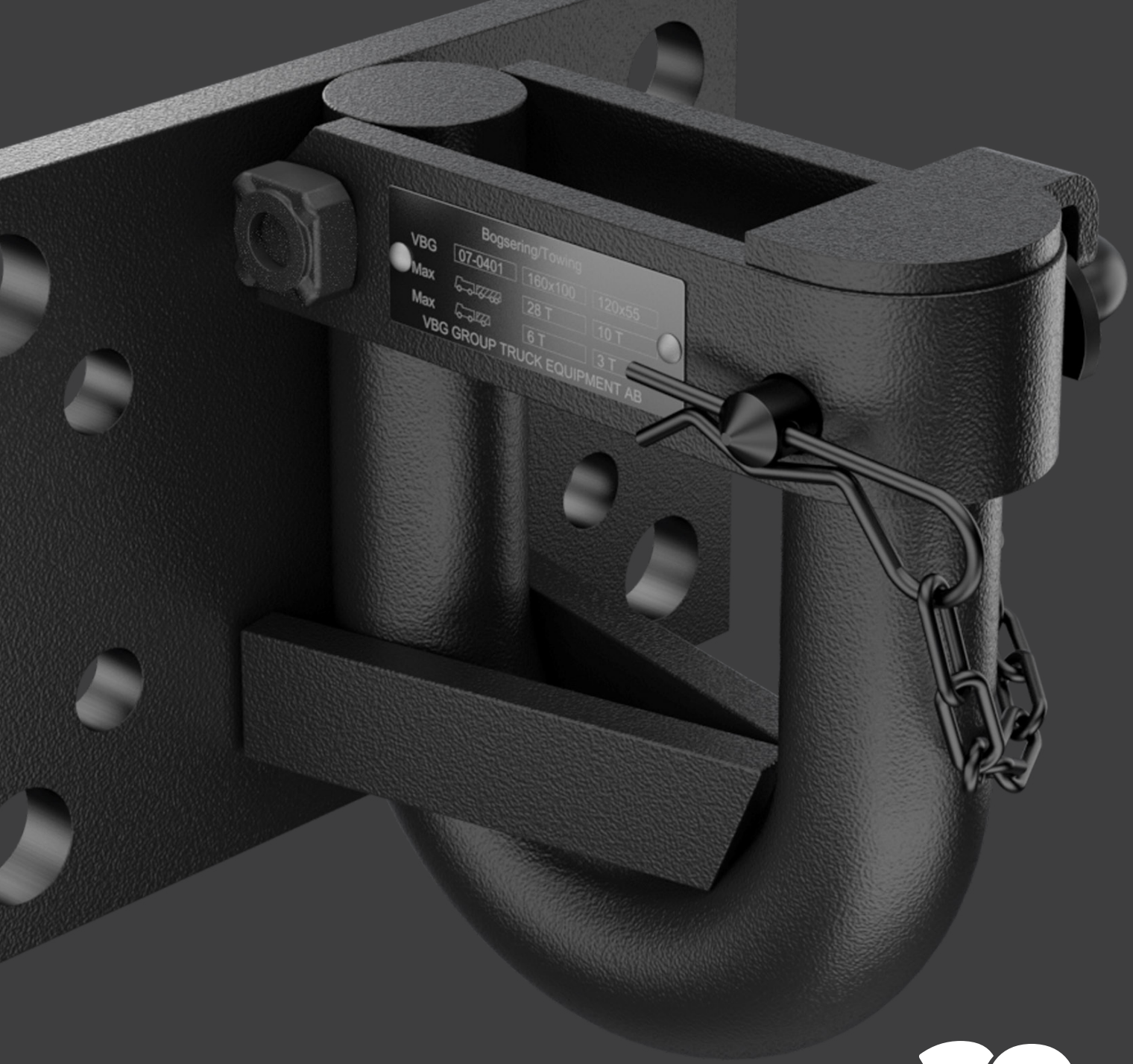

2024

Guidelines for inspection and servicing

Manual couplings

VBG

General information

General
The components used to connect a vehicle and trailer are exposed, even during normal use, to very high tensions. Regular service and maintenance is a prerequisite if the coupling is to function well during its entire service-life. Clean and lubricate the coupling every week.
The length of the service intervals depend on the type of trailers, the loads, roads and climatic conditions etc. The service should ideally be carried out in conjunction with other inspection of the vehicle, e.g. every 60,000 or 90,000 km.
If daily inspection or safety checks show that any of the wear limits have been exceeded, or that the function of the product has been impaired, servicing must be carried out immediately.
If any of the product's wear limits have been exceeded, this is an indication that other parts also require servicing.
Check that all type plates and warning/information labels are legible and have not been painted over, washed off or otherwise damaged. Illegible labels must be replaced and can be ordered from VBG Truck Equipment.

If the coupling is damaged due to e.g. jackknifing, off-road driving, reversing or collision, the coupling must be replaced.

Always follow VBGs instructions and the vehicle manufacturer's bodybuilding instructions.

Guidelines for inspection and servicing Manual couplings 2024

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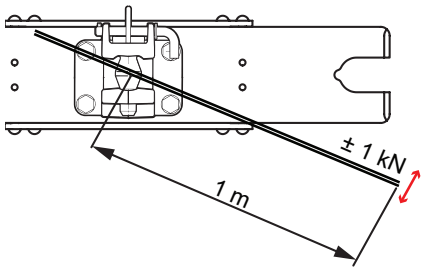
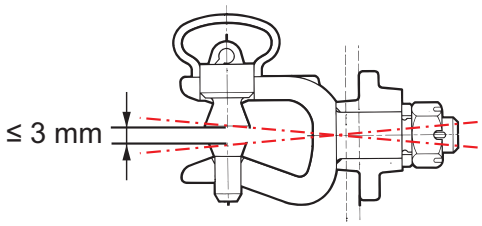
Explanation of symbols

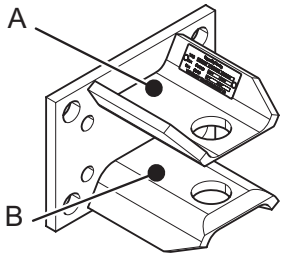
Severity
3 = STOP to ensure future use.
2 = Rectify as soon as possible, within four weeks.
1 = Rectify when able or during next service. Within no more than one year.

Contents

Checkpoint	Symptom	Fault
Beam sleeve/coupling jaw. 	The coupling jaw does not rotate.	The coupling cannot rotate due to a rusty horizontal bolt.
Beam sleeve/coupling jaw.	The coupling rotates when no trailer is connected.	The locking ball is stuck.
Beam sleeve/coupling jaw.	The coupling is loose and rattles.	Significant vertical play due to wear in the attachment package.
Bolt/coupling jaw.	Significant play, rattles.	Wear bolt and coupling jaw.

Inspection method	Requirements, wear limits, etc.	Instructions for rectification (1 2 3)
Visually check function, attachment, damage, wear. Try to rotate the coupling by inserting a rod through the coupling mouth. 	The coupling should rotate at 1,000 Nm.	(2) Replace coupling if it cannot be rotated.
Check whether the coupling has a distinctive position when it is rotated.	The coupling should be fitted upright in the driving position.	(1) Remove the spring-loaded ball from the top of the drawbeam sleeve. Lubricate the unit and refit. Alternatively, remove the coupling jaw and lubricate the ball from the inside.
Check the coupling's vertical play by lifting the coupling jaw.	Vertical play max. ± 1.5 mm, see picture (measured in the centre of the coupling jaw hole). 	(3) Replace the coupling if there is play greater than 3 mm.
Measure the diameters of the coupling jaw's upper and lower holes using a caliper gauge. Measure the coupling bolt's three diameters: upper, lower and in the centre.	Coupling jaw: upper hole max. Ø62 mm, lower hole max. Ø32 mm. Bolt: top dimension min diameter Ø28 mm, top section min. Ø58 mm. Centre: Ø40 min Ø35 mm, Ø50 min Ø45 mm, Ø57 min Ø52 mm	(2) Replace depending on the measurement results.

Checkpoint	Symptom	Fault
Coupling bolt and coupling jaw. 	Significant play.	Wear bolt/coupling jaw.
	Coupling bolt difficult to fit.	Deformations.
	The locking pin is missing.	The coupling bolt cannot be locked.
Welded joints	Visible cracks, any rust stains around cracks 	Cracks due to severe deformation after overload.

Inspection method	Requirements, wear limits, etc.	①②③ Instructions for rectification
Measure the diameters of the coupling jaw's upper and lower holes using a caliper gauge. Measure the coupling bolt's minimum diameter: upper, lower and in the middle.	The coupling jaw's upper and lower holes, max. Ø38 mm. The bolt's minimum diameter, min. Ø31 mm.	② In the event of excessive wear, replace the coupling jaw and/or coupling bolt.
Visually check the upper and lower parts of coupling jaw and the coupling's contact against the beam. Measure the distance between plane A and B respectively, both inside next to the attachment plate and as far out/ back as possible	The tow jaw's upper and lower sections A and B respectively must be plane-parallel within 5 mm and the coupling jaw must be fitted tightly against the drawbeam. 	③ In the event of deformations, the tow jaw must be replaced.
Visual inspection.	The locking pin must be fitted.	② Replace the locking pin.
Visual inspection 	No cracks or welds are permitted	① In the event of cracks or welds, the tow jaw must be replaced

Checkpoint	Symptom	Fault
Tow hook 401 The eye's contact surfaces against the tow coupling 	Significant play	Wear U-clamp
Locking flap/cotter and U-clamp.	The locking flap does not move into the locked position, difficult to fit the locking pin and vice versa.	Deformations.
Welded joints.	Visible cracks, any rust marks around the crack.	Cracks.
Ball coupling Attachment plane against beam. 	Obvious distortion in the ball neck and gap between the drawbeam and attachment plate.	Deformations, gap between the drawbeam and the ball coupling's attachment plate and the drawbeam.
	Visible cracks, any rust stains around cracks	Cracks

Inspection method	Requirements, wear limits, etc.	①②③ Instructions for rectification
Measure the smallest diameter using a caliper gauge	Min. Ø31 mm in the most worn area	② Replace the tow hook when the minimum diameter is less than Ø31 mm
Check that the locking flap is working as intended.	The locking flap and cotter must be easy to close and open.	② If any part is deformed, the tow hook must be replaced.
Visual inspection.	No cracks or welds are permitted.	③ Replace the tow hook if cracks are found.
Visual inspection.	The attachment plate must lie flush with the drawbeam, with no obvious distortion.	② If the ball coupling is overloaded with deformation as a result, the ball coupling must be replaced.
Visual inspection.	No cracks or welds are permitted	③ If there are cracks, replace the ball coupling.

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