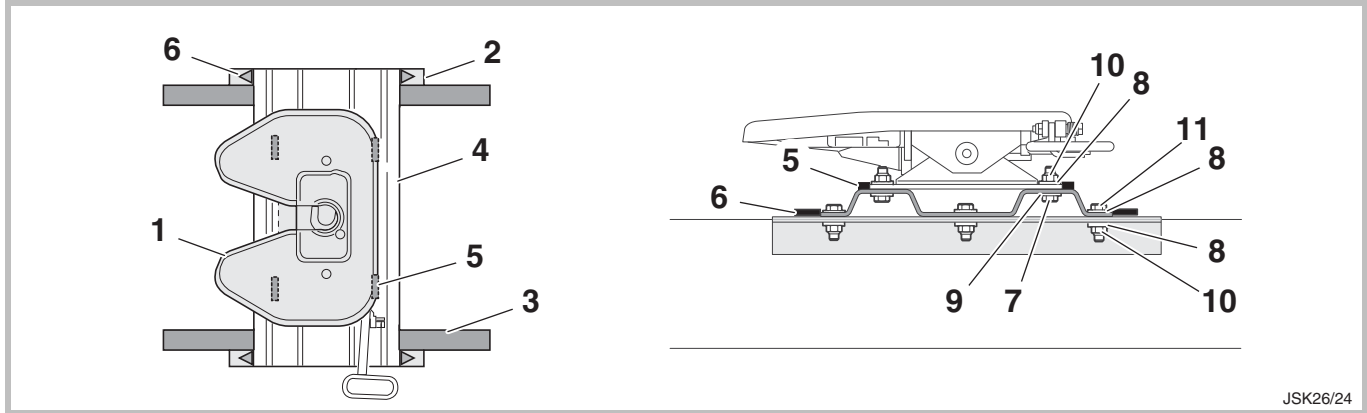
The bolt connections are therefore to be designed so that the prescribed tightening torque values or prestressing forces can be applied permanently. The general rule is that the coating thickness of the paintwork around the securing area of the bolts must be no more than 120 µm per component.

The screw connections must be secured using state of the art methods to prevent them coming loose.

Appropriate reinforcement must be made in accordance with the application.

The fifth wheel coupling must be able to move freely and must not be in contact with either the mounting plate or parts of the chassis or flitch when the vehicle is being driven.

### 5.2 Installation of the fifth wheel coupling on the mounting plate



JSK26/24

- 1 Fifth wheel coupling
- 2 Flitch
- 3 Vehicle chassis
- 4 Mounting plate
- 5 Thrust plates to secure the pedestals
- 6 Thrust plates to secure the mounting plate
- 7 Hexagon bolt M14–10.9 (8 x)
- 8 Washer 15 DIN 7349, 6 mm thick (min. HB175)
- 9 Optional washer (min. HB175) or disc spring
- 10 Hexagon nut M14–10
- 11 Hexagon bolt (min. 6 x) min. M14–10.9

Tightening torque, see section 5.3.

Alternatively, the mounting plate can also be attached to the tractor vehicle using M16 bolts.

## 5.3 Fastening material and tightening torques

Fastening material	Strength class 10.9
Hexagon bolt DIN EN ISO 4014/4017 (DIN 931/933) standard thread M16 M14	260 Nm 170 Nm
Hexagon bolt DIN EN ISO 8765/8676 (DIN 960/961) fine thread M16 x 1.5 M14 x 1.5	280 Nm 180 Nm
Countersunk bolt DIN EN ISO 10642 (DIN 7991) M16 or M16 x 1.5 M14 or M14 x 1.5	250 Nm 145 Nm

**Note**

The values shown above are guide values for a coefficient of friction  $\mu_{\text{tot.}} = 0.14$ . Further information is available in VDI 2230.