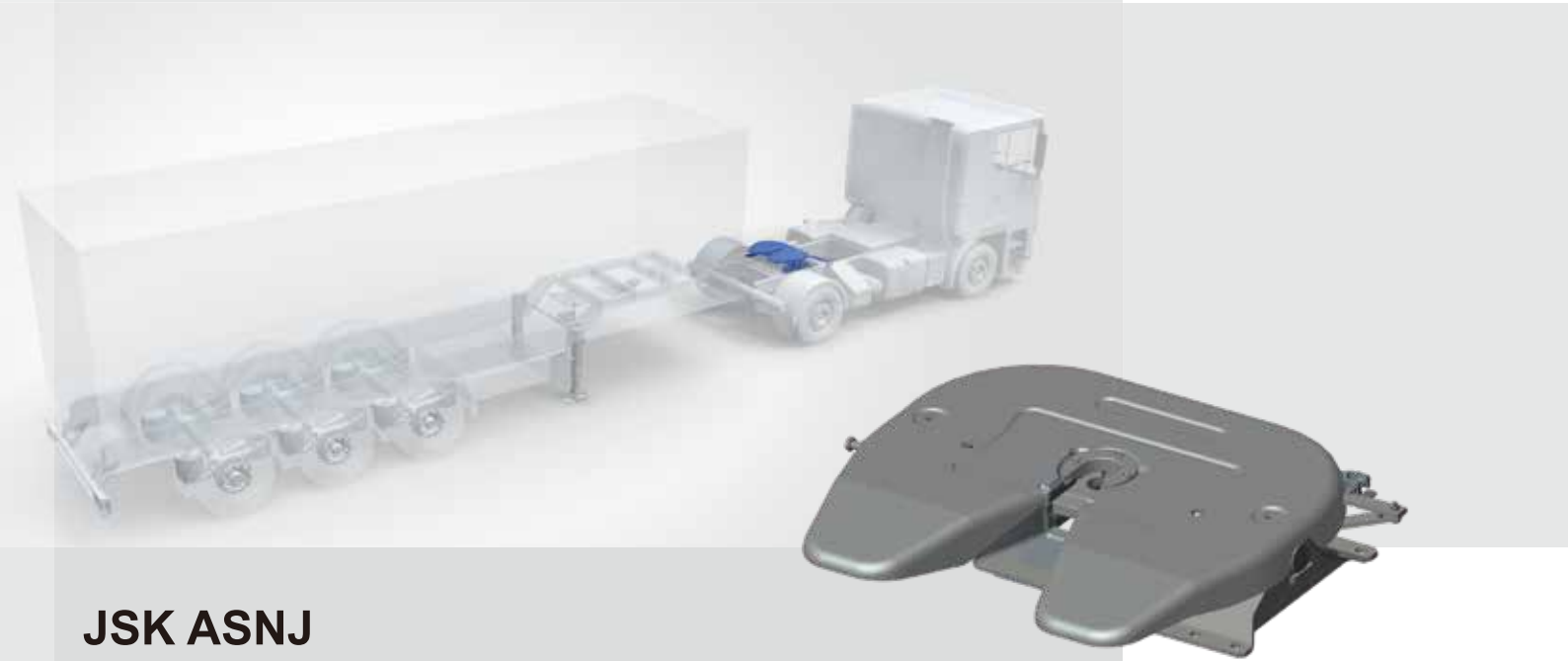


JSK ASNJ

EN Installation and operating instructions

EN

Table of contents

1 Safety Information

The safety information is compiled in one section. Where the user of the fifth wheel coupling is in danger, the safety instructions are repeated in the individual sections and highlighted with the danger warning sign shown here.

The relevant safety regulations of the country in question (for example Health & Safety at Work) apply for working with fifth wheel couplings, tractors and semi-trailers. The appropriate safety information in the owner's manual for the tractor unit and the semi-trailer are valid and must be followed.

The following safety information applies to the installation, maintenance and assembly work. Items of safety information directly linked to the activity are listed again individually.

1.1 Safety information for operation

- The fifth wheel coupling may only be operated by authorized 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 top plate 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.
  When coupling up a semi-trailer, the skid plate must be at the same height or preferably lower - no more than 50mm 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 information for maintenance

- Only use the specified lubricants for maintenance work.
- The maintenance and cleaning work should be completed by the trained personnel.

1.3 Safety information for installation

- Do not change the assembly are defined by the tractor unit's manufacturer.
  The assembly work may only be completed by authorized specialists.
- Refer to the instructions issued by the vehicle manufacturer, e.g. the type of fastening, fifth wheel coupling position, fifth wheel coupling height, axle load, cavity, mounting plate, slider, etc.
- Follow the assembly instructions supplied by the mounting plate and slider manufacturers.
- The fifth wheel coupling must be assembled on the vehicle in accordance with the requirements of GB/T13880. It may also be necessary to comply with the licensing regulations of the appropriate country.

2 Proper usage

2.1 Application

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.

It can be used on rough road condition but are not suitable for off-road usage.

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 license.

ADVICE!

Technical modifications reserved. The latest information can be found at www.jost-world.com.

2.2 Unintended use

The following will be deemed to be unintended use:

- Use of king pins which do not comply with the ISO 337 or DIN 74080 standards
- Use of defective king pins. Defects may include, for example, damage to the king pin, incorrect dimensions and installation on uneven or damaged skid plates
- Use with plastic discs mounted on the semi-trailer
- Use with an imposed load or D value above the maximum values
- Use off - road
- Use in site traffic
- Incorrect towing procedures which adversely affect the perfect function of the fifth wheel coupling
- Attachment or fastening of lifting equipment
- Other applications which do not comply with the manufacturer's recommendations

ADVICE!

Unmetalled roads and any surfaces which do not comply with the standards for the public road network in terms of evenness, gradients and corner radii, shall be regarded as off-road in the sense of this manual.

2.3 Design

The definition of the permitted types and classes for connecting equipment and maximum values for the imposed load “U” and drawbar value “D” are provided by the manufacturer of the tractor unit .

The D value is calculated as follows:

D = Drawbar value (kN)
g = Gravity 9.81 m/s2
R = Maximum total weight of the semi-trailer (t)
T = Maximum gross weight of the towing vehicle, including U (t)
U = Maximum imposed load (t)

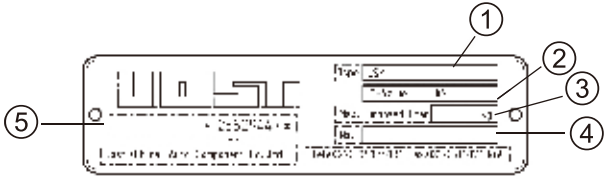
$$D = 9.81 \times \frac{0.6 \times T \times R}{T+R-U} \text{ (kN)}$$

Sample calculation:

T = 29 t
R = 56 t
U = 20 t

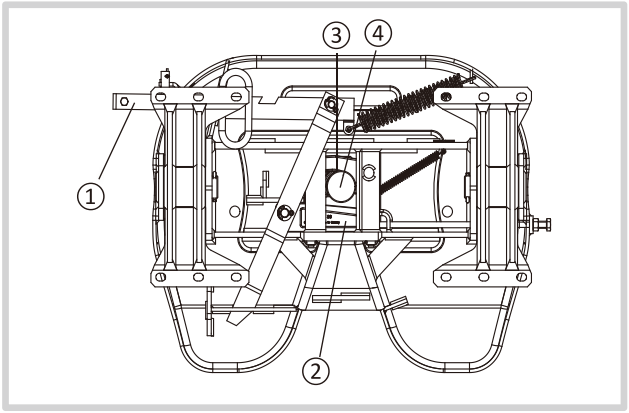
$$D = 9.81 \times \frac{0.6 \times 29 \times 56}{29+56-20} = 147.06 \text{ (kN)}$$

For the maximum load and other relevant parameters of JOST fifth wheel coupling, refer to the type plate and relevant JOST catalogue. If it is used in some unfavorable situations, such as uneven road surface or construction site, do not use the maximum load and D value. At this time, the fifth wheel coupling with higher strength must be used, or consult JOST for advice.



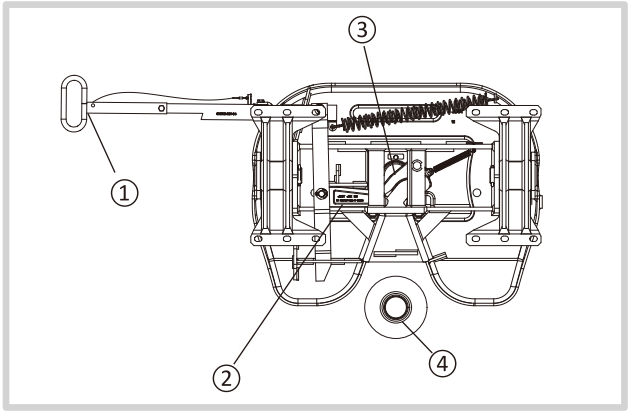
① Type
② Maximum D value in kN
③ Maximum imposed load U in t
④ Serial number (one for each fifth wheel coupling, which can be seen next to the type plate as well as the type plate on the edge of the panel).
⑤ Customer part number

3.1 Fifth wheel coupling closed and locked



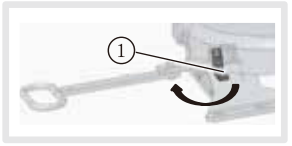
① Handle
② Locking bar
③ Lock jaw
④ King pin

3.2 Fifth wheel coupling pre-coupled/uncoupled

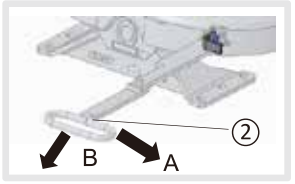


① Handle
② Locking bar
③ Lock jaw
④ King pin

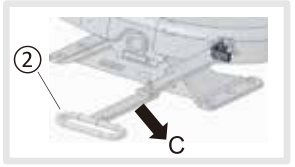
3.3 Opening the fifth wheel coupling



- Lift the safety catch①.



- Swing the handle ② forwards to position A to release the lock.Pull out the handle ② as far as possible into position B.



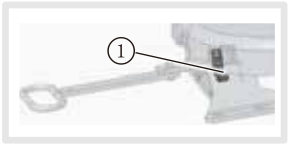
- With the handle ② pulled out, swing it forwards into position C and engage it on the edge of the plate.

3.4 Coupling up

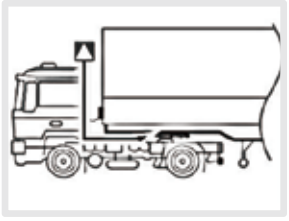
- Secure the semi-trailer to prevent its rolling away.
- The fifth wheel coupling must be ready for engagement (see section 3.2). Otherwise, open the fifth wheel coupling (see section 3.3).
- Check the height of the skid plate of the semi-trailer. The skid plate must ideally be at the same height as or no more than 50 mm lower than the fifth wheel coupling plate on the fifth wheel coupling.
- Drive the tractor under the semi-trailer.
- The locking mechanism will close automatically.
- 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 status of the locking mechanism before starting any journey (see section 3.5).

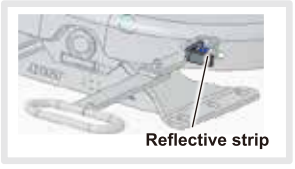
3.5 Checking the locking mechanism



- The safety catch ① must point downwards as shown.



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



NOTE

If you can see the reflective strip on the handle (as shown in the left figure), the fifth wheel coupling is not locked.

Please check the position of the reflective strip.

3.6 Uncoupling

- Park the vehicle on flat, firm ground.
- Secure the semi-trailer to prevent it from rolling away.
- Extend the landing leg 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 Maintenance 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 burrs)
- Rounded or chamfered front and side edges
- Complete coverage of the fifth wheel coupling support area with adequate reinforcement appropriate to the situation

ATTENTION!

Effective lubrication of the top of the fifth wheel coupling, the lock jaw and the kingpin – before commissioning and after every clean – is crucial for ensuring a 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.

The parts fitted to the fifth wheel coupling can be recycled, including metallic materials, rubber and plastic.

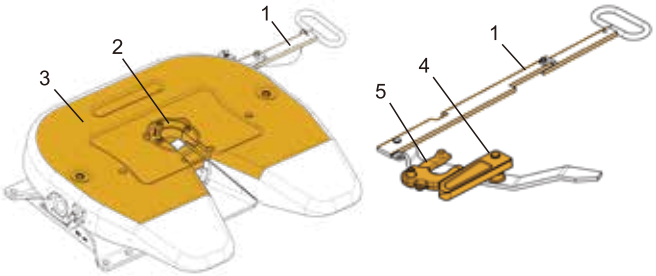
Before disposal, any oil or grease residue should be cleaned off the parts.

4.2 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.
- Lubricate the fifth wheel coupling, the locking mechanism and the king pin.
- We recommend high pressure grease (EP), such as JOST high-performance lubricant (article no. SKE 005 670000).
- The grease nipples on the edge of the fifth wheel coupling plate are only designed for additional greasing of the locking mechanism.

Lubrication instructions



1 handle unit 2 Wearing ring 3 Top plate 4 Locking bar
5 Locking jaw

Lubricate the areas marked in yellow.

- Generously lubricate the coupling plate including the entire lubricating groove.
- Lubricate the locking jaw and locking bar with the fifth wheel coupling closed.

ATTENTION!

A second person is required to help close the lock.
A large screwdriver can be used, for example, to pivot the locking jaw. Under no circumstances should the locking jaw be pivoted by hand. There is a risk of crushing.

Before the next coupling up, the fifth wheel coupling must be opened.

4.3 Test instructions

Depending on the conditions of use, the fifth wheel coupling, the mounting plate, the slider and the kingpin should be checked regularly (At least every 5,000 km or every six months, in case of partly off-road application or bad road condition the checking must be done every 3,000 km) for:

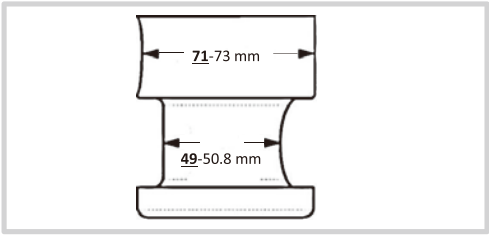
- Function
- Wear of all wearing components as for example wearing ring, lock jaw, locking bar, bushings…
- Correct position of the fastening elements (prescribed torque values)
- Damage or distortion, cracks, corrosion
- To ensure adequate lubrication
- To ensure the smooth running of the mechanisms
- The torque of bolts to ensure that the fixing bolts are not loose.

4.4 Wear inspection

4.4.1 Kingpin inspection

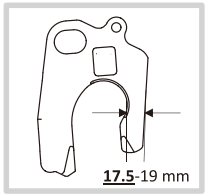
Fifth wheel couplings and kingpins are subject to more or less wear depending on the conditions in which they are used, and this wear is noticeable by play towards the front of the vehicle. Excessive play causes shocks and may lead to instability on the road and damage to the fifth wheel coupling, mounting plate and vehicle chassis. JOST fifth wheel couplings have a manual infinite adjustment facility for the locking mechanism to extend their service lives.

The wear on the king pin must not be compensated by the adjustment facility. (Adjusting mechanism should be only used for play compensation adjustment of fifth wheel couplings.)



When the wear limit on the king pin has been reached, it must be replaced. After the kingpin has been replaced, the locking mechanism must be adjusted again.

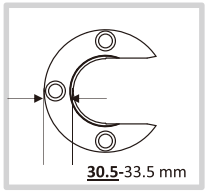
4.4.2 Lock jaw, wear ring and rubber bushing inspection



- Check the wear on the lock jaw

NOTE

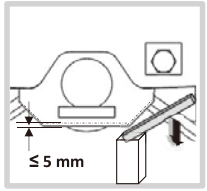
When the wear limit has been reached, the affected lock jaw must be replaced.



- Check the wear on the wear ring

NOTE

When the wear limit has been reached, the affected wear ring must be replaced.



- Check the wear on the rubber bushing

NOTE

When the wear limit has been reached, the affected rubber bushing must be replaced.

4.4.3 Coupling plate inspection

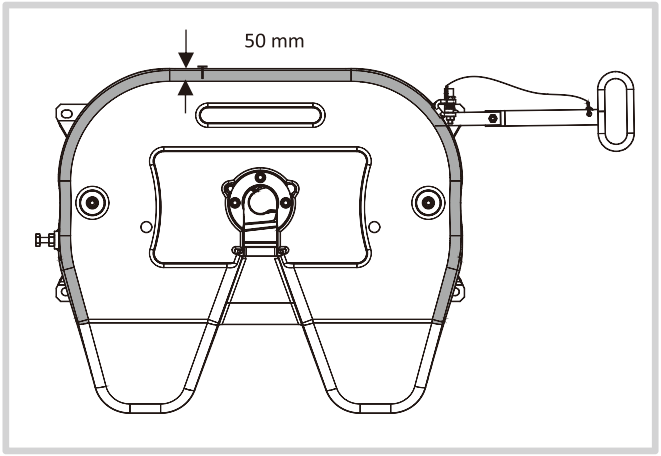


Plate thickness (T)
T ≥ 4 mm, it can be normally used.
T < 4 mm, it must be replaced.

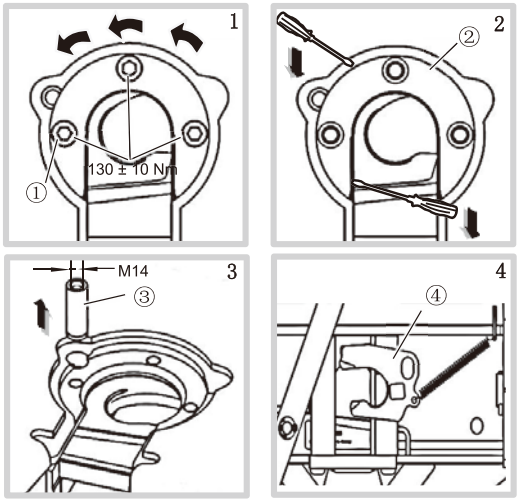
Note

It is allowed that the minimum thickness of the edge at the position of 50 mm is 2 mm.

Causes of abnormal wear:
- It is not filled with grease at the first time of use.
- The lubricating grease was not added and replaced regularly.
- The grease is deteriorated and has impurities.
- High-pressure grease used is without graphite or not MoS2.
- The play between the trailer and the fifth wheel coupling becomes larger.
- The skid plate of the trailer is deformed when fully loaded.

4.5 Repair and replacement of parts

4.5.1 Repair and replacement of wear ring and lock jaw



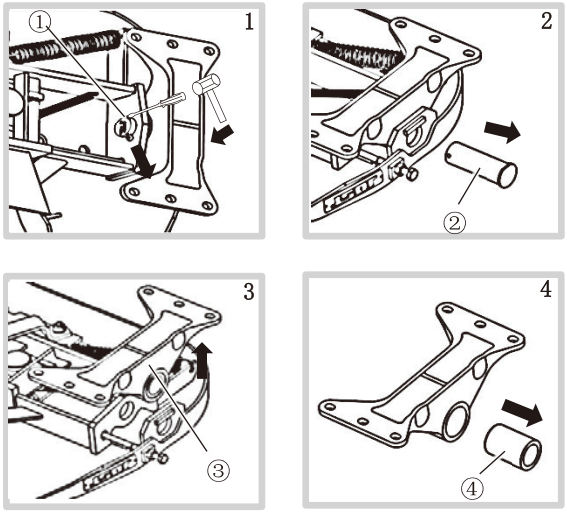
① Hexagon socket-head bolts ② Wear ring
③ Bolt ④ Lock jaw

ATTENTION!

When mounting and dismounting the lock jaw and wear ring, the double tension spring must be removed first, otherwise there would be a risk of injury.

- Remove the hexagon socket-head bolt (pay attention to the tightening torque).
- Remove the wear ring.
- Pull out the bolt.
- Take out the lock jaw.

4.5.2 Repair and replacement of rubber bushing and pedestal



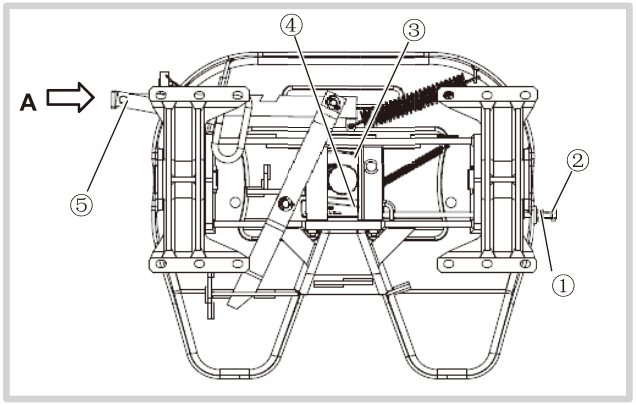
① Split pin
② Pivot pin
③ Pedestal
④ Rubber bushing

- Flatten the split pin with a tool and remove the split pin.
- Pull out the pivot pin (with a tool if necessary).
- Take out the pedestal (with a tool if necessary).
- Take out the rubber bushing (with a tool if necessary).

Note

When the wear limit has been reached, the affected rubber bushing must be replaced. If the pedestal is required to be replaced, the split pin and rubber bushing must be also replaced.

4.6 Play adjustment of locking mechanism



① Locking nut ② Adjusting screw ③ Adjusting screw
④ Locking bar ⑤ Handle

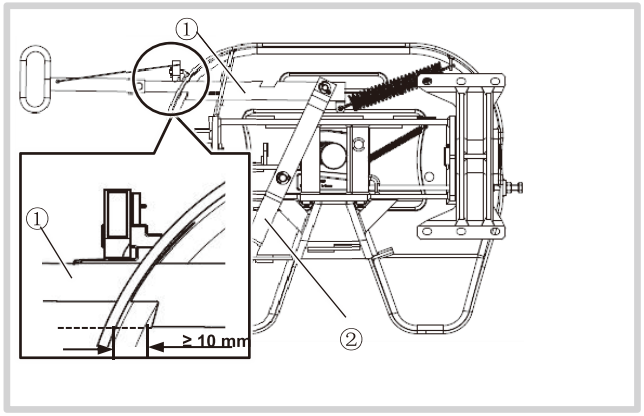
When adjust the locking mechanism, it must use a tractor with a new kingpin and have no forced steering. The adjust steps are as follows:

- Uncoupling on flat, firm ground.
- Undo the locking nut ①.
- Loosen the adjusting bolt ② about 10 turns.
- Coupling again.
- Flip the handle according to the A direction (tap the handle pull out) (assistant pull).
- Tighten the adjusting screw ② again until the handle ⑤starts to move (let the assistant check).
- Then tighten the adjusting screw ② one and a half turns, with the locking nut ① fixed.

Note

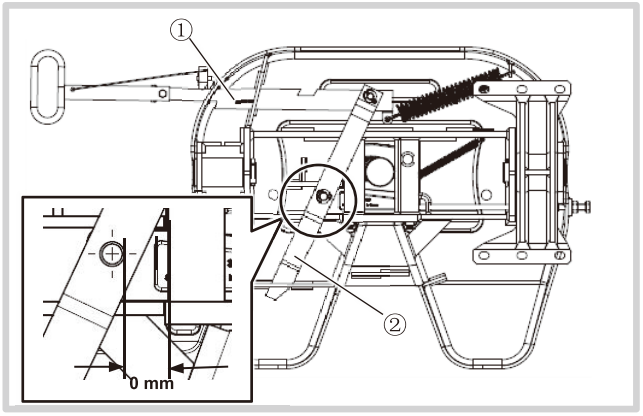
If the gap is still too large, the wear ring and the lock jaw must be replaced according to the maintenance manual.

4.7 Wear limit of locking mechanism



① Handle ② Lever

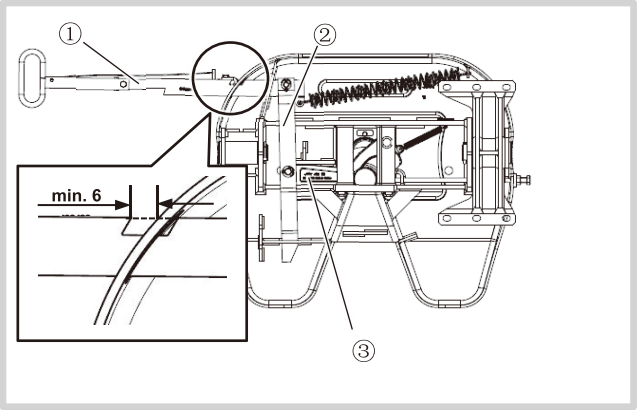
For new parts, when the fifth wheel coupling is closed and locked correctly, the minimum gap between the edge of the seat plate and the engagement mechanism on the handle shall be 10 mm. If the gap is less than 10 mm, check whether the handle ① or the lever ② are bent.



① Handle ② Lever

If the gap from the edge of the pivot pin hole on the lever to the bridge plate is 0 mm, the wear limit of the locking mechanism has been reached. In this case, the locking mechanism cannot be further adjusted. The wear ring and lock jaw must be replaced as described in the service manual.

4.8 Functional test



① Handle ② Lever ③ Lock bar

The minimum gap between the edge of the plate and the engagement mechanism on the handle is 6 mm during the coupling or uncoupling process. If the gap is less than 6 mm, check whether the handle ①, the lever ② or the lock bar ③ are worn or deformed.

5.1 General instructions

- To secure the JOST fifth wheel coupling onto the mounting plate (required by the QC/T 446-1999), at least 12 M16 bolts, ideally M16 x 1.5 of strength class 10.9, must be used.
- These bolts must be positioned in a symmetrical pattern to the longitudinal and lateral axes of the fifth wheel coupling.
- We recommend that you use JOST mounting kits (the order number can be found in the parts list in section 7).
- 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. Using the welding methods set out by the manufacturers of the vehicle and mounting plate for this purpose.

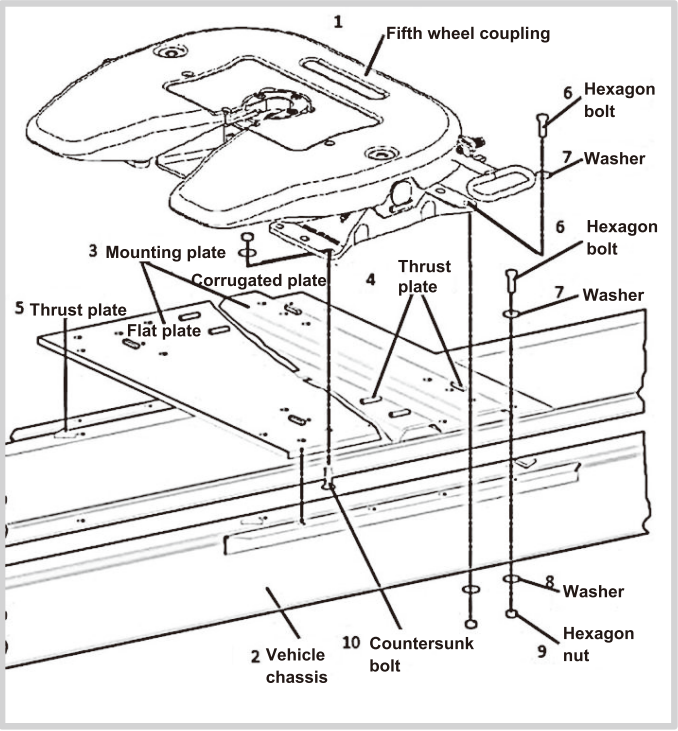
There is no need to use thrust plates, however, if it can be ensured that the correct tightening torque of the bolts and therefore the perfect friction contact can be generated and maintained at all times. The bolt connections are therefore to be designed so that the prescribed tightening torque values 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 170 µm per component.

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

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 Assembly of the fifth wheel coupling on the mounting plate



1、 Fifth wheel coupling

2、 Vehicle frame

3、 Mounting plate (flat plate, corrugated plate)

4、 Thrust plate to secure the fifth wheel coupling

5、 Thrust plate to secure the mounting plate

6、 Hexagon bolt M16 x 1.5

7、 Washer, 6 mm thick (min. HB150)

8、 Optional washer (min. HB 150) or disc spring

9、 Hexagonal nut
M16 x 1.5 or M20 x 1.5

10、Countersunk bolt
M16 x 1.5 or M20 x 1.5

NOTE:

We recommend that you use fastening elements of strength class 10.9.

Tightening torques can be found in section 5.3.

5.3 Tightening torque of the bolts

Fastening material		Strength Grade 8.8	Strength Grade 10.9
Standard bolt	M16	210 Nm	260 Nm
	M20	410 Nm	500 Nm
Full thread bolt	M16 × 1.5	225 Nm	280 Nm
	M20 × 1.5	460 Nm	500 Nm
Countersunk bolt	M16 or M16 × 1.5	170 Nm	252 Nm
	M20 or M20 × 1.5	330 Nm	400 Nm
Washer		min. 150 Nm	min. 250 Nm

NOTE

The values shown above are guide values for a coefficient of friction μ tot. = 0.14.

6.1 Maintenance interval table

Maintenance interval		5,000 KM 4 weeks	10,000 KM 8 weeks	15,000 KM 12 weeks	20,000 KM 16 weeks
Clean	Clean the fifth wheel coupling and the skid plate	★	★	★	★
Check for damage and cracks	Check for damage, bends, cracks, etc	★	★	★	★
Check function	See section 3	★	★	★	★
Check for wear	See section 4.4				★
Check for torque	See section 4.5	★	★	★	★
Adjust the wear	See section 4.6				★
Lubricate	See section 4.2	★	★	★	★

Note: The service life of the fifth wheel coupling depends on whether the lubricating grease is applied during the first use.

Suggestion:

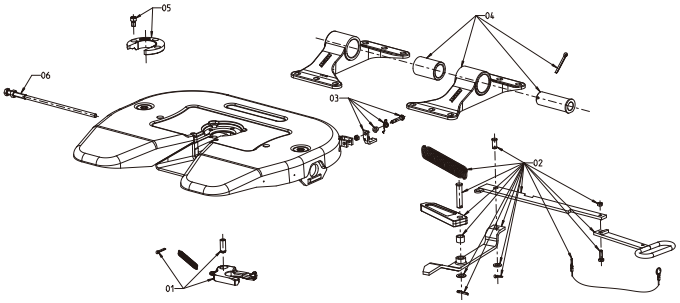
We recommend high-pressure grease with molybdenum disulfide (MoS2) or graphite.

When used in harsh conditions (such as mining areas, construction sites, muddy roads, etc.), the fifth wheel coupling should be maintained every 3,000 km or every week or more frequently as needed.

In case of partly off-road application or bad road condition, check & adjust the wear must be done every 3000km or more frequently as needed.

For any questions, please consult JOST.

7.1 Explosive view of fifth wheel coupling JSK ASNJ



7.2 Accessory list

No.	Description	Order no.	Quantity	Remarks
01	Locking jaw compl.	SK8201-401-01	1	2"(50)
02	Locking mechanism compl.	SK8201-404-01	1	
03	Automatic spring lock compl.	SK8201-008	1	
04	150 pedestal compl.	SK8201-402-150-01	2	
	185 pedestal compl.	SK8201-402-185-01	2	
05	Wear ring compl.	SK8201-403	1	2"(50)
06	Adjusting screw compl.	CN3506-011	1	

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