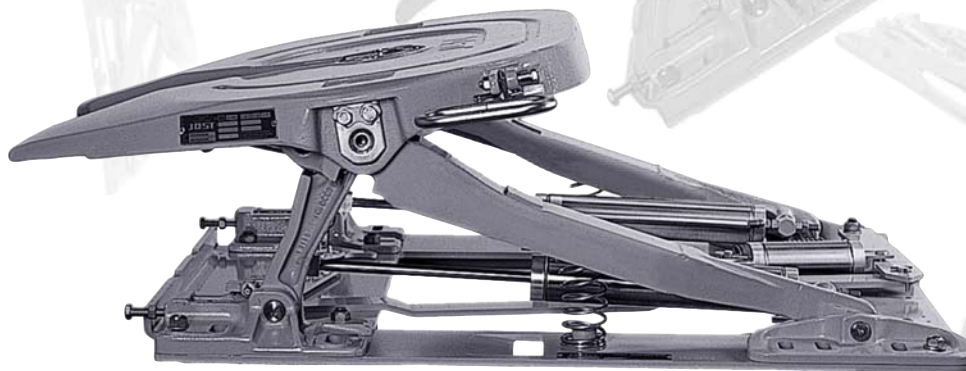


JOST

-Montage- und Betriebsanleitung

HUBEINRICHTUNG JSK DH



- Ⓒ Installation an operating instructions for
DUAL HEIGHT FIFTH WHEEL SYSTEM JSK DH
- Ⓕ Instructions de montage et d'utilisation pour
DISPOSITIF LEVAGE JSK DH
- Ⓖ Istruzioni per il montaggio e l'uso del
DISPOSITIVO DI SOLLEVAMENTO RALLA JSK DH
- Ⓔ Instrucciones de montaje y funcionamiento para el
DISPOSITIVO DE DOS ALTURAS JSK DH

The dual height fifth wheel is a connecting part that must comply with very high safety requirements and must also undergo design approval tests. Modifications for any kind will render both the warranty and the design approval void.

The dual height fifth wheel is not an independent function unit. It is designed for mounting on a tractor unit.

It must not be used until it has been established that the tractor unit on which the dual height fifth wheel has been mounted complies with the national regulations for road traffic.



The safety informations are compiled in one section. Where the user of the dual height fifth wheel is in danger, the safety information is repeated in the various sections and marked with the danger symbols shown at the side.

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1 Safety information

The relevant safety regulations in your country (for example Health + Safety at work) apply for working with dual height fifth wheel, fifth wheel couplings, tractor units and semi-trailers. The appropriate safety informations in the owner's handbook for the tractor unit and the semi-trailer are valid and must be followed.

The following safety information applies to the operation. Safety informations that are directly linked to the activity are listed again individually.



Safety informations on the following sections are shown with the appropriate danger symbols. You must comply with these safety informations.

1.1 Safety information on operation

- ▶ The dual height fifth wheel may only be used by authorised persons.
- ▶ The dual height fifth wheel may only be used if it is in perfect working order.
- ▶ Only actuate the dual height fifth wheel if there is nobody in the danger zone. Ensure that you comply with the relevant national health and safety regulations.
- ▶ The dual height fifth wheel may only be used when the tractor unit is not coupled (unladen).
- ▶ Only complete the coupling process on firm, flat ground.

1.2 Safety information on maintenance

- ▶ Only use the specific lubricants for the servicing work.
- ▶ The servicing and cleaning work must be completed by trained personnel.

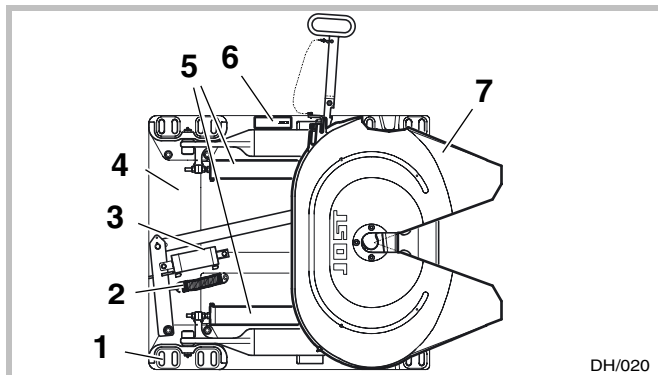
1.3 Safety information on installation

- ▶ Mount the dual height fifth wheel on the tractor unit as described in the section headed "Installation".
- ▶ JOST dual height fifth wheels must be installed by trained personnel in suitable workshops. The mounting regulations of the vehicle manufacturer, § 19, 20 and 21 of the Road Traffic Act and the installation instructions must be observed.
- ▶ If the dual height fifth wheel is not installed correctly all warranty claims against the manufacturer and the supplier of the dual height fifth wheel will be rendered void.

2 Proper usage

The dual height fifth wheel is designed to lift and lower the mounted fifth wheel coupling. It allows a low deck tractor unit to be used with conventional trailers and mega-trailers.

The dual height fifth wheel is designed for use on metalled roads and for normal transport conditions found in Central Europe. If different conditions prevail or if the slider is exposed to additional dynamic stresses or used for tanker, silo or tipper trailers or other trailers with a high centre of gravity, please ask for our advice. They must not be used on building site vehicles. The maximum load data (see model plate) of the dual height fifth wheel apply in accordance with Directive 94/20 EC.



- 1 Fastening hole pattern
- 2 Spring
- 3 Cylinder for locking
- 4 Base plate
- 5 Cylinder for raising and lowering
- 6 Type plate
- 7 Fifth wheel coupling

3 Operation

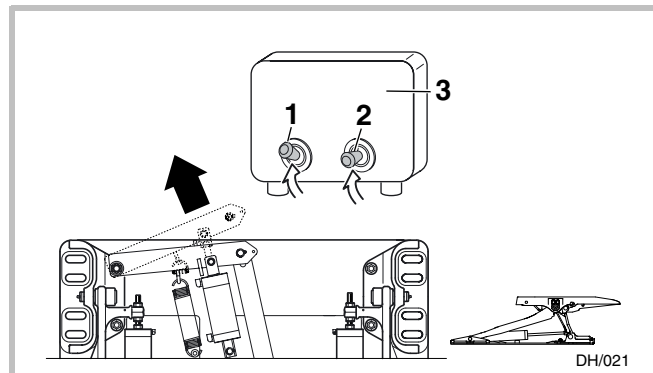
The following section contains a description of how to use the dual height fifth wheel. Comply with the relevant safety instructions.

Instructions for using the fifth wheel coupling are described in separate installation and operating instructions. Comply with the safety instructions contained therein.



The coupling height may only be adjusted when the tractor unit is not coupled to a trailer. During the adjustment process there is a risk of crushing between the fifth wheel coupling and the dual height fifth wheel.

3.1 To adjust the fifth wheel height – top position



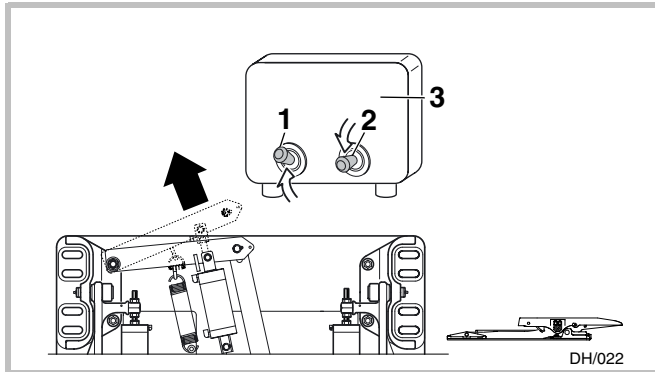
- ▶ Push the lever (1) on the control unit (3) upwards and hold it in this position.
- ▶ Push the lever (2) on the control unit (3) upwards until the dual height fifth wheel has moved to its top position.

Note

The dual height fifth wheel must be properly locked in position before the tractor unit is moved (see section 3.3).

3 Operation

3.2 To adjust the fifth wheel height – bottom position

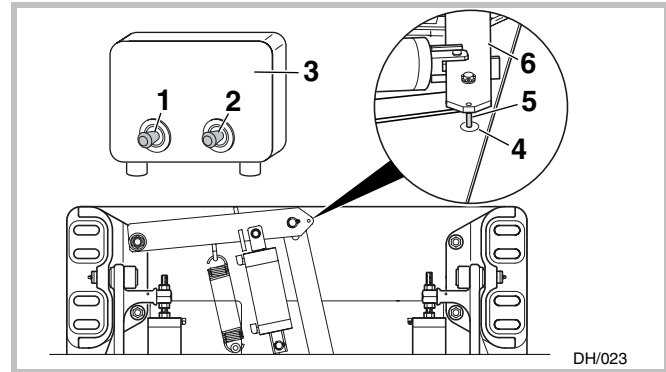


- ▶ Push the lever (1) on the control unit (3) upwards and hold it in this position.
- ▶ Push the lever (2) on the control unit (3) upwards until the dual height fifth wheel has moved to its bottom position.

Note

The dual height fifth wheel must be properly locked in position before the tractor unit is moved (see section 3.3).

3.3 To lock the dual height fifth wheel



- ▶ Release the lever (2) on the control unit (3) and push the lever (1) downwards until the dual height fifth wheel is locked.
- ▶ Check that the dual height fifth wheel is locked (see note).



Check that the dual height fifth wheel is properly locked before you start every trip. Only start your journey if the locking mechanism is correctly locked and secured.

Note

You can see that the dual height fifth wheel is properly locked by the fact that the pin (5) on the locking lever (6) is positioned directly above the marking hole (4) in the base plate.

4 Servicing

The following section describes how to service and clean the dual height fifth wheel.

The servicing and cleaning work for the fifth wheel coupling is described in separate installation instructions and owner's handbook.

4.1 Cleaning

The dual height fifth wheel is to be cleaned with the remainder of the vehicle. No special cleaning is required.

The dual height fifth wheel is to be cleaned before every service.

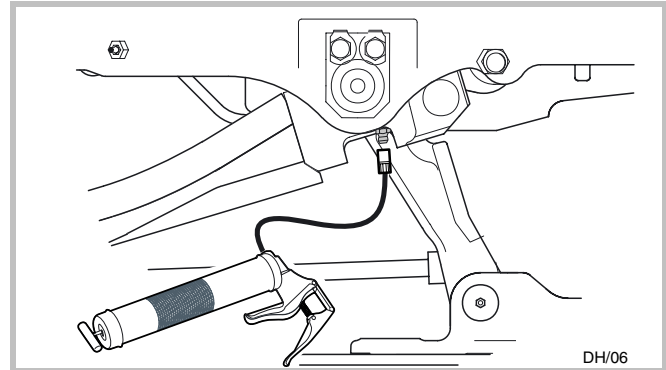
Do not aim a high pressure cleaner directly at bearings or grease nipples.

4.2 Servicing work

The servicing work is to be completed at short intervals, at the latest every 50,000 km.

The following work is required for a complete service:

- ▶ Clean the dual height fifth wheel.
- ▶ Check that the screw connections are secure.
- ▶ Check that the securing rings are secure and undamaged.
- ▶ Check the pneumatic system for leaks.
- ▶ Check the dual height fifth wheel for visible cracks, deformations or other signs of damage.
- ▶ Set the dual height fifth wheel to its top position.
- ▶ Grease the nipples on the various bearings on both sides with a grease gun until grease visibly escapes from the bearings.
- ▶ Grease all the other moving parts.
- ▶ Check the function of the dual height fifth wheel.



4 Servicing

4.3 Lubricants

Use a high pressure grease type (EP) with MoS₂ or a graphite additive to grease the moving parts, for example:

- ▶ BP L21M
- ▶ Esso multi-purpose grease M
- ▶ Shell Retinax AM

4.4 Disposal instructions

Lubricant

The manufacturer of the lubricant will supply the disposal instructions for the lubricants used.

Dual height fifth wheel

The mounted parts are valuable raw materials that can be recycled. They can be split into plastic, rubber and metallic materials.

The plastics and rubber materials are identified pursuant to VDA Recommendation 260. All oil and grease is to be cleaned off the parts before their disposal.

5 Technical data

5.1 Design of the dual height fifth wheel

The permitted types and classes for connection devices and the maximum values for the fifth wheel load "U" and drawbar load "D" are defined by the manufacturer of the tractor unit (designed pursuant to Directive 94/20 EC, Appendix VII).

The D value is calculated as follow:

- D = Drawbar value [kN]
- g = Force of gravity 9.81 m/s²
- R = Maximum gross weight of the semi-trailer [t]
- T = Maximum gross weight of the tractor unit including U [t]
- U = Maximum fifth wheel load [t]

$$D = g \cdot \frac{0,6 \cdot T \cdot R}{T + R - U} \text{ [kN]}$$

Specimen calculation:

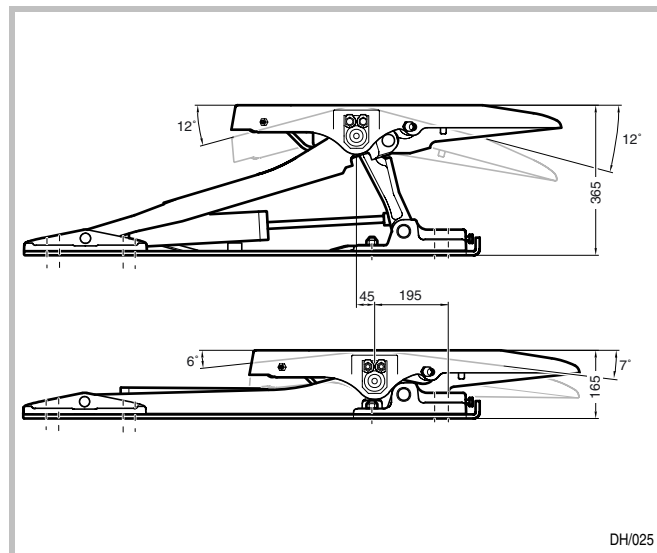
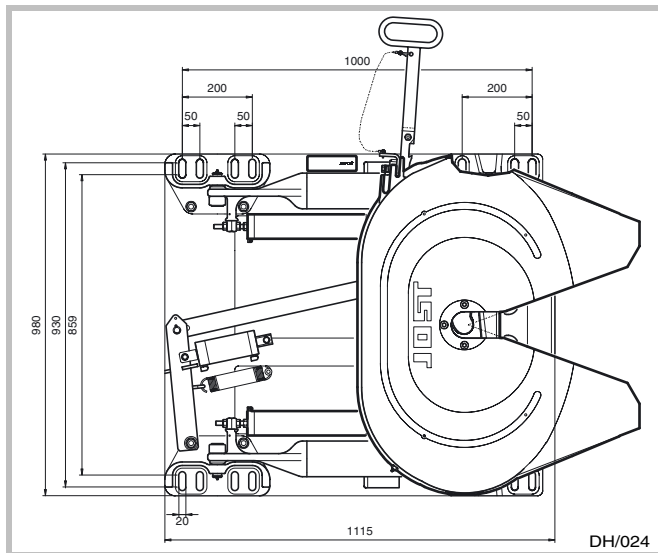
- T = 17 t
- R = 33 t
- U = 0,5 t

$$D = 9,81 \cdot \frac{0,6 \cdot 17 \cdot 33}{17 + 33 - 0,5} = 83,6 \text{ kN}$$

The maximum load data for the dual height fifth wheel are set out on the model plate and the catalogue sheet.

5 Technical data

5.2 Dimensions



6 Installation

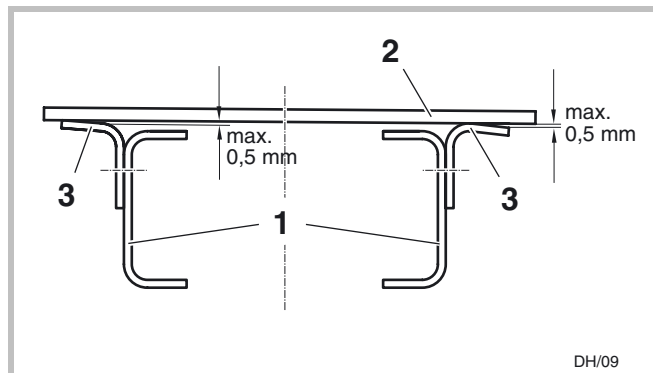
Do not change the installation area defined by the manufacturer of the tractor unit. Follow the instructions of the vehicle manufacturer relating to the type of fastening, fifth wheel adjustment, fifth wheel height, axle loads, spaces, connection to the pneumatic system, etc.



Conduct a fifth wheel point calculation for both positions for a fifth wheel adjustment change of 45 mm between the top and bottom positions. This ensures that the rear axle will not be overloaded in the bottom position and the front axle will not be overloaded in the top position of the dual height fifth wheel.

Delivery

Description	Individual part	Number
JSK DH dual height fifth wheel		1
Mounting kit	Hexagonal screw	14
	Nut	14
	Washer	14
Pneumatic kit	Actuating device	1
	T plug connection	2
	Air hose	15 m



- 1 Vehicle chassis
- 2 Base plate for the dual height fifth wheel
- 3 Angle bracket

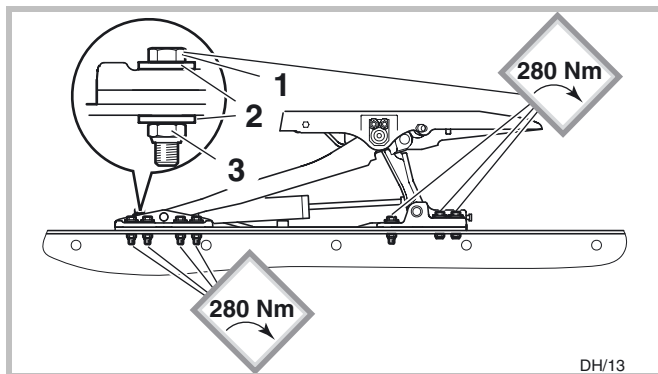
To ensure perfect function ensure before installing the dual height fifth wheel that the base plate on the dual height fifth wheel is mounted flat on the angle brackets. If the discrepancy is more than 1 mm, padding plates must be placed between the base plate and the angle brackets.



Raise the dual height fifth wheel on to the tractor unit with suitable lifting gear.

- ▶ Place the dual height fifth wheel on to the angle brackets.
- ▶ Align the dual height fifth wheel on the middle of the angle brackets using the fifth wheel adjustment following the instructions of the vehicle manufacturer's details.
- ▶ Mark the fastening hole pattern on the angle brackets and drill the fastening holes.

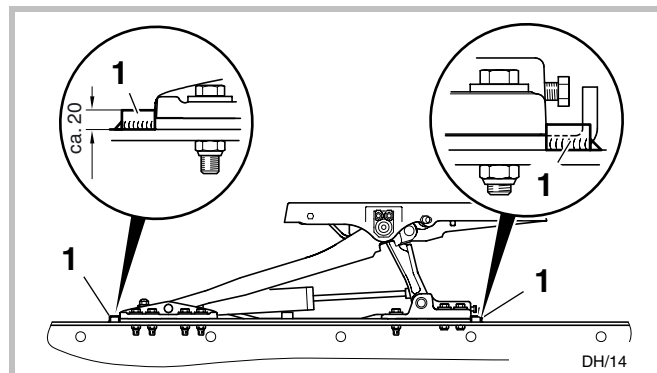
6 Installation



Bolt the dual height fifth wheel to the 14 fastening points using the supplied screws M16 x 1.5 x 70 -10.9 (1), washers (2) and nuts M16 x 1.5 -10 (3).



To achieve an adequate positive connection, the paint thickness on the angle brackets near the mounting points must be no greater than 50 µm. Use the supplied screw connections to secure the dual height fifth wheel.

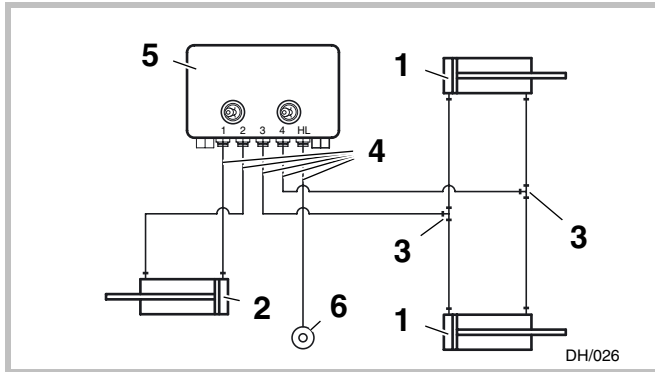


Secure the dual height fifth wheel by welding on thrust plates (1). Use the welding methods defined by the vehicle manufacturer.



There is no need to use thrust plates (1) if it can be ensured that the correct tightening torque for the screw connections and therefore the positive connection can be generated and maintained at all times. The screw connections are therefore to be designed so that the prescribed tightening torque values or prestressing forces can be applied permanently. The screw connections are to be secured to prevent their coming loose using state of the art methods.

6 Installation



- ▶ Check that all the screw connections are secure.
- ▶ Open the fifth wheel coupling and move it to its ready position (see installation instructions and owner's handbook for the fifth wheel coupling).
- ▶ Check the compressed air lines for leaks.
- ▶ Grease all the moving parts (see section 4 Servicing).
- ▶ Check the function of the dual height fifth wheel.

- 1 Cylinder for raising and lowering
- 2 Cylinder for locking
- 3 T connector L6 / L6 / L6
- 4 Compressed air hose L6
- 5 Actuating device
- 6 Compressed air connection



The compressed air supply is to be connected when the system is not pressurised. There must be nobody in the lifting area of the dual height fifth wheel during this process.

- ▶ Install the actuating device (5) at least 1.5 m away from the dual height fifth wheel for safety reasons.
- ▶ Protect the actuating device (5) from accidental operation, dirt and operation by unauthorised personnel.
- ▶ Install the pneumatic lines so that they cannot be crushed or chafed.
- ▶ Make the compressed air connection (6) as specified by the vehicle manufacturer.



There is a risk of crushing between the fifth wheel coupling and the dual height fifth wheel during the adjustment process.



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