



WINTERHOFF

QUALITY TRAILER PARTS

The safety coupling with tracking stabiliser

Assembly and Operating Instructions



WS 3000



Manufacturer: WINTERHOFF GMBH, Egenstraße 2, 58339 Breckerfeld

WS 3000 – Fitting and Operation Instructions

Safety Coupling with Stabiliser:

Type	towed load	supporting load	EC No.
WS 3000-D	3,000 kg	150 kg	00-0065 e1
WS 3000-H	2,000 kg	150 kg	00-0337 e1
WS 3000-L	1,350 kg	150 kg	00-0337 e1
WS 3000-LB	1,350 kg	150 kg	00-0337 e1

WS 3000 Safety Couplings with Tracking Stabiliser have been tested in accordance with the directive 94/20/EC and comply with ISO/11555-1 as amended on July 1, 2003, and have therefore been approved for use up to a maximum permitted speed of 100 km per hour (kph).

Keep the Fitting and Operation Instructions with you when using the trailer.

1. Technical Features

1.1 WS 3000 safety couplings with tracking stabiliser are suitable for use with centre-axle trailers with an effective minimum weight of the trailer of **200 kg**.

1.2 The ball coupling is fitted with spring-loaded friction pads which surround the ball coupling of the towing vehicle from the front and the rear. This reduces or prevents any pitching and rolling movement by the trailer. Optimum damping is achieved with new friction pads after running-in for a certain period of time.

1.3 WS 3000 ball couplings can only be used with coupling balls pursuant to DIN 74058 / ISO 1103 if the ball neck is **free from fittings over a distance of 35 mm** (Fig.1) (instead of 32 mm pursuant to DIN 74058 / ISO 1103).

Using the WS 3000 is not permitted in connection with ball pins with screw fastening without additional form-fitting retainer (Fig. 2).

With the stabilising device (Fig. 5) switched on, the operating lever must be free from vehicle or installation parts when driving.

2. Assembly

2.1 The WS 3000-D ball coupling can be used universally and is suitable for the following drawbar connections:

- Drawbar connection 50 mm – without spacer plate
- Drawbar connection 46 mm – spacer plate 2.0 mm (included)
- Drawbar connection 45 mm – spacer plate 2.5 mm (included)
- Drawbar connection 40 mm – spacer plate 5.0 mm (included)
- Drawbar connection 35 mm – spacer plate 5.0 mm + 2.5 mm (included)

The WS 3000-D ball coupling can be fitted with hole spacing of **50 or 54 mm** (1)+(2) for lengthways screw connection and with hole spacing of **40 mm** (1)+(3) for crossways screw connection:

Hexagon head bolt M12 x 90 with washers on both sides and self-locking nut for oblong hole (1)

Hexagon head bolt M12 x 80 for lengthways screw connection with self-locking nut (2) or for crossways screw connection with self-locking nut (3) and stop (4).

The fastening material (1, 2, 3) is included; the stop (4) is not included with the product.

The WS 3000-H/L/LB are specially designed for inertia braking systems and are fitted with crossways screw connection (1)+(3) and **40 mm** hole spacing (Fig. 3). The fastening material is not included with the product.

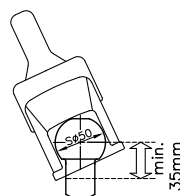


Fig. 1: Towing vehicle ball rod

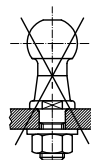


Fig. 2: Ball pin, screwed on

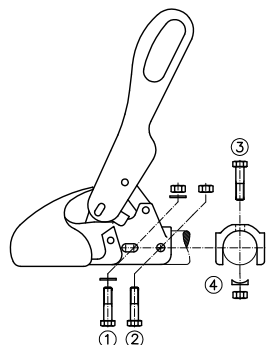


Fig. 3: Connection

Torque for hexagon head bolts M12 / M14, 10.9:

WS 3000-D - 90 Nm

WS 3000-H/L/LB - 70 Nm

Important: Self-locking nuts may only be used once.

Important: The WS 3000 may not be connected using M12 bolts if the drawbar pipe is fitted with \varnothing 14 mm fastening holes. The WS 3000 can be fitted at works with holes for fastening with M14 bolts.

2.2 If the WS 3000 coupling is being used as replacement for another type of coupling, attention must be paid in respect of the overrun device that the shock absorbers are correctly fitted and that any spacers in the drawbar are correctly reinstalled. Please use the provided \varnothing 12x34 mm or \varnothing 12x49 mm bolts as to assist with this depending on the size of the drawbar diameter. Use bolts to push through when removing the fastening screw (2) or (3) (Fig. 3) depending on the type of shock absorber fastening, and insert in the drawbar for centering the shock absorber when connecting/dismantling the ball coupling. Remove the bolt again when inserting the new fastening screw.

2.3 The enclosed bellow for the WS 3000-D can simply be pushed over the drawbar pipe prior to assembly in the case of drawbar diameters of 40-50 mm. In the case of diameters of 60-70 mm, the small connecting piece in front of the rubber lip will have to be removed, e.g. with a knife. In the case of crossways screw connection, also cut out the lower marked hole, in the case of lengthways screw connection cut out both side marked holes.

3. Operating instructions

3.1 Coupling

Please use the handles on the trailer and not the operating lever of the WS 3000 when positioning the trailer. Place the open ball coupling on the vehicle's coupling ball (Fig. 4). The weight of the supported load (plus possible additional pressure) results in the drawbar closing the ball coupling automatically and the side securing plates (1) are positioned parallel to the securing surfaces on the housing (Fig. 4). The green pin in the control display (2) is visible if the coupling ball is located in the coupling housing (Fig. 4).

3.2 Activating the stabiliser

Press the operating lever downwards from the closed position as far as it will go (Fig. 5). This places tension on the spring assembly which applies pressure to the coupling ball via the friction pads. The operating lever is now approximately parallel to the drawbar. Moving without activated stabiliser is possible, e.g. for positioning, but it is not recommended.

3.3 Deactivating the stabiliser

Pull the operating lever up slowly to deactivate the stabiliser (Fig. 6).

3.4 Uncoupling

Disconnect lighting plug and contact breaking cable. Pull the operating lever upwards slowly in order to switch off the stabiliser (Fig. 6). Pull the operating lever back and simultaneously lift again (Fig. 6) so that the side securing plates (1) swing over the securing surfaces and the operating lever can be moved into the open position. The trailer can now be uncoupled from the towing vehicle with the help of a jockey wheel.

Important: The overrun device must be detensioned when uncoupling, i.e. the bellow must be extended.

The trailer should be parked with the ball coupling closed if not being used for any greater length of time. To do so, raise the open operating lever (Fig. 4), simultaneously pull the ball socket forwards (mobile element – Fig. 8) or press the **SAFETY BALL** into the ball chamber and close the operating lever slowly.

3.5 Checking the stabiliser

The condition of the friction pads can be checked after connecting and activating the stabiliser. If the wear display is within the green "OK" range, the friction pads are either

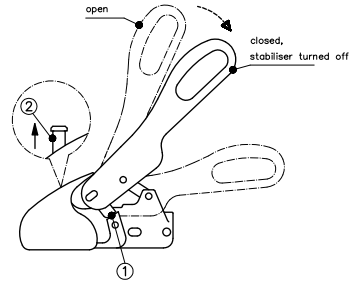


Fig. 4: Coupling

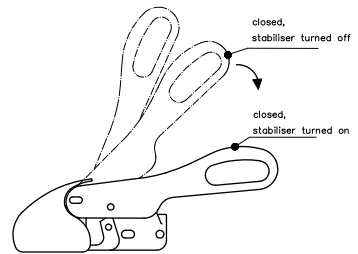


Fig. 5: Switching on stabiliser

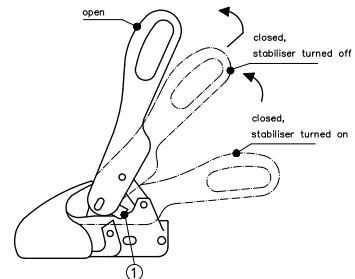


Fig. 6: Switching off stabiliser
Disconnect

as new or sufficient for driving operation.

If the display has reached the yellow range, the friction pads will have to be replaced. Do not drive with the trailer if the display is within the red "STOP" range.

The following causes for this are possible: Friction pads worn out, coupling ball worn out, there is no coupling ball in the ball chamber of the WS 3000.

3.6 Anti-theft device

WS 3000 ball couplings can be fitted with anti-theft devices **ROBSTOP WS 3000** und **ROBSTOP WS 3000 PLUS** (reinforced hardened version with special locking cylinders and SCM-NL, SSF-S and SoldSecure-GB certificates) through the provided side housing openings both in a coupled and an uncoupled state.

4. Information for journeys and maintenance

4.1 Coupling ball on towing vehicle

The coupling ball of the trailer coupling must comply with required dimensions and be undamaged, clean and free of grease.

In the case of dacromet-coated (matt-silver corrosion-protection coating) and painted coupling balls, the coating must be removed completely using 200-240 abrasive paper **prior to being driven for the first time** and then cleaned, e.g. with thinners or spirit, so that it does not collect on and clog the surface of the friction pads. The surface of the coupling ball must be "**bright metal**". A damaged or unclean coupling ball results in increased wear to the friction pads and a greasy coupling ball reduces the stabilising effect considerably.

4.2 Ball coupling

Keep the inside of the ball chamber close to friction elements clean and free of grease (Fig. 8). If the friction pads are dirty, they can be cleaned using abrasive paper 200-240. Follow this by cleaning the surface with thinners or spirit. Oil all moving bearings and bolts slightly. Regular maintenance and care increases the service life, function and safety of your WS 3000 ball coupling.

4.3 Replacing friction pads

The friction pads are very easy to change if worn. We can supply a replacement set containing 2 friction pads: **order no.: 6205 – CLIP-BELAG SET WS 3000**

4.4 Travelling noise

Noise may occur whilst travelling, though these do not have any significance for the function of the ball coupling.

Possible causes of noise can include:

1. Coupling ball of the towing vehicle dacromet-coated, galvanized or painted
2. Coupling ball of the towing vehicle dirty, rusty or damaged
3. Friction pads in the WS 3000 dirty for reasons as named in sections 1. – 3. or for other forms of contamination

Remedy: as for section 4.1 / 4.2

Furthermore, noise can occur as a result of:

1. Tow bar/pipe running dry in the bushings of the ramp

Remedy: Lubricate the bushings at the grease nipples, also pull off bellow and grease exposed tow bar.

2. Removable coupling balls on towing vehicle

Remedy: Regrease removable coupling ball on the locking mechanism (see operating instructions for trailer coupling).



Fig. 7: Wear display

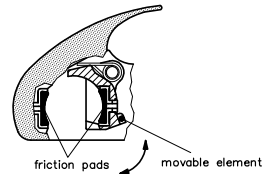


Fig. 8: Location of friction pads



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