

VALX Airsuspension systems

Workshop manual





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Revision summary

Date	Revision number	Comment
March 2017	01	Initial version

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The information in this document has been prepared solely for the purpose of providing information about assembly, disassembly, repair and maintenance on the trailer axle and the suspension system (hereafter: trailer axle). It has been compiled in good faith by VALX B.V. and is provided without any express or implied warranty as to its completeness or accuracy. We reserve the right to make amendments to this document to reflect further developments.

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Preface

Use of this manual

This Workshop Manual is intended for trained and qualified service technicians to enable them to perform all required maintenance and repair tasks on VALX products in an efficient, safe and environmentally sound way.

TAKE THE TIME TO READ THIS MANUAL THOROUGHLY BEFORE PERFORMING ANY MAINTENANCE OR REPAIR TASK.

KEEP THIS MANUAL IN A SAFE PLACE, IN THE WORKSHOP.

THIS MANUAL REPLACES ALL PREVIOUS VERSIONS, IF ANY.

Conventions

In this manual:

- The steps required to perform a certain task are always numbered. The procedures must imperatively be carried out in the order given.
- Enumerations (without a prescribed order) are always preceded by a dash (-).
- The words 'left' and 'right' are used to indicate a certain part or assembly as viewed from the perspective of the service technician who is doing the job.
- "VALX" is used as a substitute for "VALX B.V."

Document code

The document code of this manual can be found in the footer of each page. The document code consists of two fields:

- Document type (WSM = Workshop Manual, TBM = Trailer Builder Manual, DM = Driver Manual)
- Document number

The third field contains the document revision number.

Related documents

The following related documents are available:

- Trailer Builder Manual (TBM_20XX)
- Driver Manual (DM_20XX)

Conversion SI-units – imperial units

SI-units -> non-metric units	non-metric units -> SI-units
1 kg \approx 2.2046 lb	1 lb \approx 0.453592 kg
1 mm = 0.03937 in	1 in = 25.4 mm
1 m = 3.28 ft	1 ft = 0.3048 m
1 km = 0.62 mile	1 mile = 1.609 km
1 Nm \approx 0.7376 ft-lb	1 ft-lb \approx 1.3558 Nm
1 mPa (10 Bar) = 145 psi	1 psi = 0.0068966 mPa (0.0689 bar)

Service and technical support

For information about specific maintenance or repair tasks, adjustments or test procedures that are beyond the scope of this document, please contact VALX at support@valx.eu.

Make sure that you have the axle type code at hand. The axle type code is printed on the axle label.

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UNDER CONSTRUCTION

1 General safety instructions and regulations

1.1 General

- VALX accepts no liability for any damage or physical injury caused by non-compliance with the safety instructions and regulations in this manual, or by carelessness during any maintenance or repair task on the VALX trailer axle.
- Depending on the trailer type, the specific repair or maintenance task(s) that have to be carried out, the workshop conditions, the environmental circumstances and the cargo that may be loaded, additional safety instructions may be applicable. As VALX has no direct control over these specific working conditions or trailer configurations, it is the workshop's sole responsibility to ensure that the national accident prevention guidelines and the local Health and Safety regulations are adhered to. Please inform VALX immediately if you have dealt with unsafe situations that have not been described.

1.2 This manual

- Read this manual thoroughly before performing any maintenance or repair task on the trailer axle.
- Keep this manual for future reference. Retain the manual in a safe place in the workshop.
- Carry out the procedures in the order given. Do not change the order of the steps.

1.3 Decals and instructions on the product

- Decals or instructions fitted on the product are part of the safety features provided. They must not be covered or removed, but must be present and legible throughout the entire life of the product. Damaged or illegible decals and instructions must be replaced or repaired immediately.

1.4 Warranty and original VALX parts

- All products of VALX are covered by warranty as stipulated in the "VALX Warranty Conditions" supplied with the product. The "VALX Warranty Conditions" can also be downloaded from our website www.valx.eu.
- Modification and / or conversion of the product without the written consent of VALX is not allowed at the risk of forfeiting all warranty rights.
- When replacing parts, ONLY use original VALX spare parts. Parts approved by VALX for use in the product periodically undergo severe tests. As a result, VALX is able to warranty the quality of these parts.
- VALX can not assess for every single third-party product whether it can be used for the VALX product without any safety risk. This applies even if such products have already been tested by an accredited test authority. Therefore, the VALX warranty becomes null and void if spare parts other than original VALX parts are used.

1.5 Maintenance and repair

- In order to maintain the safe operation and the roadworthiness of the trailer, all maintenance tasks must be carried out according to the prescribed VALX service intervals (see the maintenance chart in chapter 3), and in accordance with the operation and service instructions of the trailer builder.
- Maintenance and repair is strictly reserved to trained and qualified service technicians.

1.5.1 Before starting work

- Make sure that the trailer is properly secured against rolling.
- Make sure that unauthorised persons have no access to the working area.
- Make sure that the working area is sufficiently lit and ventilated.
- Dress properly. Do not wear torn or loose fitting clothes, but wear protective clothing. Remove jewellery, watches, etc. to prevent them from being caught in moving parts.
- Wear protective shoes and keep long hair out of the way.

1.5.2 During work

- Stay alert and watch what you are doing. Use common sense. Do not work on the product when you are tired or have been taking alcohol, medicine or drugs. Do not smoke.
- Use a hoist when lifting 25 kg or more. Only use suitable and technically perfect lifting devices with adequate lifting capacity built in compliance with all safety measures. Fastening of loads and instructions to the operator of the lifting device are restricted to experienced personnel who are within sight or sound of the operator of the lifting device.
- Only use tools, parts, materials, lubricants and service techniques that were approved by VALX. Do not use contaminated or used lubricants. Used lubricants, cleansing agents and expended parts must be disposed of in an environmentally safe way.
- Avoid bodily contact with lubricants.
- Never use worn tools and do not leave tools behind on the trailer axle or on the trailer.
- Never weld on any part of the trailer axle or suspension without the prior written permission of VALX.
- Never re-use self-locking fixing materials. Always replace them.

1.5.3 When work is finished

- Inspect the product. Check for damage, leakage or defects. Any part removed for maintenance or repair purposes must be refitted and checked immediately upon completion of the work.
- Do not clear a product for operation unless it was established that it is absolutely safe and in perfect working order.

1.6 A contribution to the protection of our environment

Please obtain information about recycling or environmentally friendly processing of parts and materials that have been replaced during maintenance or repair tasks.

Almost all used lubricants are considered to be chemical waste. For the disposal of these a specialized company must be contacted.

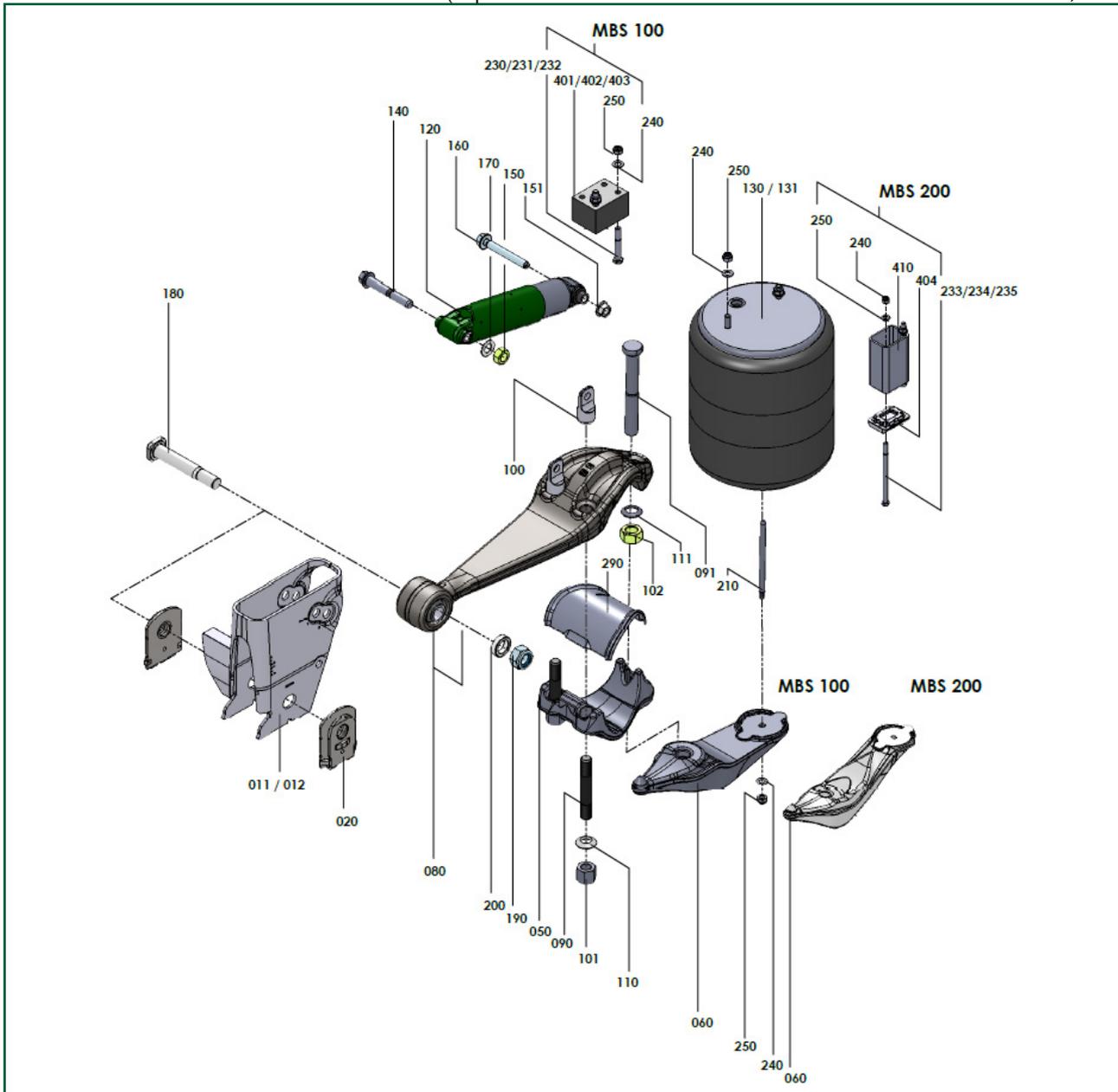
2 Air suspension system MBS-V1

2.1 Safety instructions

- Always observe the general safety instructions and regulations (see chapter 1).

2.2 Overview

(exploded view also available on the VALX website: www.valx.eu)



- 011/012 Hanger bracket L / Hanger bracket R
- 020 Wear plate
- 050 Axle seat
- 060 Tail end MBS-100 / MBS-200
- 080 Trailing arm
- 081 Silent bush
- 090 Stud M24
- 091 Bolt M27
- 100 Shock absorber fixation M24
- 101 Nut M24
- 102 Nut M27
- 110 Washer spherical M24
- 111 Washer spherical M27
- 120 Shockabsorber
- 130/131 Airspring Ø300 / Ø335
- 140 Bolt M20

- 150 Nut M20
- 151 Nut M16
- 160 Bolt M16
- 170 Washer M20
- 180 Pivot bolt M27
- 190 Nut M27
- 200 Spacer M27
- 210 Stud
- 230/231/232 Bolt (suitable with plastic bump)
- 233/234/235 Bolt (suitable with pedestal)
- 240 Washer M12
- 250 Nut M12
- 290 Zincplate
- 401/402/403 Plastic bump
- 404 KTL Bump plate
- 410 Pedestal

2.3 Periodic maintenance and inspection

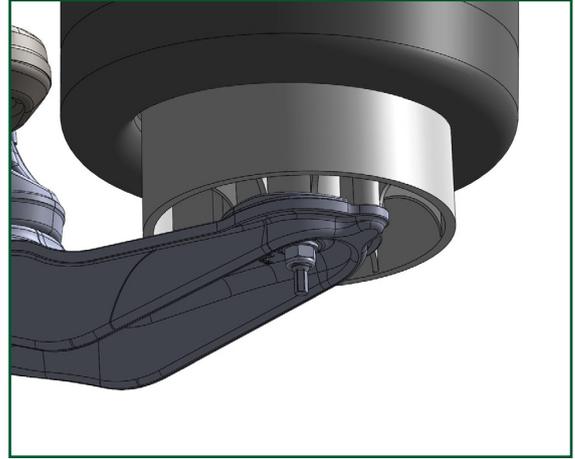
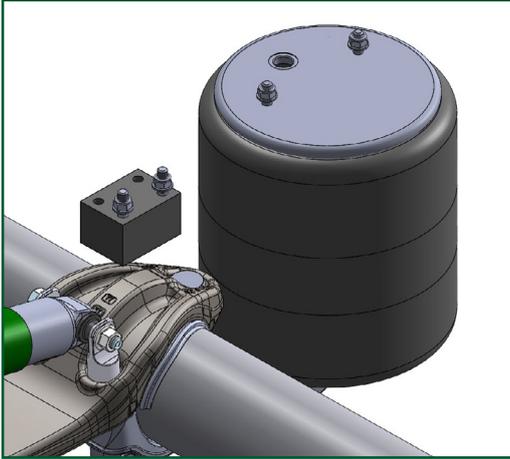


NOTE

As road conditions may vary from one country to another, and specific use of the trailer axle may differ per haulier, the maintenance intervals given below are only indicative. The maintenance tables differentiate between on-road use (X) and off-road use (0).

inspection item	maintenance task	see section	maintenance interval				
			every 3 months	every 6 months	every year	every 3 years	every 5 years
all parts of the air suspension system	all bolted connections are maintenance free in on-road conditions, but should be checked for rust-traces and movement regularly.	-		0	X		
	cracks in the paint of bolt connections are a sign of movement. Service technicians must check these bolt connections and, if necessary, retighten using the stated torques.	-		0	X		
air springs	check for damage, wear or incorrect seating	2.3.1		0	X		
	check correct fastening	2.3.1		0	X		
shock absorbers	check for leakage (light oil sweating is allowed)	2.3.2		0	X		
air valves	check general condition + leakage	-		0	X		
axle clamping nuts	check correct fastening	2.3.3		0			
pivot bolt	check correct fastening	2.3.4		0			
bump stops	check correct fastening	2.3.5		0	X		

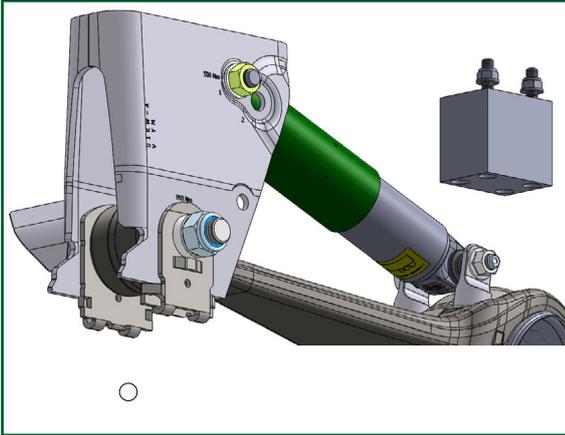
2.3.1 Check the air springs



Torques

item	size	width across flats	torque (Nm)
Air spring (top)	M12	19	30 (+10/-0) Check 30 Nm
Air spring (bottom)	M12	19	66 Nm (+0/-16) Check 40 Nm

2.3.2 Check the shock absorbers and mounting

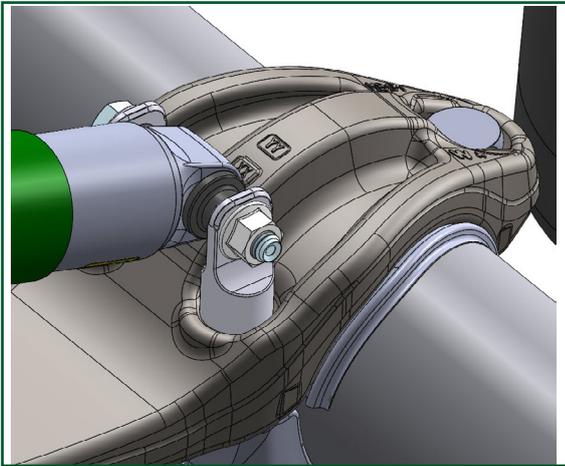


i Light oil sweating is allowed. Oil leakage is not allowed.
 Ensure the nuts are facing outwards
 Make sure the text "bottom" or "road" on the shock absorbers is facing down
 Torque at ride height

Torques

item	size	width across flats	torque (Nm)
shock absorber (top)	M20	24 & 30	550 Nm (+ 50 Nm - 0 Nm) Check 450 Nm
shock absorber (bottom)	M16	24	170 Nm (+17/-0) + 270° (+17/-13) Check 300 Nm

2.3.3 Check the axle clamping nuts



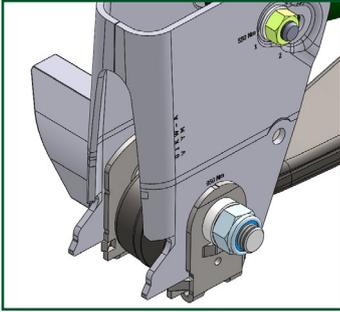
Torques

item	size	width across flats	torque (Nm)
axle clamping (front)	M24	36	800 Nm (+50/0) ^{1,2} Check 650 Nm
axle clamping (rear)	M27	41	950 Nm (+50/-0) ^{1,2} Check 750 Nm

¹ When loosening the axle clamping, all fasteners need to be replaced!

² First tighten the M24 connection of the axle clamping, then tighten the M27 connection

2.3.4 Check the pivot bolt



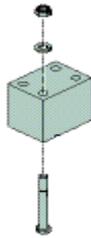
Torques

item	size	width across flats	torque (Nm)
pivot bolt	M27	41	950 Nm (+50/0) + apply grease on min. 90° of the thread surface + ring ¹ Check 750 Nm

¹ Grease specification: Lithium complex grease (class 2)

2.3.5 Check the bump stop

MBS-100



MBS-200



Torques

item	size	width across flats	torque (Nm)
Plastic bump fastening (MBS-100)	M12	19	30 (+10/-0) Check 30 Nm
Steel bump fastening (MBS-200)	M12	19	66 (+0/-16) Check 40 Nm

MBS100

MBS200

MBS100

MBS200

2.3.6 Air suspension system torques overview



Torques

item	size	width across flats	inspection	when replacing
1 shockabsorber (bottom)	M16	24	300 Nm	170 Nm (+17/-0) + 270° (+17/-13) ¹
2 axle clamp (rear)	M27	41	750 Nm	950 Nm (+50/-0) ³
3 shockabsorber (top)	M20	24 & 30	450 Nm	550 Nm (+50/0) ¹
4 axle clamp (front)	M24	36	650 Nm	800 Nm (+50/0) ³
5 pivot bolt	M27	41	750 Nm	950 Nm (+50/0) + apply grease min 90° of the thread surface + ring ^{1,2}
6 air spring (bottom)	M12	19	40 Nm	66 Nm (+0/-16)
7 air spring (top)	M12	19	30 Nm	30 (+10/-0)
8 plastic bump fastening	M12	19	30 Nm	30 (+10/-0)
steel bump fastening	M12	19	40 Nm	66 (+0/-16)
9 bolted bracket	M16	24	300 Nm	170 Nm (+17/-0) + 270° (+17/-13)



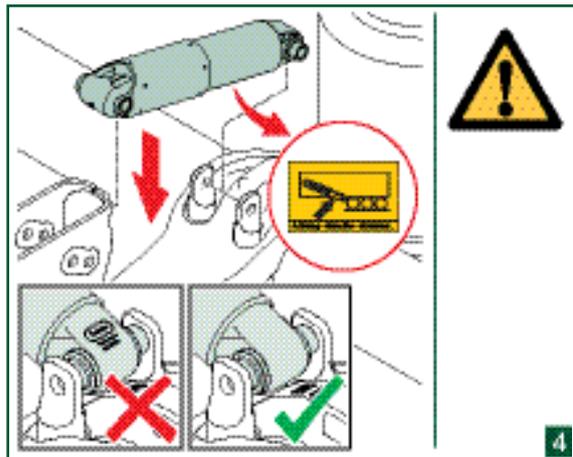
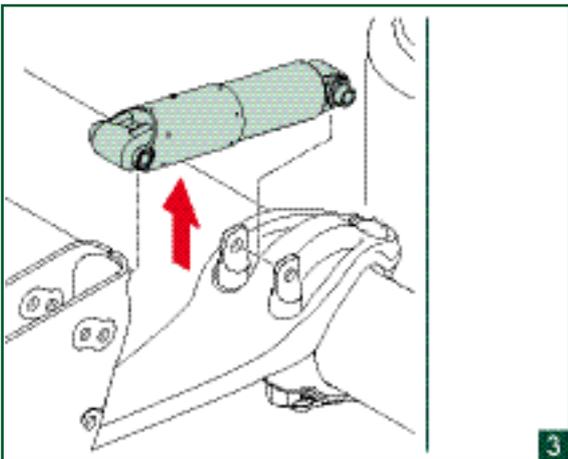
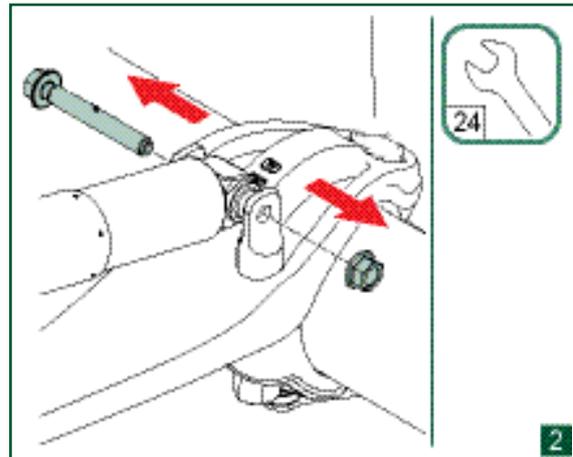
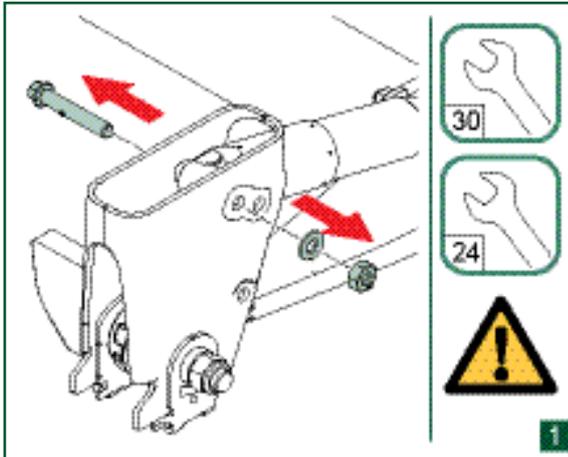
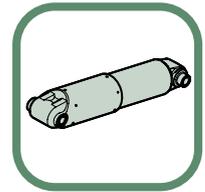
¹ Torque at ride height

² Grease specification: Lithium complex grease (class 2)

³ First tighten the M24 connection of the axle clamping, then tighten the M27 connection

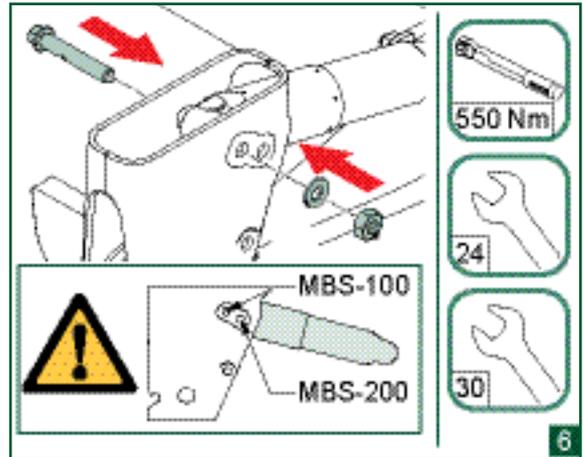
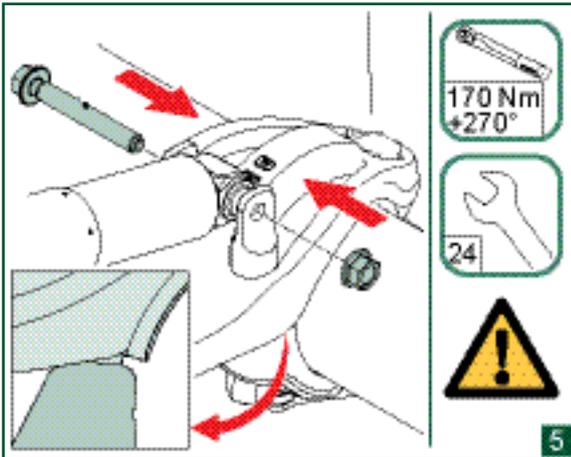
2.4 Disassembly, assembly and adjustments

2.4.1 Replace the shock absorber



	Work safely. Make sure that the axle is adequately supported.
	Make sure the text "bottom" or "road" and yellow sticker on the shock absorbers are facing down

2.4.1 Replace the shock absorber (continued)



	Bolt shock absorber from inside to outside.

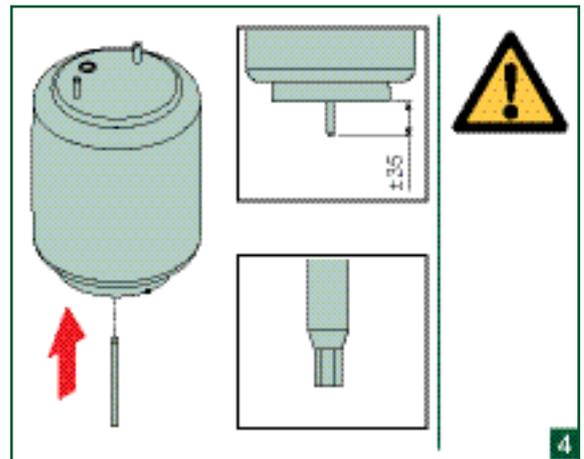
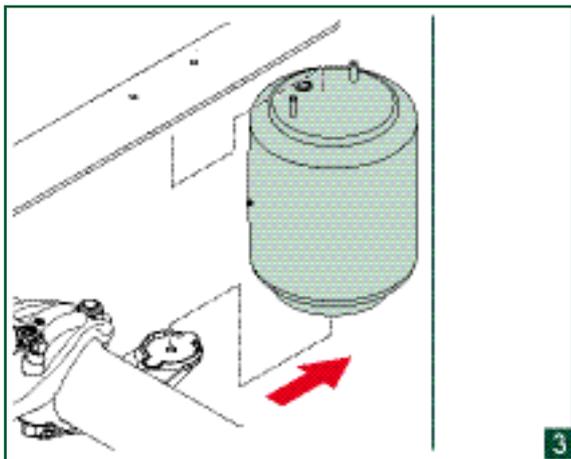
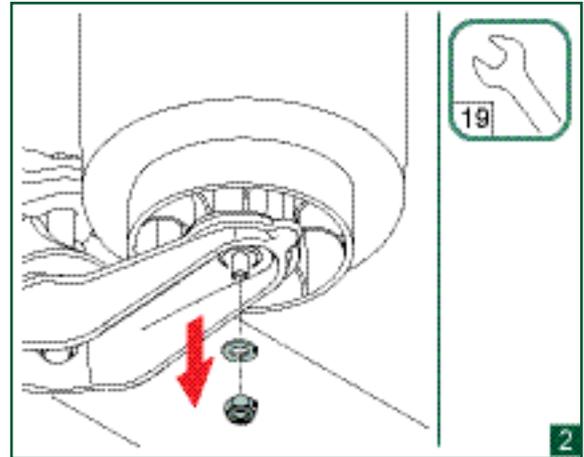
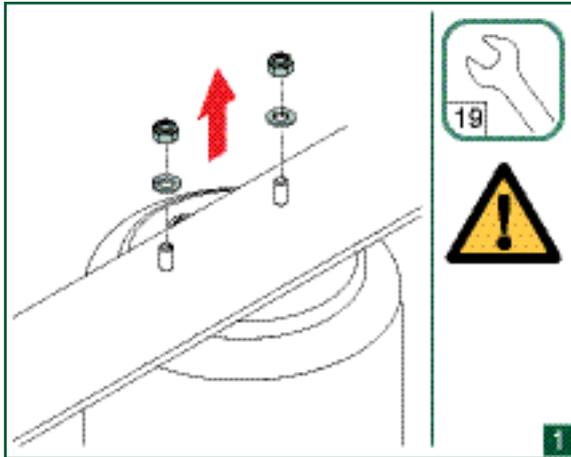
	Check for correct torque, and use the correct hole for MBS-100 or MBS-200.
	Torque bolt connections at ride height

Torques

item	size	width across flats	torque (Nm)
shockabsorber (top)	M20	24 & 30	550 Nm (+ 50 Nm - 0 Nm) Check 450 Nm
shockabsorber (bottom)	M16	24	170 Nm (+17/-0) + 270° (+17/-13) Check 300 Nm

2.4.2 Replace the air springs

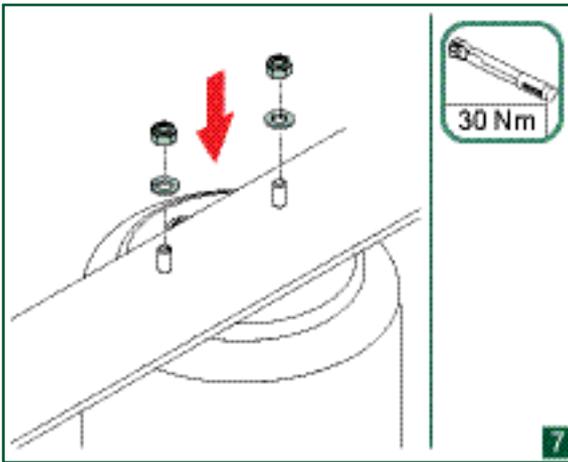
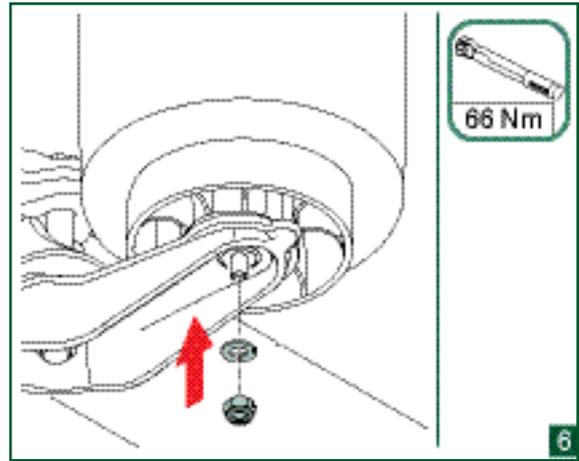
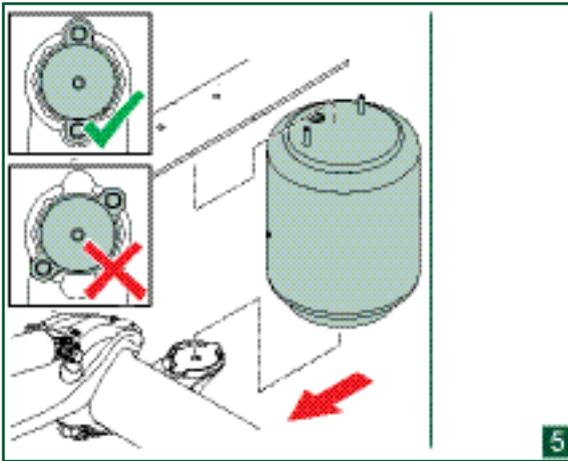
	Disconnect the air line before replacement.



	Work safely. Make sure that the axle is adequately supported.

	Make sure the threaded end is completely inserted into the air spring bottom piece.

2.4.2 Replace the air springs (continued)

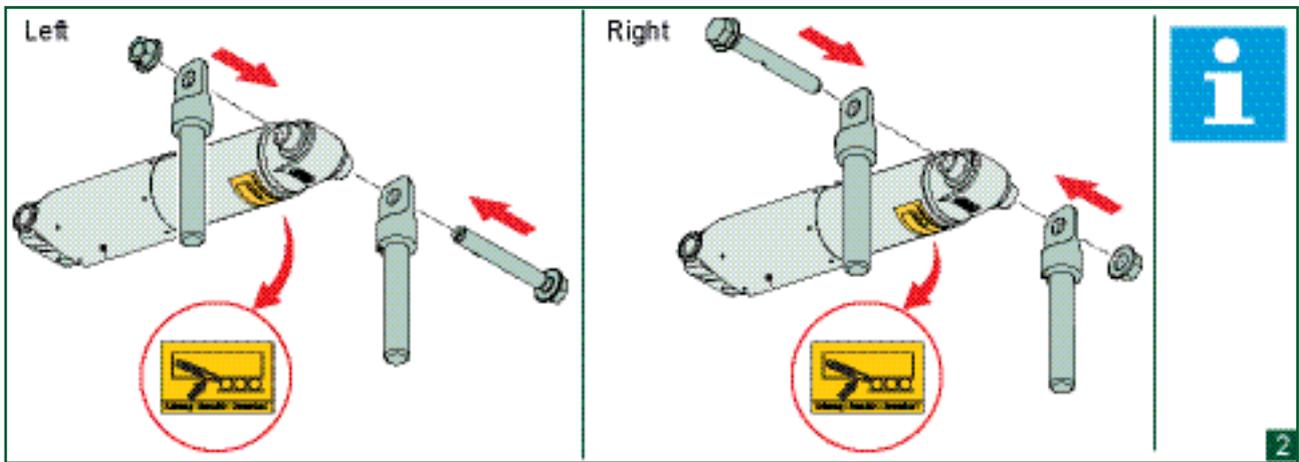
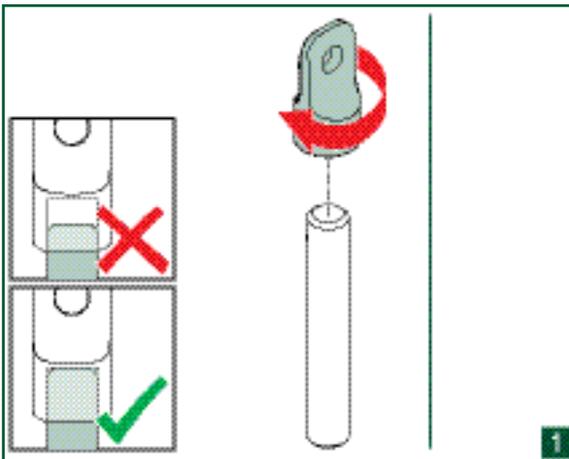


	Make sure that the shape of the airspring is placed correctly on the tail end (step 5)
	After replacement reconnect the air line.

Torques

item	size	width across flats	torque (Nm)
air spring (bottom)	M12	19	66 Nm (+0/-16) Check 40 Nm
air spring (top)	M12 (2x)	19	30 Nm (+ 10/-0) Check 30 Nm

2.4.3 Replace complete air suspension

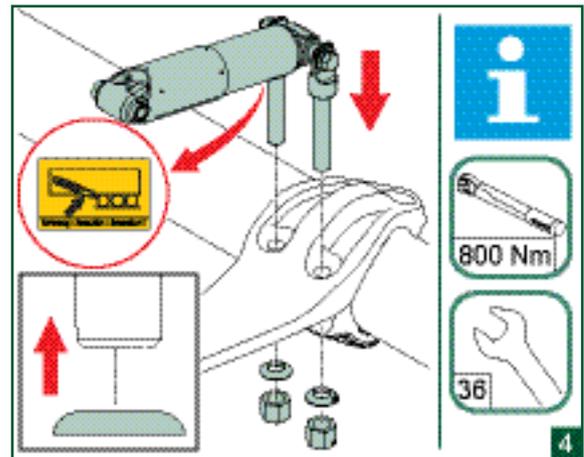
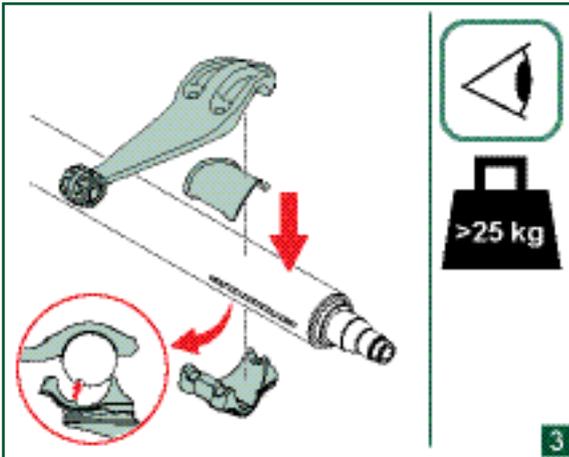


	Work safely. Make sure that the axle is adequately supported.
	Bolt shock absorber from inside to outside.
	Make sure the text "bottom" or "road" and yellow sticker on the shockabsorbers are facing down

Torques

item	size	width across flats	torque (Nm)
shockabsorber (bottom)	M16	24	170 Nm (+17/-0) + 270° (+17/-13) Check 300 Nm

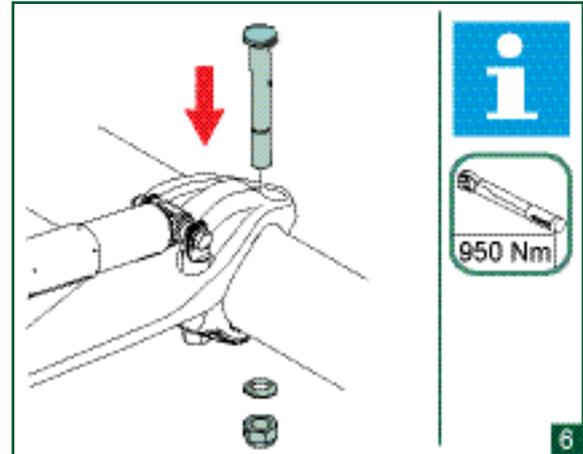
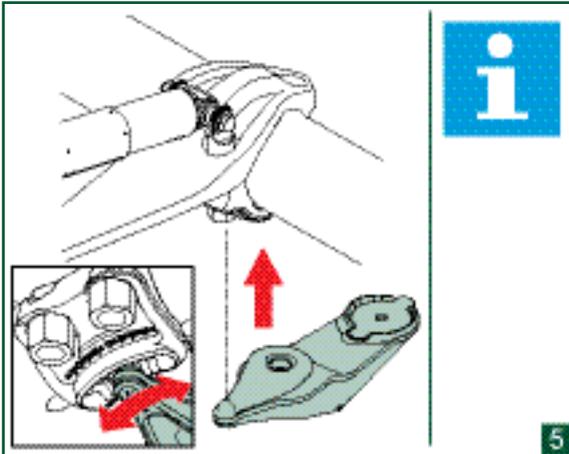
2.4.3 Replace complete air suspension (continued)



	Make sure that the axle seat is well placed in the axle groove
	Make sure the zinc plate is well placed between the trailing arm and axle beam
	Always tighten the M24 nuts before tightening nut M27
	Recheck the spring track

Torques

item	size	width across flats	torque (Nm)
axle clamp (front)	M24	36	800 Nm (+50/-0) Check 650 Nm

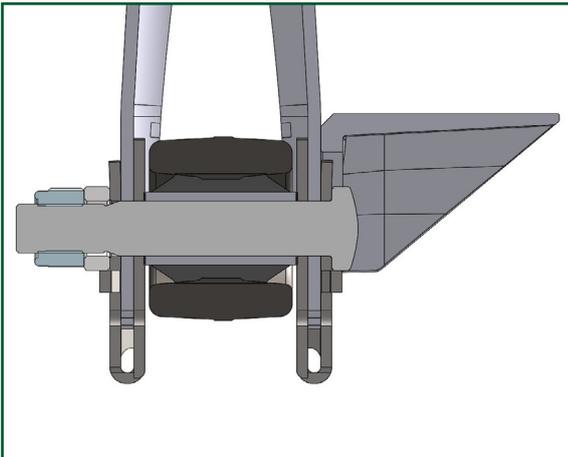


	Check the correct tail end off set
	Place the M27 bolt in the trailing arm with the flat faces (see bolt head) in the length of the trailing arm
	Make sure the M24 connections are fully tightened before tightening the M27 connection
	Recheck the tail end offset

Torques

item	size	width across flats	torque (Nm)
axle clamp (rear)	M27	41	950 Nm (+50/-0) Check 750 Nm

2.4.4 Assemble the pivot bolt



	Apply grease on min. 90° of the thread surface + ring
	Grease specification: Lithium complex grease (class 2).
	Before tightening to end torque, make sure the trailer is at correct driving height

Torques

item	size	width across flats	torque (Nm)
Pivot bolt	M27	41	950 Nm (+50/-0) Check 750 Nm

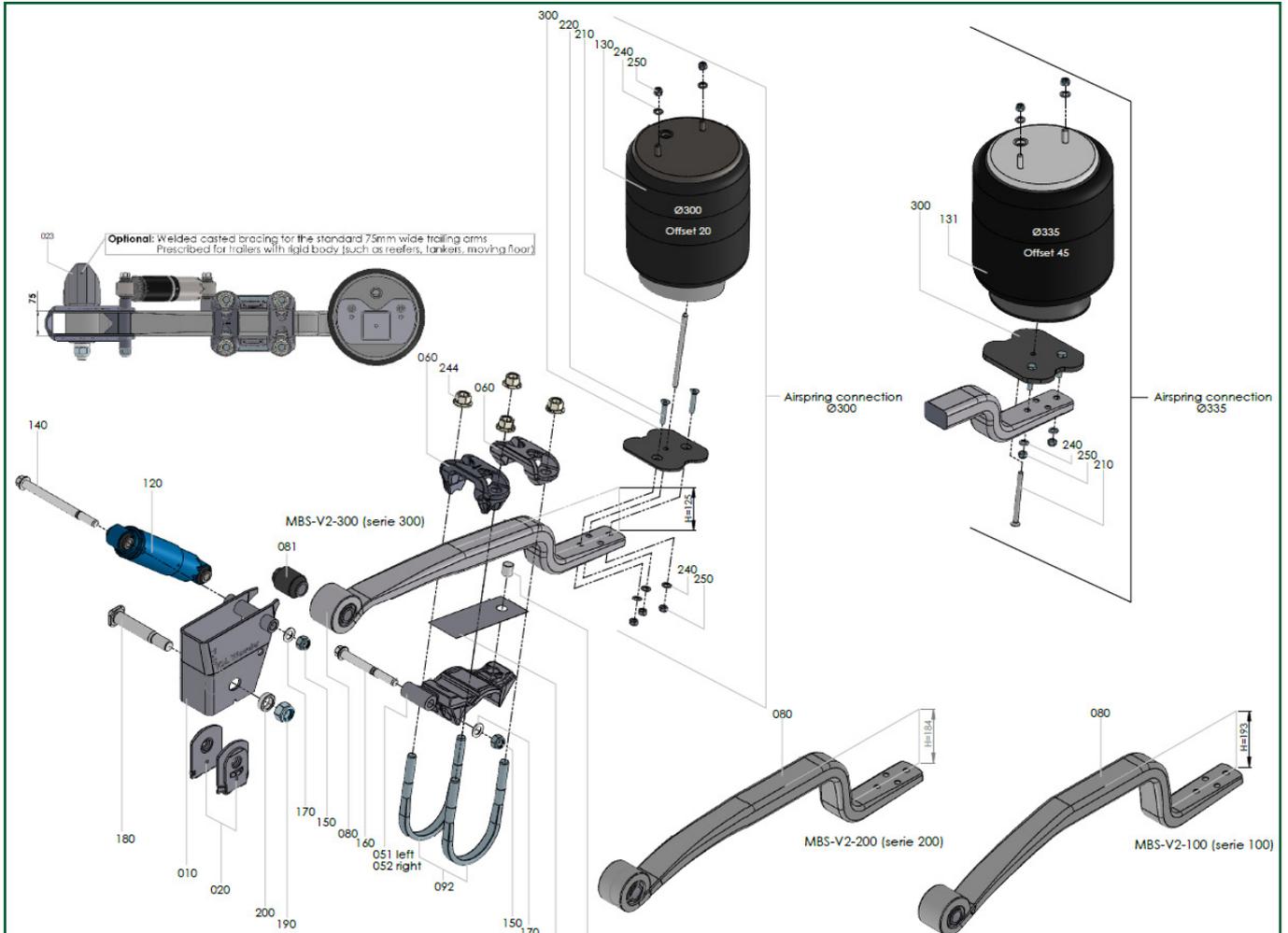
3 Air suspension system MBS-V2

3.1 Safety instructions

- Always observe the general safety instructions and regulations (see chapter 1).

3.2 Overview

- Exploded view also available on the VALX website: www.valx.eu



010 Hanger bracket

020 Wear plate

023 Brace weld (optional)

040 Dowel

051/052 Axle seat L / Axle seat R

060 U-bolt plate front / U-bolt plate back

080 Trailing arm

081 Silent bush

092 U-bolt

120 Shockabsorber

130/131 Airspring Ø300 / Ø335

140 Bolt M20

150 Nyloc nut M20

160 Bolt M20

170 Washer M20

180 Pivot bolt M27

190 Nyloc nut M27

200 Spacer M27

210 Stud M12 / Bolt M12

220 Bolt M12

240 Washer M12

244 Wheel nut / Axle clamping nut

250 Nyloc nut M12

290 Zincplate

300 Air spring offset plate V=20 / V=45

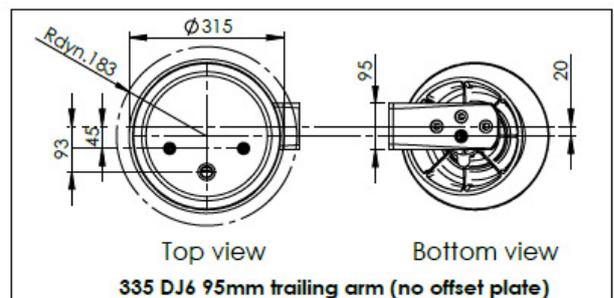
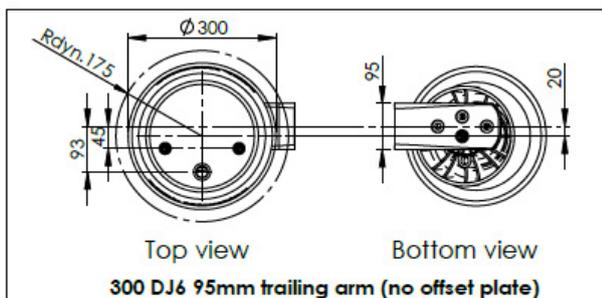
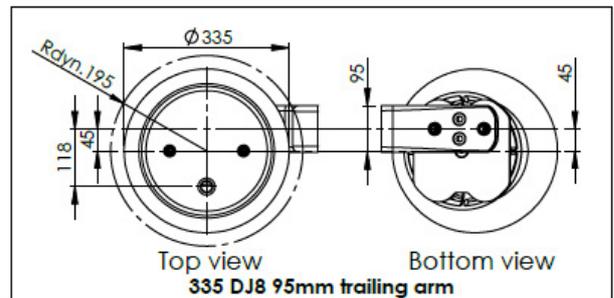
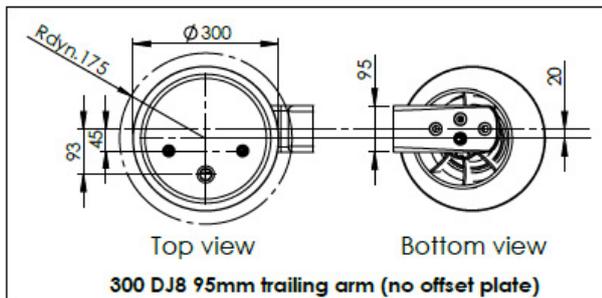
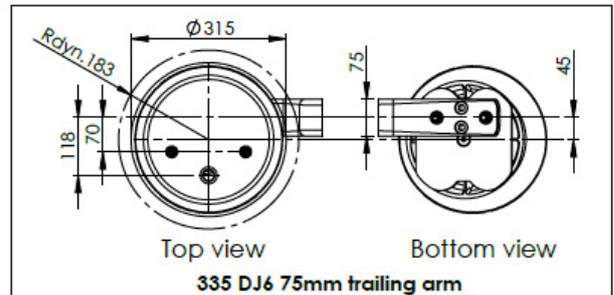
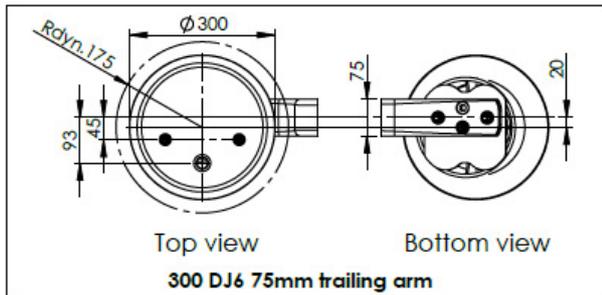
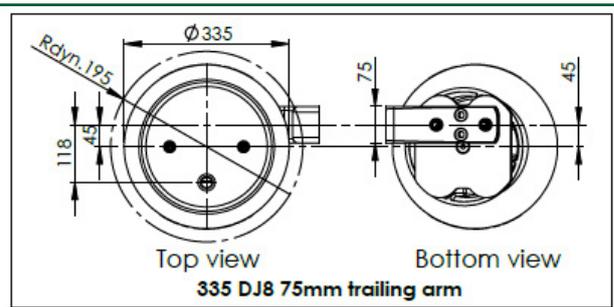
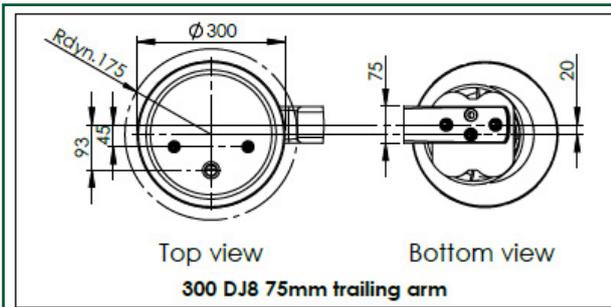
380 Air spring pedestal weld

3.3 MBS-V2 code explanation

- Code example and options:

MBS-V2-110-75-300-20-(B)	
MBS-V2	Air suspension system
110	Defined specification / riding height range according VALX MBS-V2 Green book. Main series: (see overview on page 22) MBS-V2-100 MBS-V2-200 MBS-V2-300
75	Trailing arms 75 wide trailing arm 95 wide trailing arm
300	Air spring diameter Ø300 DJ6 air spring Ø335 DJ6 air spring Ø300 DJ8 air spring Ø335 DJ8 air spring
20	Air spring offset 20 offset in combination with Ø300 air spring 45 offset in combination with Ø335 air spring
(-B)	Optional casted bracing - Prescribed for trailers with rigid body (such as reefers, tankers, moving floor) 75 wide trailing arm - standard without casted bracing 95 wide trailing arm - standard with casted bracing

3.4 MBS-V2 air spring offset overview



NOTE

Depending on the trailing arm and air spring combination, defined offset plate is needed (V=20 or V=45).

The overview defines the top and bottom air spring offset dimensions, and air connection offset.

3.5 Periodic maintenance and inspection

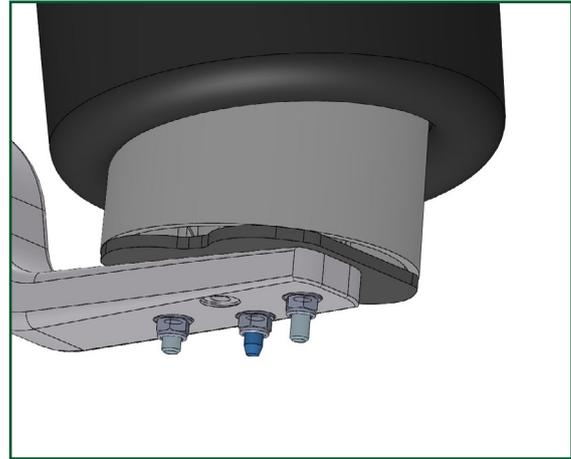
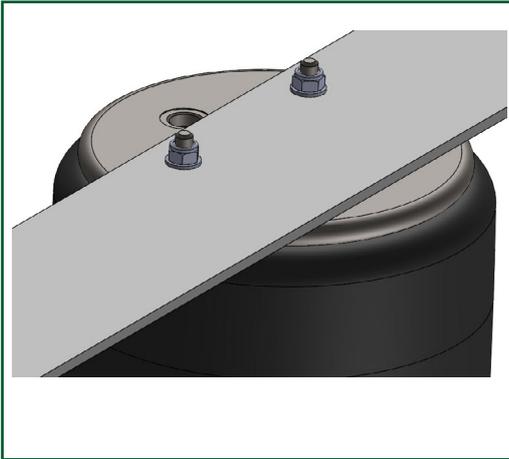


NOTE

As road conditions may vary from one country to another, and specific use of the trailer axle may differ per haulier, the maintenance intervals given below are only indicative. The maintenance tables differentiate between on-road use (X) and off-road use (0).

inspection item	maintenance task	see section	maintenance interval				
			every 3 months	every 6 months	every year	every 3 years	every 5 years
all parts of the air suspension system	all bolted connections are maintenance free in on-road conditions, but should be checked for rust-traces and movement regularly.	-		0	X		
	cracks in the paint of bolt connections are a sign of movement. Service technicians must check these bolt connections and, if necessary, retighten using the stated torques.	-		0	X		
air springs and offset plates	check for damage, wear or incorrect seating	3.5.1		0	X		
	check correct fastening	3.5.1		0	X		
shock absorbers	check for leakage (light oil sweating is allowed)	3.5.2		0	X		
air valves	check general condition + leakage	-		0	X		
axle clamping nuts	check correct fastening	3.5.3		0			
pivot bolt	check correct fastening	3.5.4		0			

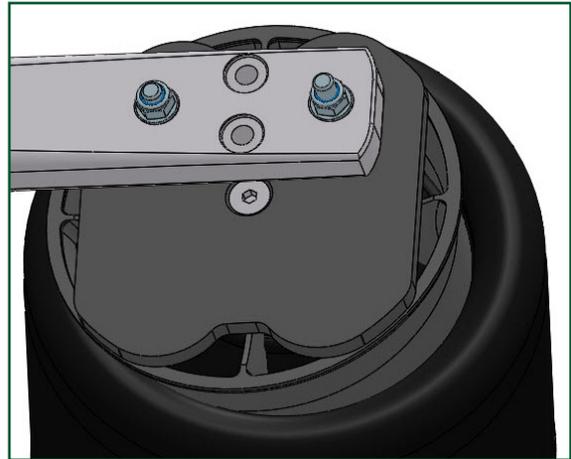
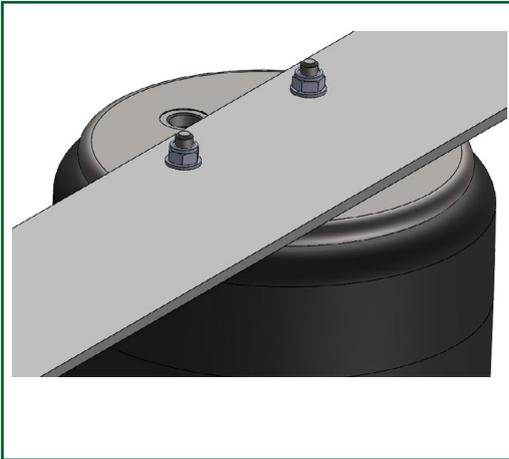
3.5.1 Check the air springs and offset plate
- Ø300 air spring, 20mm offset on 75 wide trailing arm



Torques

item	size	width across flats	torque (Nm)
Air spring (top)	M12 (2x)	19	30 (+10/-0) Check 30 Nm
Air spring (bottom)	M12 (1x)	19	66 Nm (+0/-16) Check 40 Nm
Air spring support plate	M12 (2x)	19	66 Nm (+0/-16) Check 40 Nm

- Ø335 air spring, 45mm offset on 75 and 95 wide trailing arm

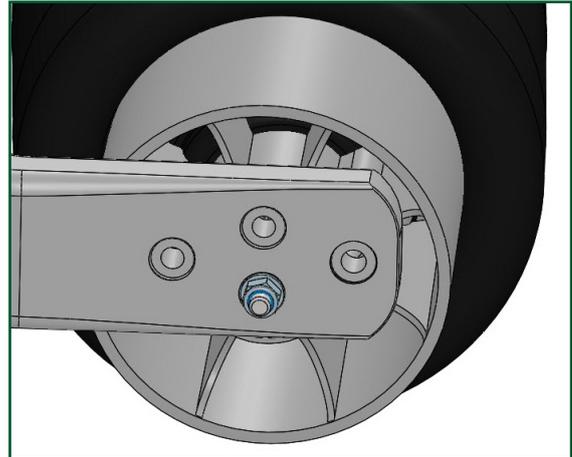
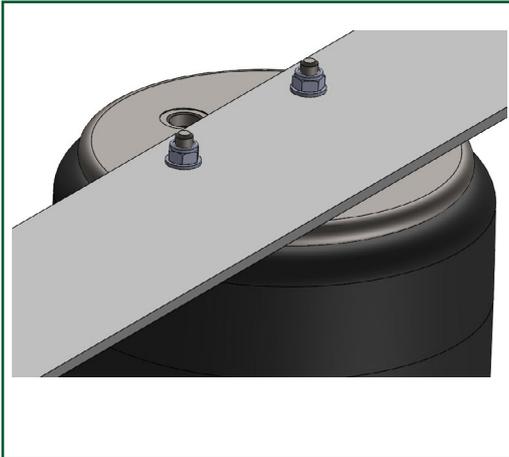


Torques

item	size	width across flats	torque (Nm)
Air spring (top)	M12 (2x)	19	30 (+10/-0) Check 30 Nm
Air spring (bottom)	M12 (1x)	Hex socket wrench 8	
Air spring support plate	M12 (2x)	19	66 Nm (+0/-16) Check 40 Nm

3.5.1 Check the air springs and offset plate (continued)

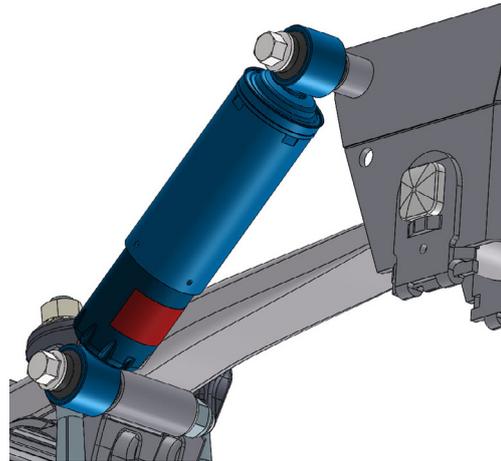
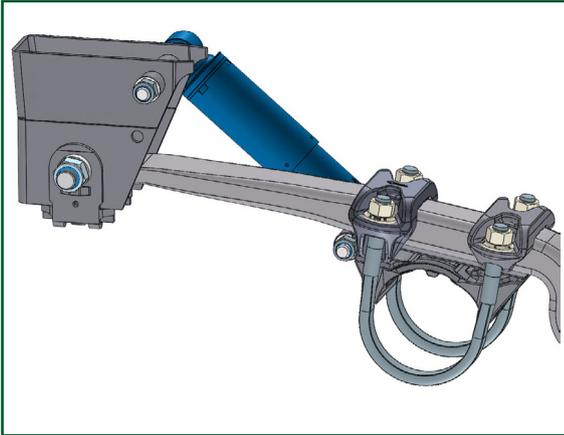
- Ø300 and Ø335 air springs, 20mm offset on 95 wide trailing arm



Torques

item	size	width across flats	torque (Nm)
Air spring (top)	M12 (2x)	19	30 (+10/-0) Check 30 Nm
Air spring (bottom)	M12 (1x)	19	66 Nm (+0/-16) Check 40 Nm

3.5.2 Check the shock absorbers and mounting

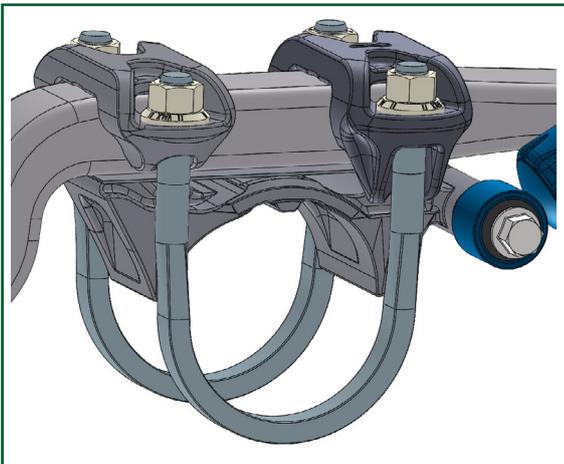


Light oil sweating is allowed. Oil leakage is not allowed.
Ensure the nuts are facing outwards
Make sure the text "bottom" or "road" on the shock absorbers are facing down (noted on the sticker)
Torque at ride height

Torques

item	size	width across flats	torque (Nm)
shock absorber (top + bottom)	M20	24 & 30	200 Nm (+ 20 Nm - 0 Nm) + 180° (+18°/-9°) Check 550 Nm

3.5.3 Check the axle clamping nuts



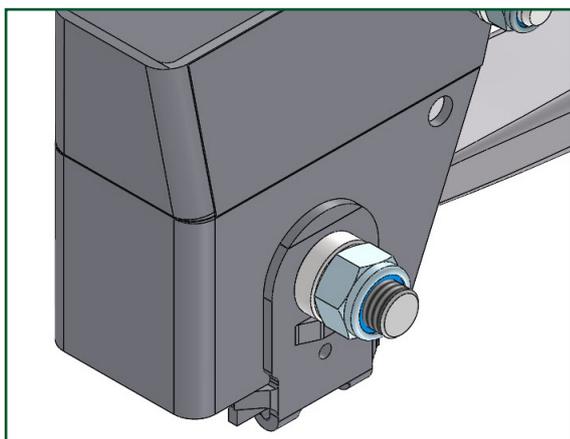
Torques

item	size	width across flats	torque (Nm)
axle clamping nuts	M22	32	600 Nm (+25/0) ^{1,2} Check 600 Nm

¹ When loosening the axle clamping, all fasteners need to be replaced!

² Tighten the axle clamping nuts evenly and crosswise

3.5.4 Check the pivot bolt



Torques

item	size	width across flats	torque (Nm)
pivot bolt	M27	41	250 Nm (+25/0) + 250° (+27°/-13°) +apply grease on min. 90° of the thread surface + ring ¹ Check 750 Nm

¹ Grease specification: Lithium complex grease (class 2)

3.5.5 Air suspension system torques overview



Torques

	item	size	width across flats	inspection	when replacing
1	shockabsorber (top + bottom)	M20	24 & 30	550 Nm	200 Nm (+20/-0) + 180° (+18/-9) ¹
2	axle clamp	M22	32	600 Nm	600 Nm (+25/-0)
3	pivot bolt	M27	41	750 Nm	250 Nm (+25/0) + 250° (+27°/-13°) + apply grease on min. 90° of the thread surface + ring ^{1,2}
4	air spring (bottom)	M12	19	40 Nm	66 Nm (+0/-16)
5	air spring (top)	M12	19	30 Nm	30 (+10/-0)
6	air spring support plate	M12	19	40 Nm	66 (+0/-16)
7	axle lift	M16	24	200 Nm	200 Nm (+/-20)

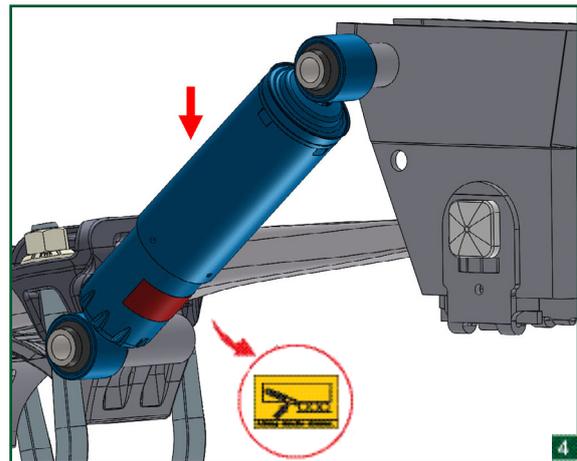
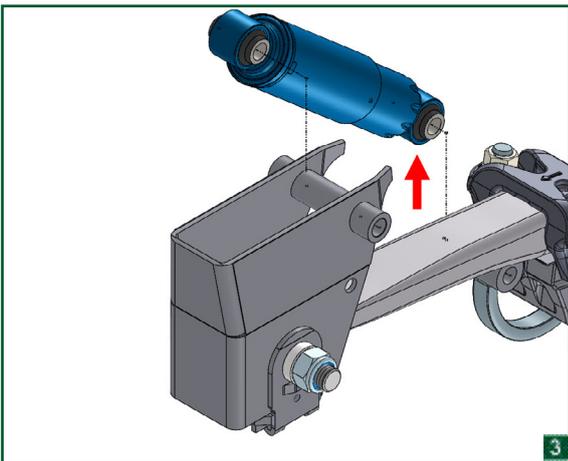
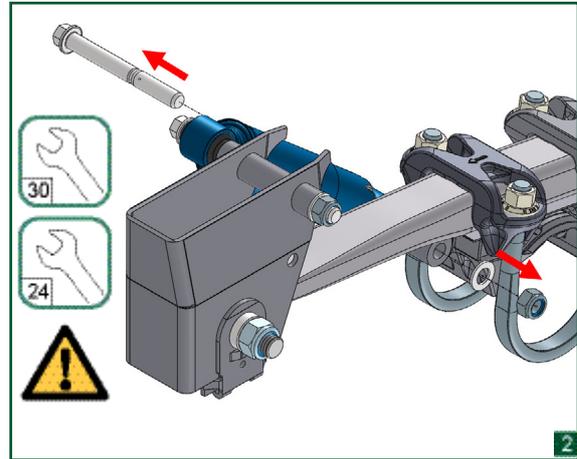
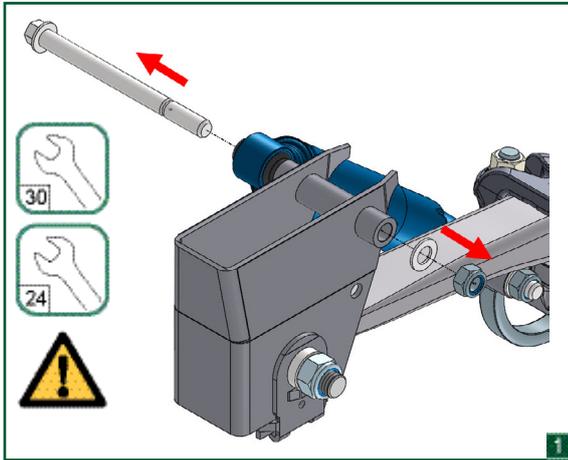
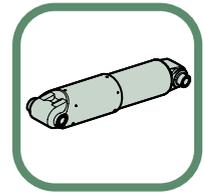


¹ Torque at ride height

² Grease specification: Lithium complex grease (class 2)

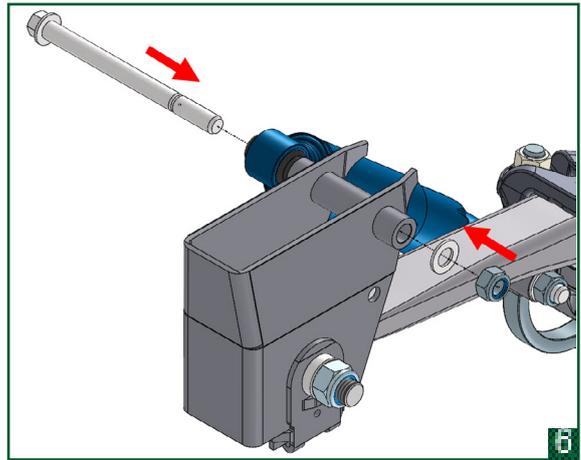
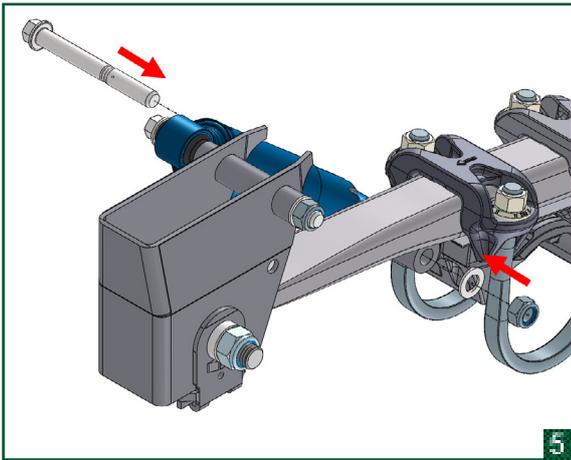
3.6 Disassembly, assembly and adjustments

3.6.1 Replace the shock absorber



	Work safely. Make sure that the axle is adequately supported.
	Make sure the text "bottom" or "road" on the shockabsorbers are facing down (noted on the sticker)

3.6.1 Replace the shock absorber (continued)



	Bolt shock absorber from inside to outside.

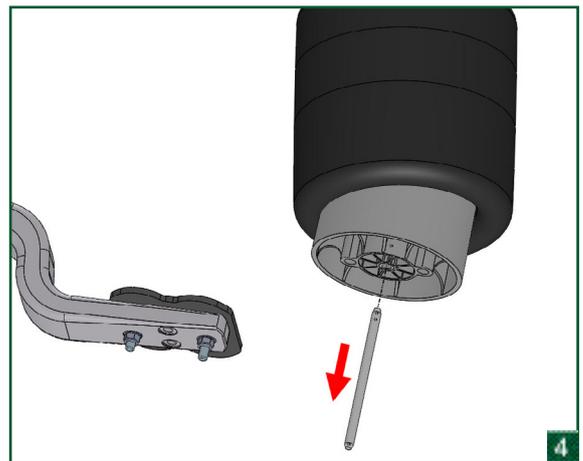
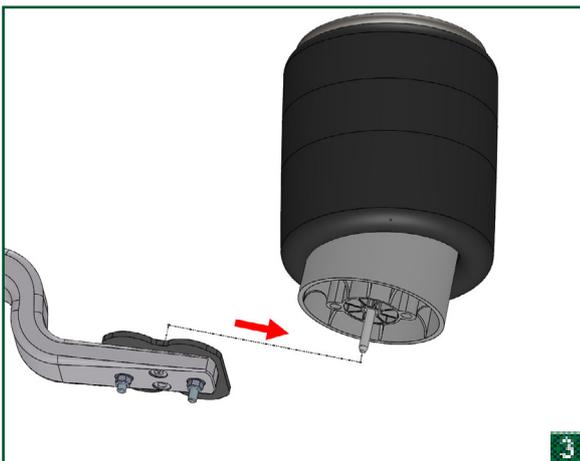
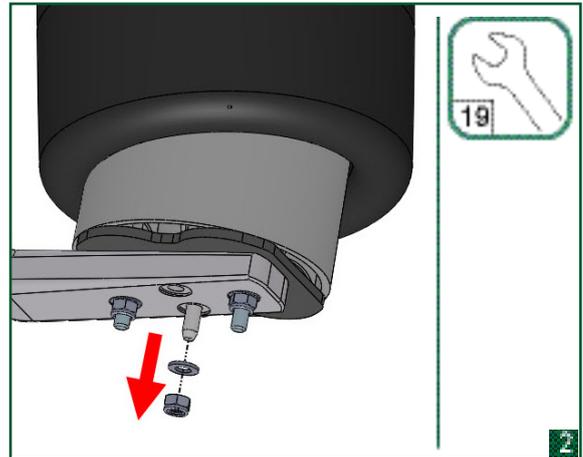
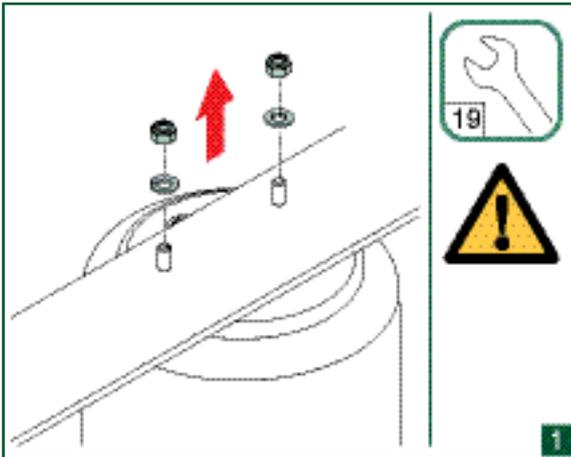
	Check for correct torque table below.
	Torque bolt connections at ride height

Torques

item	size	width across flats	torque (Nm)
shockabsorber (top + bottom)	M20	24 & 30	200 Nm (+ 20/-0) + 180° (+18°/-9°) Check 550 Nm

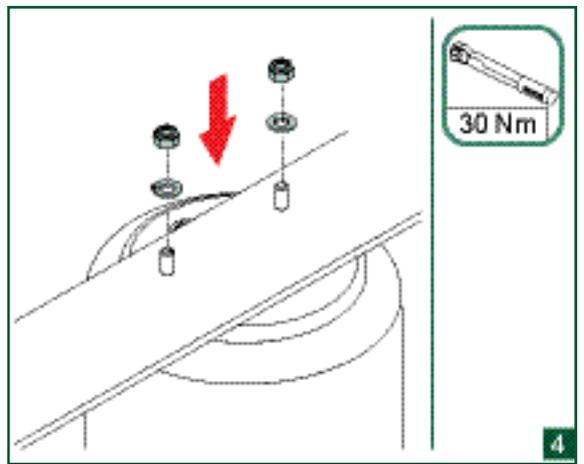
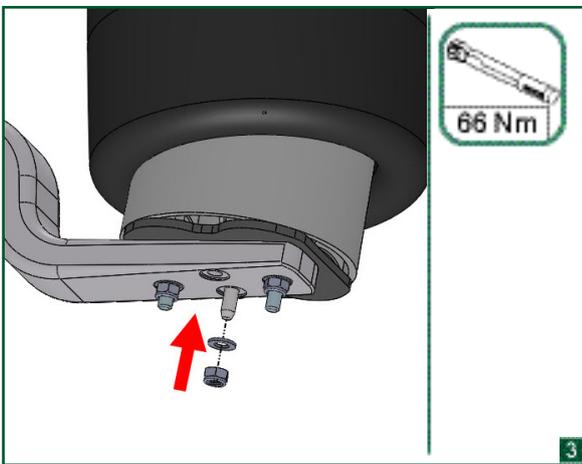
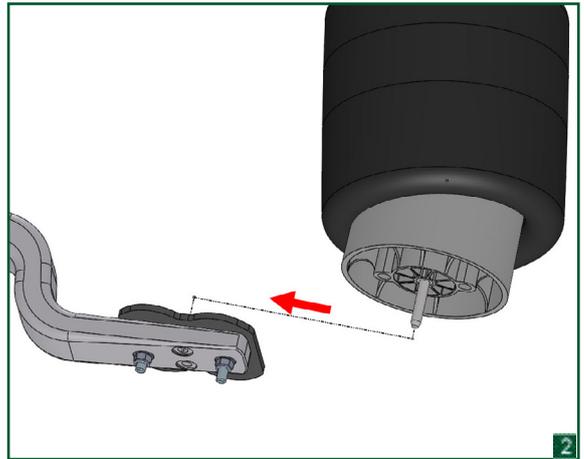
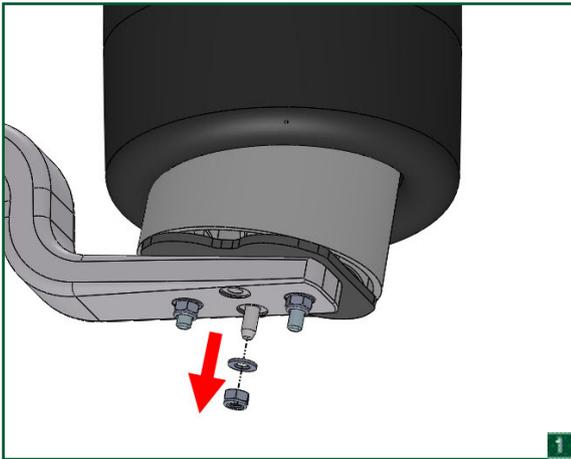
3.6.2.1 Replace the air springs - Ø300, 20mm offset on 75 wide trailing arm (disassembly)

	Disconnect the air line before replacement.



	Work safely. Make sure that the axle is adequately supported.

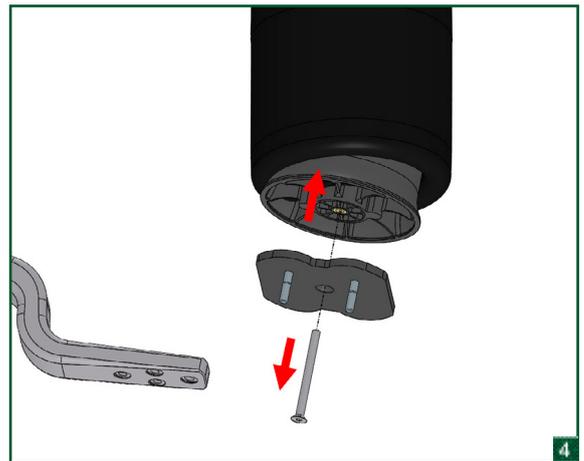
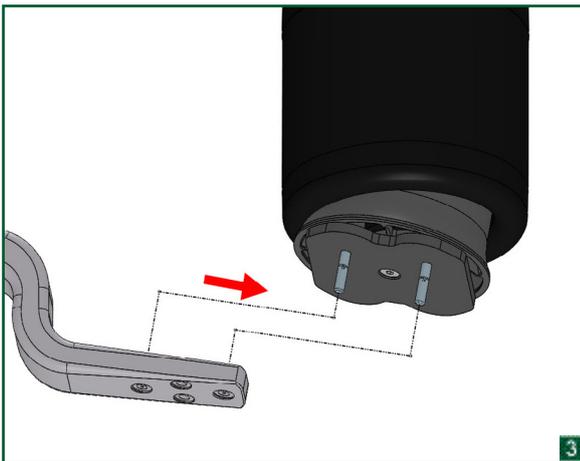
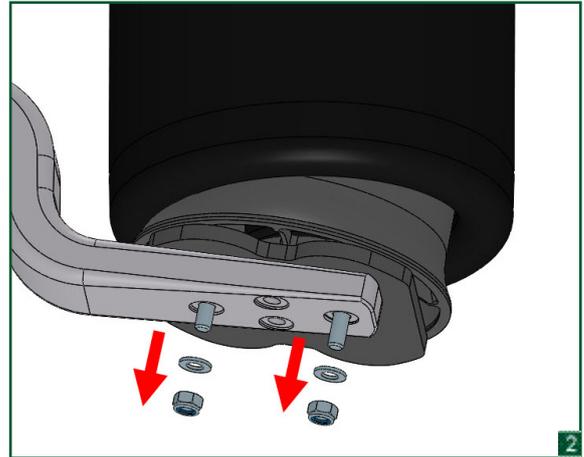
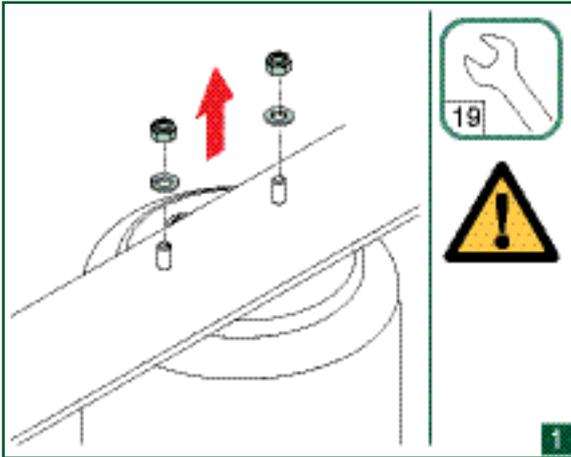
3.6.2.1 Replace the air springs - Ø300, 20mm offset on 75 wide trailing arm (assembly)



 Make sure the threaded end is completely inserted into the air spring bottom piece (step 1)

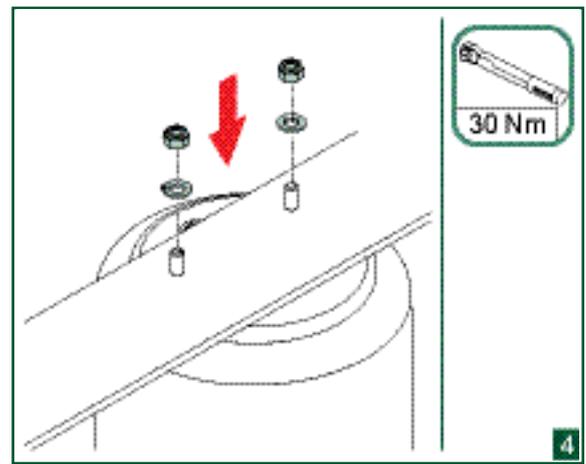
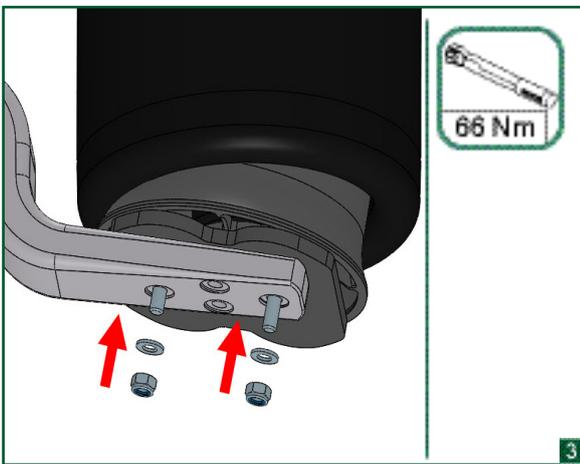
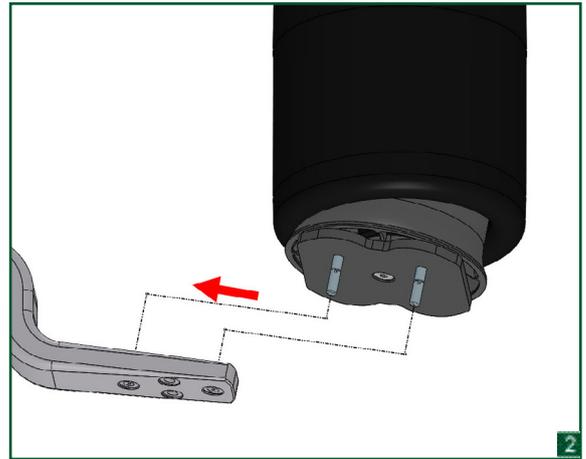
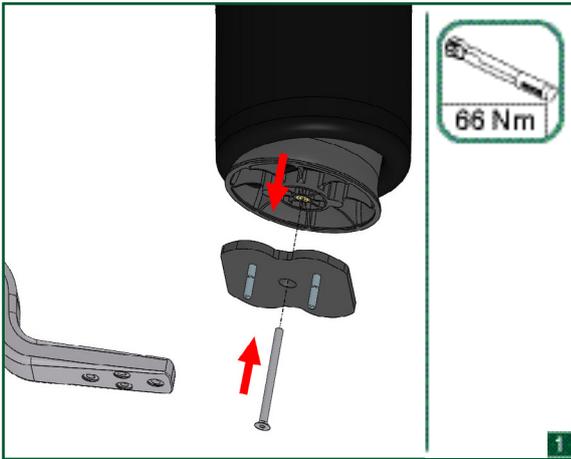
3.6.2.2 Replace the air springs - Ø335, 45mm offset on 75 and 95 wide trailing arm (disassembly)

	Disconnect the air line before replacement.



	Work safely. Make sure that the axle is adequately supported.

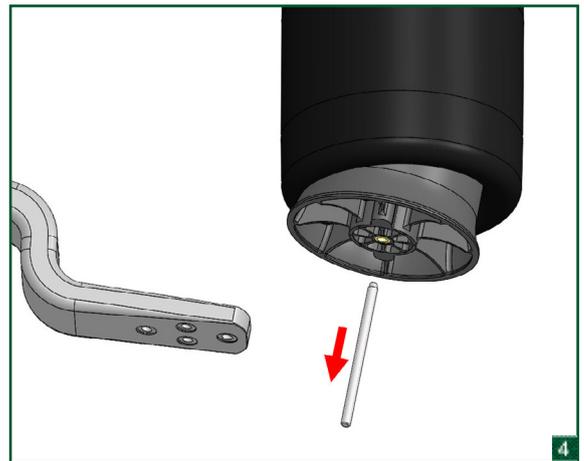
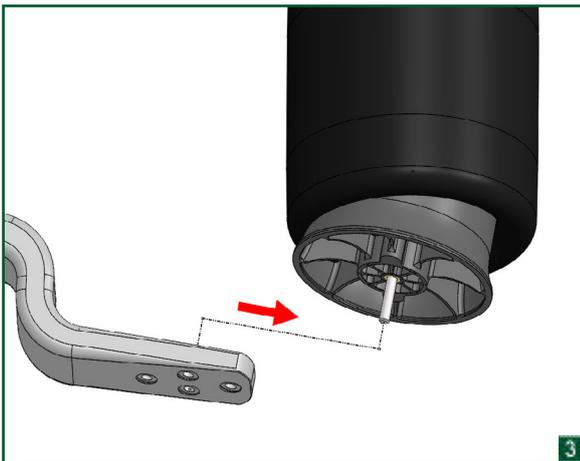
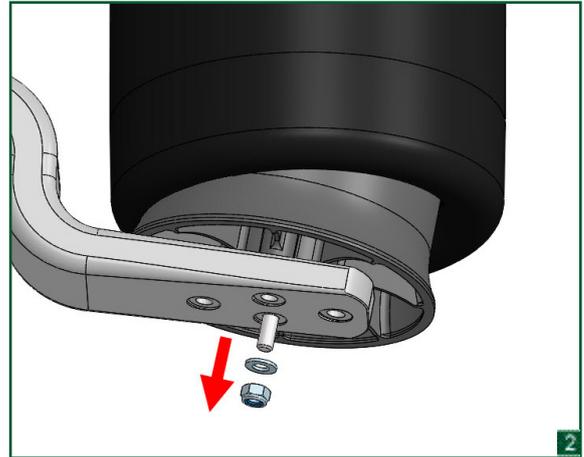
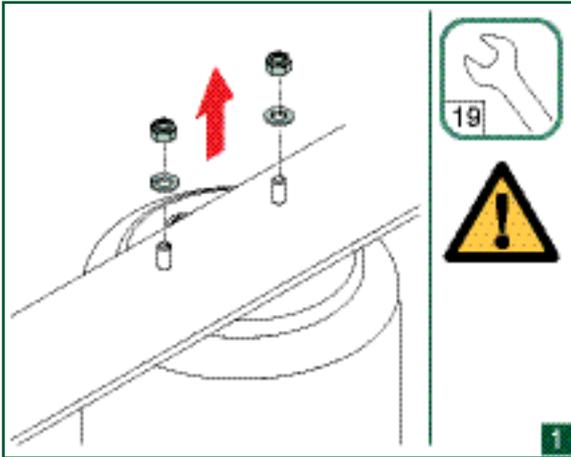
3.6.2.2 Replace the air springs - Ø335, 45mm offset on 75 and 95 wide trailing arm (assembly)



 Make sure the hexagon bolt is tightened before placing the air spring and offset plate on the trailing arm

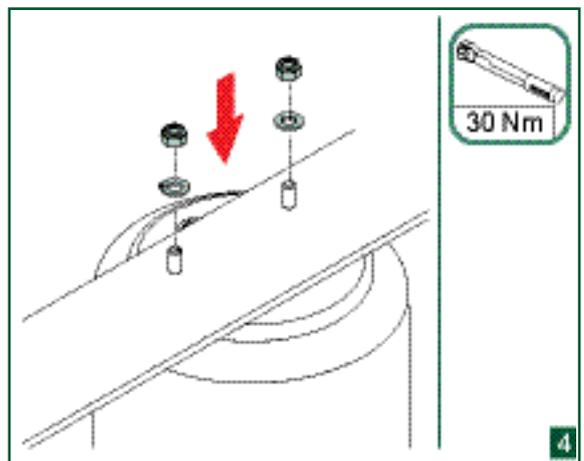
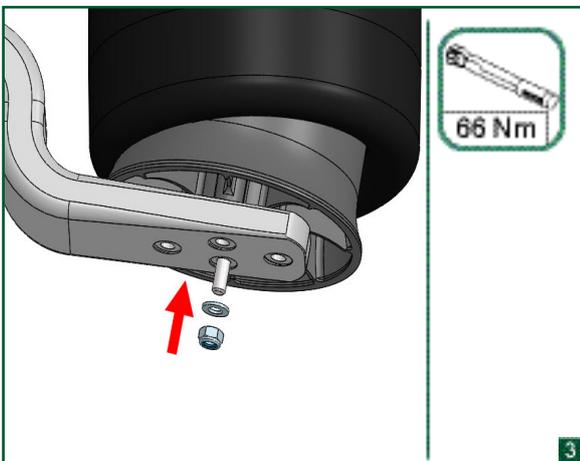
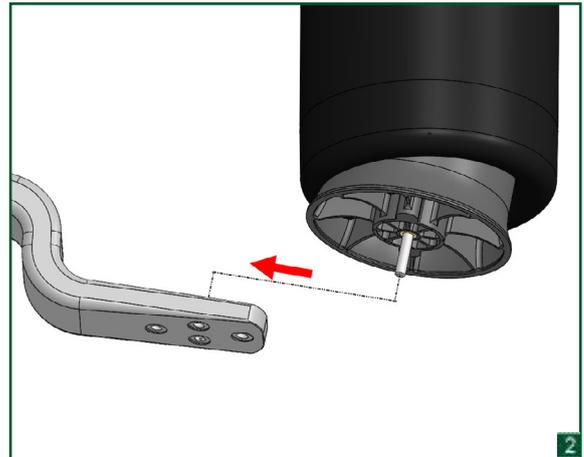
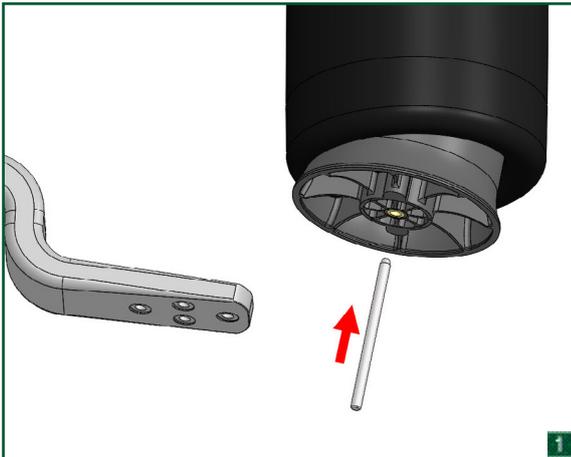
3.6.2.3 Replace the air springs - Ø300 / Ø335, 20mm offset on 95 wide trailing arm (disassembly)

	Disconnect the air line before replacement.



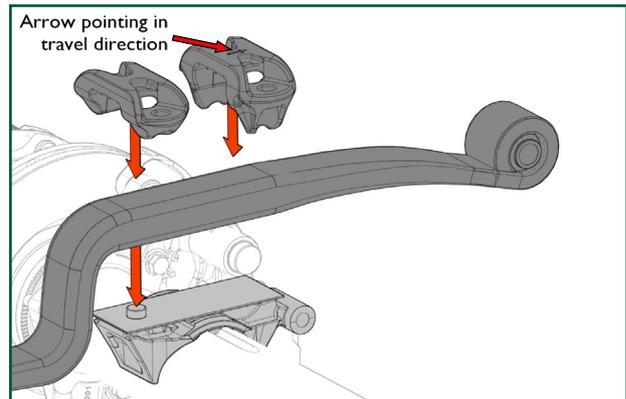
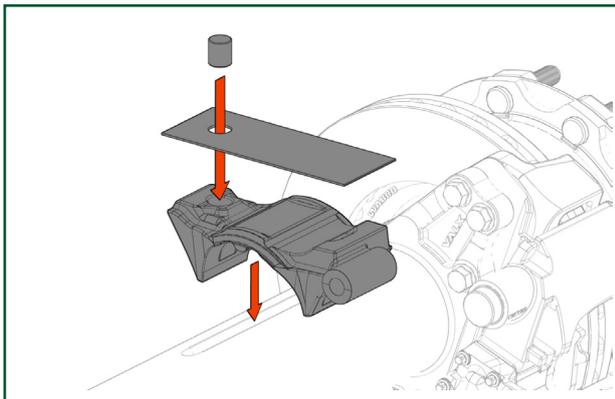
	Work safely. Make sure that the axle is adequately supported.

3.6.2.3 Replace the air springs - Ø300 / Ø335, 20mm offset on 95 wide trailing arm (assembly)



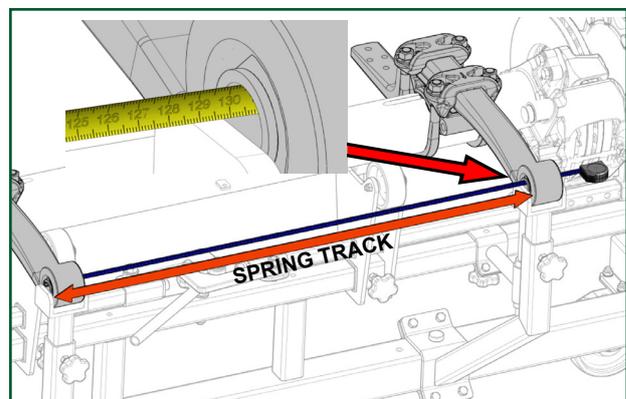
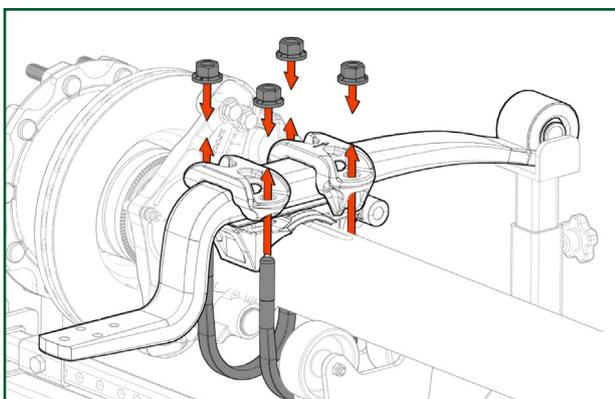
	Tighten the connections with the correct torque setting

3.6.3 Replace complete air suspension



	Make sure that the axle seat is well placed in the axle groove at the correct spring track
	The shock absorber tube must be positioned on the vehicle inside
	Make sure the zinc plate is well placed between the trailing arm and axle seat
	Place the dowel through the zinc plate and in the hole at the rear of the axle seat

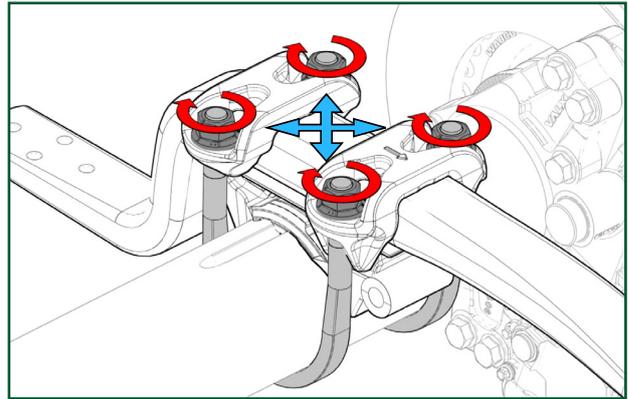
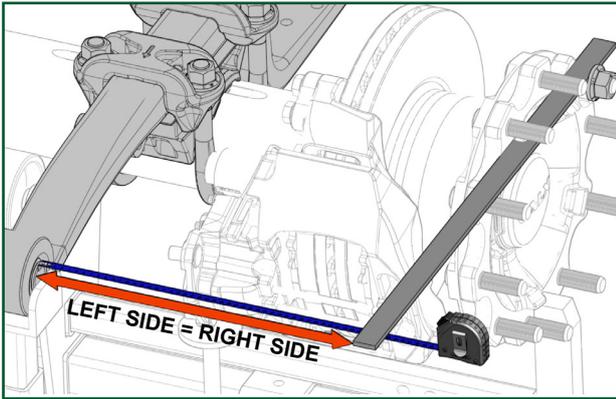
	Place the trailing arm on the zinc plate, make sure the dowel falls in the hole in the trailing arm
	Pull the trailing arm to the front
	Place the U-bolt plates over the trailing arm
	Place the U-bolt plate with the long legs at the front and with the arrow pointing in the travel direction



	Place the U-bolts around the axle and through the U-bolt plates
	Tighten the wheelnuts slightly (hand tighten) until the u-bolts are positioned against the axle tube

	Check the spring track again by measuring the distance through the spring eyes
	Adjust the spring track to the correct track with a rubber hammer if necessary
	Tolerance spring track: +/- 2mm

3.6.3 Replace complete air suspension (continued)



	Check the distance between the trailing arm eye and the hubface on both sides of the axle
	The distance should be the same on both sides
	Adjust the alignment with a rubber hammer if necessary
	Tolerance alignment: LEFT = RIGHT +/- 2mm

	Tighten the U-bolts crosswise and evenly on both sides
	Check, after tightening, if the spring track and air spring alignment are within tolerance
	The thread lengths from the U-bolts must be evenly above the nuts

Torque

	item	size	width across flats	inspection	when replacing
1	axle clamp	M22	32	600 Nm	600 Nm (+25/-0)