

JOIST



Repair manual for JSK 36 fifth-wheel coupling



Fifth wheel couplings are vehicle-connecting parts that must comply with very high safety requirements and must also undergo design approval tests.

This repair manual is designed to act as a guide to completing repair work on our fifth wheel couplings. It is essential that you use JOST spare parts.

Modifications of any kind will render both the warranty and the type approval void.

Operation and assembly, together with the permitted.

load data for the fifth wheel couplings are described in separate documents.

1	Safety instructions	4
2	Troubleshooting	5
3	Standard and special tools and auxiliary materials	6
3.1	Standard tools	6
3.2	Special tools	6
3.3	Auxiliary materials	6
4	Repair work	7
4.1	To remove and attach the pedestal	7
4.2	To remove and install the bearing	7
4.3	Overview of locking mechanism	8
4.4	Removing and installing the locking mechanism	8
4.5	Removing and installing the safety latch	10
4.6	Removing and installing the bearing on the vehicle	10
4.7	Wear test/ wear limits	11
4.8	Function test	13
4.9	To adjust the locking mechanism	14
5	Spare parts for version JSK36D/DV	15
6	Disposal instructions	16

1 Safety instructions

The relevant safety regulations in your country (for example Health & Safety at Work) apply for working with fifth wheel couplings and vehicles.

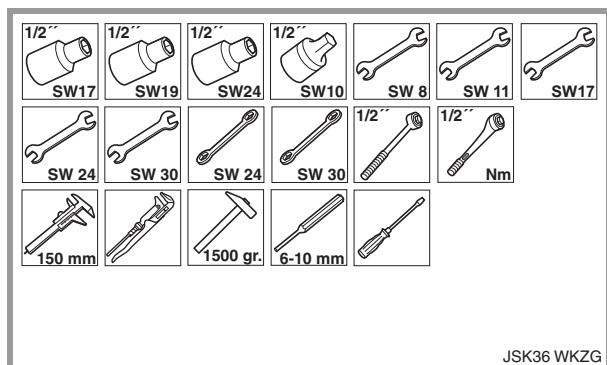
The relevant safety instructions included in the vehicle and semi-trailer's operating instructions must also be complied with.

2 Troubleshooting

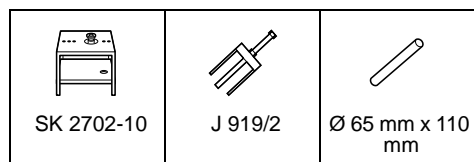
Fault	Cause	Remedy
Fifth wheel coupling will not close.	<ol style="list-style-type: none"> 1. The king pin is too high. 2. The skid plate is uneven, thus causing the king pin to be in the wrong position. 3. Lock jaw deformed. 4. Poor servicing. 5. Double spring defective. 6. Lever and/or handle buckled. 	<ol style="list-style-type: none"> to 1. The skid plate should be at the same height or around 50 mm lower than the fifth wheel coupling. to 2. Replace the skid plate. Permissible flatness deviation 2 mm. to 3. Replace lock jaw SK 1489. to 4. Ease the mechanism and grease it. to 5. Replace double spring SK 2105-11. to 6. Replace/align lever SK 2107-25 and/or handle SK 2905-111 or SK 2905-106.
The fifth wheel coupling cannot be opened.	<ol style="list-style-type: none"> 1. Tractor unit not level or pulling. 2. Poor servicing, damage to the lock jaw or locking bar, or incorrect locking mechanism adjustment. 	<ol style="list-style-type: none"> to 1. Release the fifth wheel coupling's locking mechanism. to 2. The fifth wheel coupling can be opened by force as follows: Open the lock. Swivel the handle forwards and hold it extended as far as possible. With the aid of a second person, use a rod to hit the lever, e.g. SK 2107-25, in the area of the bent section on the opposite side of the fifth wheel coupling to release the bar. The clamp can also be released by screwing in the adjusting screw, e.g. SK 2905-51. Then rectify the poor servicing, check the locking mechanism parts for signs of damage and repair or reset the locking mechanism as necessary (see section 4.9).
Fifth wheel coupling does not stay in the ready position.	<ol style="list-style-type: none"> 1. Lock jaw deformed. 2. Spring defective. 3. Poor servicing 	<ol style="list-style-type: none"> to 1. Replace lock jaw SK 1489. to 2. Replace spring SK 847. to 3. Clean and regrease the area of the locking mechanism.
Movement between the fifth wheel coupling and the semi-trailer (knocking).	<ol style="list-style-type: none"> 1. Bearing has excessive play. 2. Locking mechanism has excessive play. 	<ol style="list-style-type: none"> to 1. Replace rubber sleeve SK 2905-94 if it is worn (see section 4.2) to 2. Check king pin, replace it if it is worn. If the king pin is in good condition, but there is still play, adjust the locking mechanism (see section 4.9). If this does not resolve the problem, replace lock jaw SK 1489 or wearing ring SK 2105-19 (only in the case of DV version).

3 Standard and special tools and auxiliary materials

3.1 Standard tools



3.2 Special tools



3.3 Auxiliary materials

High-pressure grease (EP) with MoS₂
or graphite additive, for example:

BP L21 M

BP HTEP 1

Esso multi-purpose grease M

Shell Retinax AM

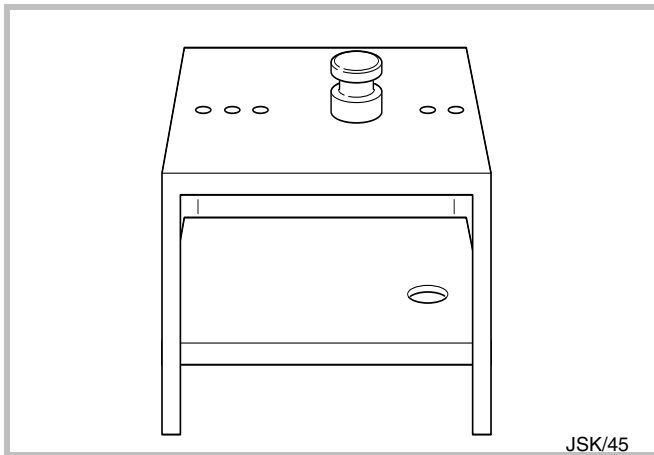
Turmogear grease B2 from Lubcon (www.lubcon.com)

4 Repair work

! Worn, damaged and cracked parts must always be replaced. Repair welds must not be used. After completing the repair work, the entire coupling locking mechanism must be greased and its function tested.

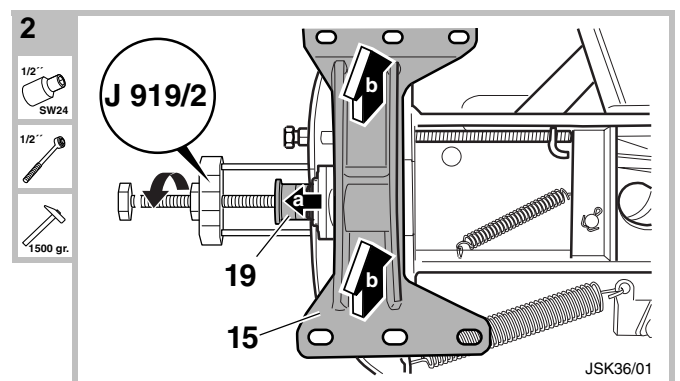
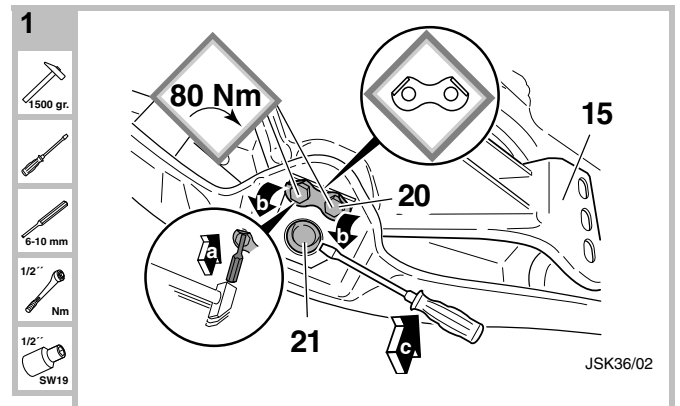
The item numbers in the illustrations refer to the spare parts lists in section 5.

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

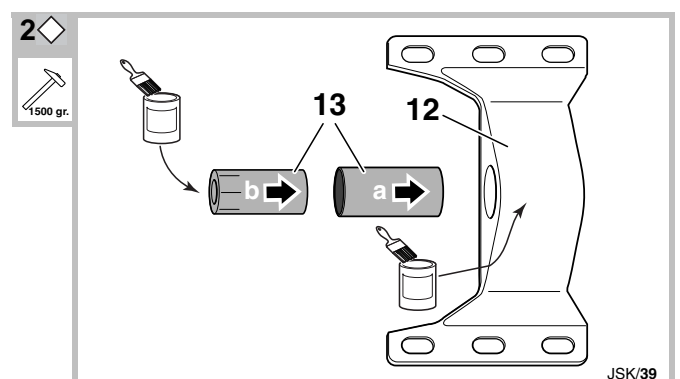
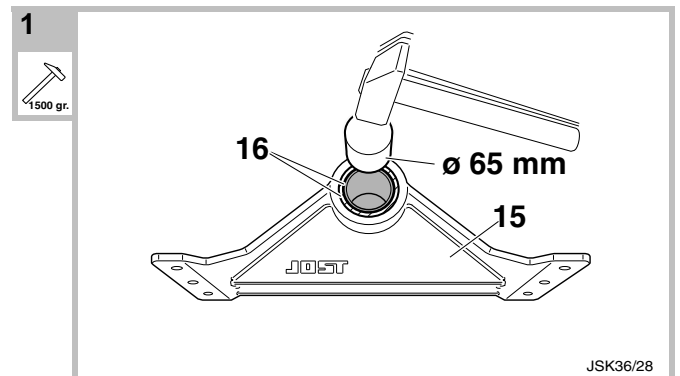


- ▶ Take the fifth wheel coupling off the tractor unit, place it on workbench SK 2702-10 and couple it up.

4.1 To remove and attach the pedestal

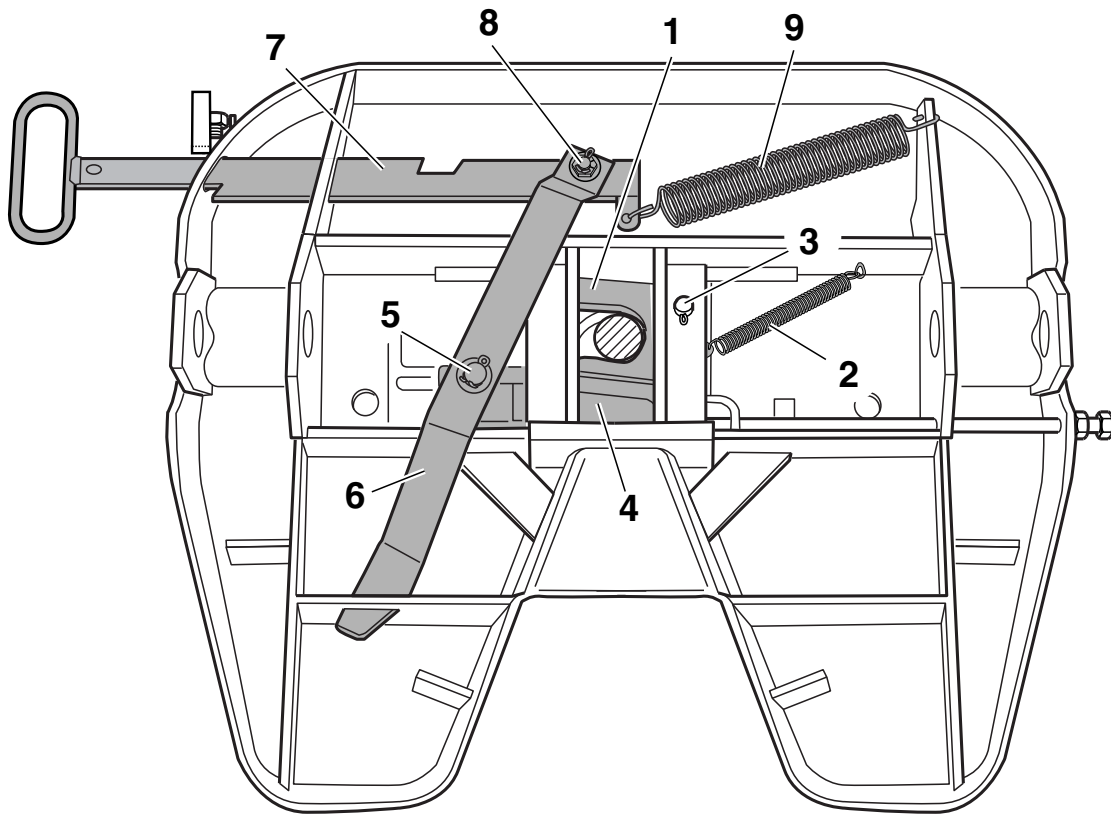


4.2 To remove and install the bearing



4.3 Overview of the locking mechanism

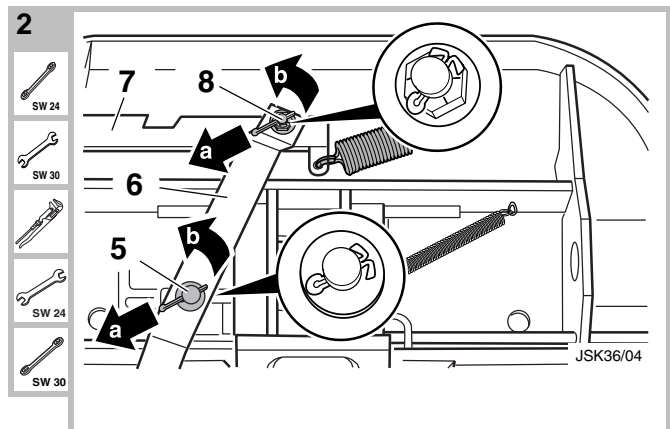
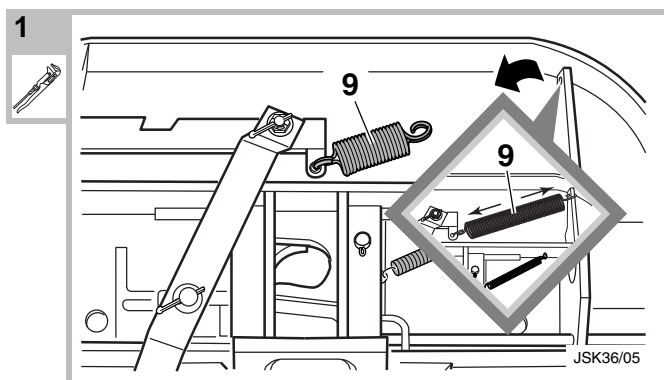
1



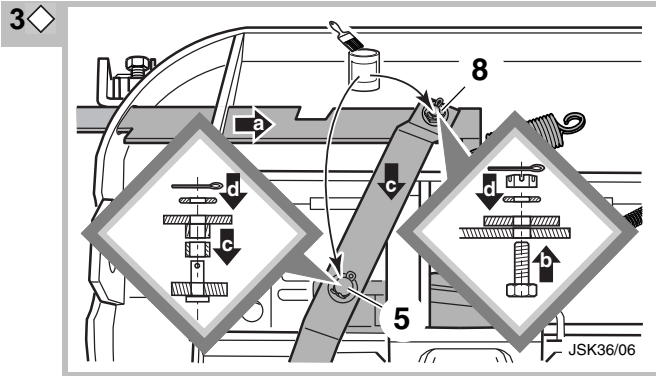
JSK36/03

4.4 To remove and install the locking mechanism

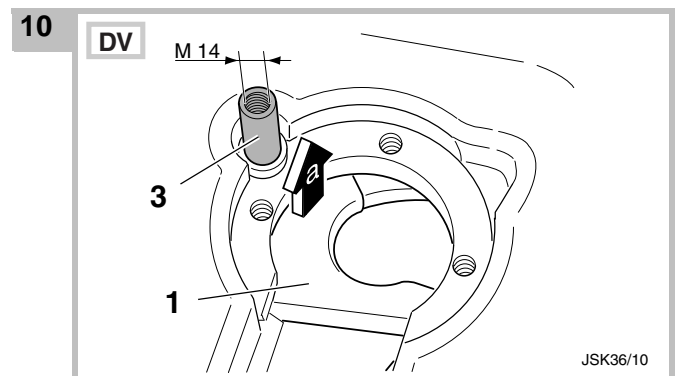
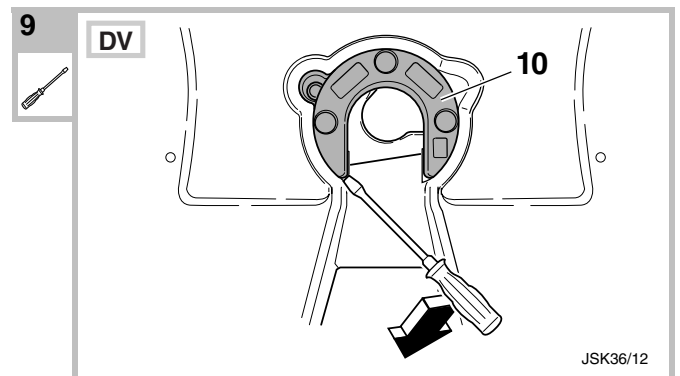
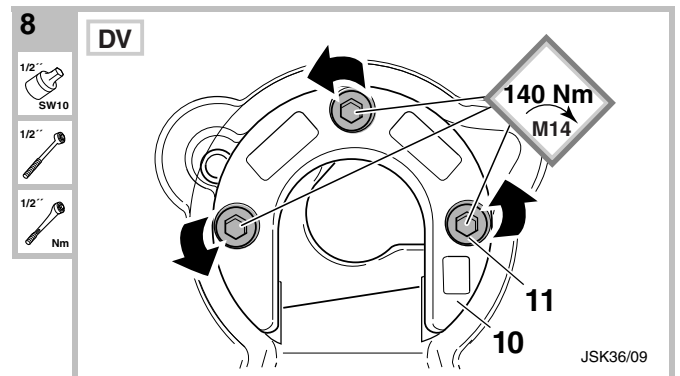
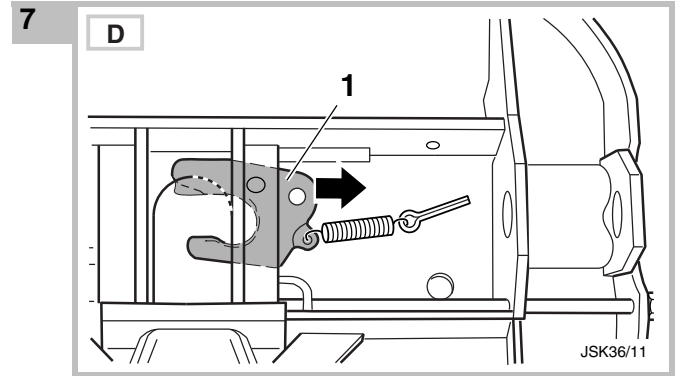
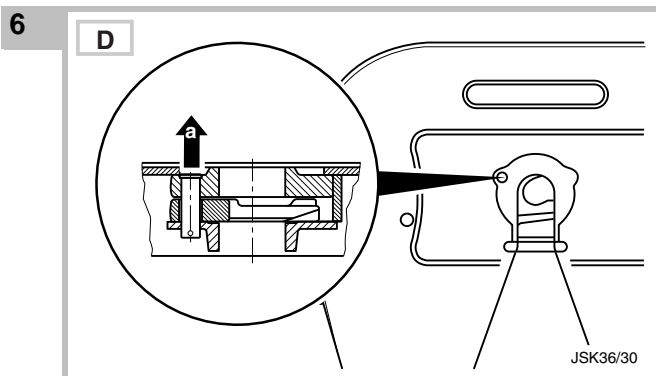
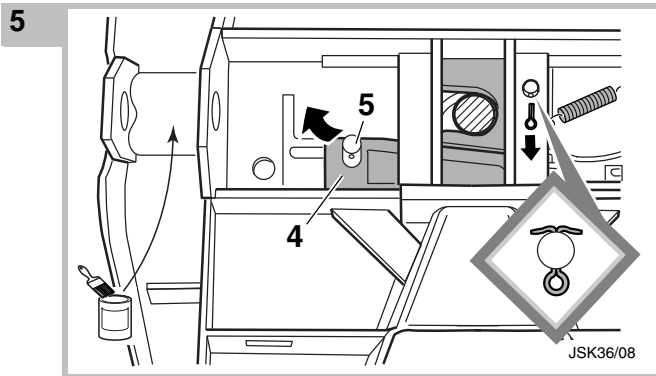
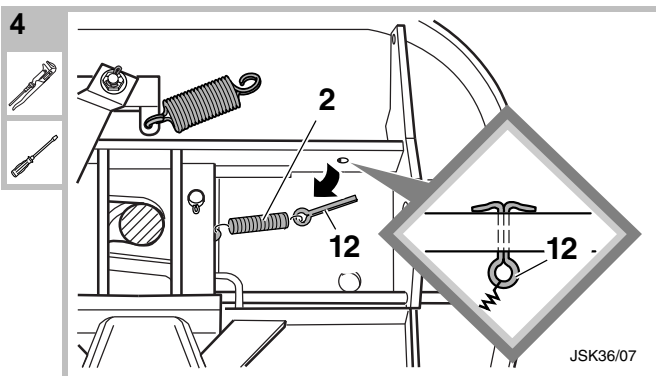
! The installation and removal of the lock jaw and wearing ring must only be carried out with the double spring (9) released. Risk of injury!



4 Repair work



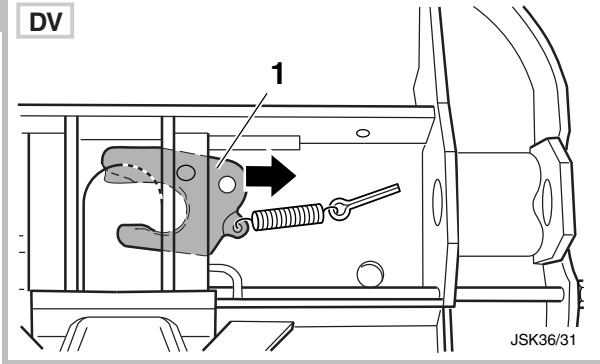
- ▶ First tighten the crown nut (8) and then loosen it again by one 1/2 turn. Secure the crown nut (8) with a splint.



4 Repair work

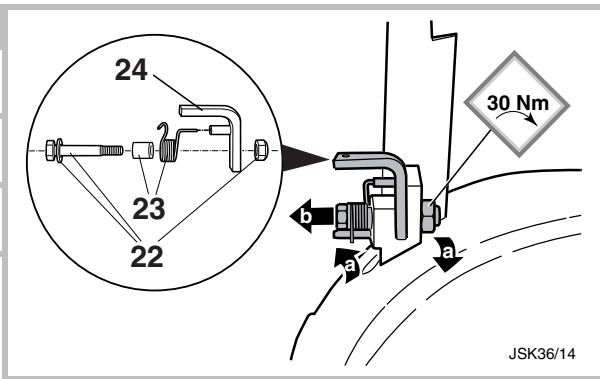
11

DV



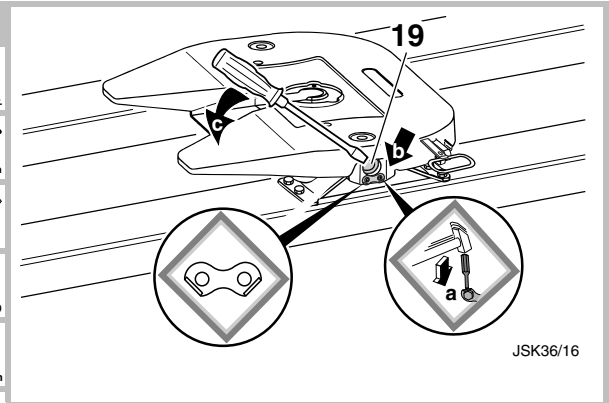
4.5 To remove and install the safety latch

1

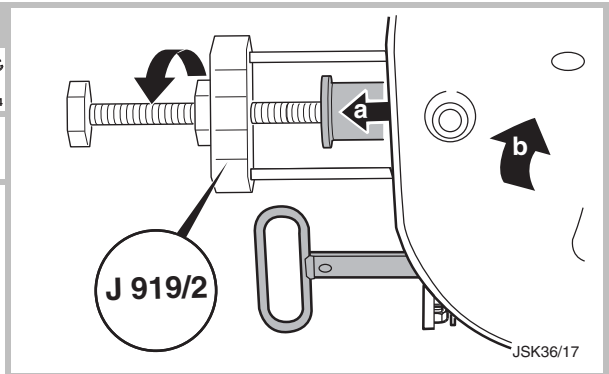
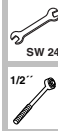


4.6 To remove and install the bearing on the vehicle

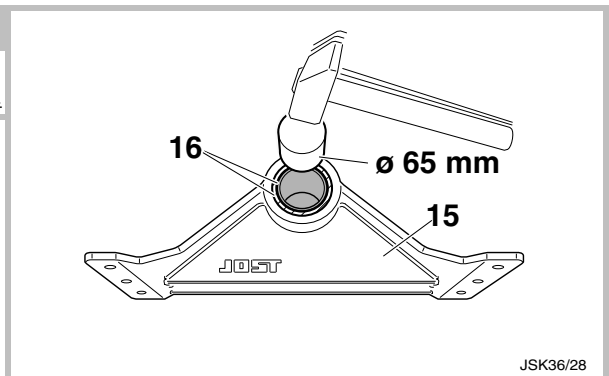
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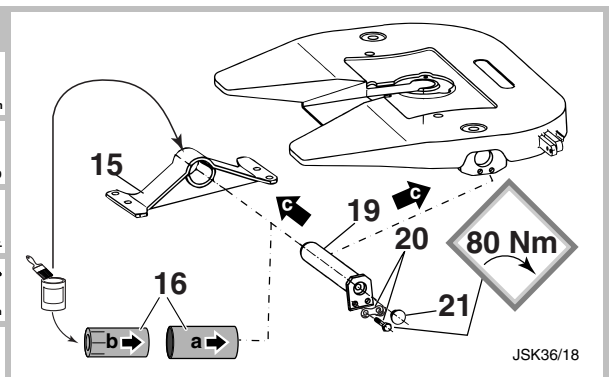
2



3

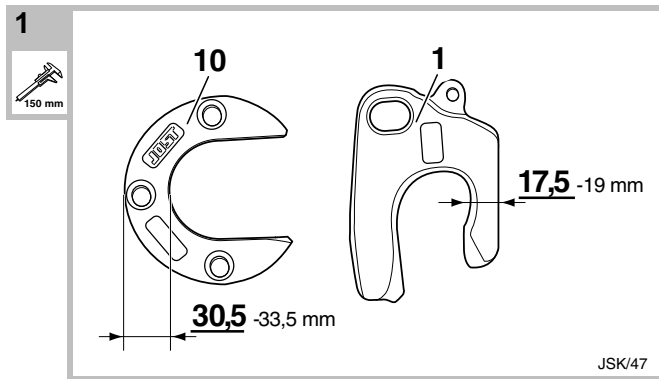


4

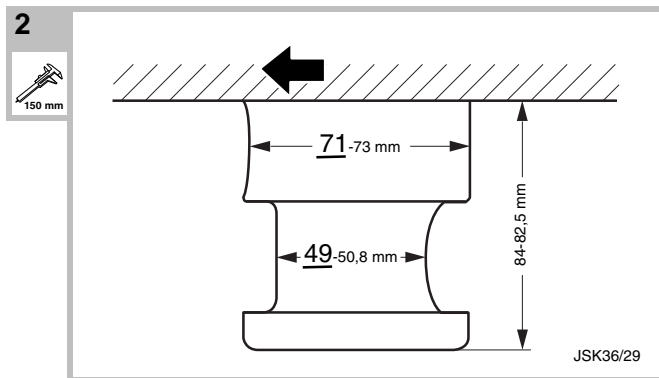


4 Repair work

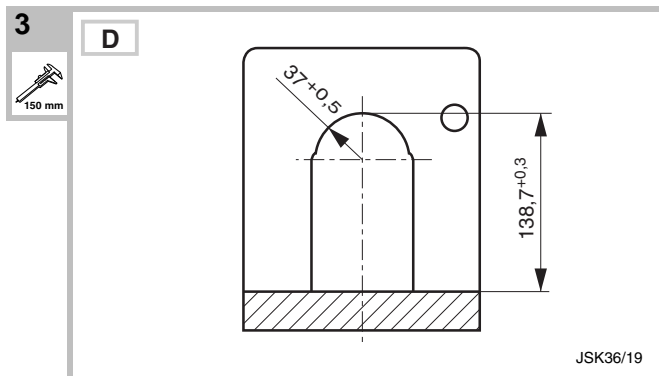
4.7 To check for wear/wear limits



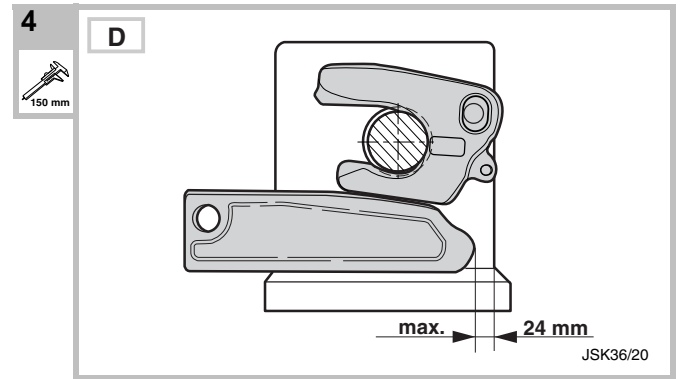
- ▶ When the wear limit is reached, the relevant component must be replaced (see section 4.4) and/or the pin system reworked.



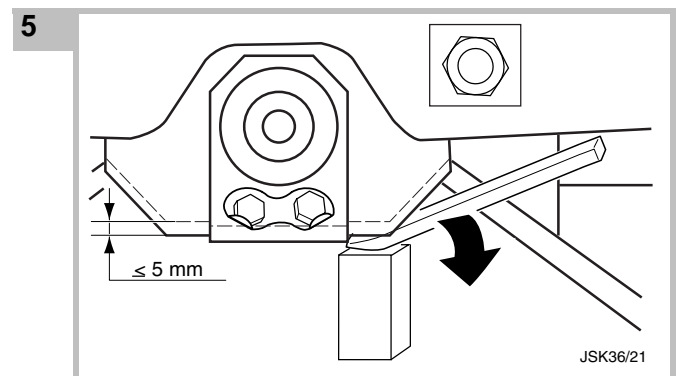
- ▶ When the wear limit is reached, the king pin must be replaced.



- ▶ If the pin system is worn, repair the system surface at a radius of 37 mm with surface application welding and appropriate finishing.

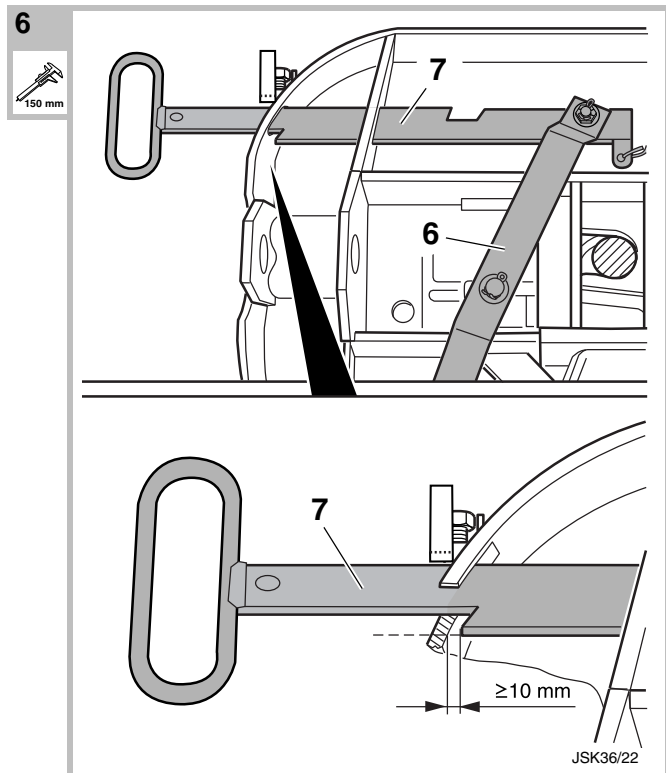


- ▶ The distance from the tip of the bar to the side edge of the pin system must be no more than 24 mm for a repaired coupling with the correct king pins.

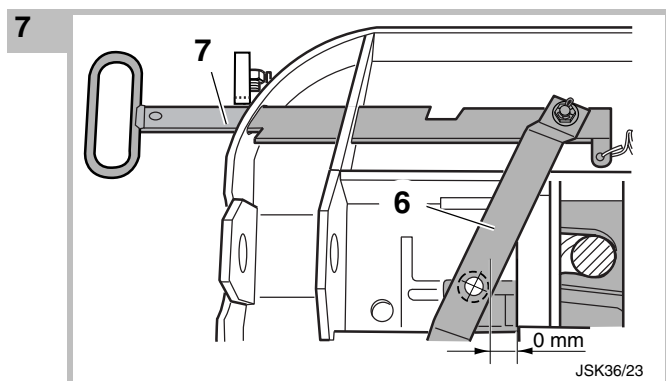


- ▶ The bearing should exhibit a play of no more than 5 mm. To check, lift the coupling plate with a lifting lever.

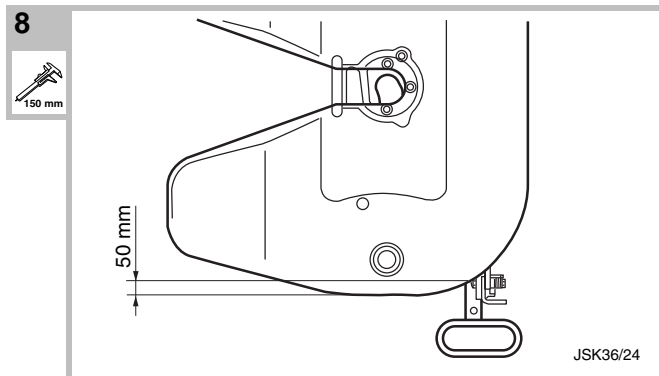
4 Repair work



- ▶ **Locking mechanism when new**
If the fifth wheel coupling has been closed correctly, the distance of the locking edge to the inner edge of the plate must be at least 10 mm. If the distance is less than 10 mm, the handle (7) and the lever (6) must be checked for warping.

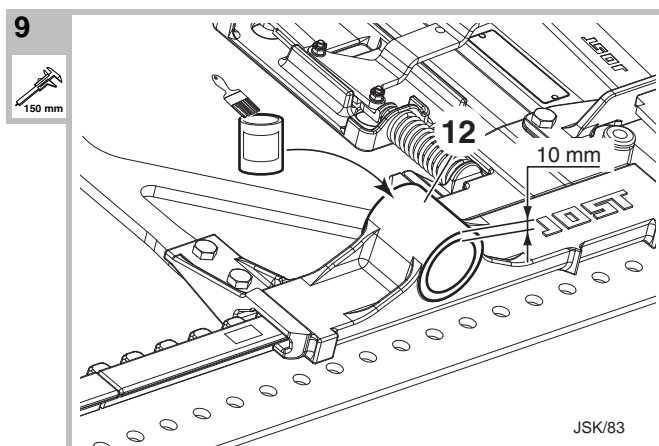


- ▶ **Locking mechanism wear limit**
The locking mechanism is worn if the distance between the bearing eyelet of the lever and the abutment rib is 0 mm. The locking mechanism cannot be adjusted any further at this point.



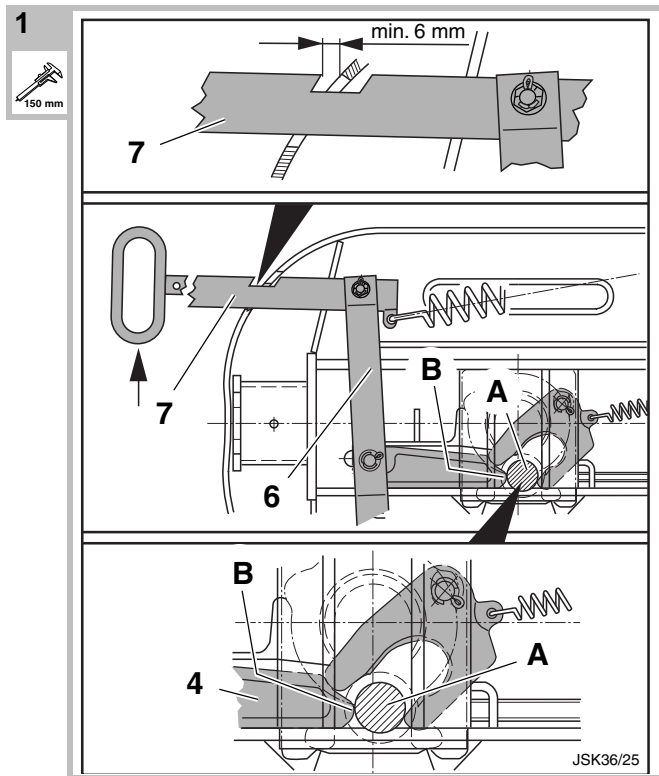
- ▶ The material thickness on the top of the coupling plate is 8 mm. The fifth wheel coupling must be replaced if the material thickness is < 4 mm at any point. In the external area (50 mm wide), however, a minimum thickness of 2 mm is permitted.

Service instructions for JOST sliders of type JSK SL



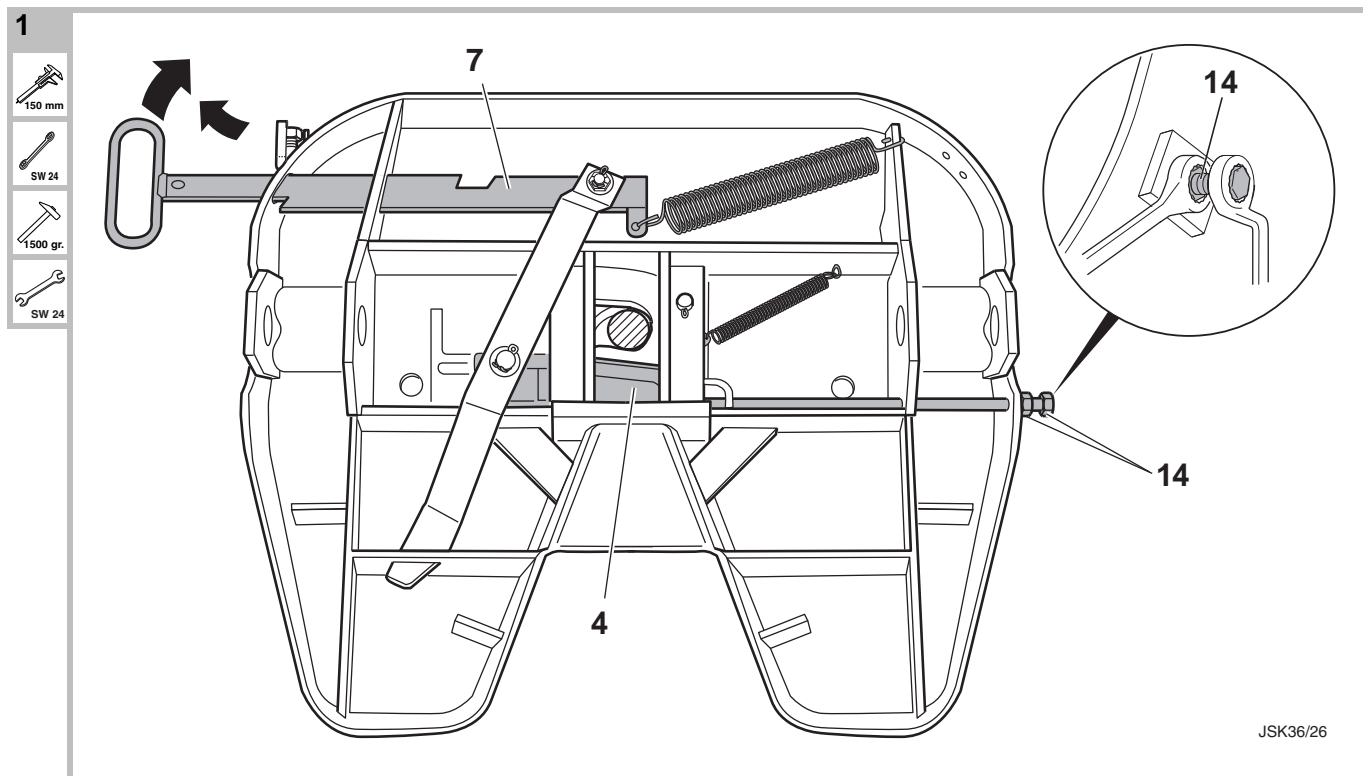
- ▶ If the fifth wheel coupling is worn on one slider, this must be replaced once per slider if the wall thickness of the pedestal (12) is at least 10 mm on each side before the coupling plate is replaced.
- ▶ The upper surfaces of the pedestals must be greased before assembly with high-pressure grease (EP).

4.8 Function test



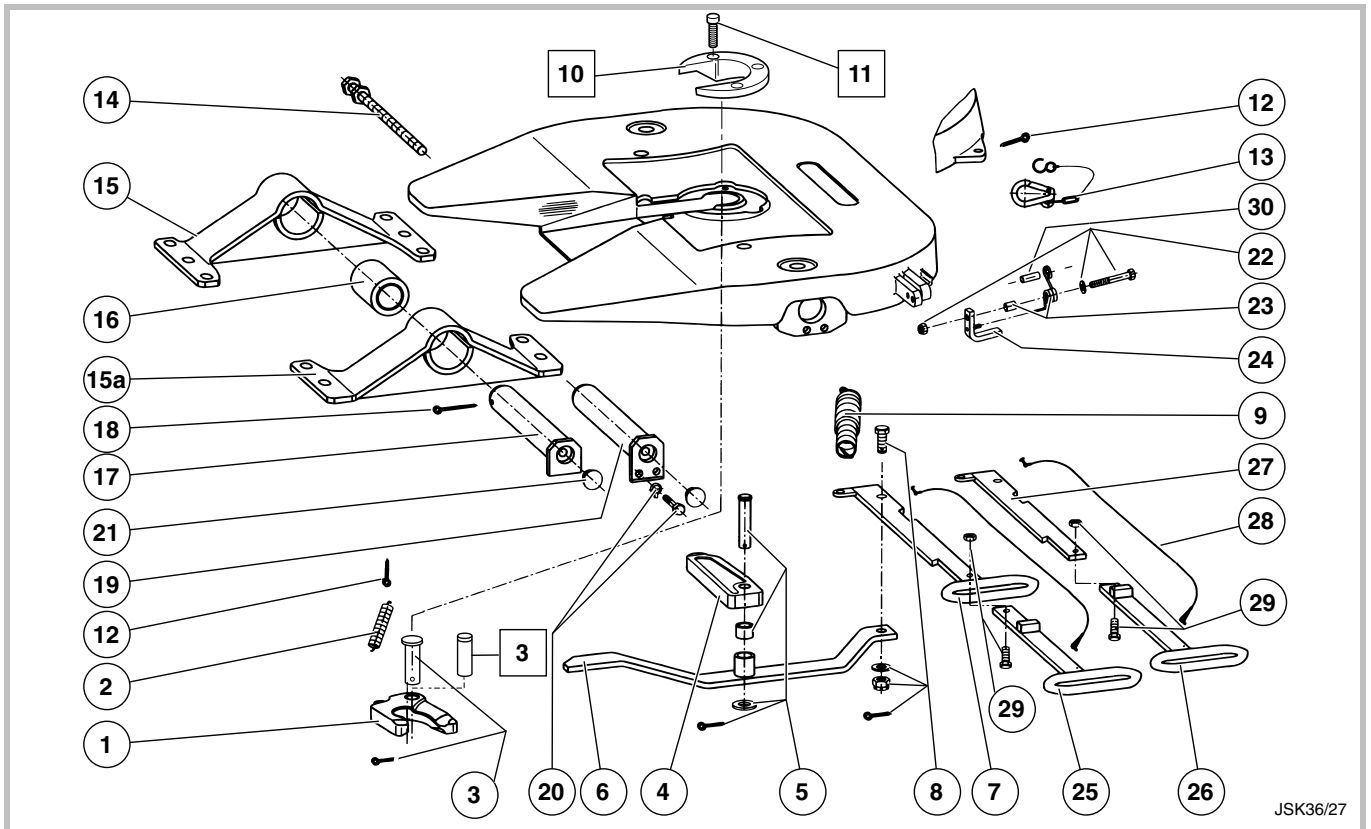
- ▶ During the uncoupling process, the engaging edge must be raised by at least 6 mm. The test is made when the king pin **(A)** (new condition) presses on the bar tip **(B)** and the handle is held in the direction indicated by the arrow. If the gap is less than 6 mm, the lever (6), the handle (7) or the locking bar (4) must be checked for signs of deformation and wear.

4.9 To adjust the locking mechanism



- ▶ Undo the hexagonal lock nut (14).
- ▶ Unscrew the adjusting screw (14) until it is no longer in contact with the stop of the locking bar (4).
- ▶ Apply a few gentle knocks on the handle (7) to ensure that the locking bar (4) is in its terminal position or re-couple the semi-trailer.
- ▶ With the handle (7) swivelled forwards, turn the adjusting screw (14) back to the right until it contacts with the tip of the bar and the handle (7) starts to move in the direction of opening.
- ▶ To set the basic play of 0.3 mm, turn the adjusting screw (14) a further 1 1/2 turns to the right and secure against turning with the hexagonal lock nut (14).

5 Spare parts for version JSK36D/DV



JSK36/27

Item	Designation	Serial No. /Note	Order No.	Quantity
1	Lock jaw		SK 1489	1
2	Spring		SK 847	1
3	Bolt	D version	SK 2921-01	1
3	Bolt	DV version	SK 2106-67	1
4	Locking bar		SK 2905-06	1
5	Locking bolt	Complete	SK 2921-02	1
6	Lever		SK 2107-25	1
7	Handle	Up to serial No. xx38xxxxxx From serial No. xx89xxxxxx	SK 2905-01 SK 2905-111	1 1
8	Hexagonal screw	Complete	SK 1513	1
9	Double spring		SK 2105-11	1
10	Wearing ring	DV version	SK 2105-19	1
11	Cylinder screw	DV version	SK 2121-07	3
12	Splint	Up to serial No. xx38xxxxxx	SK 1790	1
13	Spring hook	Up to serial No. xx38xxxxxx	SK 1436	1
14	Adjusting screw	Up to serial No. 988003xxxx From serial No. 988004xxxx	SK 2700-44 SK 2905-51	1 1
15	Pedestal (1) BH 172 mm		SK 2904-41	2
15	Pedestal (2) BH 150 mm		SK 2904-42	2
15	Pedestal (3) BH 185 mm		SK 2904-40	2
15	Pedestal (16) BH 225 mm		SK 2904-90	2
15a	Pedestal 4-hole version	(spare part only)	SK 1525	2
16	Rubber sleeve	Complete	SK 2905-94	2
17	Locating pin	With item 18 + 21 up to serial No. xx38xxxxxx	SK 2921-24	2
18	Splint	Up to serial No. xx38xxxxxx	SK 2921-04	2
19	Locating pin	With item 21 from serial No. xx89xxxxxx	SK 2904-99	2
20	Hexagonal screw	Complete from serial No. xx89xxxxxx	SK 2921-29	4
21	Plug		JS 1101-012	2
22	Hexagonal screw	Complete from serial No. xx89xxxxxx	SK 3521-03	1
23	Spring loop complete	from serial No. xx89xxxxxx	SK 2921-30	1
24	Latch	Complete from serial No. xx89xxxxxx	SK 3121-52	1
26	Handle		SK 3105-113	
27	Safety lever		SK 2905-106	1
28	Cable	Complete	SK 3521-02	1
29	Hexagonal screw	Complete	SK 2421-50	
30	Clamping pin		000.003.027	1

Item	Retrofit kits	Serial No. /Note	Order No.	Quantity
25	Handle extension	with item 28 + 29	SK 2921-031	1

○ Spare parts for D/DV version

□ Spare parts only for DV version

6 Disposal instructions

The mounted parts are valuable raw materials that can be recycled. They can be split into plastics, 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.



Siemensstraße 2, D-63263 Neu-Isenburg, Telefon +49 6102 295-0, Fax +49 6102 295-298, www.jost-world.com
ZDE 199 002 100 03/2011