

Use and Maintenance

Fifth wheel FSK 200-VO.1

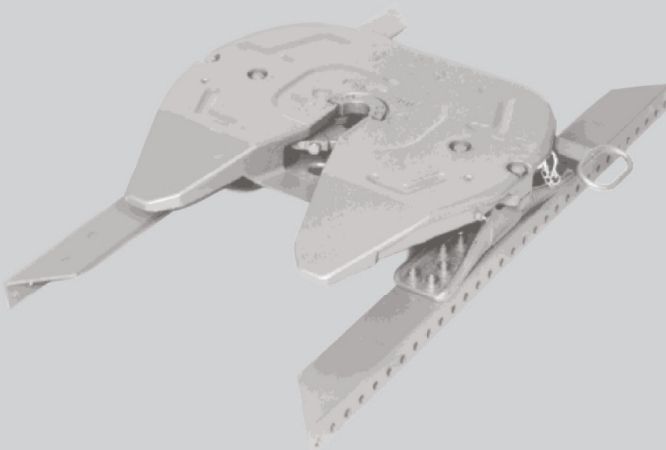


Table of Contents

Operating Instructions	3
Maintenance	4
Wear Limits	5
Repairs	6
Adjusting play	10
Lubrication	11
Spare Parts	12

Operating Instructions

Coupling

- The fifth wheel must be ready for coupling, i.e. the unlocking handle must be fully extended. The locking mechanism is in the open position.
- The semi-trailer plate must be approx. 5 cm lower than the fifth wheel coupler plate. **Caution:** pressure losses in the air suspension of the semi-trailer change the height of the kingpin. Reverse with the tractor slowly under the semi-trailer.
- The locking mechanism engages automatically.
- Securing:
Variation A.): with snap hook
Inserting the hook into the slot beside the operating handle provides a check if the mechanism is properly locked. If it is not possible to engage the hook, the coupling operation must be repeated.

Variation B): with spring hook

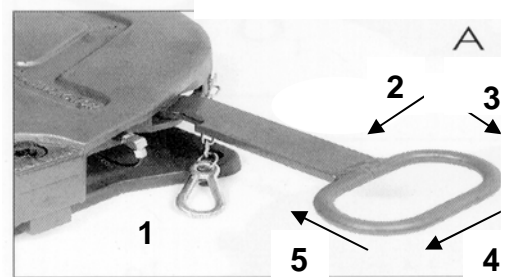
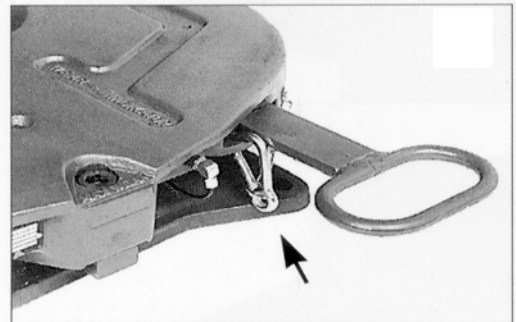
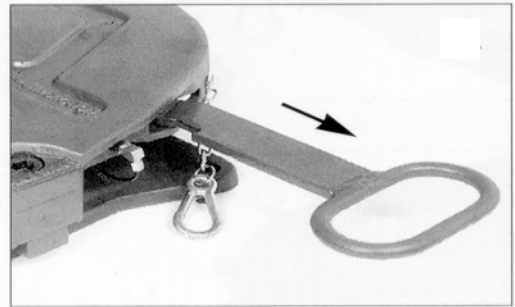
The spring hook falls automatically into place when the mechanism is properly engaged.

If the hook does not click, the coupling operation must be repeated.

Attention: Start-up jerk to be made in low gear.

Uncoupling

- Variation A): with snap hook.
Detach the snap hook ①
- Variation B): with spring hook.
Push hook upward.
- Swivel the unlocking handle to the rear ② pull it out ③ and hook its lug onto the edge of the plate ④ ⑤
- Drive the tractor out of the coupling.
- The fifth wheel, with its locking mechanism open, is automatically ready for coupling again.



Maintenance

Various parts are normally subject to wear during operation; this can, however, be reduced to a minimum by proper maintenance.

The following points must therefore be observed before putting the fifth wheel into operation and each time it is serviced:

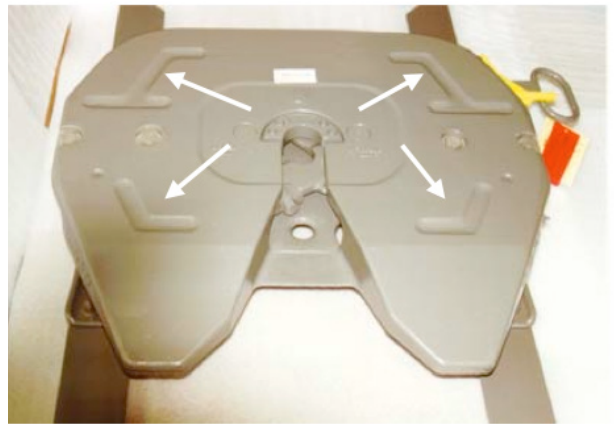
- Apply ample coatings of long-life, high pressure grease to the surface of the plate, the locking parts and the kingpin.
- We recommend that the bearing surfaces of the fifth wheel and the semi-trailer plate be checked for damage each time they are serviced and repaired where necessary.
- Replace worn-out or damaged parts with original SAF-HOLLAND spares.
- The functionality of the fifth wheel must be checked depending on the working conditions, however at the latest every 50,000 km.

Wear Limits

The operating wear on the coupler plate and the plastic bearings can be checked by means of visible evidence of wear, i.e. without using any tools. The limit gauge (SAF-HOLLAND Order No. A 659 920 032) is required for checking wear on the fifth wheel locking mechanism and the kingpin.

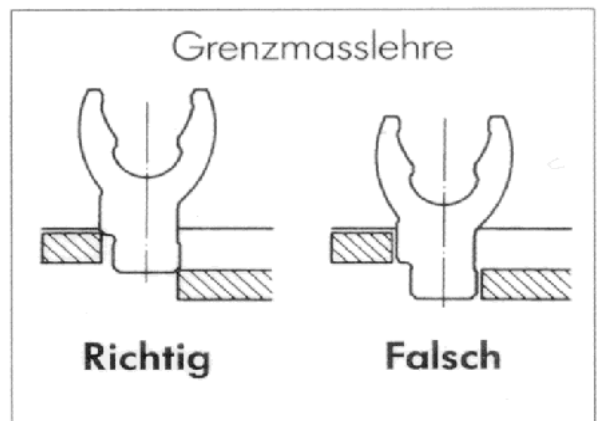
Coupler plates

The coupler plate must be replaced when it is worn down to the bottom of the oil groove. Check the semi-trailer plate and replace it if necessary.



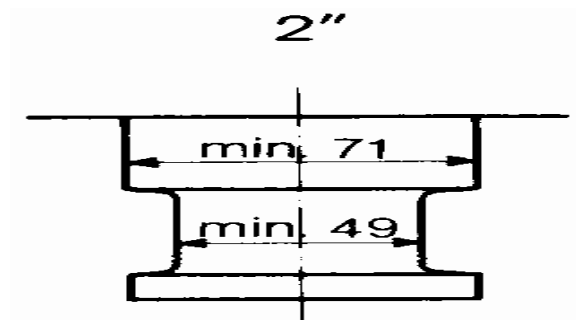
Locking mechanism

Use the limit gauge to check wear on the locking mechanism. If the limit gauge slips into the locking mechanism from above, the parts must be replaced.



Kingpin

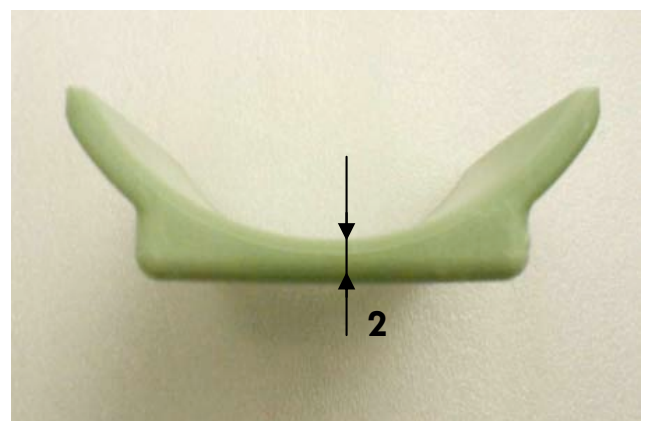
Measure both diameters in the longitudinal and transverse directions using the limit gauge. If the diameters have been worn down to 71 and 49, it is imperative that the kingpin be replaced.



Plastic Bearings

Exchange the bearings if there is no more space between the bracket and the coupler plate

Check the bearings, depending on the operational conditions, at least every 250'000 km for signs of wear. If the bearings have a thickness of less than 2 mm they have to be replaced by original SAF HOLLAND spares.

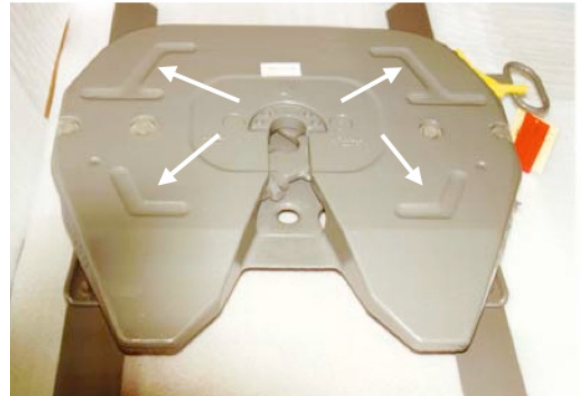


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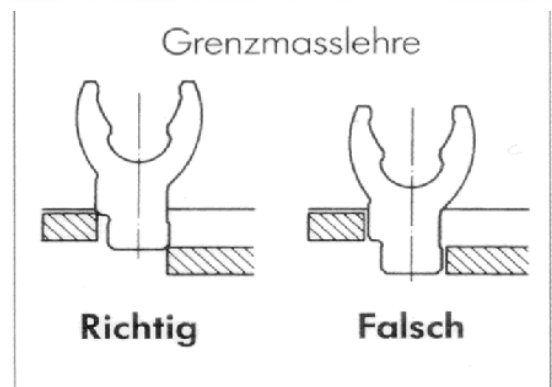
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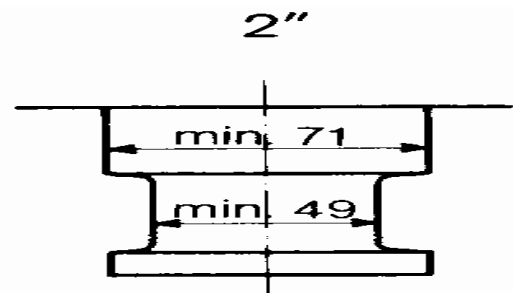
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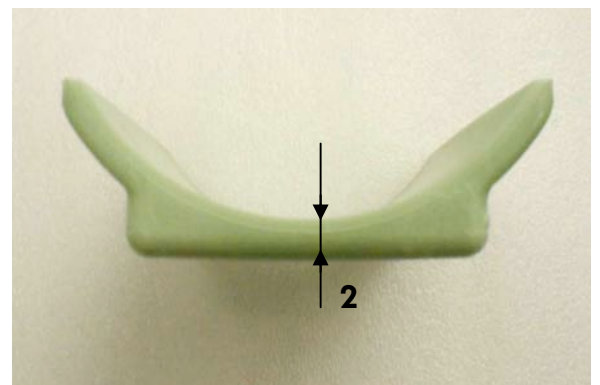
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Repairs

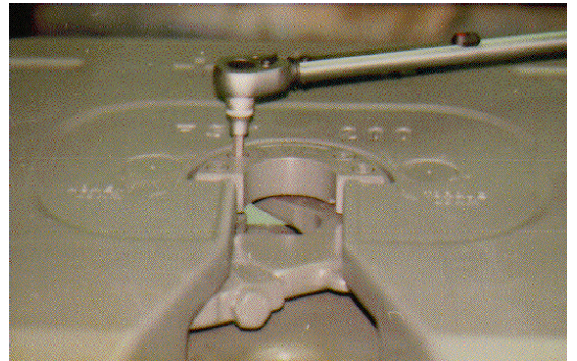
The following standard tools are required for repair work on the FSK 200-VO.1:

- 1 400 Nm torque wrench
- 1 hexagon socket insert, 8 mm across flats
- 1 nut insert 30 mm across flats
- 1 hammer
- 1 combination pliers
- 1 punch Ø 30 mm
- 1 punch Ø 8 mm
- 1 screwdriver
- 1 combination wrench, 27 across flats
- 1 round-nosed pliers external holding, 2,3 mm Ø

A serial number is embossed on the nameplate and rim of the plate on each fifth wheel for proper identification.

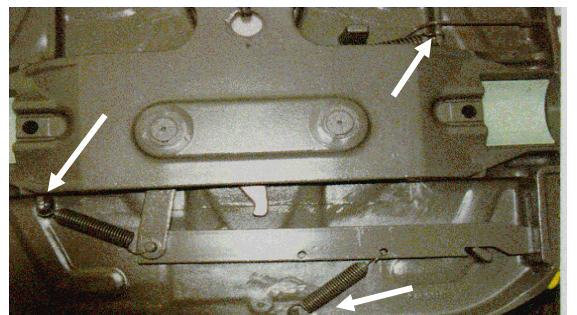
Replacing the wearing ring

1. Unscrew all 4 fillister head screws and remove the wearing ring. Clean the wearing ring seat on the coupler plate.
2. Coat the machined surfaces of the new wearing ring with multi-purpose grease and insert.
Use new self securing fillister head screws and tighten them with a torque of 46 Nm.

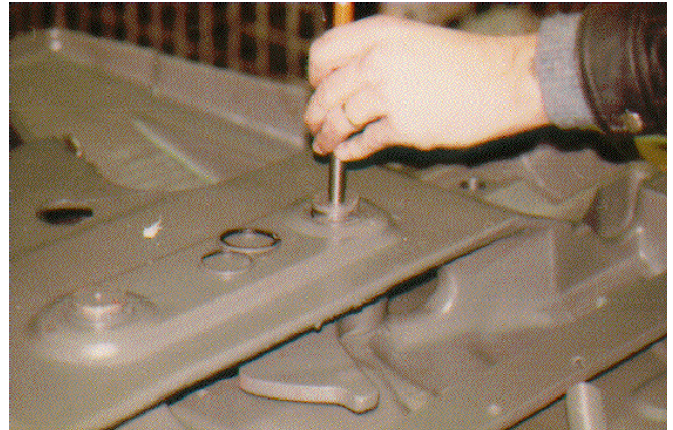


Replacing the coupler jaw ,the plastic bearing and the rubber cushion

1. Undo all 4 screws of the bracket assembly.
2. Pull the tension bow out to the side.
3. Lift the coupler plate off the brackets and place it on two blocks of wood approx. 10 cm height on the workbench.
The brackets remain on the vehicle, i.e. on the mounting plate.
4. Unhook the springs from the coupler jaw and the unlocking handle.
5. Remove the external locking ring from the coupler jaw bolt.

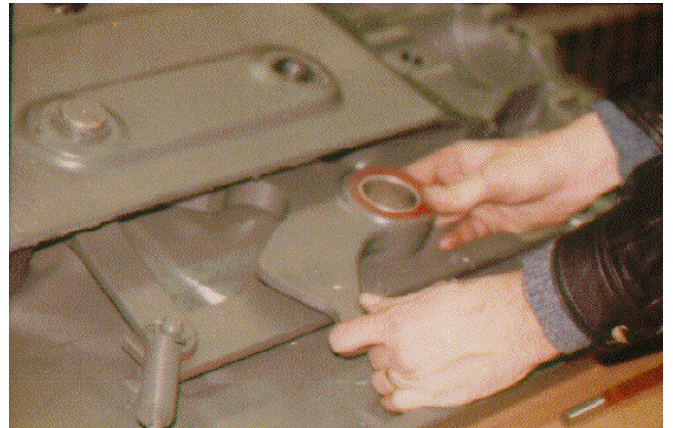


6. Remove the bolt from the coupler jaw.



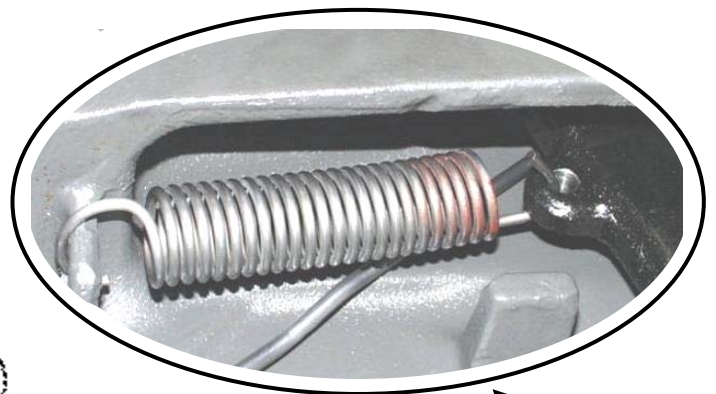
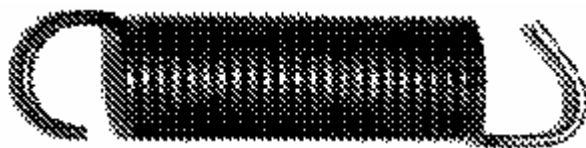
7. Remove the coupler jaw, clean the borehole on the coupler plate and coat the pivot with multi-purpose grease.

8. Pull the unlocking handle right out before inserting the new coupler jaw.



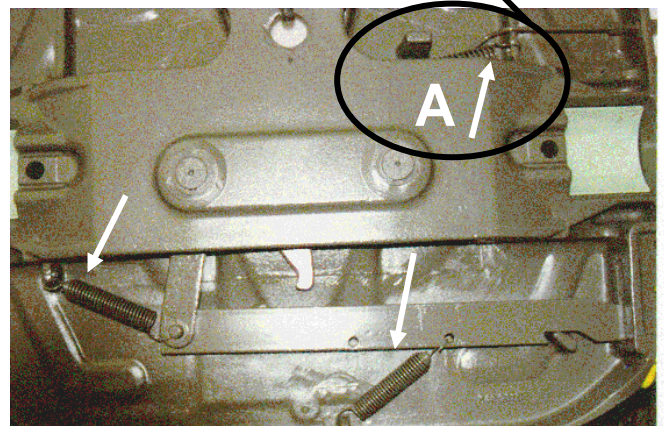
9. After inserting the coupler jaw, move the unlocking handle into the closed position. Secure it with the external locking ring.

10. Attach all three tension springs on the coupler jaw and the unlocking handle. Pull the unlocking handle outwards and set the locking mechanism in the coupling position.



Attention:

Install tension spring **A** in the correct position.



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11. Check the rubber cushion for wear (visual inspection) and if necessary replace it. Ensure it is perfectly seated when inserted into the bracket.

Plastic bearing

Replacing worn down plastic bearings when there is no gap between brackets and coupler plate.



Mounting the fifth wheel on the brackets

1. Place the coupler plate on the brackets.
2. Insert the tension bows from the side. (The chamfer of the thread hole must point towards the fifth wheel plate)



3. Insert the screws.
4. New self-locking bolts must be used for each mounting. Tighten all four M 20 screws with a torque of 400 Nm. Before putting the fifth wheel into operation, ensure that the locking mechanism is open.



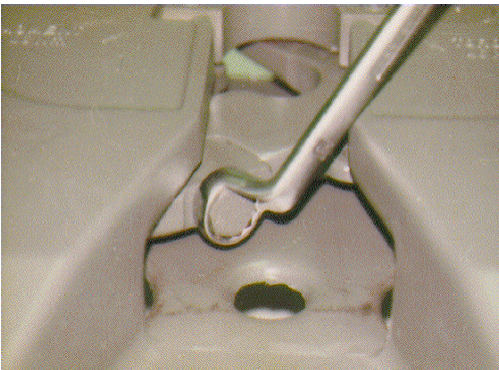
Adjusting play

The locking mechanism of a fifth wheel is subject to a certain degree of wear, depending upon mileage and maintenance.

The SAF-HOLLAND FSK 200-VO.1 fifth wheel is equipped with an adjusting mechanism to compensate for play.

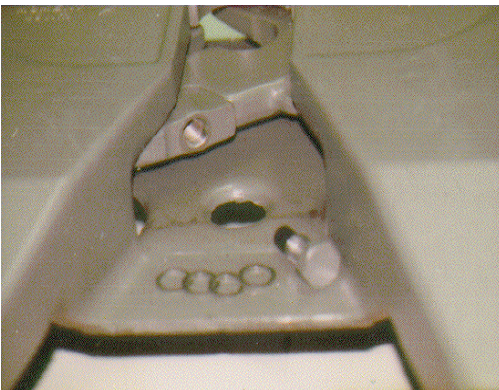
This mechanism is intended to compensate for wear on the coupling parts, but not on the kingpin.

Adjusting the fifth wheel's locking mechanism



The adjustment must be carried out with a **new kingpin**.

- Unscrew the screw (27 across flats) on the locking hook. Removal of one washer under the screw produces an adjustment of 0,4 mm. Reinsert the screw and tighten it with 170 +/- 10 Nm.
- Repeat this procedure as required when making further adjustments.



Warning

When adjusting the locking mechanism, ensure that the kingpin has a play of at least 0,5 mm in the locking mechanism of the fifth wheel. If necessary, add further washers until the degree of play is correct.

After coupling, the snap hook must be inserted resp. the spring hook fall into place to ascertain, that the mechanism is properly locked. If mechanism does not close properly, remove one more washer.

If no further adjustment is possible on the locking mechanism, the locking hook and the wearing ring must be replaced.

If the kingpin is below the minimum permitted limits (see page 4), it must be replaced.

Lubrication

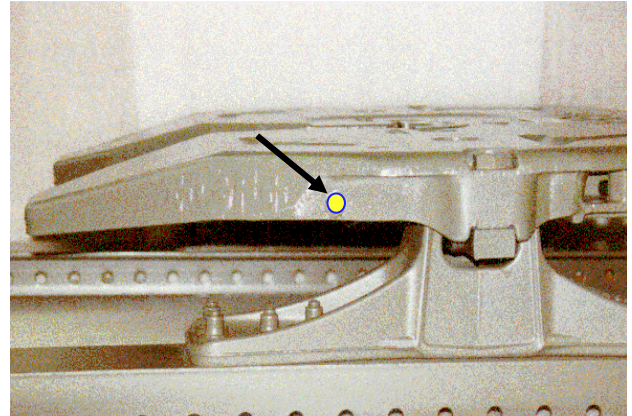
Lubrication of the locking mechanism

The SAF-HOLLAND FSK 200-VO.1 Fifth wheel is equipped with a greasing system for optimum lubrication.

The lubrication point connections have an M 8 x 1 thread.

The lubrication point for the locking mechanism and the wearing ring is at the rim of the plate.

This lubrication process can be carried out without uncoupling the vehicle.



Apply ample coatings of long-life, high-pressure grease* to the surface of the plate prior to first time use, and then regularly.

Before doing the lubrication work, remove old grease and dirt.

The lubrication intervals have to be adjusted to the operating conditions, to allow shorter or longer intervals.

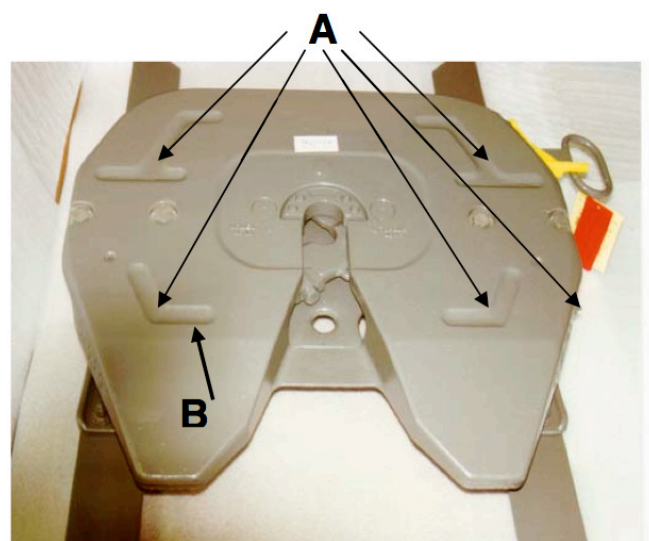
* We recommend using a long-time high pressure lubricant (NLGI class 2) with MoS₂ or graphite additives, e.g. MOTOREX MOLY 218, SHELL RETINAX HDX2, Renolit LZR 2 (suitable for central lubrication systems), Renolit FG 150. If other lubricants are used, the lubrication intervals are to be adapted accordingly. When used with a central lubrication system obey the instructions of the manufacturer.

Central lubrication

The attachments provided should preferably be used when mounting a central lubrication system:

- A 5X. M 8 x 1 lubricating point connections
- B M 6 distributor attachments

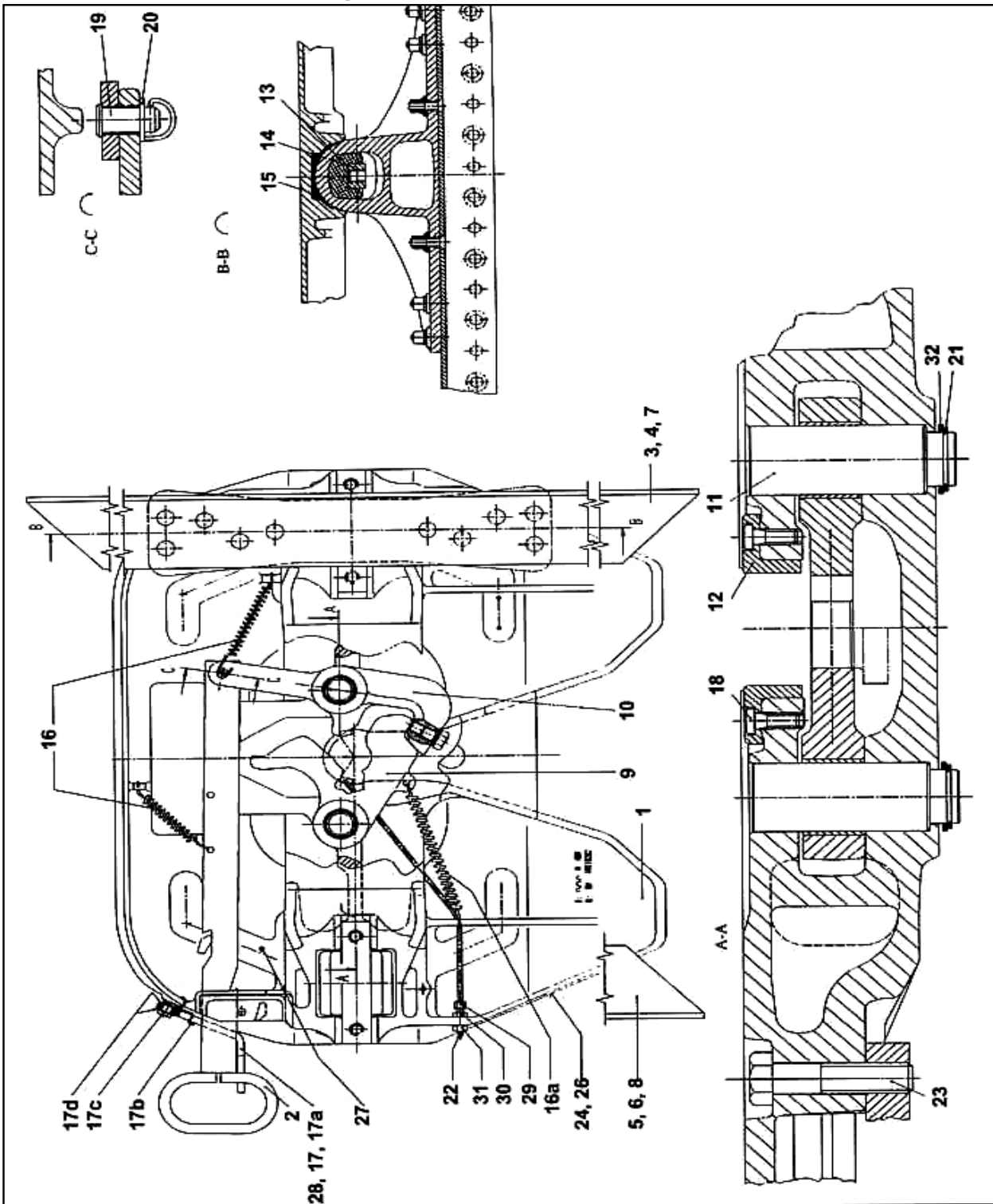
Ensure that the operation and freedom of movement of the fifth wheel are not affected by the connection of a lubrication system.



Spare Parts for FSK 200-VO.1

				Order Nr.
Height 140 mm				662 127 223
Height 140 mm				662 127 224
Height 160 mm				662 127 192
Height 160 mm				662 127 202
Height 200 mm				662 127 184
Height 200 mm taylor made				662 127 203
Height 140 mm taylor made				662 127 232
Height 160 mm taylor made				662 127 242
Pos.No	Description	pcs	Serial No.	Order Nr.
-	Coupler plate cpl., without brackets	1		662 127 195
1	Coupler Plate	1		662 126 228
2	Unlocking handle	1		662 126 473
3 or 5	Bracket 160 mm left or right cpl.	1		662 126 240
5 or 3	Bracket 160 mm right or left cpl.	1		662 126 241
3a	Bracket 160 mm left , taylor made	1		662 127 243
5a	Bracket 160 mm right, taylor made	1		662 127 244
4 or 6	Bracket 200 mm left or right cpl.	1		662 126 237
6 or 4	Bracket 200 mm right or left cpl.	1		662 126 238
7 or 8	Bracket 140 mm left or right cpl.	1		662 126 249
8 or 7	Bracket 140 mm right or left cpl.	1		662 126 248
7a	Bracket 140 mm left , taylor made	1		662 127 231
8a	Bracket 140 mm right , taylor made	1		662 127 230
9	Coupler jaw cpl.	1		662 126 403
10	Locking hook cpl	1		662 126 401
10a	Screw	1		662 126 450
10b	Washer	4		662 126 456
11	Bolt	2		662 126 472
12	Wearing ring	1		662 126 229
13	Rubber cushion	2		662 114 110
14	Tension bow	2		662 129 388
15	Bearing	2	starting 708 700	662 130 101
16	Tension spring	2		662 126 410
16a	Tension spring	1	starting 721 546	662 126 411
17	Snap hook with chain	1	till 705 288	662 100 574
17a	Safety latch	1	starting 705 289	662 126 638
17b	Spring	1	starting 705 289	662 126 640
17c	Threaded pin	1	starting 705 289	662 126 488
17d	Washer	2	starting 705 289	662 126 495
18	Filister head screw with hex. socket	4		662 126 155
19	Pivot	1		662 126 471
20	Washer	1		662 126 159
21	External locking ring	2		659 100 027
22	Grease nipple	1	till 708 699,3 pcs	662 126 224
23	Hex.cap screw M 20 x 80	4		662 129 606
24	Manufacturer's plate	1		659 120 370
26	Hemispherical ribbed nail	2		662 126 173
27	Protection plug	3		662 126 223
28	Hammer rivet	1	till 705 288	662 126 151
29	Lubrication pipe	1		662 126 484
30	Lock nut	1		662 126 176
31	Eyebolt	1		662 126 465
32	Washer	2		659 100 026

Exploded drawing FSK 200-VO.1



Repair kits

Till Serial No.708 699

Start from Serial No.708 700

Pos.No.:				Pos.No.:
9,10b,11,12 13,18,21,23,32	662 101 416	Locking mechanism & Bearing	662 101 474	9,10b,11,12 13,15,18,21,23,32
9,10b,11,12 18,21,32	662 101 414	Locking mechanism	662 101 414	9,10b,11,12 18,21,32
13,23	662 101 415	Bearing	662 101 473	13,15,23



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