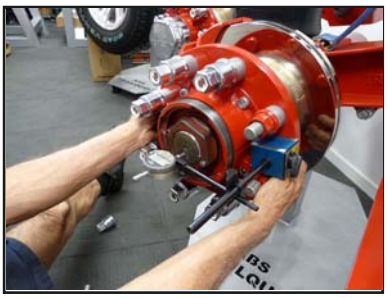
ABS TRAILQUIP



Bild, fig., figure 4501

MAINTENANCE PROCEDURE FOR CARTRIDGE BEARING AXLE

Cartridge bearing also known as compact bearing or unitised bearing.

Inspection of the cartridge Bearing

ABS TRAILQUIP recommends you to inspect the cartridge bearing for proper end play, smooth rotation and the function of the seal system (grease leakage) at indication of malfunction.

At every disc brake change, you have to check the cartridge bearing for grease leakages.

After a defect on the wheel end products, e.g. overheated brakes the cartridge bearing has to be changed in general.

After the extended warranty the end play and smooth rotation of the cartridge bearing should be checked during every service.

End play check

Remove the hub cap.

Lift the axle.

Attach the magnetic base of the dial indicator to the hub between the wheel studs. (pict.4501)

Touch the dial indicator stern against the axle spindle.

Set the dial indicator to zero.

Slightly rotate the wheel in both direction while pulling out and pushing in until the dial indicator deos not change.
No need to rotate the wheel if you are checking endplay for periodic inspection.

The difference between the two is the end play.

If the end play exceeds 0.2mm (200 μm) the Compact Bearing has to be replaced.

Increased grease leakage

Remove the hub cap.

If the complete inside, e.g. inside hub cap, axle nut, axle and seal has a thin layer of grease (pict. 4602) then grease leakage has occurred. This happens often in combination with tempering colours (blue) on the flange. In this case you have to replace the cartridge bearing. Note:- Overheated wheels is the main reason for severe grease leakage from the cartridge bearing.

Bild, fig., figure 4602

Bild, fig., figure 4601

ATTENTION !

Small amounts of grease may be visible at the hub's outer seal. This is a normal occurence and does not indicate a seal leak (pict. 4601).

Smooth rotation check

Lift the axle.
Rotate the wheel in both directions.
If the bearing feels rough and sounds noisy (grinding noise); replace the Cartridge Bearing.

ATTENTION !
A certain ticking noise can occur with fault free bearings if the wheel is spun by hand.

ATTENTION !
If in doubt, please contact ABS Trailquip Ph:07 3274 6046

Note: All pictures shown are only for illustration purposes.

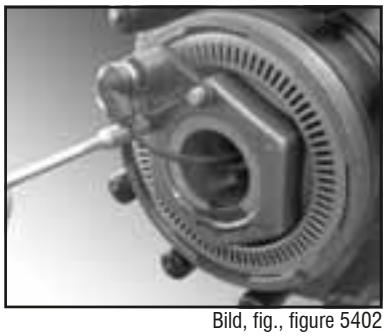
Dismantling and Assembling

TRAILQUIP axles with compact bearing and disc brake

Remove wheel hub with disc brake

ATTENTION
Prior to starting repair work, the vehicle must be secured against rolling!
The service brake and parking brake must be released!

Jack-up the axle until the tyres are free.
Loosen the hub cap from the wheel hub and loosen the wheel nuts.
Remove the wheel nuts and pull the wheel off the wheel hub.
Back off the brake adjustment and remove the brake pads.
Remove the brake caliper by unscrewing 6 x M16x1.5 bolts.
For axles ≥ 9t -12t with ABS, dismantle the ABS sensor holder.
2 screws M 5 (SW 8) (M6 / SW 10) (fig. 5402)
Remove the M6 secure bolt from the axle nut. fig. 5505.
Unscrew the axle nut.



Bild, fig., figure 5402

Mandrel with LH & RH Thread

Bild, fig., figure 5501

Screw the mounting mandrel onto the axle. In doing so push the ABS sensor cable in the assembly plug. fig. 5501.

ATTENTION
Left-hand thread on LH side /right-hand thread on RH side. Dont use impact wrench.

Pull the complete hub set, together with the brake disc, off of the axle shank over the mounting mandrel.

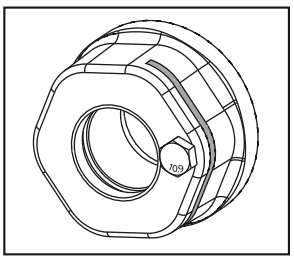
Remove the M14 socket head cap screws from the hub.

Separate brake disc and wheel hub set.

Clean the bearing surfaces of the wheel hub to the brake disc.

Place the new brake disc on the wheel hub.

Screw the mounting mandrel onto the axle. In doing so push the ABS sensor cable in the assembly plug.



Bild, fig., figure 5505

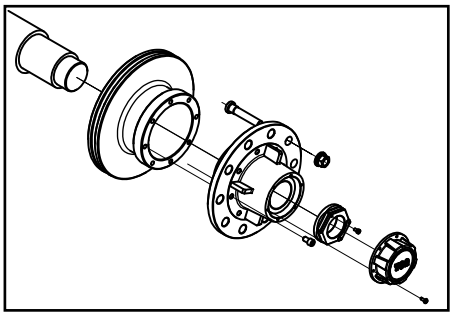


Figure 5506

ATTENTION
Left-hand thread/right-hand thread. Dont use impact wrench.

ATTENTION !
If in doubt, please contact ABS Trailquip Ph:07 3274 6046

Note: All pictures shown are only for illustration purposes.

Installation
Mount wheel hub with brake disc

ATTENTION

Prior to starting repair work, the vehicle must be secured against rolling!
The service brake and parking brake must be released!

Clean the Stub axle and inner side of the bearing.
Screw the mounting mandrel onto the stub axle.

ATTENTION
Left-hand thread/right-hand thread. Dont use impact wrench.

CAUTION
Mounting the hub set without using the mounting mandrel will damage the bearing and the stub shaft thread.

Apply Molykote TP42 to the stub axle with a brush. (fig. 5602)

Push the hub set with the brake disc onto the axle over the mounting mandrel.
Unscrew the mounting mandrel.
Grease the contact surface and the thread of the axle nuts slightly and tighten the axle nut. (ref. page 1)
See the table for the tightening torque. (fig. 5702)
Draw a visible line across the axle nut and the stub axle.
After tightening the axle nut; Lock M6 secure bolt with 15 Nm ± 1.5 (fig 5505)
Recommends to apply Loctite 272 Threadlocker on the M6 bolt.

axle nut [Nm]		
axles	SW	tightening torques
9,0t 22,5“ - 10,0t 22,5“ 10,5t 17,5“	95	700 Nm ± 25

Bild, fig., figure 5702

Bild, fig., figure 5602

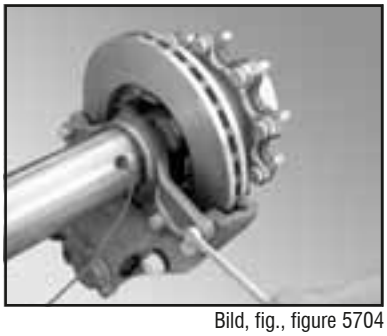
ATTENTION
Left-hand thread/right-hand thread. Dont use impact wrench.

ATTENTION !
If in doubt, please contact ABS Trailquip Ph:07 3274 6046

Axle with ABS: Anchor the ABS sensor holder with 2 screws M 5 (SW 8) with 5 Nm tightening torque.
Push the ABS sensor into the sensor holder until it contacts the pole ring (fig. 5703).
Mount the brake caliper. Tighten the 6 x M16x1.5 screws with 290 Nm torque. (Do it in three stages; 25Nm-100Nm-290Nm) (fig. 5704)

CAUTION
Do not oil the brake caliper bolts!

Bild, fig., figure 5703



Bild, fig., figure 5704

Note: All pictures shown are only for illustration purposes.

Replace the wheel on the wheel hub and screw on the wheel nuts (450-500 ft-lbs).
Check the O-ring at the hub (fig. 5703).
Screw the hub cap onto the axle (fig. 5801)and lower the axle.

ATTENTION
Left-hand thread/right-hand thread. Dont use impact wrench.

hub cap [Nm]		
axles	SW	tightening torques
9,0t - 10,5t	160	750 Nm ± 50 Nm

Bild, fig., figure 5801

Other Torque Settings	
Caliper Mount Bolts, M16x1.5	290Nm (in three stages 25Nm-100Nm-290Nm)
Rotor Mounting Bolts, M14x1.5	185Nm (in three stages 25Nm-100Nm-185Nm)

Checking brake disc

Measure the thickness of brake disc (A) using slide caliper. If brake disc (A) has a wear ridge, the measurement can be performed using two spacers (B) (e.g. 5mm thick flat washers). Reduce the measured dimension by the total thickness of the two spacers (B). Min. thickness of brake disc look fig. 6102.
In a ventilated disc, max. wear is 4mm per side.

Lateral runout

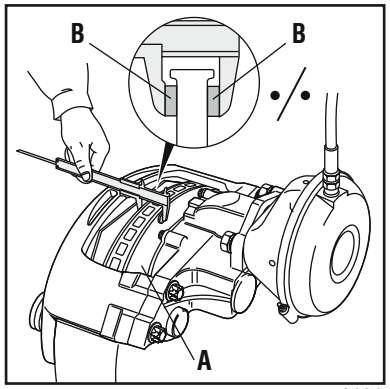
Check/adjust wheel bearing play as per the end play adjustment. (ref. page 1)
Measure the lateral runout of brake disc (A) by attaching a magnetic stand complete with a dial gauge on carrier (3).
Point the tip of the dial gauge towards the side of brake disc (A) and rotate the brake disc > one turn. Max lateral runout 0.5 mm.

ATTENTION! Do not include wheel bearing play in the measurement!

Cracks in the brake disc

Check the brake disc (A) for cracks and wear tracks.

ATTENTION !
If in doubt, please contact ABS Trailquip Ph:07 3274 6046

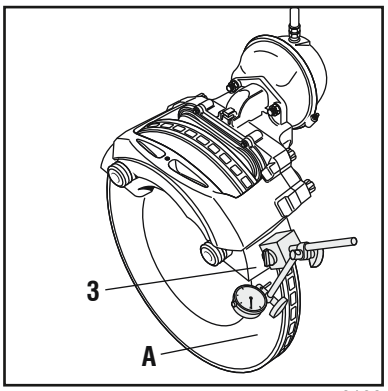


Bild, fig., figure 6101

	max.	min.
ø335 mm	34 mm	28 mm
ø377 mm	45 mm	37 mm*
ø430 mm	45 mm	37 mm*

*max. 4 mm wear per side

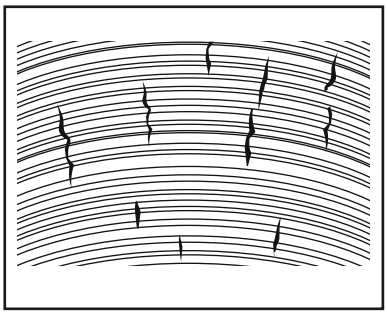
Bild, fig., figure 6102



Bild, fig., figure 6103

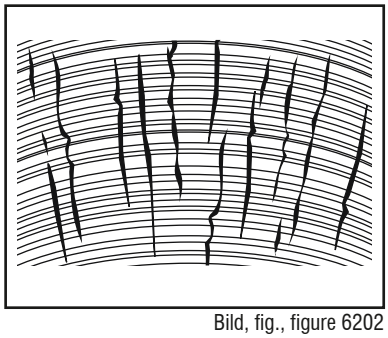
Note: All pictures shown are only for illustration purposes.

Crack length
< 75% of brake disc
width (fig. 6201)
Accepted cracking



Bild, fig., figure 6201

Crack length
> 75% of brake disc
width (fig. 6202)
Unaccepted cracking



Bild, fig., figure 6202

Periodic Maintenance Table

Periodic Check					
Maintenance Intervals whichever comes first	Distance Intervals -->	After First 5,000 Km	Every 30,000 Km	Every 75,000 Km	Every 150,000 Km
	Time Intervals -->	After First Month	Every 3 Months	Every 6 Months	Every 12 Months
Mechanical Check					
Attention: Torque check wheel nuts after the first 50km to recommended torque settings, also after any removal of the wheel.					
Visual and Safety Inspection					
Hub Assy maintenance-free. Visual Inspection for grease leakage, bearing noise and end play check. Check the axle nut torque (page 3)		●	●		
Inspect hub nuts and make sure they are not loose. If loose, retighten as per prescribed procedure.		●	●		
Check rubber dust covers for cracks and damages. Check adjuster cap for correct setting.		●			●
Inspect the brake pad thickness at regular intervals (eg. whenever tyre pressure is checked) but at least every 3 months.			●		
Inspect the brake disc for cracks.			●		

Warranty claims will only be accepted as long as the operating and maintenance instructions have been completed and TRAILQUIP spare parts have been fitted.

ATTENTION !
If in doubt, please contact ABS Trailquip Ph:07 3274 6046

Note: All pictures shown are only for illustration purposes.