Installation and operating instructions

Series RO✶560

Fully automatic trailer coupling with homologation 94/20/EC

Type 560 U 6 e1 00-0404
class C 50-X

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

Fully automatic trailer coupling

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

TÜV CERT DIN EN ISO 9001

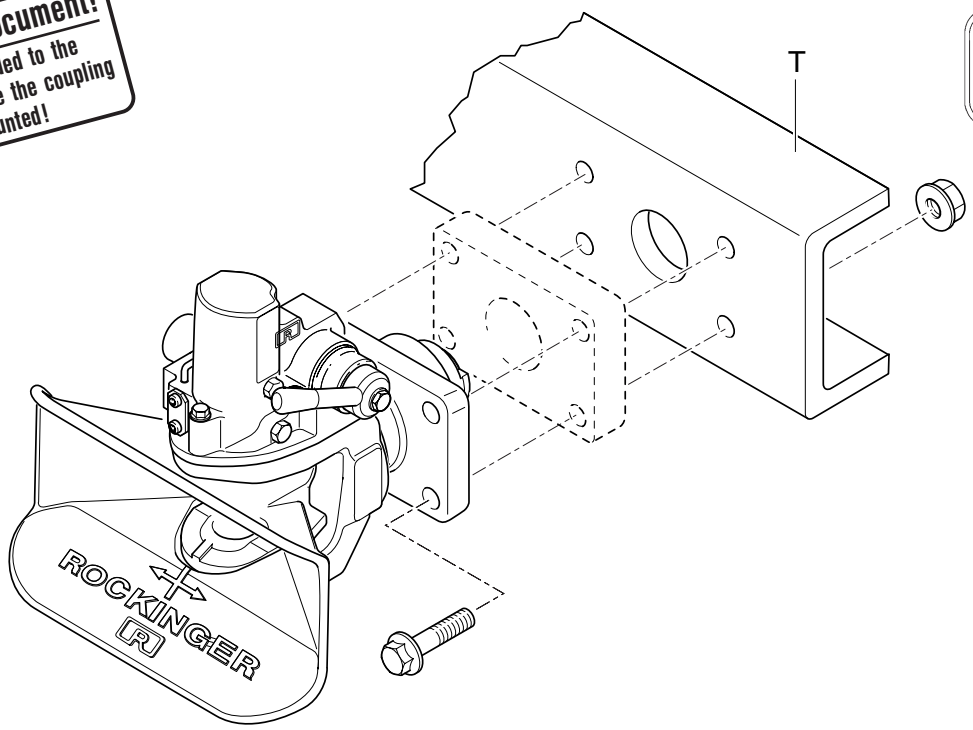

Fig. 1

1. Fitting

1.1 Before installation

Note: Please comply with the following when fitting coupling:
- applicable national regulations
- vehicle manufacturer's specifications
- clearance for axial rotation of coupling head of at least ± 25°

The coupling is supplied ready to operate.

1.2 Installation

- Mounting plate must be mounted to the crossbar (**T**)
  - Lead the cone into the middle of the hole from the crossbar or
  - use the interim plate (see Fig. 1, Ref. no. 71053)
  - Agriculture- and forestry in connection with a suitable ROCKINGER-coupling holder, mounting dimension 330 mm: Mount the fastening bearing of the coupling on the coupling holder 70904 (with vertical load 2000 kg interim plate not permissible) see page 4 too.
- Attach with:
  - 4 hexagon head cap screws to DIN 931, grade 10.9
  - 4 self-locking nuts to DIN 6925, grade 10

  Please see table for details of nut and screw size.
  Note: Please comply with vehicle manufacturer's specifications regarding nut and screw grade if these differ from above!

Caution: Bolt heads should be on coupling head side (outer side of crossbar) to avoid impairing movability of coupling (see Fig. 1)

Tightening torques when attaching screws to mounting plate:

coupling size	screw size	tightening torque (Nm)	width across flats S (mm)
6	M 20	725	30

Crossbars with holes through the entire surface
Grip corresponding to the crossbar design of the vehicle manufacturer, with S=2000 kg: min. grip 60 mm, load 430 N/mm²

Note: Before painting, it is essential to close coupling and grease or cover coupling pin.

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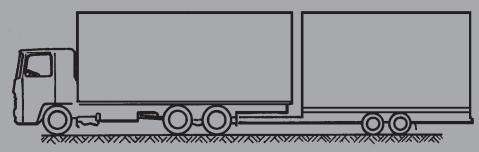
KE 0700 II 1249-GB
As at 0700
Subject to technical changes without prior notice

Operation

Tractor unit with drawbar trailer



Tractor unit with central-axle trailer

Fig. 2

2. Operation

2.1 Hitching

The regulations of the relevant employer's liability insurance association must be observed when hitching and unhitching.

- Push hand lever upwards until it engages when hitching.
- Check whether funnel is locked.
- Release brake on front axle of full trailer (Fig. 2).
- Set drawbar eye to height of coupling point (centre of funnel).
- Slowly reverse tractor unit.

When hitching a central-axle trailer (Fig. 2) please note the following:

- Drawbar eye must mate with centre of funnel. If not, this can result in damage to funnel, drawbar eye, automatic unit and support unit.

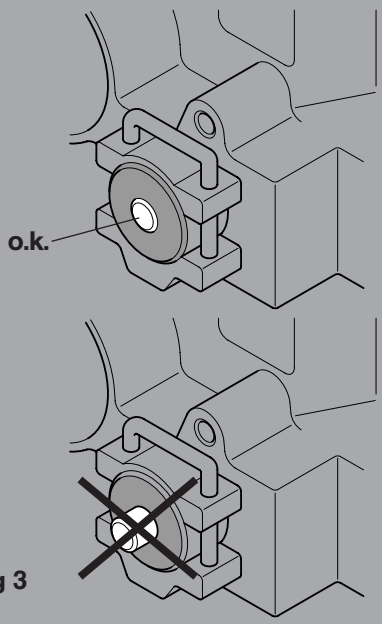


Fig 3

Check

Caution: After every hitching operation it is essential to check that the coupling is engaged as required by regulations.
The check pin must be flush with its guide bush after hitching (see Fig. 3).

If the check pin protrudes from its guide bush (this can also be established by touch if dark), this indicates that hitching has not been carried out correctly, and that you are **at risk of an accident.**
The truck may not be driven with the trailer in this condition!

Remedy:
– Advance tractor unit approx. 1 m and then reverse again.
– Check again.
In-cab status indicator upgrade kit available for retrofitting.

2.2 Closing coupling manually

(e.g. for tow-rope)

- Raise coupling pin with suitable tool
  or
- Strike hand lever knob briefly in opening direction with heel of hand.

Maintenance

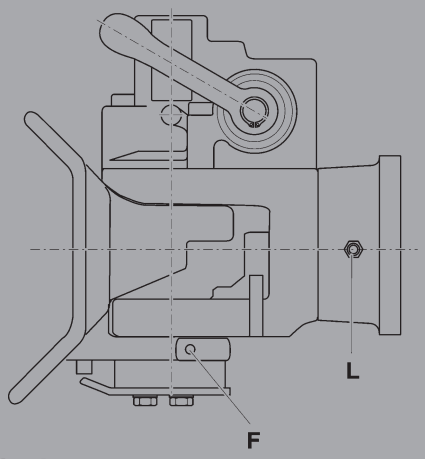


Fig. 4

3. Maintenance

3.1 Care

- 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.
- Low-maintenance automatic unit has a grease reservoir (regular greasing unnecessary, please see below for repair information).
- Lubricate lower funnel bearing (**F**) and bearing (**L**) with EP3 (intervals: 6 months or 50.000 km), see Fig. 4
- Close coupling before cleaning with high-pressure washers (see para. 2.2).
- After cleaning, relubricate coupling pin and support ring with EP3.

Please note the following when carrying out repairs on coupling (e.g. changing coupling pin):

- Remove as much of old grease as possible.
- Relubricate with multi-purpose grease NLGI 2.

Maintenance

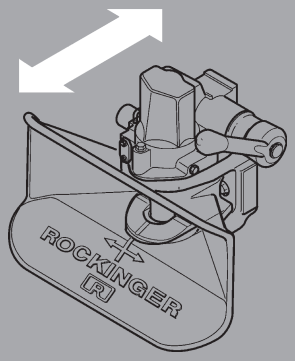


Fig. 5

3.2 Testing

Bearings:

– **Longitudinal play**

● Grip coupling head (not jaw funnel) with both hands when uncoupled and move vigorously in longitudinal direction (see Fig. 5):
No longitudinal play is allowed.

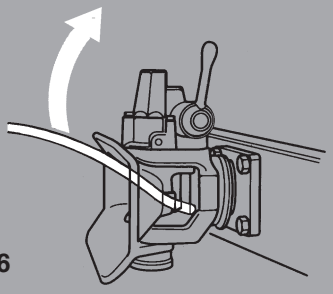


Fig. 6

– **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).

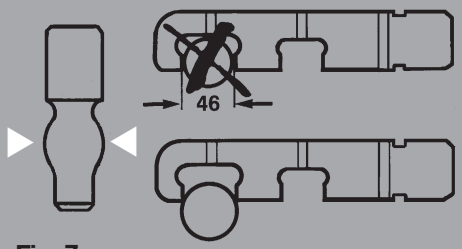


Fig. 7

Coupling pin:
Check wear using ROCKINGER reference gauge (order no. 57122, see Fig. 7):
Coupling pin may be used until diameter of crowned section has worn to less than **46 mm**, after which it must be replaced.

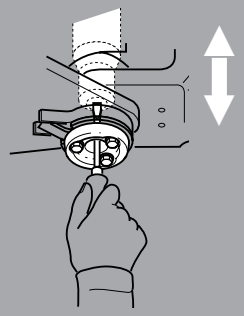


Fig. 8

Vertical play in coupling pin (see Fig. 8) may not exceed **2 mm**.

Lower bush:
Check wear using ROCKINGER reference gauge (order no. 57334).
Max. admissible internal diameter of lower bush is **35.9 mm**.
Passage below pin must be free.
Please consult repair leaflet (available on request) for details of replacing.

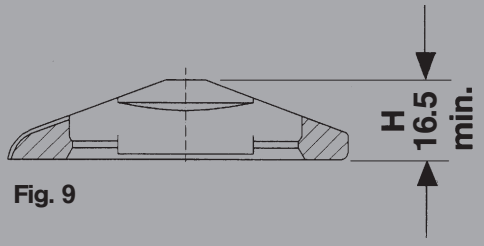
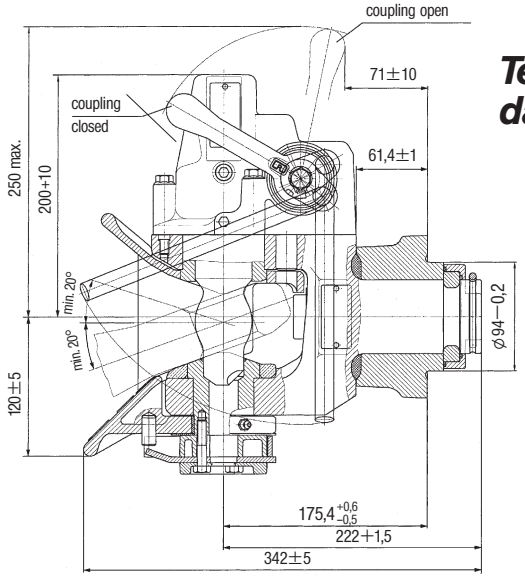
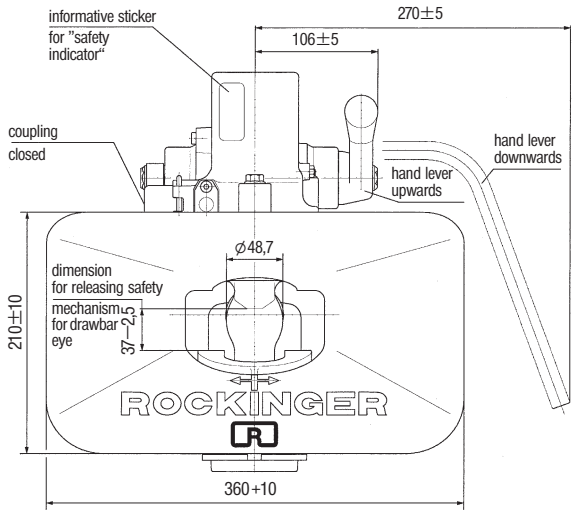


Fig. 9

Support ring:
Support ring for drawbar eye must be replaced if drawbar eye could touch lower bush because of wear or if wear limit H min. of 16.5 mm (see Fig. 9) has been reached.
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).

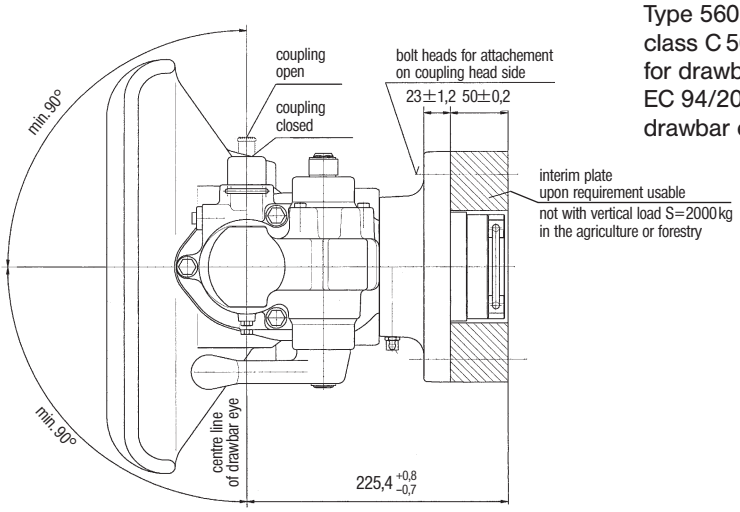


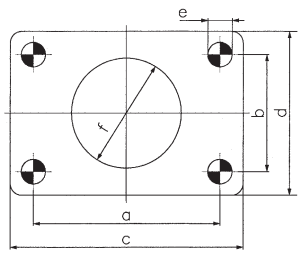
Technical data



Series RO*560

Type 560 U 6 e1 00-0404
class C 50-X
for drawbar eyes 50 DIN 74053,
EC 94/20 class D, ISO 1102,
drawbar eye RO*57005





flange size to 94/20/EC

size	a (mm)	b (mm)	c (mm)	d (mm)	e (mm)	f (mm)
6	160	100	200	140	21	94

Characteristic value for public road

part no. hand lever upwards	part no. hand lever downwards	size	hole pattern (mm)	maximum D-value*1 (kN)	CENTRAL-AXLE TRAILER maximum Dc-value*1 (kN)	maximum static vertical load*2 (kg)	maximum V-value*1 (kN)	weight (kg)
560A6000*	560B6000*	6	160 x 100	190	106	1000	45,6	38

* interim plate part no. 71053 upon requirement usable

Characteristic values for agriculture and forestry

part no. hand lever upwards	part no. hand lever downwards	size	hole pattern (mm)	admissible gross weight of tractor (t)	CENTRAL-AXLE TRAILER maximum Dc-value*1 (kN)	maximum static vertical load*2 (kg)	admissible gross weight (t)	weight (kg)
560A6000	560B6000	6	160 x 100	14	93,6	2000*3	32	38
with interim plate part no. 71053				14	106	1000	32	41

*1 Calculation see list A, B

*2 Recommendation: with central-axle tailers 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 individual confirmation for individual homologation

Upgrade kits:

- Mechanical remote operation part no. 70962
- hydraulic remote operation part no. 70999
- electropneumatic remote operation part no. 70844
- In-cab status indicator part no. 70936
- Drawbar turn angle warning system part no. 70935

Repair instructions and parts list available on request!

Available from your specialist dealer:

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