

# Installation and operation instructions

## Series RO\*700 Fully automatic trailer coupling with homologation 94/20/EC



**Important document!**  
Must be handed to the customer before the coupling is mounted!

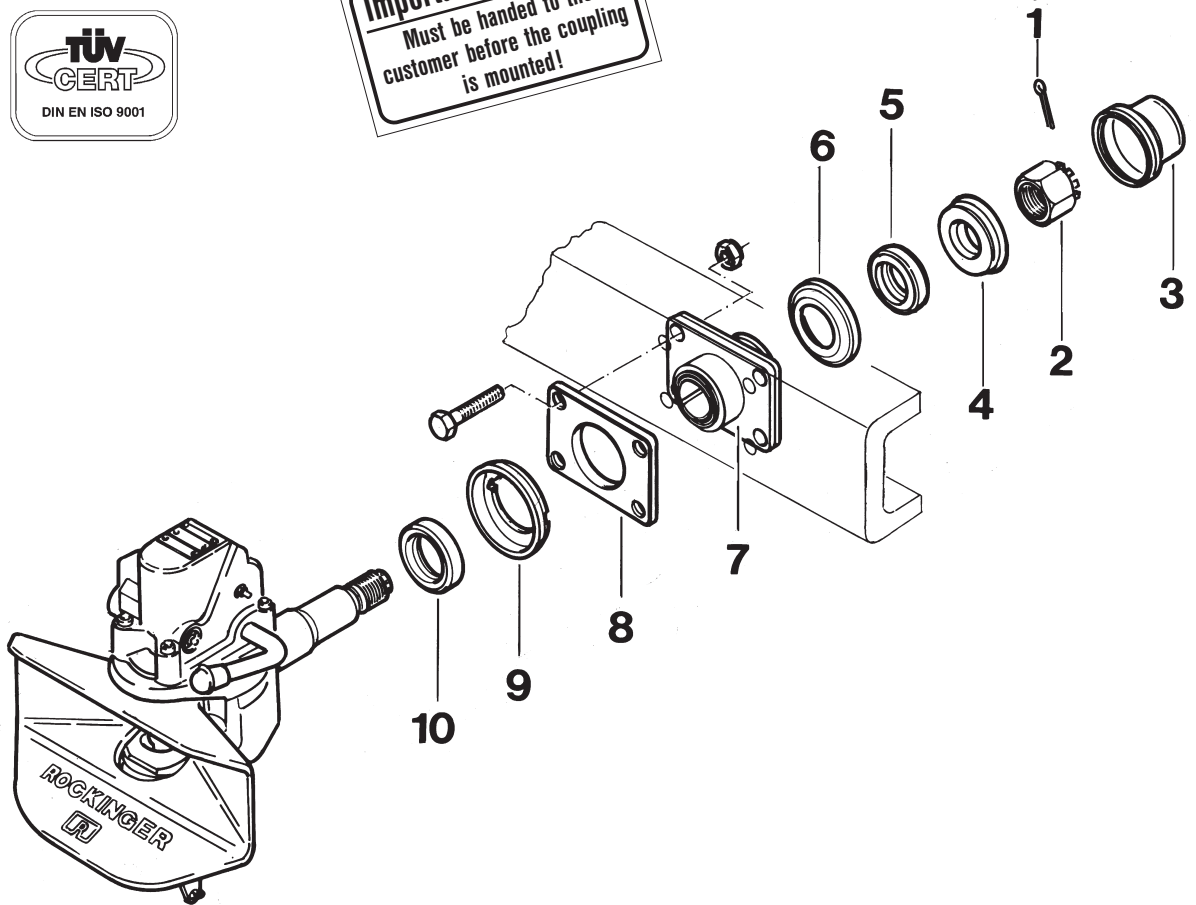


fig. 1

Type 700 G61 e1 00-0308  
Type 700 G62 e1 00-0311  
class C 50-X

for drawbar eye 50 DIN 74053,  
EC 94/20 class D, ISO 1102,  
drawbar eye RO\*57005

Fully automatic  
trailer coupling

88041GB 0

as at 0501  
Subject to technical changes without prior notice



## 1. Mounting

### 1.1 Before mounting

**Note:** Please comply with following when fitting coupling:

- applicable national regulations
- vehicle manufacturers specifications
- clearance for axial rotation of coupling head of at least  $\pm 25^\circ$

fig. 1:

- Remove castellated nut (2)
- Remove carefully the thrust washer (4) rubber buffer (5) and buffer (6).
- Remove mounting bearing (7) from shaft but do not remove from shaft front end buffer (10) remove buffer cover (9) and reinforcement plate (8).

**Notice:** Split pin and sealing cap are delivered as loose parts.

Coupling shaft and parts of the buffer unit (not the rubber buffers themselves) are covered with grease which must not be taken off.

### 1.2 Mounting

- Install the mounting bearing (7) onto the inner side of the drawbeam and the reinforcing plate (8) on it's outside. Secure with 4 hexagonal bolts, quality spec. 8.8 and self-locking nuts, quality spec. 8.

Please see table details of nut and screw size.

**Attention:** Mount bolt heads towards the jaw (outside of drawbeam). The screw head and the nut bearing must be flat, clean and without dirt.

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# Mounting

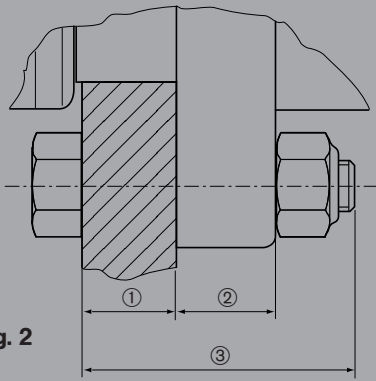


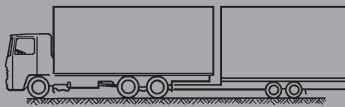
fig. 2

- ① thickness of crossbar and support plate
- ② thickness of flange
- ③ length of bolts

# Operation



Tractor unit with drawbar trailer



Tractor unit with central-axle trailer

fig. 3

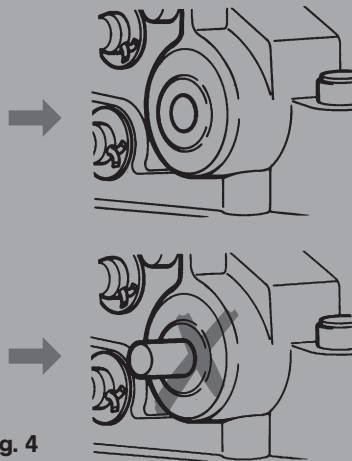


fig. 4

# Maintenance

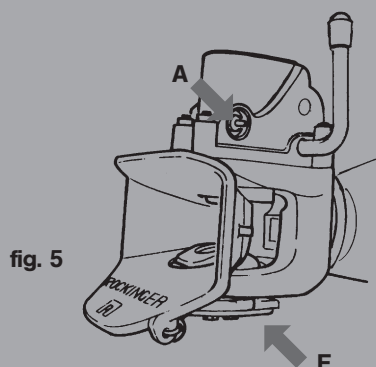


fig. 5

## Torque of bolts on the bearing:

size of coupling	size of bolts	torque (Nm)	ROCKINGER set of bolts part. no.
6	M20	410 Nm	58097

## thickness of crossbar and support plate (see fig. 2)

central axle trailer	G 61: 22 mm – 28 mm
	G 62: 28 mm – 35 mm
drawbar trailer	G 61: max. 28 mm
	G 62: max. 35 mm

- Carefully insert coupling shaft and parts 9 and 10 into mounting bearing (7). Make sure that each index of the mounting bearing (7) is properly inserted into its groove on the buffer protection cap (9) do not remove the grease from the shaft, if necessary shaft have to be greased.
- Insert buffer cover (6) with buffer (5) and thrust washer (4) (see fig. 1)
- Tighten castellated nut (2) (**Torque min. 500 Nm**)
- Insert split pin (1) and bend correctly. If the position of the castellated nut does not allow insertion of split pin, **tighten castellated nut further to next hole for split pin**. Never let torque fall below the value shown in the above table! Never loosen castellated nut!
- Fit the nut cover (3) which should be partially filled with grease, for protection against weather influence.

**Before painting, coupling must be closed and coupling pin must be protected by suitable cover or grease.**

## 2. Operation

### 2.1 Coupling-up

**Note: When coupling-up and un-coupling, the local safety-at-work regulations must be observed.**

- For fully automatic coupling push the operating lever up fully (it self-locks in that position).
- Check that the jaw is locked, i. e. cannot swing
- **Release front axle brakes of drawbar trailer** (see fig. 3)
- Back up towing vehicle

When coupling to a central-axle trailer (see fig. 3):

- Reverse the towing vehicle slowly
- The drawbar eye must be inserted into the middle of the jaw. Otherwise the jaw, the drawbar eye or the drawbar support legs might be damaged.

### Checking

**After each coupling-up procedure, it is essential to check that the coupling is correctly closed and locked.**

The lock-indicator (safety pin) must be flush/level with the collar of its guide after coupling (see fig. 4)

If the lock-control pin protrudes from its guide (in the dark detectable by touching it), the coupling procedure has been carried out incorrectly and there is the **risk of an accident!**

**Driving a trailer in that condition is not allowed.**

**If not correctly coupled:**

- move the towing vehicle forward (approximately 1 m)
- **check again**

### 2.2 Closing the coupling by hand

To close the coupling by hand the hand lever has to be pulled down to its low position.

## 3. Maintenance

### 3.1 Lubrication

- Lubricate coupling pin, support ring and drawbar eye with heavy-duty grease (EP3) which is waterproof if possible before first use and after extended period in use.

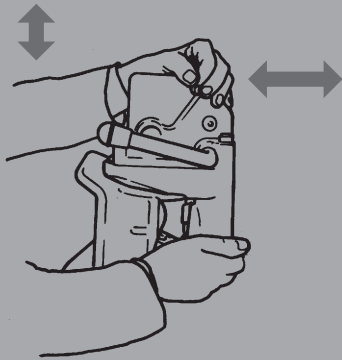


fig. 6

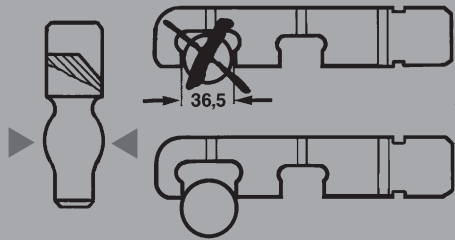


fig. 7

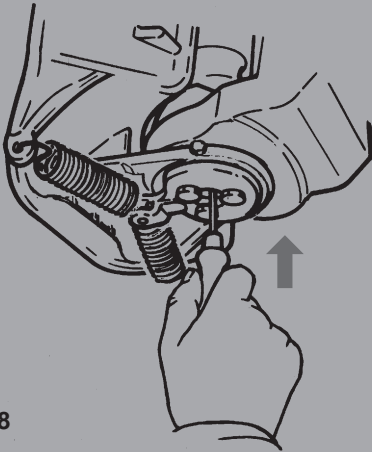


fig. 8

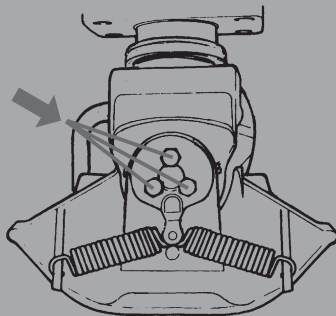


fig. 9

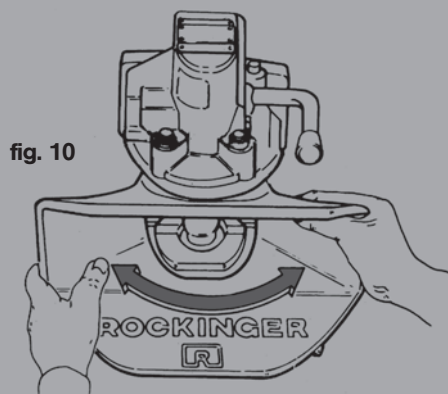


fig. 10

- Grease the automatic unit upon opened coupling over point of lubrication **A** (see fig. 5). The lubrication can be also connected to the central lubrication system of the vehicle.
- Lubricate lower funnel bearing (**F**) with EP3.
- Close coupling before cleaning with high-pressure washers (see para. 2.2)
- After cleaning, relubricate coupling pin and support ring with EP3.

### 3.2 Inspection

#### Bearings:

##### – Longitudinal play

- Grip coupling head (not jaw funnel) with both hands when uncoupled and move vigorously in longitudinal direction (see fig. 6): **No longitudinal play** is allowed.

##### – Vertical play

- Open coupling
- Move coupling head up and down with appropriate tool (see fig. 6): **Vertical play** may not exceed 3 mm measured at coupling head (centre axis of coupling pin).

#### Coupling pin:

To check the wear of the coupling pin, use the ROCKINGER reference gauge (part no. 57122, see fig. 7).

When the main ovulated section has worn down to **46 mm** – or before – the coupling pin must be replaced.

The maximum vertical play of the coupling pin may be **4 mm** at the most (see fig. 9).

#### Lower bush:

To check the wear use the ROCKINGER reference gauge (part no. 57277).

The minimum inner diameter of the lower bush must not be more than **34,2 mm**.

For replacement see repair instructions (on request).

#### Adjustment of the jaw:

If the release lever does not automatically lock the jaw swing, the central position has to be re-adjusted:

- Open coupling by raising the hand lever to it's upper position.
- Loosen the fixing bolts situated in the base plate (see fig. 9)
- Turn the jaw to the right and left until the release lever engages.
- Re-tighten the fixing bolts again (**torque 58 Nm**).

#### Check:

- Close coupling by hand (see p. 2.2).
- Turn jaw slightly to the right and left (see fig. 10)
- Open coupling again and release jaw, so the release lever has to lock the jaw in it's central position.

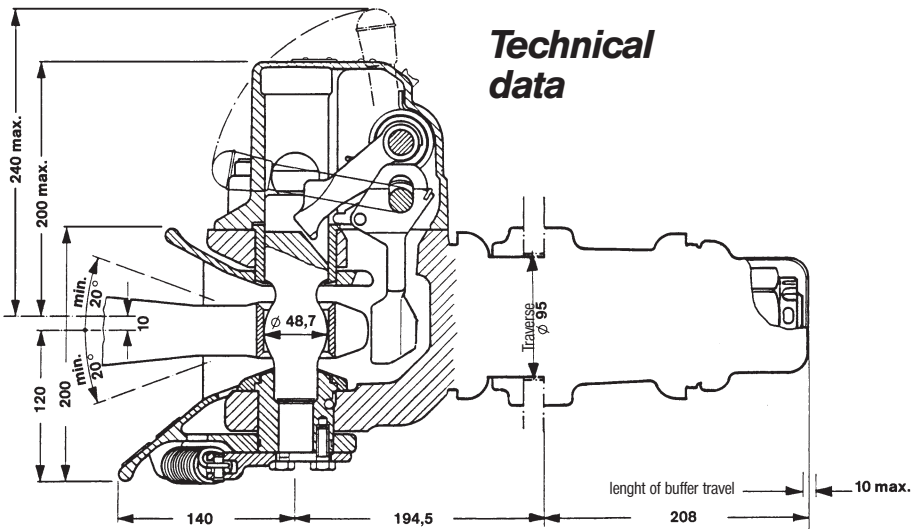
#### Support ring:

The support ring for the drawbar eye must be replaced when, due to abrasion and wear the drawbar may contact the lower bush (for replacement see repair instructions).

**The lower bush must not be damaged under any circumstances as this will impair closure of coupling!**

**Take care to prevent risk of accident!**

Always grease support ring to reduce wear (please consult repair leaflet, available on request, for details of replacing).

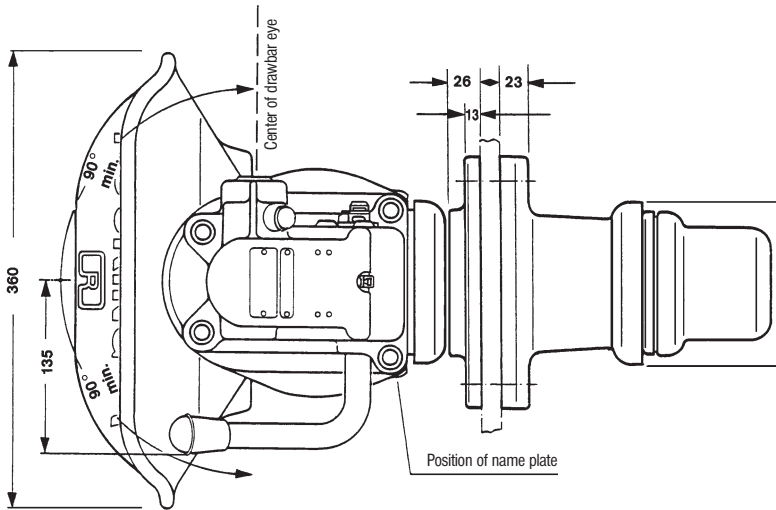


**Technical data**

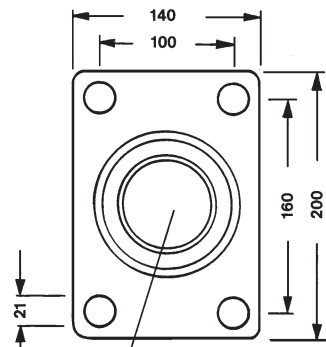
**Series RO\*700**

Type 700 G 61 e1 00-0308  
 Type 700 G 62 e1 00-0311  
 class C 50-X  
 For drawbar eye 50 DIN 74053,  
 EC 94/20 class D, ISO 1102,  
 drawbar eye RO\*57005

**Note:**  
 Drawbar turn angle in accordance with DIN 74052:  
 vertical  $\pm 20^\circ$ , horizontal  $\pm 90^\circ$ ,  
 axial  $\pm 25^\circ$



**drilling plan size 6**  
 flange size to 94/20/EC



Rotation of the coupling 360° when subject to a minimum force of 100 Nm

part no.	hand-lever	size	hole pattern (mm)	maximum D-value*1 (kN)	CENTRAL - AXLE TRAILER			weight (kg)
					maximum Dc-value*1 (kN)	maximum static vertical load*2 (kg)	maximum V-value*1 (kN)	
70061A010	upwards	6	160x100	190	135	1000	72,5	50
70061A170*3	upwards	6	160x100	190	135	1000	72,5	50
70061B010	downwards	6	160x100	190	135	1000	72,5	50
70061C010*4	upwards	6	160x100	190	135	1000	72,5	50
70061E010*5	-	6	160x100	190	135	1000	72,5	50
70061E170*3,5	-	6	160x100	190	135	1000	72,5	50
700A62040	upwards	6	160x100	190	113	1000	43,2	50

\*1 calculation see list A

\*2 Recommendation: with central-axle trailers the static vertical load should be at least 4% of the towed load to avoid a negative vertical load which can cause damage.

\*3 with reinforced funnel

\*4 in-cab status indicator

\*5 mechanical remote operation with in-cab status indicator

700G61 ABG: C (sum of the axle loads of the central-axle trailer) 23 t



**Repair instructions and part list can be obtained upon request from:**

Available from your specialist dealer: