

DT SWISS

R 232 ONE

SERVICE CENTER MANUAL

V2021.11

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1. USER INFORMATION

1.1 GENERAL

VALIDITY

This manual describes the component specified on the front page and the footer. It is valid for the construction level of the component on Nov. 22, 2021. Deviations are possible and all items are subject to technical changes.

SAFETY

The safety instructions are classified as follows:



DANGER

... indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.



WARNING

... indicates a hazard with a medium level of risk which, if not avoided, may result in minor or moderate injury.



NOTE

... indicates a potentially hazardous situation that may result in damage to property.

TARGET GROUP

This manual is only intended for DT Swiss service centers.

The works described in this manual may only be done by skilled professionals trained by DT Swiss.

LAYOUT

The cover page and the footing provide information about the type of product and manual as well as the version of the manual.

The backside provides a list of the DT Swiss service centers. A list of all DT Swiss service centers can be found at www.dtswiss.com.

This manual is intended for being printed as an A5 booklet. Only print this manual if electronic usage is not possible.

DT SWISS MANUAL CONCEPT

The DT Swiss user and service information is split into the following types of manuals:

- User Manual
Information for the end user on how to install and use the component.
- Technical Manual
Detailed information for the end user and the dealer on how to maintain the component, spare parts and technical data.
- Service Sheets
Small service tasks to solve current issues.
- Service Center Manual
Detailed information strictly for DT Swiss service centers.

HOW TO USE THIS MANUAL

The steps described in this manual must be carried out in the order they are shown. If steps are ignored or executed in a wrong order, the function of the component cannot be guaranteed.

Instructions begin with the table «Preparatory Steps» and end with the table «Closing Steps». The instructions in these tables must be carried out.

1.2 GENERAL MAINTENANCE INFORMATION

O-rings and sealings must be oiled with silicon oil before assembling, unless otherwise specified.

CLEANING

For an optimal result of the maintenance works, every component that will be disassembled must be cleaned. Only use cleaners which do not damage the components. Especially the cleaning of O-rings and sealings requires mild cleaners. Always consider the instructions of the respective cleaner.

DT Swiss recommends the following cleaners:

- Motorex Rex
- Motorex Swissclean
- Motorex OPAL 2400, OPAL 3000, OPAL 5000

Use soap water or similar mild cleaners for external cleaning.

TOOLS

To ensure a damage-free mounting and dismounting of the components, only use the tools which are mentioned in this manual. The tools must be in good order and condition.

If components are damaged by the usage of differing tools, the user is liable.

DT Swiss special tools are precision tools. Damage-free mounting and dismounting of the components can only be ensured if the tools are working properly and if the conditions of the tools are perfect.

Always keep the tools in their original packaging or adequate devices to save them from damages.

ENVIRONMENTAL PROTECTION

Whenever possible, waste must be avoided. Waste, especially carbon, lubricants, cleaners and any other fluids must be disposed in an environmentally compatible manner.

Only print this manual if electronic usage is not possible.

DISCLAIMER

The operations described in this manual should only be performed by experts. The user is liable for any damage or consequential damage caused by wrong maintained or wrong installed components. If you have doubts, please contact your allocated DT Swiss pro level service center.

1.3 WARRANTY

Warranty conditions can be found at www.dtswiss.com.

2. SAFETY MEASURES FOR HANDLING SHOCK OIL



DANGER

Shock oil may be fatal if swallowed and enters airways!

- IF SWALLOWED: Immediately call a POISON CENTER or a doctor.
- Do NOT induce vomiting.
- Prevent unauthorized access and keep out of the reach of children.
- Wear safety gloves and safety glasses.
- Dispose of contents/container to be forwarded according to local legislation.

2.1 FIRST AID MEASURES FOR ACCIDENTS WITH SHOCK OIL

Remove affected person from the danger area and lay down. Contaminated, soaked clothing and shoes change and clean. When in doubt or if symptoms are observed, get medical advice. Never give anything by mouth to an unconscious person or a person with cramps.

In case of inhalation	Remove affected person to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician. If unconscious place in recovery position and seek medical advice.
In case of skin contact	Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.
In case of eye contact	Remove contact lenses, keep eyelids open. Rinse immediately carefully and thoroughly with eye-bath or water.
In case of ingestion	If symptoms occur consult a doctor Do NOT induce vomiting. Let water be drunken in little sips (dilution effect).

2.2 SAFETY MEASURES WHEN USING SHOCK OIL

When using do not eat, drink, smoke and sniff. Avoid contact with skin, eyes and clothes. Remove contaminated, saturated clothing immediately. Wash hands before breaks and after work.

Eye/face protection	Use tightly fitting safety glasses regarding to DIN EN 166.
Hand protection	Oil resistant, tested, protective gloves, e.g. nitrile rubber EN 374-2 must be worn.
Body protection	In case of splattering, wear oil-resistant protective clothing.
Respiratory protection	If workplace limits are exceeded, a gas mask approved (according to EN 149 FFP2/3 SL) for this purpose must be worn.

Immediately remove leaked/spilled shock oil from the floor. Particular danger of slipping on leaked/spilled oil.

2.3 HANDLING AND STORAGE

2.3.1 PRECAUTIONS FOR SAFE HANDLING

Normal precautions taken when handling chemicals should be observed. Persons with a history of skin sensitisation problems should not be employed in any process in which this product is used.

Prevent unauthorized access and keep out of the reach of children.

It is recommended to design all work processes always so that the inhalation of vapors or spray/mists is excluded.

Avoid contact with skin and eyes. Wear personal protection equipment (see „2.2 Safety Measures when Using Shock Oil“ on page 7). If handled uncovered, arrangements with local exhaust ventilation should be used if possible. Comply with the health and safety at work laws.

MEASURES TO PREVENT FIRE

The product is not flammable. Take usual measures for fire prevention. Keep container tightly closed. Never use pressure to empty. Container is not a pressure vessel. No smoking. Prevent unauthorized access.

MEASURES TO PREVENT AEROSOL AND DUST GENERATION

Vapors/aerosols should be exhausted directly at the point of origin.

2.3.2 PRECAUTIONS FOR SAFE STORING

Floors should be impervious, resistant to liquids and easy to clean. Shafts and sewers must be protected from entry of the product. Provide for retaining containers, e.g. floor pan without outflow. Keep/Store only in original container.

Keep away from oxidizing agents, from strongly alkaline and strongly acid materials. Keep away from food, drink and animal feeding stuffs.

Keep container tightly closed and in a well-ventilated place. Do not store outside.

Recommended storage temperature: 5°C - 30°C

2.3.3 ENVIRONMENTAL PRECAUTIONS

Take up leaked/spilled shock oil with a liquid absorbing material and proceed according to the waste disposal regulations.

Do not discharge into the sewage system/surface water/ground water/subsoil as well as the soil.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

2.4 SERVICE INFORMATION

This manual can be used for a standard service or for trouble shooting.

If there is no special issue, DT Swiss recommends servicing the shock every 200 hours of use or every 12 months. This service contains the following steps:

Action	Page
6. DISASSEMBLING THE SHOCK	23
7. CLEANING THE SHOCK	32
8. SERVICING THE PARTS OF THE SHOCK.....	33
8.1 SERVICING THE AIR CHAMBER HOUSING	33
8.2 SERVICING THE OIL CHAMBER AND THE IFP	37
8.3 SERVICING THE OIL CHAMBER TAB	41
8.4 SERVICING THE DAMPING PISTON UNIT	43
8.5 SERVICING THE END CAP [STANDARD SHOCK MOUNT]	46
8.6 SERVICING THE END CAP [TRUNNION MOUNT]	53
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9. ASSEMBLING THE SHOCK.....	65
10. TESTING THE SHOCK	81

Before starting the shock service, you should check all functions of the shock. If there is a special issue, there must be taken specific actions like shown in the chapter Trouble Shooting [see „3. Trouble Shooting“ on page 10].

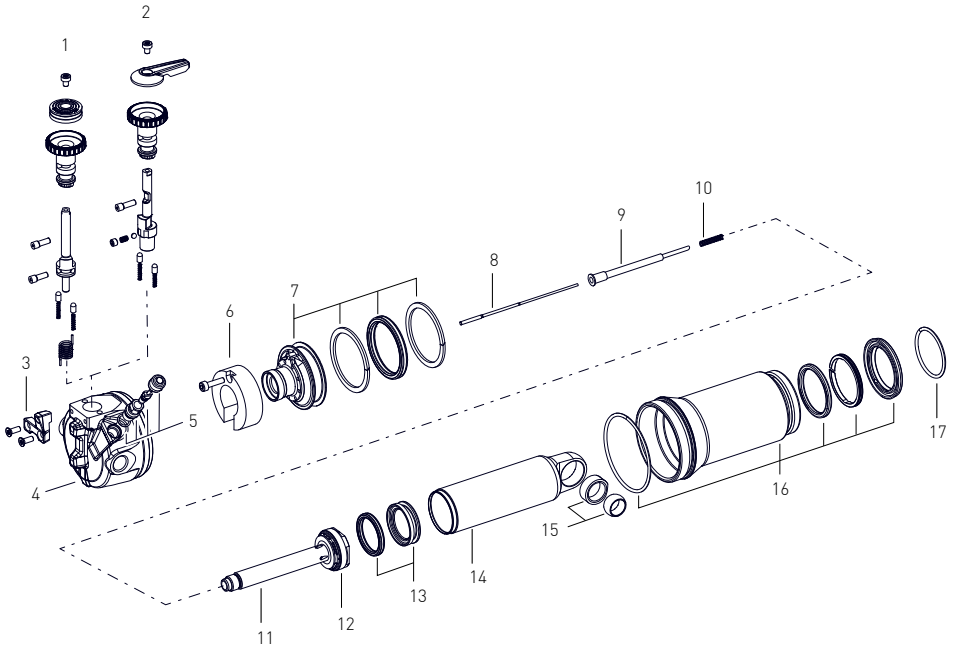
3. TROUBLE SHOOTING

Issue	Fault	Action
Air loss after long term storage or riding.	Normal effect. The shock loses about 1-2 bar per month.	Inflate the air chamber and perform standard set up.
Air loss after short time.	Quadring, wiper or guide band of the air chamber is worn.	Change the sealings of the air chamber seal kit.
	Wrong grease	Disassemble and clean the inner surface of the air chamber and the oil chamber tab. Grease the inner surface of the air chamber, the oil chamber tab and the wiper using Slick Honey Bike Grease.
	The air chamber is damaged.	Change the air chamber.
	The outer surface of the oil chamber is damaged / scratched.	Change the oil chamber.
Tiny amounts of oil or grease on the outside.	None - normal residue from installation or operation.	Clean shock with a cloth after each ride.
Tiny amounts of oil on the rebound wheel or on the end cap.	None - normal residue from assembly.	Clean the area around the rebound wheel and check again after a while. If this area is oily again, further measures are necessary.
Shock loses oil instantly around the rebound wheel.	O-ring of the lockout pin is damaged.	Change the O-ring of the lockout pin (see „8.4 Servicing the Damping Piston Unit“ on page 46).
Shock makes slight flowing sound (effect changes depending on the rebound adjustment).	None - normal damping effect of oil and bores.	
Shock makes loud «smacking» sound.	Air in the oil.	Full service necessary.
The rebound is not working properly.	Rebound pin sticks.	Check the insert of the piston rod.
The „DRIVE“ or „LOCK“ Mode is not working properly.	The remote cable is not adjusted correctly.	Adjust the remote cable.
	The sealing of the damping piston is worn or damaged.	Change the damping piston.
	Lockout cap does not close correctly.	Change the lockout cap and / or the lockout pin.
	Only trunnion mount shocks: Dirt between lockout shaft and rebound wheel or between rebound wheel and end cap.	Dismount the rebound wheel, clean it and mount the rebound wheel (see „8.6 Servicing the End Cap [Trunnion Mount]“ on page 53).

Issue	Fault	Action
The shock can't be inflated (the air instantly leaks out the shock again).	Damaged valves or valve inserts.	Change or retighten the valve inserts (max. 0.4 Nm).
	Leakage	Check in waterbath where the air is leaking.
The pressure indicated on the pressure gauge rises rapidly while pumping.	Valve doesn't open.	Check the positioning of the pump on the shock or change the pump.
Shock has noticeable play at the spherical bearings / DU bushings.	Wrong mounting hardware, incorrect tightened screws or wear.	Check whether the correct mounting hardware was used or the screws are tightened correctly. If necessary, change the spherical bearings [see „9.5 Servicing the Spherical Bearing“ on page 74 or „9.6 Servicing the DU bushing“ on page 76].
Noticeable loss of oil at the oil chamber (when the air chamber is removed). Oil sprays out of the valve while deflating the air chamber.	Sealings are at their wear limits.	Change the oil chamber tab.
Clacking noise when compressing.	Defective lockout cap.	Full service. Check the lockout cap. Check other parts critically.
	IFP not in correct position.	Full service. Set the IFP to its correct position.
Shock squeaks while riding, when the shock gets hot.	Wiper is dry	Air chamber service
Shock gets hot while riding.	None - the shock can get very hot on long downhills. This does not affect the performance of the shock.	

4. OVERVIEW

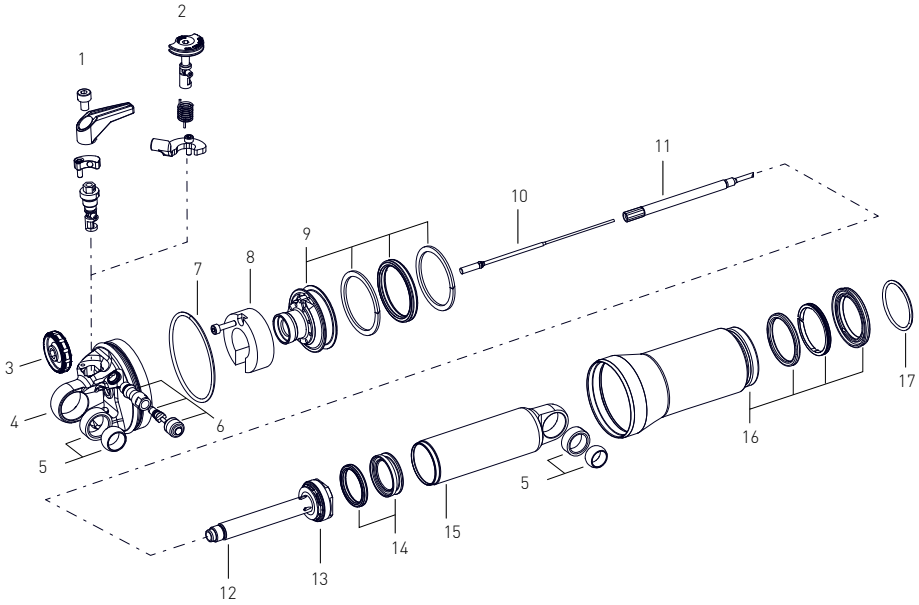
OVERVIEW R 232 ONE TRUNNION MOUNT



Pos.	Description	Pos.	Description
1	remote control elements with rebound wheel	10	spring
2	manual control elements with rebound wheel	11	piston rod
3	cable guide	12	damping piston
4	end cap	13	IFP with quadding
5	valve body with valve insert and valve cap	14	oil chamber
6	volume spacer	15	spherical bearing*
7	oil chamber tab with quadding and support rings	16	air chamber with O-ring, quadding, guide band and wiper
8	lockout pin	17	SAG O-ring
9	rebound pin		

*The shock can be equipped with a spherical bearing or a DU bushing

OVERVIEW R 232 ONE STANDARD MOUNT



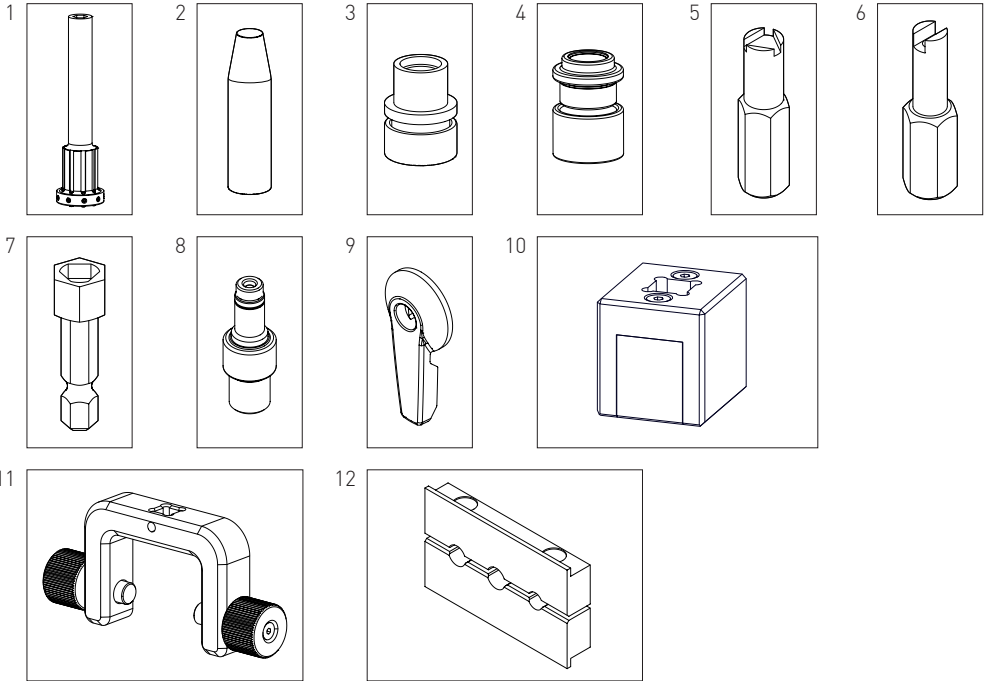
Pos.	Description	Pos.	Description
1	manual control elements	10	lockout pin
2	remote control elements	11	rebound pin
3	rebound wheel	12	piston rod
4	end cap	13	damping piston
5	spherical bearing*	14	IFP with quadding
6	valve body with valve insert and valve cap	15	oil chamber
7	O-ring end cap	16	air chamber with quadding, guide band and wiper
8	volume spacer		
9	oil chamber tab with quadding and support rings	17	SAG O-ring

*The shock can be equipped with spherical bearings or DU bushings

5. SPECIAL TOOLS & SERVICE KITS

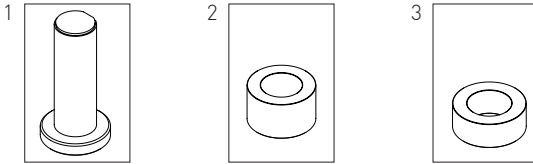
This chapter shows the tools which are not included in the standard equipment of a mechanic. All other tools (wrenches, Allen keys, screwdrivers etc.) are mentioned in the text.

5.1 SPECIAL TOOLS



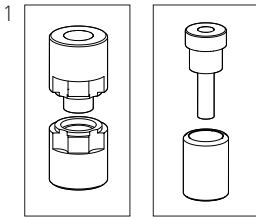
Pos.	Description	Art.No.
1	mounting tool oil chamber tab	CWTXXXXX11216S
2	cone for piston rod	CXTXXXXN11080S
3	lockout opening fixture standard mount	CWTXXXXX12562S
4	lockout opening fixture trunnion mount	CWTXX10020776S
5	nitrogen chamber key	CXTEX20N11134S
6	key for valve insertion	CXTXXXXN11135S
7	key for valve body	CXTXXXXN11354S
8	pump adapter	FXTXX0XXX012334S
9	lockout lever for service of end cap trunnion mount	CCXXXXXE16842S
10	tool mounting DU SM cap	CWTXX10032082S
11	tool mounting TM cap	FOX 398-00-833
12	clamp for piston rod	CWTXX10021857S

5.2 SPECIAL TOOLS FOR IFP



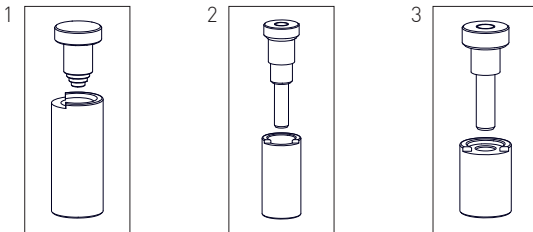
Pos.	Description	Shock Length	Part No.
1	IFP positioning tool	all	CXTXXXXX11248S
2	ring IFP positioning tool $\varnothing 24/40 \times 23.992$	190 mm standard mount 165 mm trunnion mount	CXTXXXXX11261S
3	ring IFP positioning tool $\varnothing 24/40 \times 15.544$	210 mm standard mount 185 mm trunnion mount	CXTXXXXX11263S

5.3 SPECIAL TOOLS FOR SPHERICAL BEARINGS



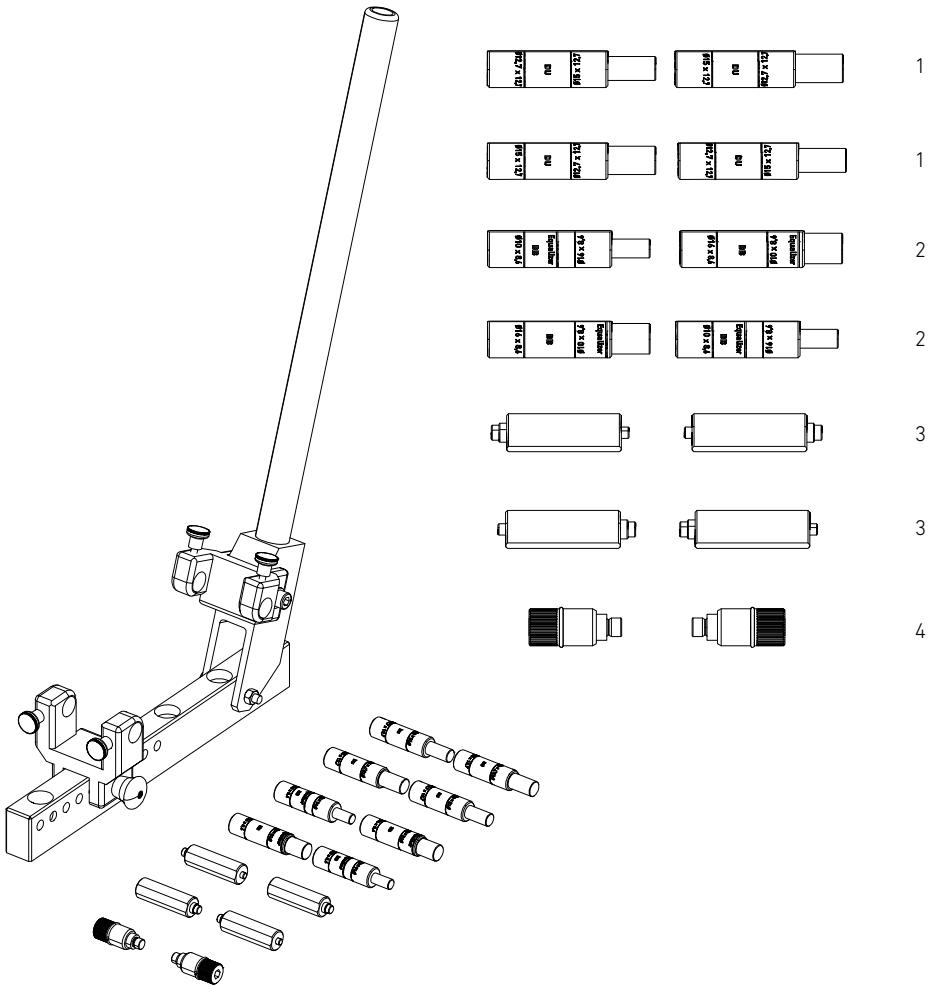
Pos.	Description	Part No.
1	tool kit spherical bearings	CWTXX10028914S

5.4 SPECIAL TOOLS FOR DU BUSHINGS



Pos.	Description	Part No.
1	TOOL KIT DU PIN UNMOUNTING ASSEMBLY	CWTXX10031935S
2	TOOL KIT DU BUSHING UNMOUNTING ASSEMBLY	CWTXX10031927S
3	TOOL KIT DU BUSHING MOUNTING ASSEMBLY	CXTXX10031928S

5.5 TEST BENCH



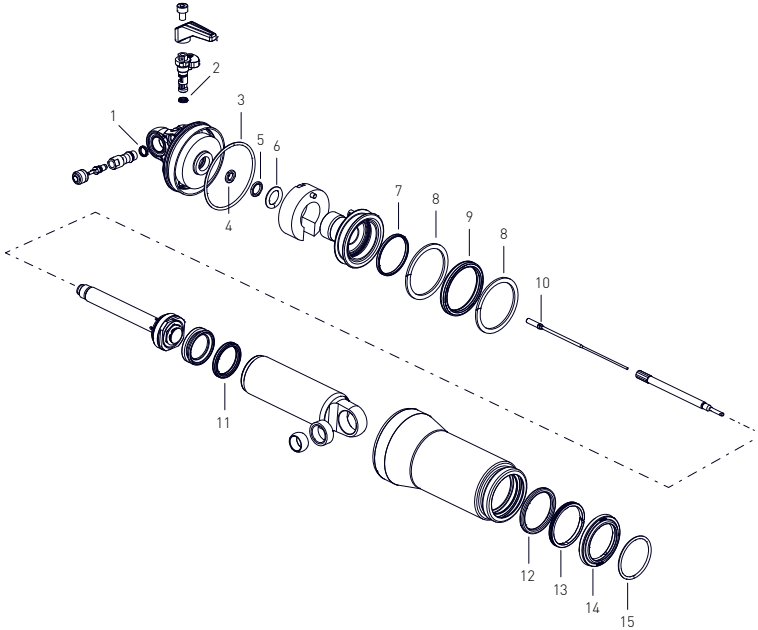
TEST BENCH CWTX10031614S

Pos.	Description
1	pin / socket DU bushings 12.7 / 15 KIT
2	pin / socket spherical bearings 10 / 16 KIT
3	10 / 8 / 6 mm only for DU bushings with pin mounted
4	trunnion mount kit*

* The trunnion mount kit must only be mounted on the lower shock holder!

5.6 SEAL KITS

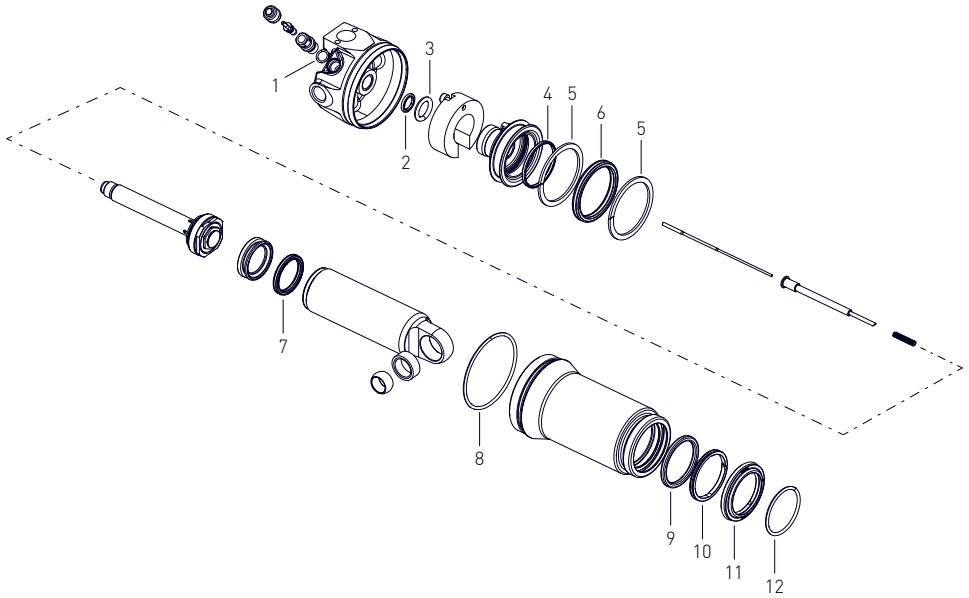
5.6.1 SEAL KIT FULL SERVICE STANDARD MOUNT



R232 SEAL KIT CWKR232X30195S

Pos.	Description	Detail
1	O-ring valve body	5 x 1 mm
2	O-ring lockout shaft	4 x 1 mm
3	O-ring end cap / air can standard mount	44.17 x 1.78 mm
4	O-ring rebound wheel	6 x 1.5 mm
5	O-ring piston rod / end cap	7 x 1.5 mm
6	O-ring „bumper“ on piston rod	10 x 2.5 mm
7	O-ring oil chamber / oil chamber tab	26 x 1.5 mm
8	support ring oil chamber tab	33 / 39 x 1.4 mm
9	quadring oil chamber tab	31.34 x 3.53 mm
10	O-ring lockout pin	1.07 x 1.25 mm
11	quadring IFP	18.72 x 2.62 mm
12	quadring air can	26.64 x 2.62 mm
13	guide band	27.3 / 31.26 x 2.6 mm
14	wiper air can	26.15 / 36.2 x 5 mm
15	O-ring SAG	21.97 x 1.78 mm

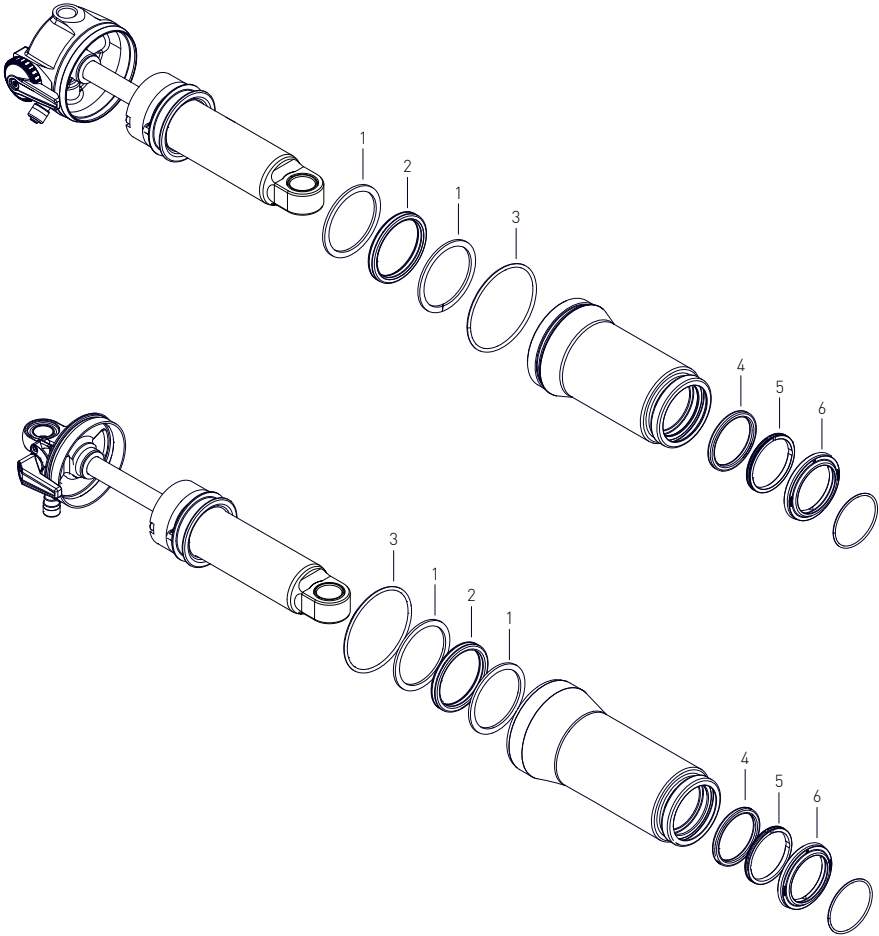
5.6.2 SEAL KIT FULL SERVICE TRUNNION MOUNT



R232 SEAL KIT TM CWKR232X30196S

Pos.	Description	Detail
1	O-ring valve body	6 x 1 mm
2	O-ring piston rod / end cap	7 x 1.5 mm
3	O-ring „bumper“ on piston rod	10 x 2.5 mm
4	O-ring oil chamber / oil chamber tab	26 x 1.5 mm
5	support ring oil chamber tab	33/39 x 1.4 mm
6	quading oil chamber tab	31.34 x 3.53 mm
7	quading IFP	18.72 x 2.62 mm
8	O-ring end cap / air can	44.17 x 1.78 mm
9	quading air can	26.64 x 2.62 mm
10	guide band	27.3 / 31.26 x 2.6 mm
11	wiper air can	26.15/36.2 x 5 mm
12	O-ring SAG	21.97 x 1.78 mm

5.6.3 SEAL KIT AIR CHAMBER



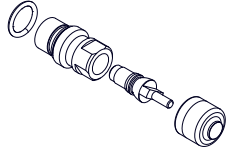
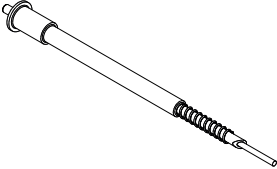
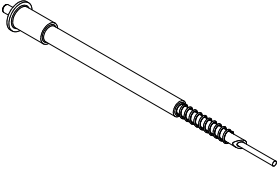

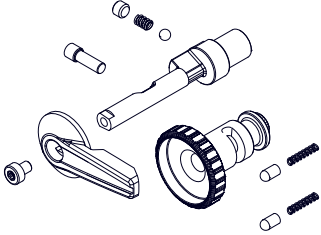
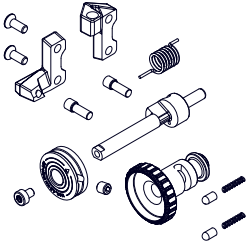
R232 SM/TM GEN1 AIR CHAMBER SEAL KIT CWKR232X301975

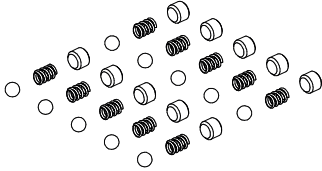
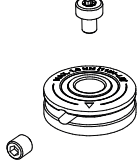
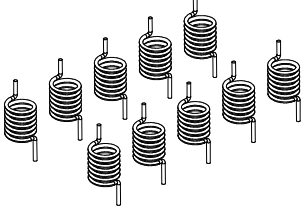
Pos.	Description	Detail
1	support ring oil chamber tab	33 / 39 x 1.4 mm
2	quading oil chamber tab	31.34 x 3.53 mm
3	O-ring end cap / air chamber	44.17 x 1.78 mm
4	quading air can	26.64 x 2.62 mm
5	guide band	27.3 / 31.26 x 2.6 mm
6	wiper air chamber	26.15 / 36.2 x 5 mm

5.7 SERVICE KITS STANDARD MOUNT

Description	Art.No.	Specification
VALVE BODY M6x3-21.2 SERVICE	CWXXXXXS86048S	
REBOUND/LOCKOUT PINS KIT R232 190	CWKXXXXN11883S	
REBOUND/LOCKOUT PINS KIT R232 210	CWKXXXXN11897S	
VALVE CAP OIL CHAMBER KIT	CWKXXXXX11919S	
CONTROLS KIT Lever	CWER232X30191S	
CONTROLS KIT Remote	CWKR232X30192S	

5.8 SERVICE KITS TRUNNION MOUNT

Description	Art.No.	Specification
VALVE BODY M7X6 BOLD SERVICE	CWXXXXXX23747S	
REBOUND/LOCKOUT PINS KIT TM 165	CWKXXXXXN23749S	
REBOUND/LOCKOUT PINS KIT TM 185	CWKXXXXXN23751S	
INDEX PIN Ø2.3/3X5.5 KIT	CWKXXXXX23762S	
CONTROLS KIT LEVER R 232 TM	CWKR232X30193S	
CONTROLS KIT REMOTE R232 TM	CWKR232X31106S	

Description	Art.No.	Specification
BALL Ø3 MM KIT	CWKXXXXX23772S	
REMOTE WHEEL KIT R535 TM / R232 TM	CWKXXXXX23776S	
TORSION SPRING Ø0.9/7.8x19.55 KIT	CWKXXXXX23778S	

TM = trunnion mount

6. DISASSEMBLING THE SHOCK

The following table provides an overview of the service progress.

Action	Reference	
→ Disassembling the Shock	6 on page 23	
Cleaning the Shock	7 on page 32	
Servicing the Parts of the Shock	Air Chamber Housing	8.1 on page 33
	Oil Chamber and IFP	8.2 on page 37
	Oil Chamber Tab	8.3 on page 41
	Damping Piston Unit	8.4 on page 43
	End Cap (standard mount)	8.5 on page 46
	End Cap (trunnion mount)	8.6 on page 53
	Remote Unit (standard shock mount)	8.7 on page 62
Assembling the Shock	9 on page 65	
Servicing Spherical Bearings	9.5 on page 74	
Servicing DU Bushings	9.6 on page 76	
Testing the Shock	10 on page 81	

Preparatory Steps	Link
If required, dismount the shock from the bike.	
If required, dismount the bushings.	
Clean the surface of the shock.	



NOTE

RISK OF DAMAGING THE SHOCK!

To avoid damages, always clamp the shock or parts of the shock into ground clamping jaws, aluminum clamping jaws or plastic clamping jaws

6.1 RELEASING THE AIR PRESSURE OF THE AIR CHAMBER



DANGER

SHOCK OIL MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS!

Oil mist might escape through the valve while releasing the air.

- Always put a cloth onto the valve while releasing the air.
- The valve must face down, away from your body while releasing the air.
- Consider the chapter „6. Disassembling the Shock” on page 23.



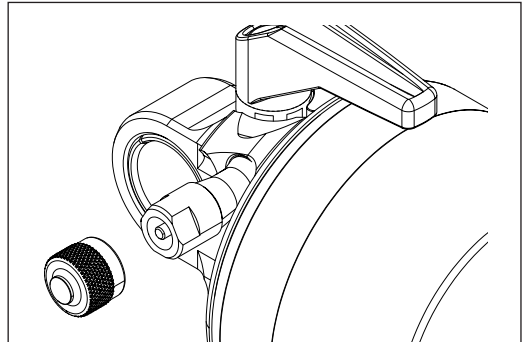
DANGER

DANGER OF INJURY DUE TO HIGH PRESSURE!

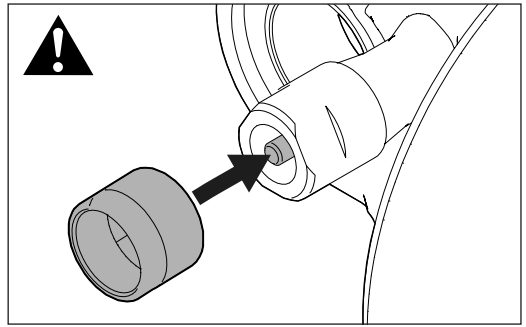
After releasing the air, there might be still pressure inside the negative air chamber!

- If the air is released too fast, the pressure of the positive and negative air chamber will not be balanced. The shock compresses fully and the pressure inside the negative air chamber remains.
- If you have any doubts, if the pressure inside the negative air chamber is fully released, measure the shock length after deflating. When the negative air chamber is fully deflated, the shock is not contracted.
- The air chamber must NOT be removed before the air of the positive and negative air chamber is fully removed.

1. Unscrew the valve cap.



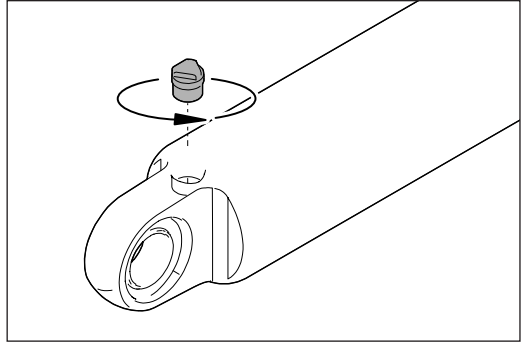
2. Position the shock that way, that the valve faces away from your body and face and put a cloth onto the valve.
3. Slowly push the valve insert using the backside of the valve cap or better: Use the shock pump and slowly release the air using the release valve of the shock pump.
 - The shock compresses to the point the air flows from the negative air chamber into the positive air chamber.



4. If the shock compresses fully while releasing the air, inflate the shock again and release the air more slowly.
OR
Fully extend the shock manually and compress it about 10 mm from fully extended so that the air can flow from the positive air chamber into the negative air chamber. Repeat this a few times and release the air again.
 - After releasing the air, the shock must not be compressed! If in any doubt, measure the length of the shock!

6.3 RELEASING THE AIR PRESSURE OF THE OIL CHAMBER

1. Unscrew the valve cap from the oil chamber using the special tool (see 5.1 on page 14, pos. 8).



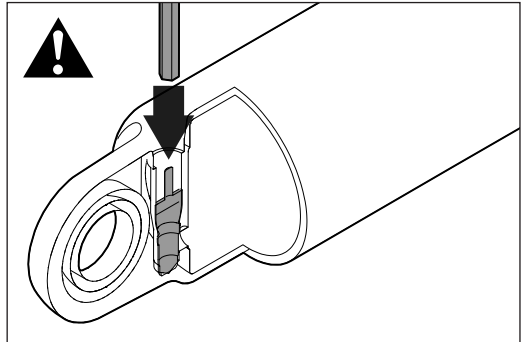
DANGER

SHOCK OIL MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS!

Oil mist might escape through the valve while releasing the air.

- Always put a cloth onto the valve while releasing the air.
- The valve must face down, away from your body while releasing the air.
- Consider the chapter „2. Safety Measures for Handling Shock Oil“ on page 7.

2. Release the air pressure of the oil chamber.
 - a. Put a cloth onto the valve.
 - b. Push the valve insert using an Allen key, a screwdriver or s.th. similar.

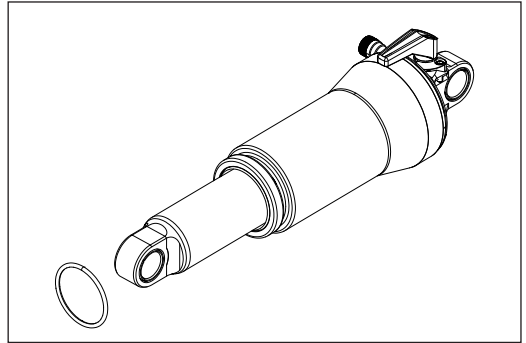


6.4 REMOVING THE AIR CHAMBER

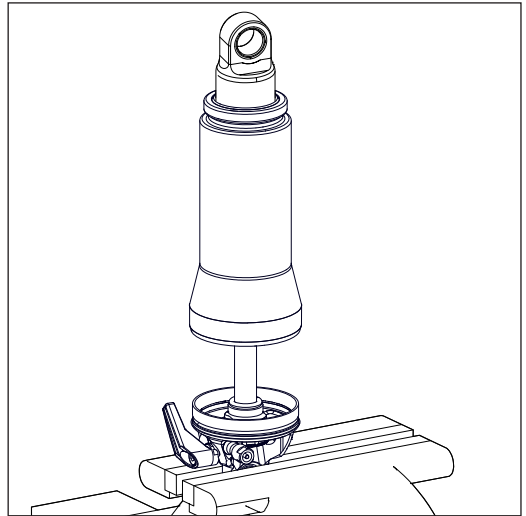


Service of the air chamber housing, see 8.1 on page 33

1. Remove the SAG O-ring from the oil chamber.



2. Ensure, the pressure is fully released (see page 6.1 on page 24).
3. Clamp the shock into a vice vertically.
4. Unscrew the air chamber by hand.
If the air chamber cannot be loosened by hand, unscrew the air chamber using a strap wrench.
5. Slide off the air chamber.
6. Check, if there is damping oil inside the air chamber. If there is, the whole oil chamber tab assembly must be changed.
7. Take the shock out of the vice

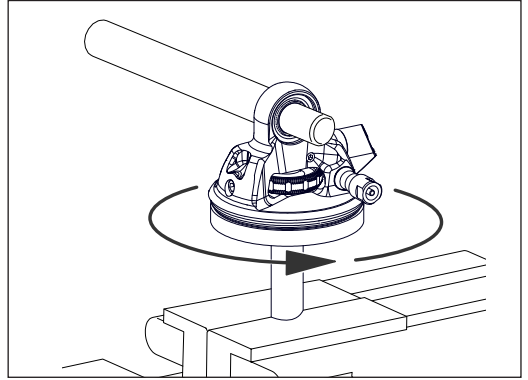


6.5 REMOVING THE END CAP

i Service of the end cap, see „8.5 Servicing the End Cap [standard Shock Mount]” on page 46 or „8.6 Servicing the End Cap [Trunnion Mount]” on page 53.

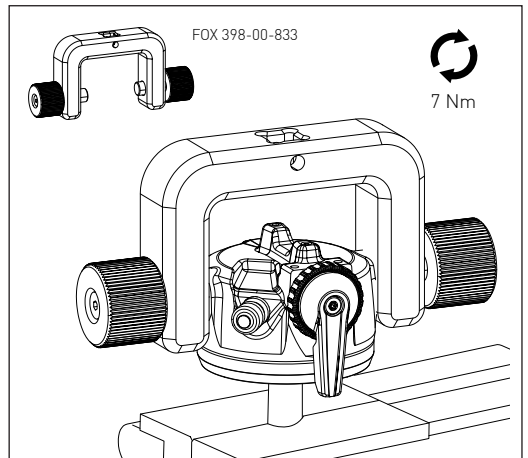
Standard shock mount:

1. Clamp the piston rod into a vice using the clamping jaws CWTXX10021857S (see „5.1 Special Tools” on page 14).
The oil chamber must face downwards.
2. Unscrew the end cap counter clockwise using a rod that fits through the spherical bearing.
3. Remove the end cap.



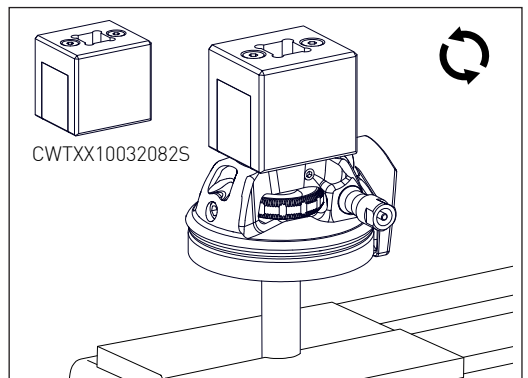
Trunnion shock mount:

4. Clamp the piston rod into a vice using the clamping jaws CWTXX10021857S (see „5.1 Special Tools” on page 14).
The oil chamber must face downwards.
5. Unscrew the end cap counter clockwise using the tool FOX 398-00-833 (see „5.1 Special Tools” on page 14) and a 3/8” ratchet.
6. Remove the end cap.

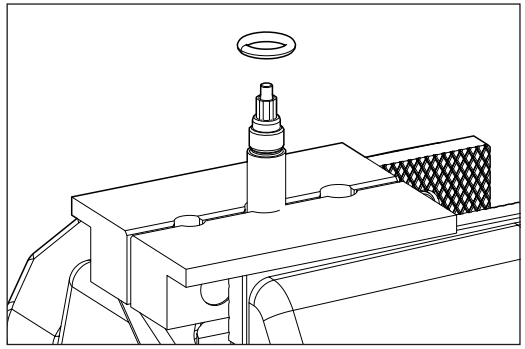


Shocks with DU bushings:

7. Clamp the piston rod into a vice using the clamping jaws CWTXX10021857S (see „5.1 Special Tools” on page 14).
The oil chamber must face downwards.
8. Unscrew the end cap counter clockwise using the tool CWTXX10032082S (see „5.1 Special Tools” on page 14) and a 1/4” ratchet.
9. Remove the end cap.

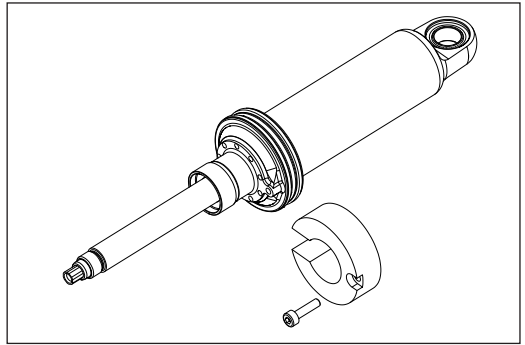


10. Slide the O-ring off the piston rod.



11. Check if there is a volume spacer.

- a. Unscrew the fixing screw of the volume spacer.
- b. Remove the volume spacer.

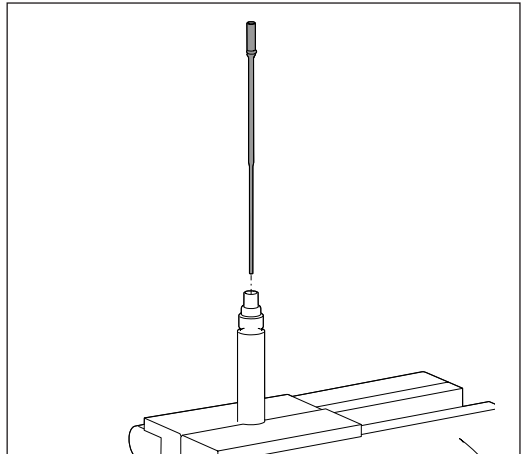


6.6 REMOVING THE REBOUND PIN AND LOCKOUT PIN

i Service of the rebound pin and lockout pin, see „8.4 Servicing the Damping Piston Unit“ on page 43.

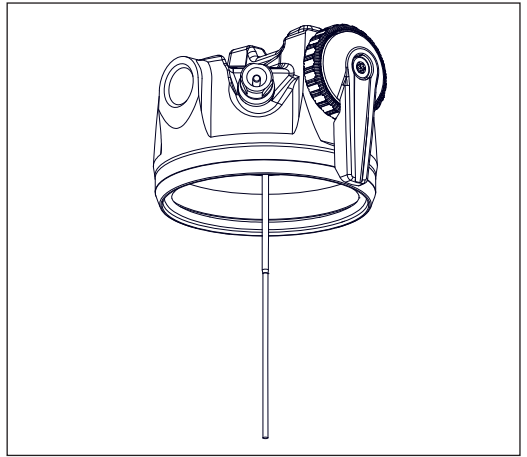
Standard shock mount:

1. Slide the lockout pin out of the piston rod.

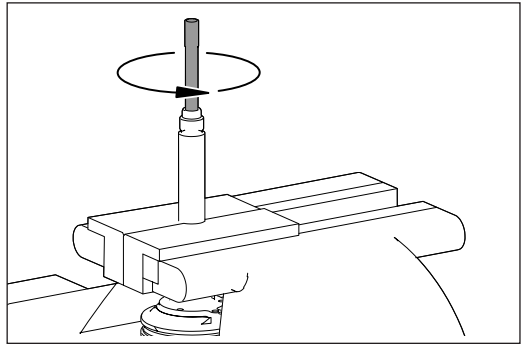


Trunnion shock mount:

1. Pull the lockout pin out of the end cap.



2. Standard shock mount: Unscrew the rebound pin and slide it out of the piston rod.
3. Trunnion shock mount: Slide the rebound pin out of the piston rod.
→ **Make sure that you also remove the spring of the rebound pin!**
4. Take the piston rod out of the vice.



6.7 REMOVING OIL CHAMBER TAB, DAMPING PISTON AND IFP



DANGER

SHOCK OIL MAY BE DANGEROUS FOR YOUR HEALTH!

- Avoid contact with skin or eyes!
- Wear safety gloves and safety glasses.
- Consider the chapter Safety Measures for Handling Shock Oil, p.5.



CAUTION

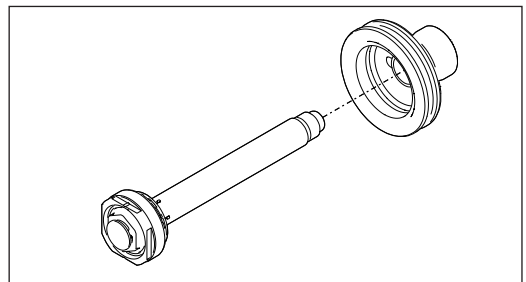
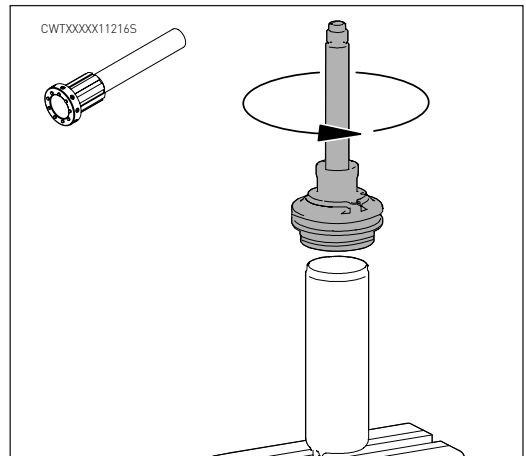
RISK OF INJURIES WHILE OPENING THE OIL CHAMBER!

The oil inside the oil chamber might be still under pressure.

- Open the oil chamber carefully and slowly.

i Service of the oil chamber tab, see „8.3 Servicing the Oil Chamber Tab” on page 41.
Service of the oil chamber, see „8.2 Servicing the Oil Chamber and the IFP” on page 40.

1. Clamp the oil chamber into the vice.
 2. Unscrew the oil chamber tab carefully and slowly using the special tool (see „5.1 Special Tools” on page 14, pos. 1) and an 8 mm hex key.
 3. Take off the oil chamber tab with the damping piston.
 4. Take the oil chamber out of the vice.
 5. Release the oil into an appropriate reservoir
-
6. Remove the damping piston unit from the oil chamber tab.



Closing Steps

Dispose the oil in an environmentally compatible manner.

Link

7. CLEANING THE SHOCK

The following table provides an overview of the service progress.

Action	Reference	
Disassembling the Shock	6 on page 23	✓
→ Cleaning the Shock	7 on page 32	
Servicing the Parts of the Shock	Air Chamber Housing	8.1 on page 33
	Oil Chamber and IFP	8.2 on page 37
	Oil Chamber Tab	8.3 on page 41
	Damping Piston Unit	8.4 on page 43
	End Cap (standard mount)	8.5 on page 46
	End Cap (trunnion mount)	8.6 on page 53
	Remote Unit (standard shock mount)	8.7 on page 62
Assembling the Shock	9 on page 65	
Servicing Spherical Bearings	9.5 on page 74	
Servicing DU Bushings	9.6 on page 76	
Testing the Shock	10 on page 81	

Preparatory Steps

Link

not required

Required Tools and Material

Specification

Quantity

cleaner/degreaser

DT Swiss recommends the following cleaners:

as required

- Motorex Rex
- Motorex Swissclean
- Motorex OPAL 2400, OPAL 3000, OPAL 5000

Use soap water or similar mild cleaners for external cleaning.

1. Clean and degrease all parts with a cleaner/degreaser.

Closing Steps

Link

not required

8. SERVICING THE PARTS OF THE SHOCK

The following table provides an overview of the service progress.

Action	Reference	
Disassembling the Shock	6 on page 23	✓
Cleaning the Shock	7 on page 32	✓
→ Servicing the Parts of the Shock	Air Chamber Housing	8.1 on page 33
	Oil Chamber and IFP	8.2 on page 37
	Oil Chamber Tab	8.3 on page 41
	Damping Piston Unit	8.4 on page 43
	End Cap (standard mount)	8.5 on page 46
	End Cap (trunnion mount)	8.6 on page 53
	Remote Unit (standard shock mount)	8.7 on page 62
Assembling the Shock	9 on page 65	
Servicing Spherical Bearings	9.5 on page 74	
Servicing DU Bushings	9.6 on page 76	
Testing the Shock	10 on page 81	

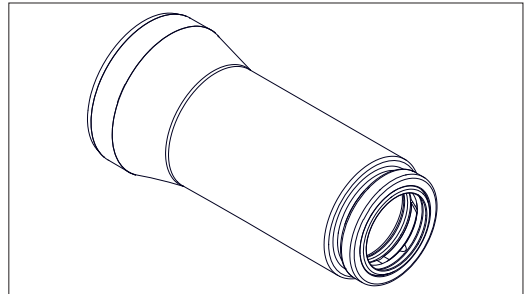
8.1 SERVICING THE AIR CHAMBER HOUSING

Preparatory Steps	Link
Disassemble the shock.	„6. Disassembling the Shock“ on page 23
Clean the shock	„7. Cleaning the Shock“ on page 32

Required Tools and Material	Specification	Quantity
grease	Buzzy's Slick Honey 4.7 dl: Art No.: 40341000AD02000001 20 ml: Art. No.: TZXXXXXNSLICKS	as required
wiper, quadring, guide band	see „5.6 Seal Kits“ on page 17	1

CHECKING FOR DAMAGES

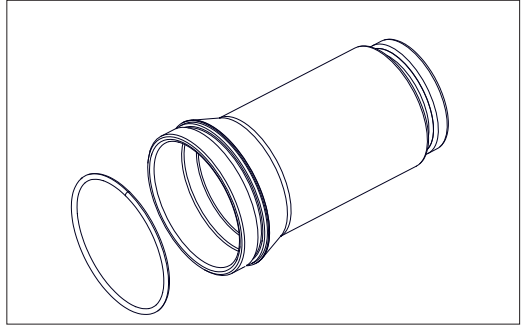
1. Check the air chamber housing for
 - scratches on the inner surface
 - wear
 - cracks
2. Change the air chamber housing if there are any damages.
3. Change the wiper, quadring and guide band (see following).



CHANGING WIPER, QUADRING AND GUIDE BAND

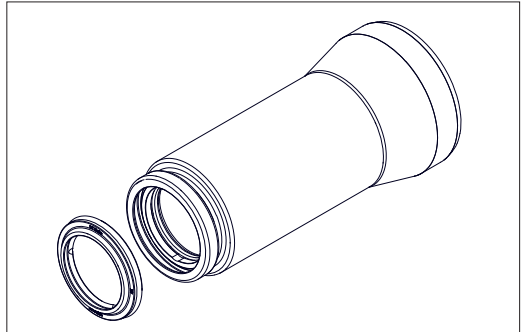
Only trunnion shock mount:

1. Remove the O-ring from the air chamber.



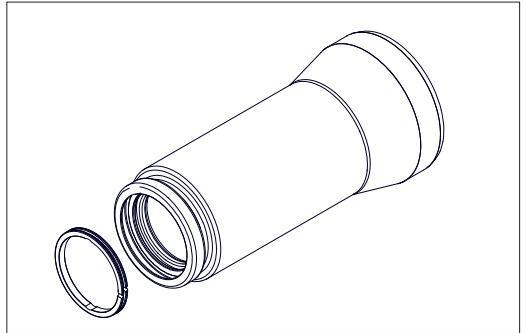
2. Carefully remove the wiper seal using plastic forceps.

- The air chamber must not be damaged!
- Do not re-use the wiper seal!



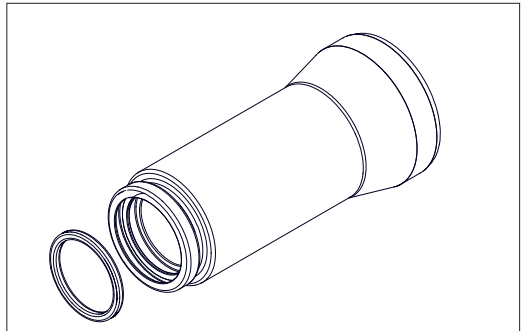
3. Remove the guide band from the air chamber by hand.

- Do not re-use the guide band!

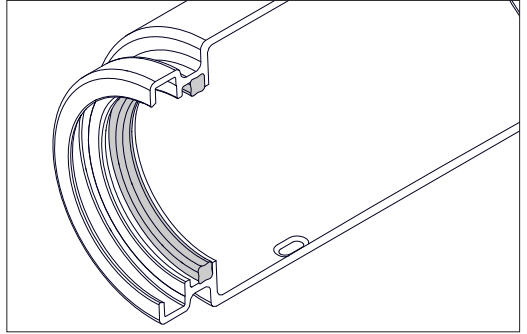


4. Remove the quadding from the air chamber by hand.

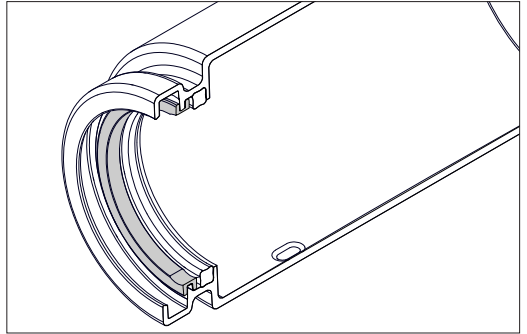
- Do not re-use the quadding!



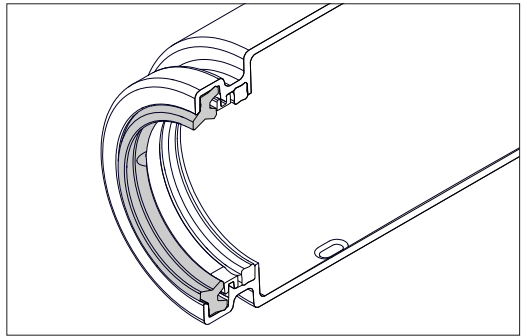
5. Clean the air chamber housing with a clean, lint-free and dry cloth. There must be no lint and no residuals of grease after cleaning!
6. Slightly grease the new quadding and put it into the inner groove of the air chamber (see figure).
→ Ensure, the quadding is not twisted.



7. Put a new guide band onto the web between both grooves of the air chamber (see figure).

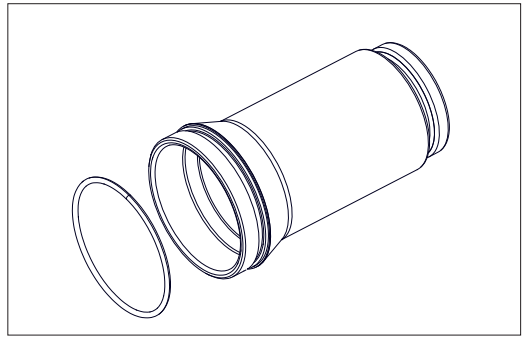


8. Slightly grease the new wiper seal and put it into the outer groove of the air chamber (see figure).
→ Ensure, the wiper seal lays evenly all around the groove.



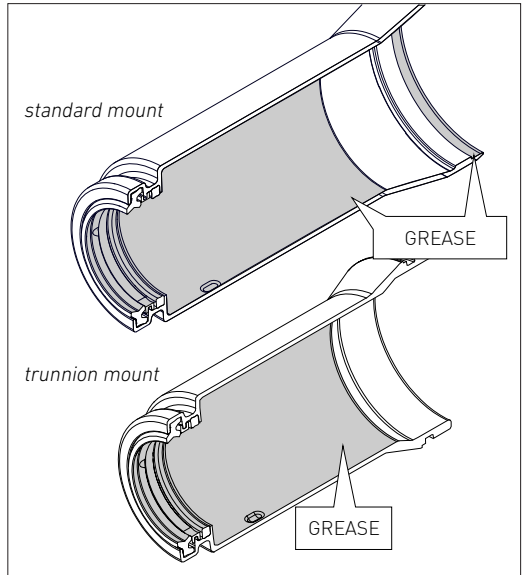
Only trunnion shock mount:

- Grease the new O-ring with slick honey and put it onto the air chamber.



GREASING THE INNER SURFACE OF THE AIR CHAMBER

- Grease the inner surface of the air chamber, the guide band and the seat of the O-ring slightly. The wiper must be greased generously.



Closing Steps

Assemble the shock, if no further service works are necessary.

Link

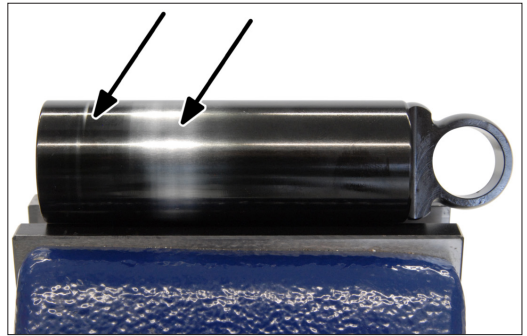
8.2 SERVICING THE OIL CHAMBER AND THE IFP

Preparatory Steps	Link
Disassemble the shock.	

Required Tools and Material	Specification	Quantity
grease	Buzzy's Slick Honey 4.7 dl: Art No.: 40341000AD02000001 20 ml: Art. No.: TZXXXXXNSLICKS	as required
valve insert		1
quadring	see „5.6 Seal Kits“ on page 17	1

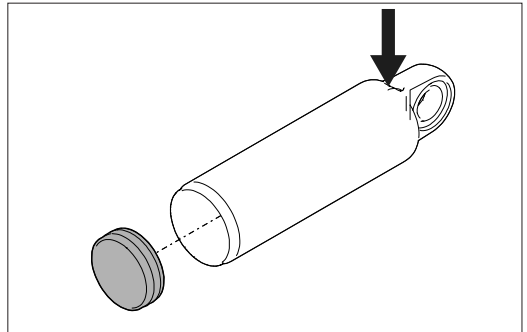
CHECKING THE OIL CHAMBER

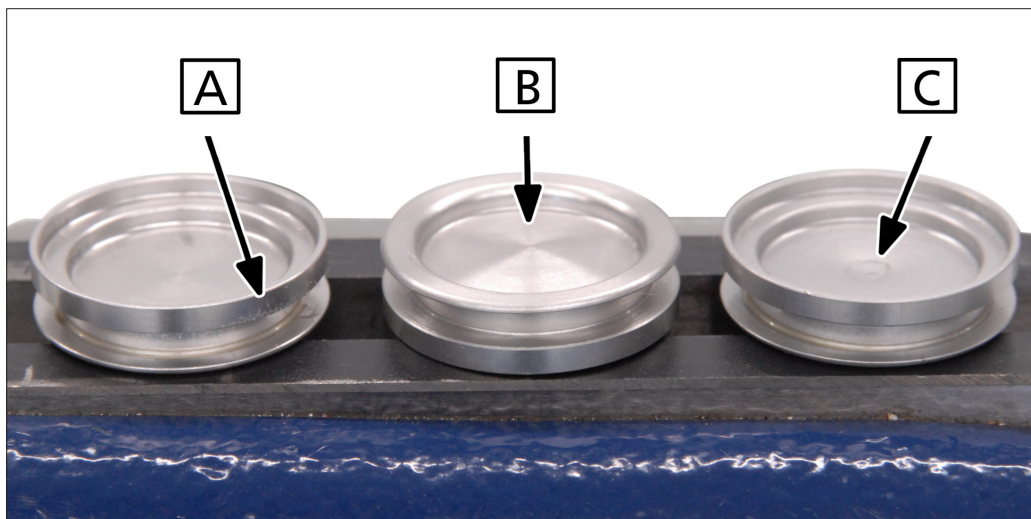
1. Check the oil chamber for any damages such as
 - scratches on the inner and outer surface
 - cracks
 - wear of the coating
2. Change the oil chamber if there are any damages.



DISASSEMBLING THE OIL CHAMBER AND CHECKING THE IFP

1. Put a shock pump with a pump adapter onto the valve of the oil chamber.
2. Perform a stroke with the shock pump.
 - The IFP will be pressed out to the top of the oil chamber.
3. Put the IFP out of the oil chamber.
4. Check the IFP (see following).





5. Check the body of the IFP for any damages such as:

- Scratches (A)
- Bumps (B)
- Damages (C)

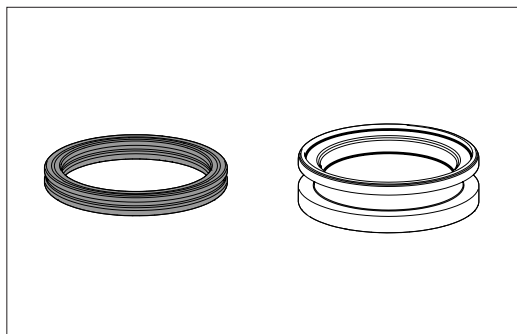
6. Change the IFP if there are any damages.

7. Carefully remove the quading from the IFP.

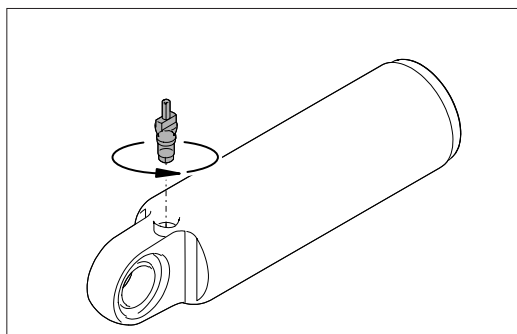
8. Clean the groove of the IFP.

9. Slightly grease the new quading and carefully put it onto the IFP.

10. Check that the quading is not twisted.



11. Unscrew the valve insert using the special tool (see „5.1 Special Tools“ on page 14, pos.9) and remove it from the oil chamber.

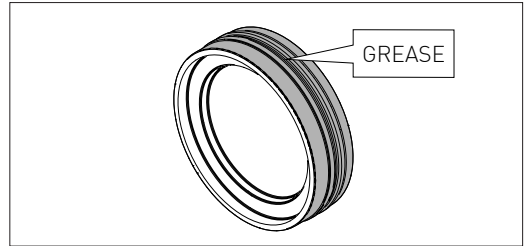


CLEANING THE OIL CHAMBER

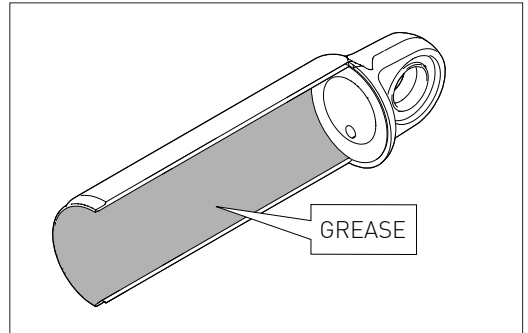
1. Clean the inner and the outer surface of the oil chamber using a lint-free cloth. See „7. Cleaning the Shock” on page 32.

SETTING THE IFP

1. Grease the IFP.

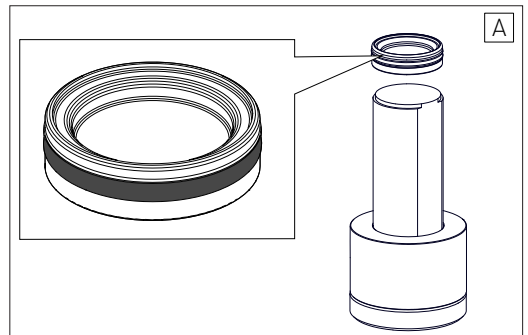


2. Slightly grease the inner surface of the oil chamber.



3. Set the IFP:

- A** Put the ring that fits to the stroke of your shock (see „5.2 Special Tools for IFP” on page 15) onto the special tool. Put the IFP onto the special tool. Make sure the IFP faces in the right direction.

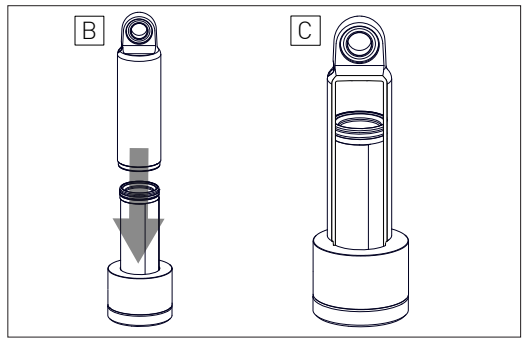


B Slide the oil chamber onto the tool and the IFP.

C Push down the oil chamber until it hits the distance ring.

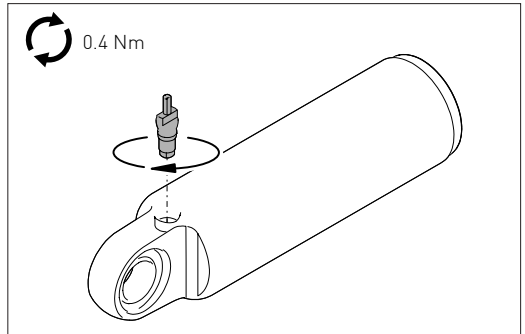
4. Slowly remove the oil chamber from the tool.

The position of the IFP is very important for the function of the shock. The position must not be changed during the assembly of the shock.



MOUNTING THE VALVE INSERT

1. Screw a new valve insert into the oil chamber using the special tool (see „5.1 Special Tools“ on page 14, pos. 9).
2. Tighten the valve insert with 0.4 Nm.



Closing Steps

not required

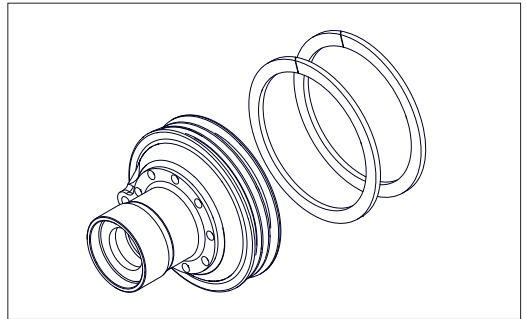
Link

8.3 SERVICING THE OIL CHAMBER TAB

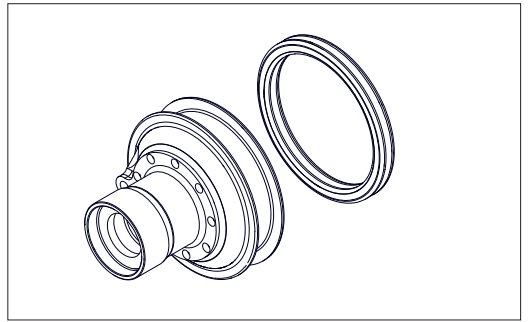
Preparatory Steps	Link
Disassemble the shock.	„6. Disassembling the Shock“ on page 23
Check, if there was oil inside the air chamber while disassembling the shock. If there was, change the whole oil chamber tab assembly.	
Check, if the shock was serviced within the last 12 months. If not, change the whole oil chamber tab assembly.	
If there is no oil inside the air chamber and the shock was serviced within the last 12 months, change the quadring, the support rings and the O-ring of the oil chamber tab (see following).	

Required Tools and Material	Specification	Quantity
cleaner	see „7. Cleaning the Shock“ on page 32	as required
grease	Buzzy's Slick Honey 4.7 dl: Art No.: 40341000AD02000001 20 ml: Art. No.: TZXXXXXNSLICKS	as required
grease	silicon oil	as required
oil chamber tab assembly	Please note that there are two different versions of the oil chamber tap.	as required
O-ring oil chamber tab, quadring, support ring	see „5.6 Seal Kits“ on page 17	1

1. Remove both support rings.

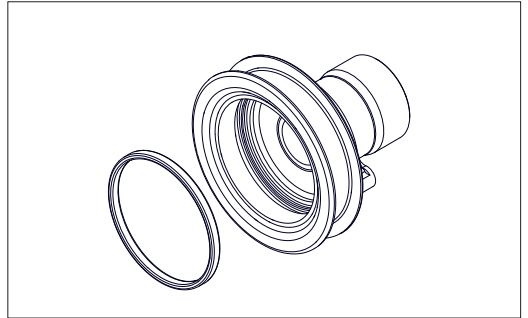


2. Remove the quadring.



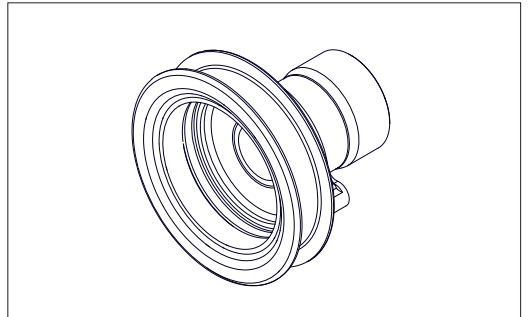
This O-ring must be changed every time the oil chamber and the oil chamber tab are unscrewed.

3. Remove the O-ring.

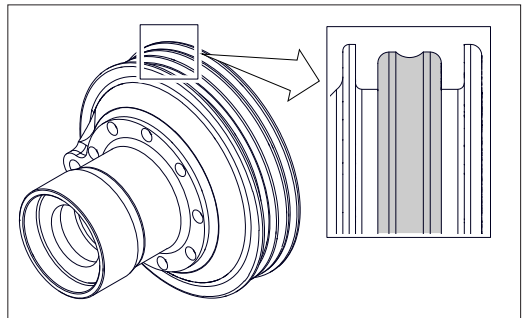


4. Clean the oil chamber tab. See „7. Cleaning the Shock” on page 32.

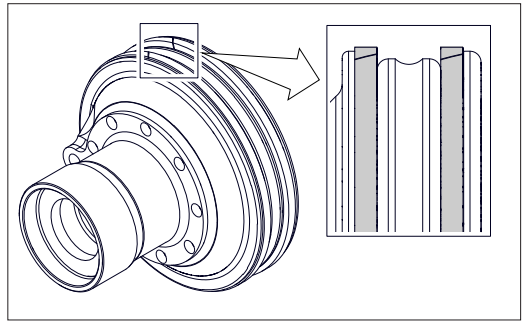
5. Grease the new O-ring with silicon oil and put it into the oil chamber tab.



6. Grease the new quadring and put it onto the oil chamber tab.



7. Put two new support rings onto the oil chamber tab.
NOTE: The support rings must be put to both sides of the quad ring.
8. Check, if the quadring is not twisted or damaged.



Closing Steps

not required

Link

8.4 SERVICING THE DAMPING PISTON UNIT

Preparatory Steps

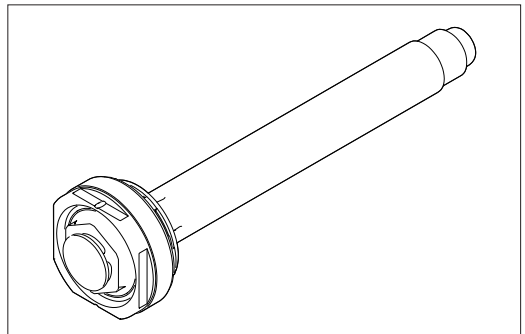
Disassemble the shock.

Link

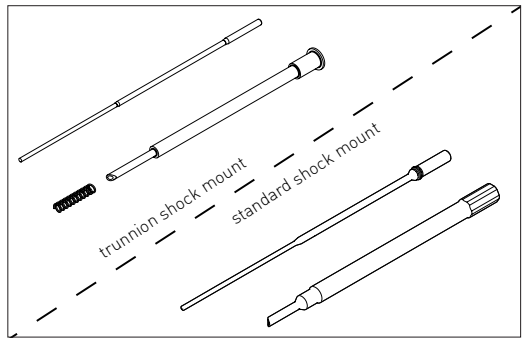
„6. Disassembling the Shock“ on page 23

Required Tools and Material	Specification	Quantity
grease	Buzzy's Slick Honey 4.7 dl: Art No.: 40341000AD02000001 20 ml: Art. No.: TZXXXXXNSLICKS	as required
grease	silicon oil	as required
O-ring lockout pin	see „5.6 Seal Kits“ on page 17	1
thread locker	Loctite 241 or Loctite 243	as required

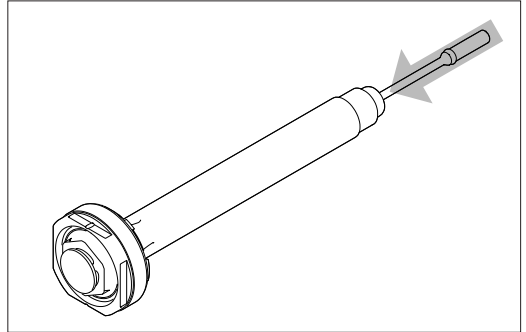
1. Check the damping piston and the piston rod for damages such as
 - scratches
 - cracks
 - wear of the blue guide ring



2. Check the rebound pin and the lockout pin for any damages such as
 - scratches
 - wear or damages of the O-ring
3. Check, if the lockout pin is bent.
4. Change the rebound pin or the lockout pin if there are any damages.

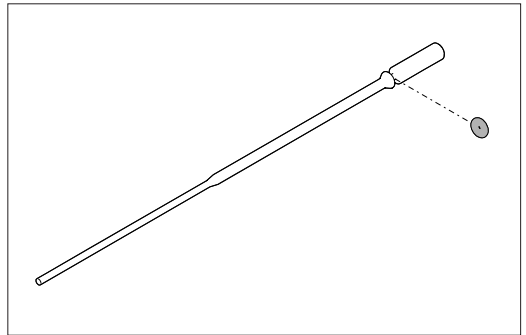


5. Check the function of the lockout.
 - a. Slide the lockout pin into the piston rod.
 - b. Push in the lockout pin slightly.
 - c. Check if the lockout opens and closes smoothly.
6. If the lockout sticks or doesn't move smoothly, check the damping piston unit and the lockout pin. Change defective parts.



CHANGING THE O-RING OF THE LOCKOUT PIN [ONLY STANDARD SHOCK MOUNT]

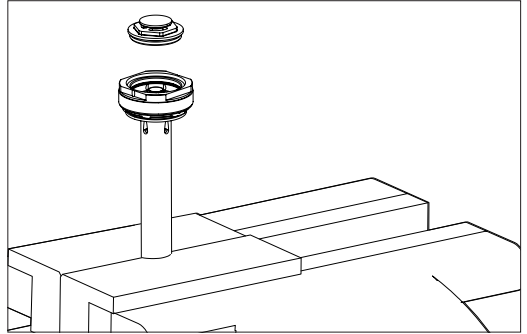
1. Pull off the O-ring from the lockout pin using forceps.
2. Grease the new O-ring and the lockout pin with slick honey.
3. Slide the new O-ring into the groove of the lockout pin.



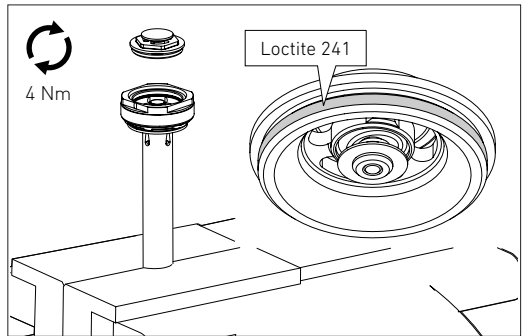
CHANGING THE LOCKOUT CAP

i The lockout cap must only be changed when there is a certain problem with the «LOCK» or «DRIVE» mode.

1. Clamp the piston into the vice using clamping jaws.
2. Unscrew the lockout cap using a 13 mm socket wrench.



3. Degrease the thread of the lockout cap.
4. Put thread locker onto the thread of the lockout cap.
5. Screw the lockout cap onto the damping piston using a 13 mm socket wrench. Tighten the lockout cap with a torque of 4 Nm.
6. Remove the assembly from the vice.



Closing Steps

not required

Link

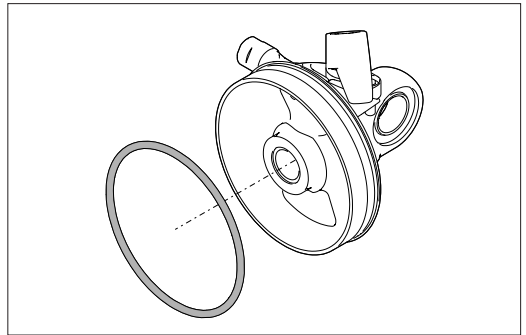
8.5 SERVICING THE END CAP [STANDARD SHOCK MOUNT]

For servicing the end cap of a trunnion mount shock, see „8.6 Servicing the End Cap [Trunnion Mount]” on page 53.

Preparatory Steps	Link	
Disassemble the shock.	„6. Disassembling the Shock” on page 23	
Required Tools and Material	Specification	Quantity
grease	Buzzy’s Slick Honey 4.7 dl: Art No.: 40341000AD02000001 20 ml: Art. No.: TZXXXXXNSLICKS	as required
grease	silicon oil	as required
valve insert		1
O-ring inside end cap, O-ring end cap / air can, O-ring lockout shaft, O-ring valve body	see „5.6 Seal Kits” on page 17	1
thread locker	Loctite 241 or Loctite 243	as required
cleaner / degreaser	see „7. Cleaning the Shock” on page 32	as required

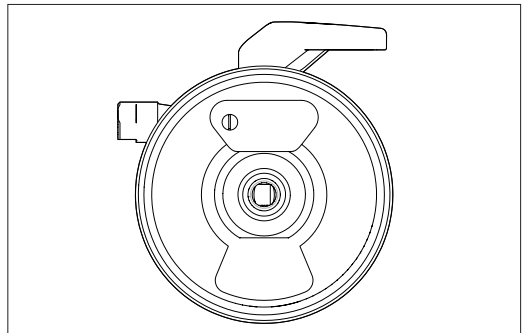
CHANGING THE O-RING OF THE AIR CHAMBER HOUSING

1. Remove the O-ring from the end cap.
2. Clean the groove carefully.
3. Slightly grease the new O-ring with slick honey and put it onto the end cap.



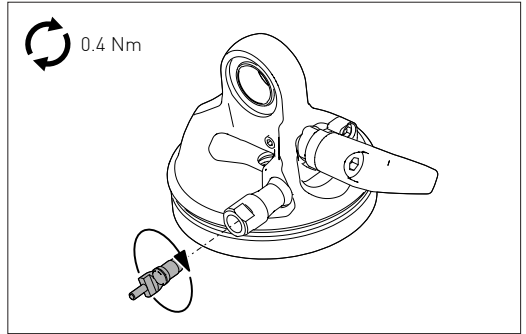
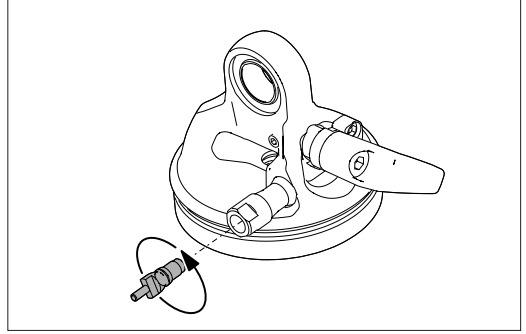
CHANGING THE O-RING OF THE PISTON ROD

1. Remove the O-ring from the inside of the end cap.
2. Slightly grease the new O-ring with silicon oil and put it into the end cap.



CHANGING THE VALVE INSERT

1. Screw off the valve insert using the special tool (see „5.1 Special Tools“ on page 14, pos. 9).
2. Put the valve insert into the end cap.
3. Tighten the valve insert with 0.4 Nm using the special tool (see „5.1 Special Tools“ on page 14, pos. 9).

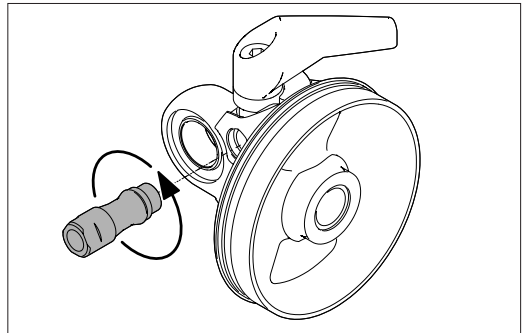


CHANGING THE O-RING OF THE VALVE BODY

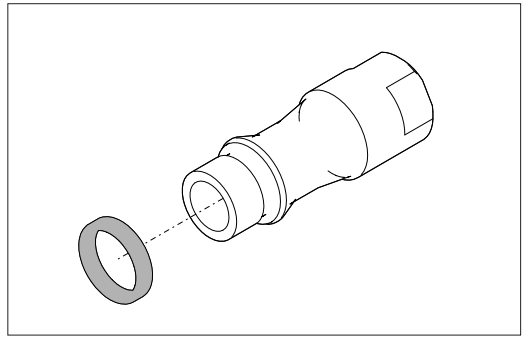


The O-ring of the valve body must only be changed if it is damaged.

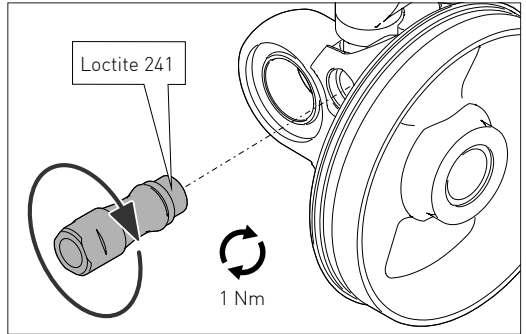
1. Unscrew the valve body using the special tool (see „5.1 Special Tools“ on page 14, pos. 10).



2. Remove the O-ring from the valve body.
3. Slightly grease the new O-ring with silicon oil and put it onto the valve body.

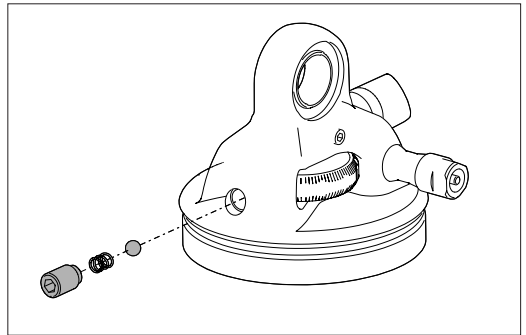


4. Degrease the thread of the valve body.
5. Put thread locker onto the thread of the valve body.
6. Screw in the valve body using the special tool (see „5.1 Special Tools“ on page 14, pos. 10).

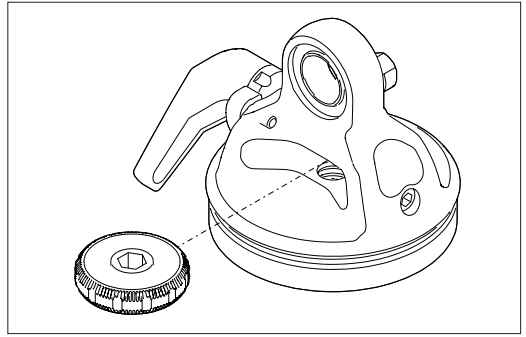


CHANGING THE O-RING OF THE REBOUND WHEEL

1. Unscrew the fixing screw of the indexation.
2. Remove the spring and the ball.



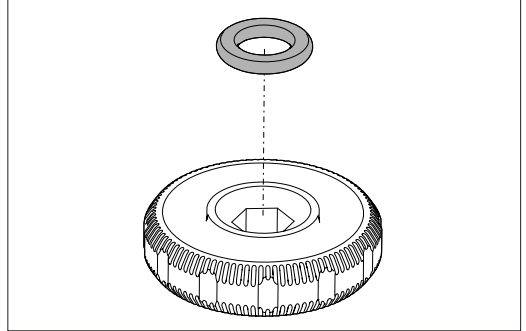
3. Push the rebound wheel out of the end cap.



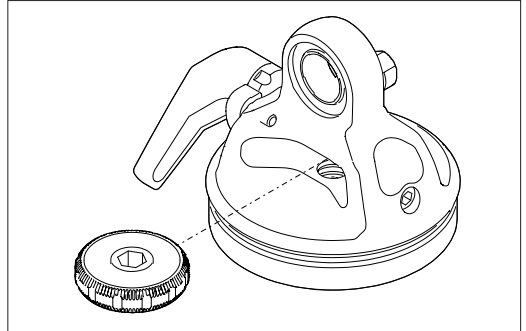
4. Remove the O-ring from the rebound wheel.

5. Slightly grease the new O-ring with silicon oil.

6. Put a new O-ring onto the rebound wheel.



7. Put the rebound wheel into the end cap.
The O-ring must face towards the thread of the end cap.

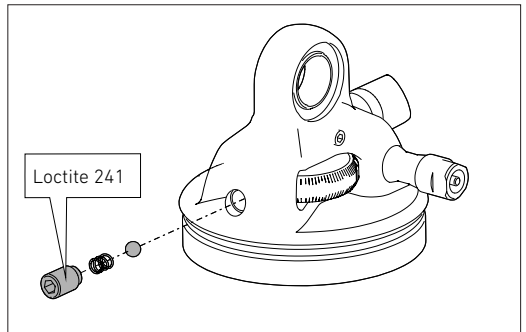


8. Degrease the thread of the fixing screw.

9. Put thread locker onto the fixing screw of the indexation.

10. Put the ball, the spring and the screw into the bore.

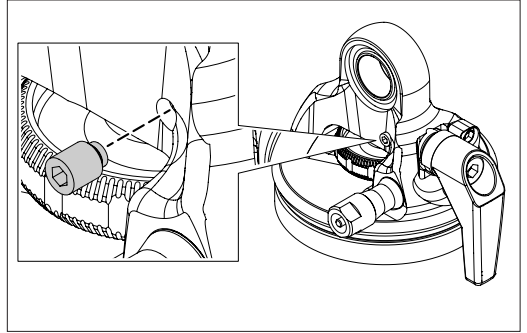
11. Screw in the fixing screw until block and tighten it hand tight.



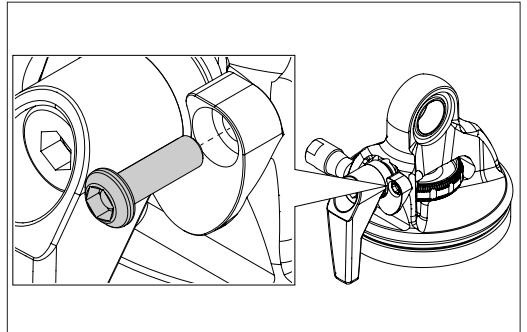
CHANGING THE O-RING OF THE LOCKOUT SHAFT [NON REMOTE]

i There is only an O-ring on the lockout shaft of the non remote version. The lockout shaft of the remote version has no O-ring.

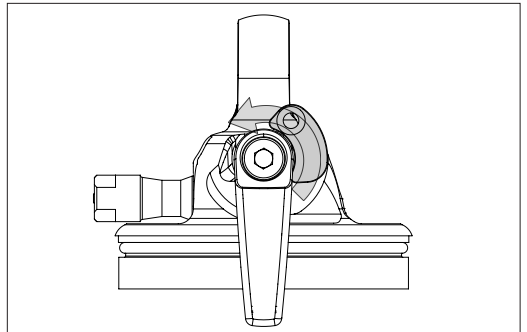
1. Unscrew the fixing screw of the lockout shaft



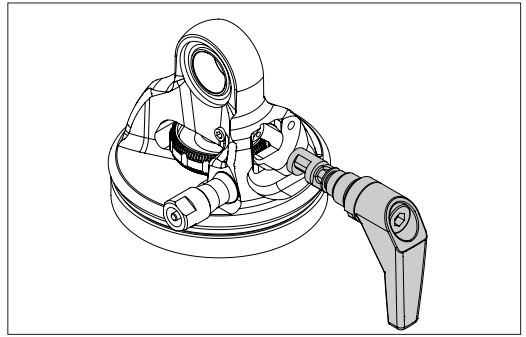
2. Unscrew the fixing screw of the shaft indexation.



3. Remove the shaft indexation by turning the indexation about 45° counter clockwise.



4. Pull out the lockout shaft.

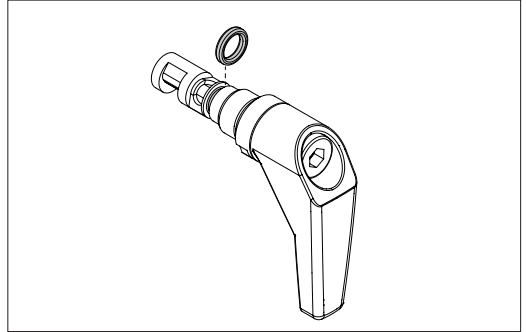


5. Remove the O-ring from the lockout shaft.

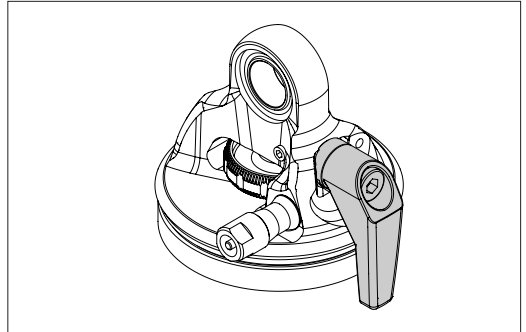
6. Slightly grease the new O-ring with silicon oil.

7. Slightly grease the lockout shaft with Slick Honey.

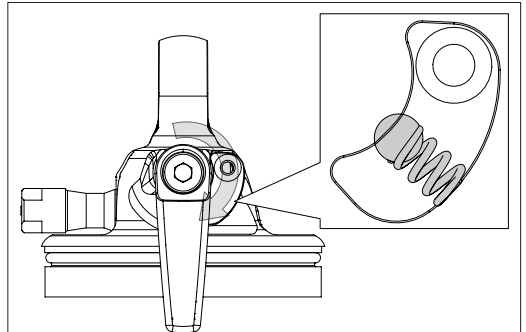
8. Put the O-ring onto the lockout shaft.



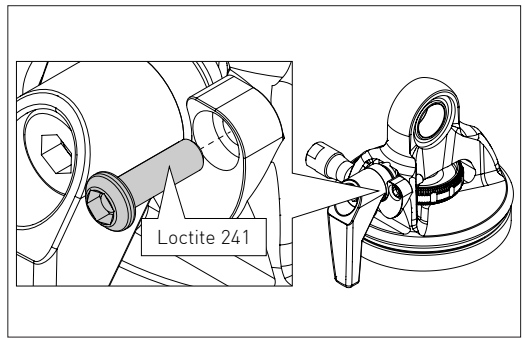
9. Slide the lockout shaft into the end cap.



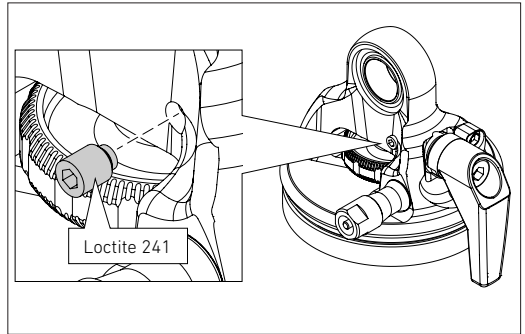
10. Put on the shaft indexation by sliding it onto the end cap in rotary motion. Ensure that the spring and the ball are in their place.



11. Degrease the fixing screw and put thread locker onto the thread.
12. Screw in the fixing screw of the shaft indexation.



13. Degrease the fixing screw and put thread locker onto the thread.
14. Ensure that the lockout shaft is pushed in fully and the lever is in the «DRIVE» position.
15. Screw in the fixing screw until stop and then turn it back 90°.
 - The fixing screw must just not touch the lockout shaft.
16. Check the axial play of the lockout shaft.
 - The play of the lockout shaft must be smaller than 1 mm.



Closing Steps

not required

Link

8.6 SERVICING THE END CAP [TRUNNION MOUNT]

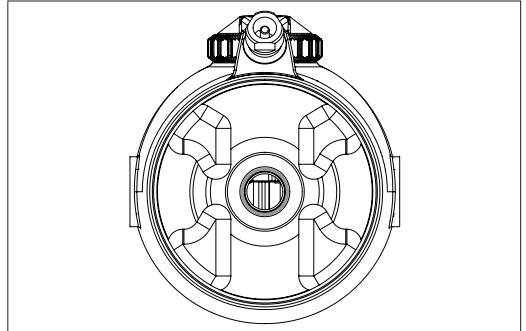
For servicing the end cap of a standard shock (non Trunnion Mount), see „8.5 Servicing the End Cap [standard Shock Mount]” on page 46.

Preparatory Steps	Link
Disassemble the shock.	„6. Disassembling the Shock” on page 23

Required Tools and Material	Specification	Quantity
grease	Buzzy’s Slick Honey 4.7 dl: Art No.: 40341000AD02000001 20 ml: Art. No.: TZXXXXXNSLICKS	as required
grease	silicon oil	as required
valve insert		1
O-ring inside end cap, O-ring end cap / air can, O-ring lockout shaft, O-ring valve body	see „5.6 Seal Kits” on page 17	1
thread locker	Loctite 241 or Loctite 243	as required

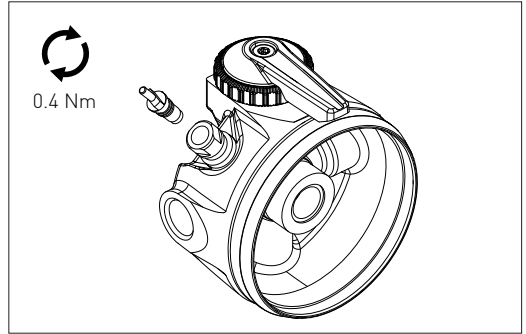
CHANGING THE O-RING OF THE PISTON ROD

1. Remove the O-ring from the inside of the end cap.
2. Slightly grease the new O-ring with silicon oil and put it into the end cap.



CHANGING THE VALVE INSERT

1. Screw off the valve insert using the special tool (see „5.1 Special Tools“ on page 14, pos. 9).
2. Put a new valve insert into the end cap.
3. Tighten the valve insert with 0.4 Nm using the special tool (see „5.1 Special Tools“ on page 14, pos. 9).

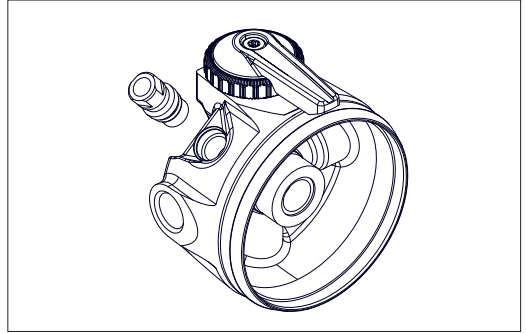


CHANGING THE O-RING OF THE VALVE BODY

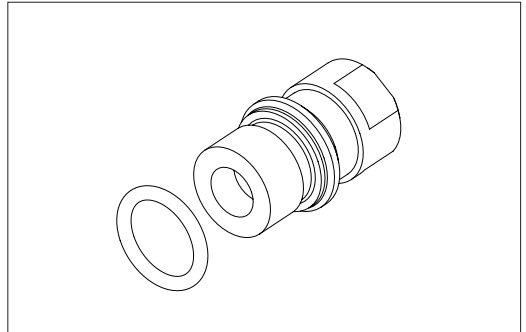


The O-ring of the valve body must only be changed if it is damaged.

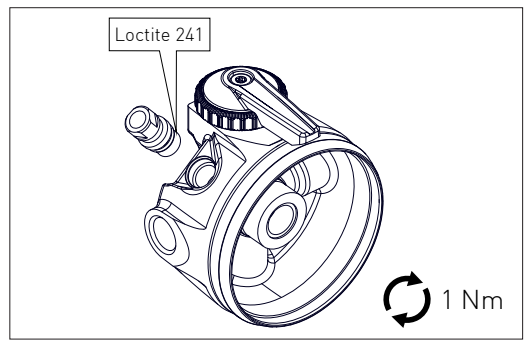
1. Unscrew the valve body using the special tool (see „5.1 Special Tools“ on page 14, pos. 10).



2. Remove the O-ring from the valve body.
3. Slightly grease the new O-ring with silicon oil and put it onto the valve body.



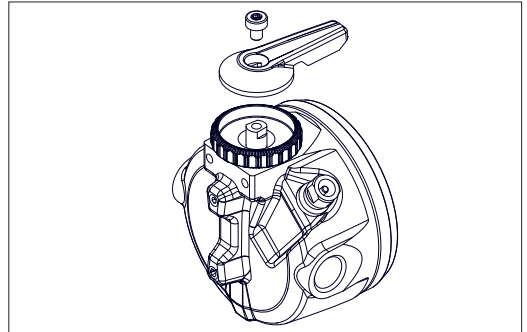
4. Degrease the thread of the valve body.
5. Put thread locker onto the thread of the valve body.
6. Screw in the valve body using the special tool (see „5.1 Special Tools“ on page 14, pos. 10).



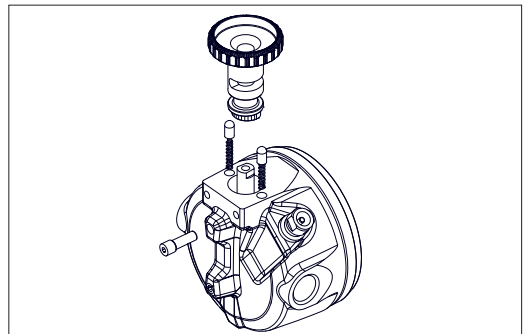
SERVICING THE REBOUND WHEEL/REBOUND SHAFT AND THE LOCKOUT SHAFT [LEVER VERSION]

i The end cap must be dismantled to service the control elements.

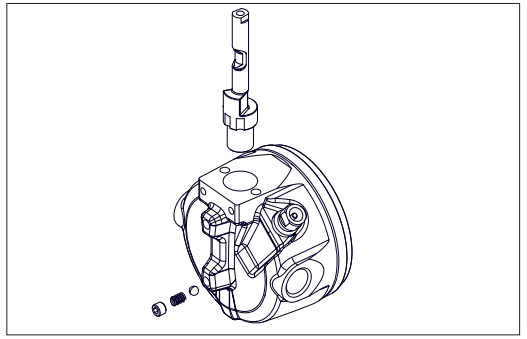
1. Unscrew the fixing screw of the lever and remove the lever.



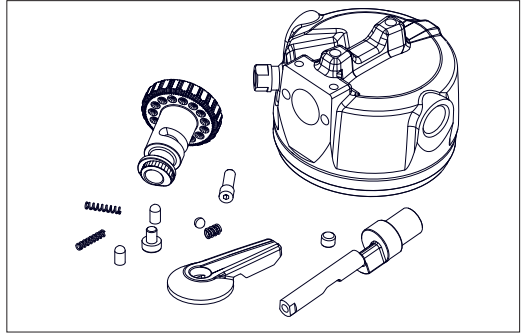
2. Push the rebound shaft down and unscrew the stop screw of the rebound shaft.
3. Pull out the rebound wheel.
4. Remove the indexing caps and the springs.



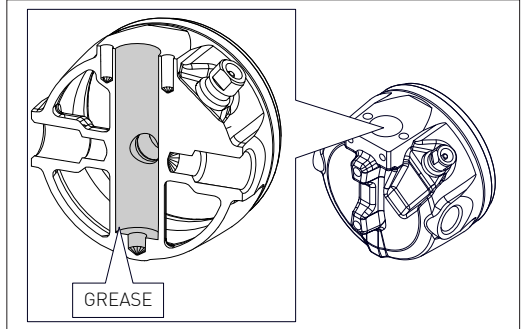
5. Unscrew the indexing screw of the lockout shaft and remove the spring and the ball.
6. Pull out the lockout shaft.



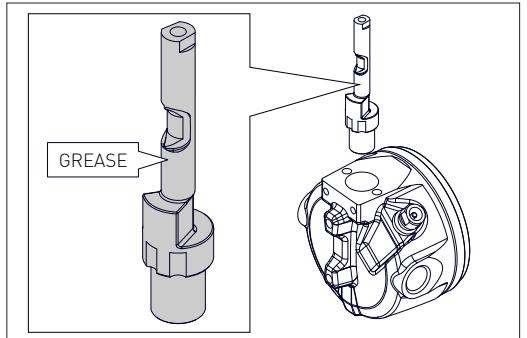
7. Clean and degrease all parts.
8. Check the parts for damages and wear and replace if necessary.



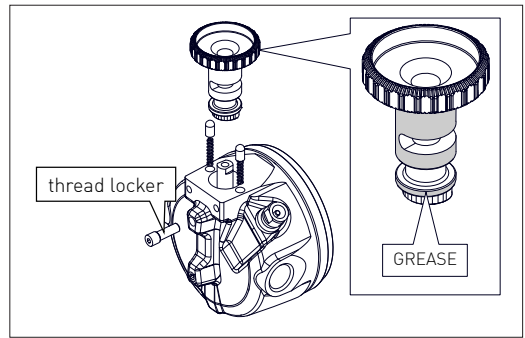
9. Grease the bore of the end cap.



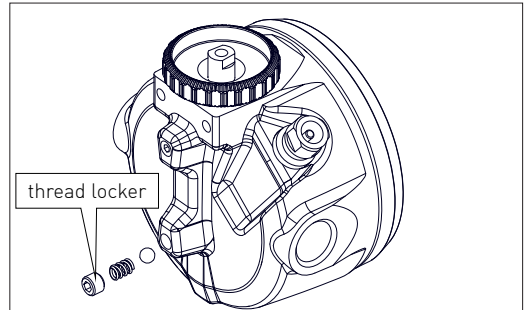
10. Grease the lockout shaft and slide it into the end cap.
The big notch and the three small notches must face to the opposite of the valve.



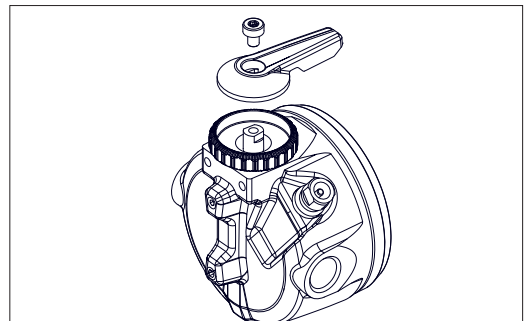
11. Slightly grease the springs and put the springs and the caps into the bores.
12. Slightly grease the shaft of the rebound wheel and slide it into the end cap and onto the lockout shaft.
13. Put thread locker onto the thread of the fixing screw, push down the rebound wheel and screw in the fixing screw until it touches the rebound shaft. Then unscrew the fixing screw 1/2 turn.



14. Slide the ball and the spring into the bore.
15. Put thread locker onto the indexation screw and screw in the indexation screw until the spring is compressed and the ball is pushed against the lockout shaft. After that add 3/4 turn to preload the spring.



16. Slide the lever onto the lockout shaft and turn the lever that it faces onto the valve.
17. Put thread locker onto the fixing screw of the lever.
18. Hold the lever, screw in the fixing screw and tighten it with a torque of 1.2 Nm.
19. Make sure that the breakaway torque from OPEN to the DRIVE position is ≥ 0.11 Nm!
20. Check that the lever engages properly in Open and Lock mode. If not, adjust with the upper fixing screw.



Closing Steps

not required

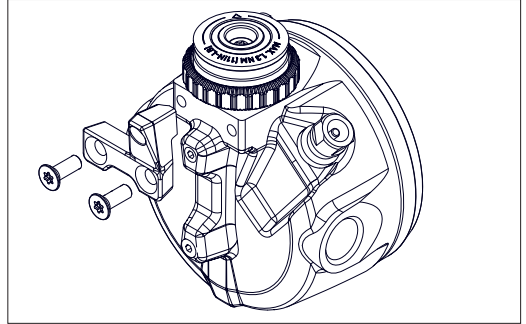
Link

SERVICING THE REBOUND WHEEL/REBOUND SHAFT AND THE LOCKOUT SHAFT [REMOTE]

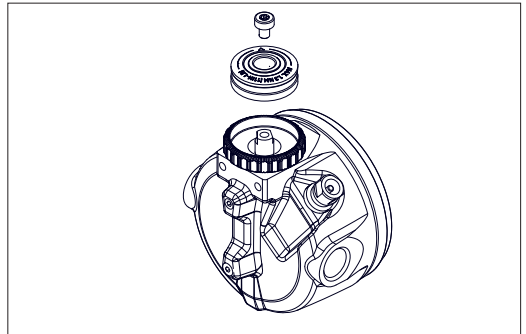


The end cap must be dismounted to service the control elements.

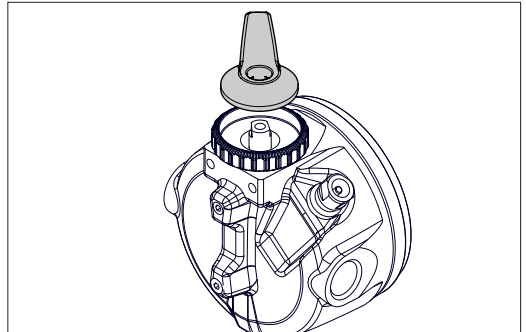
1. Remove the curved tube, if present.
2. Unscrew the fixing screws of the cable guide.
3. Remove the cable guide.



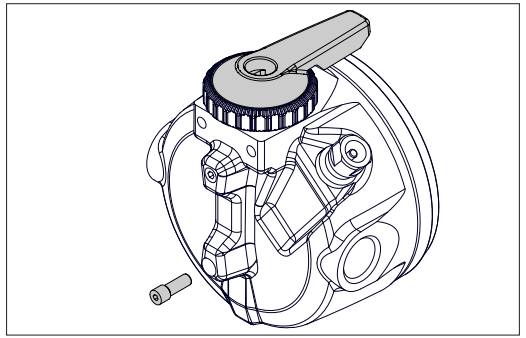
4. Unscrew the fixing screw of the remote wheel.
5. Remove the remote wheel.



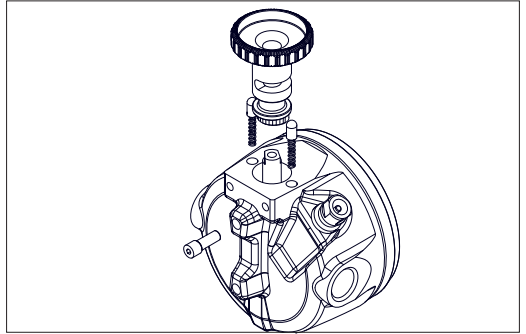
6. Release the spring:
 - a. Put a lever onto the lockout shaft.
 - b. Push down the lever and turn the lever into DRIVE position.



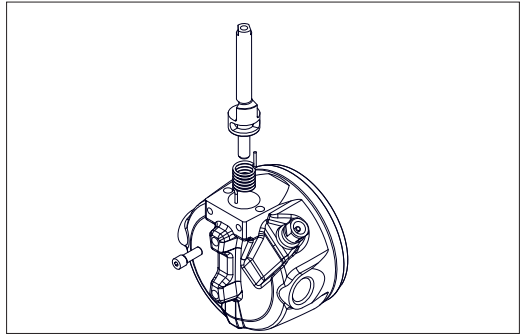
7. Hold the lever in DRIVE position and unscrew the stop screw of the lockout shaft.
8. Slowly release the lever and the lockout shaft.
9. Remove the lever



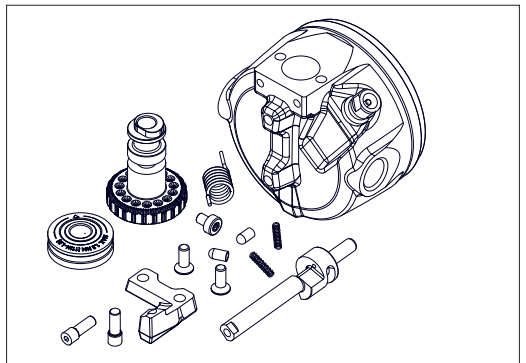
10. Slightly push down the rebound wheel.
11. Unscrew the stop screw of the rebound shaft.
12. Pull out the rebound wheel.
13. Remove the indexing caps and the springs.



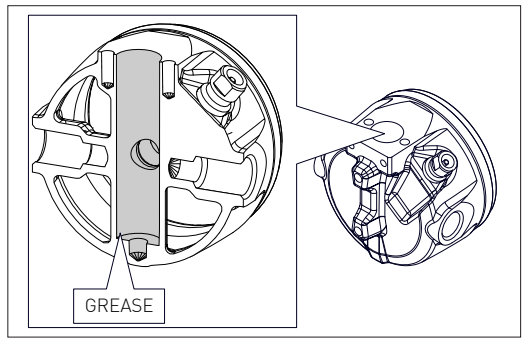
14. Pull out the lockout shaft and the spring.



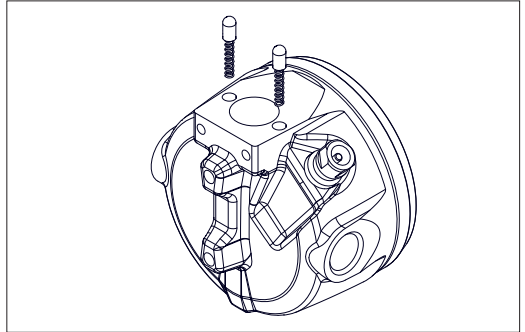
15. Clean and degrease all parts.
16. Check the parts of the remote unit for damages such as
 - wear
 - broken or bent spring
17. Change the parts if there are any damages.



18. Grease the bore of the end cap.



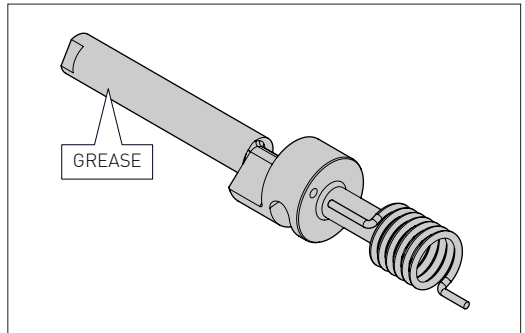
19. Slightly grease the springs and put the springs and the caps into the bores.



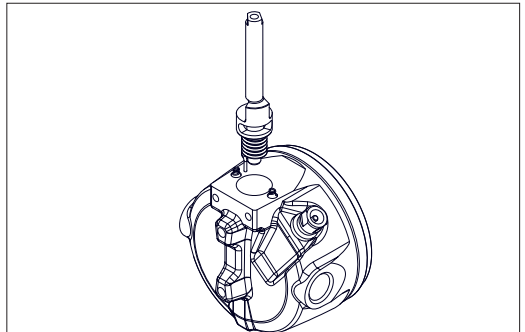
20. Slightly grease the spring.

21. Grease the entire surface of the lockout shaft.

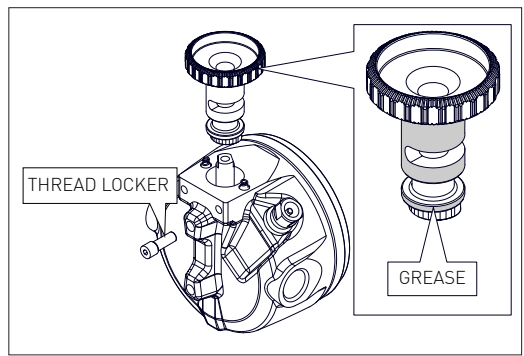
22. Put the long arm of the spring into the bore of the lockout shaft.



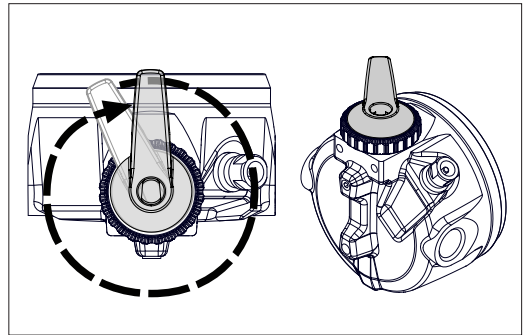
23. Put the lockout shaft with the spring into the end cap.
The short arm of the spring must be put into the bore inside the end cap.



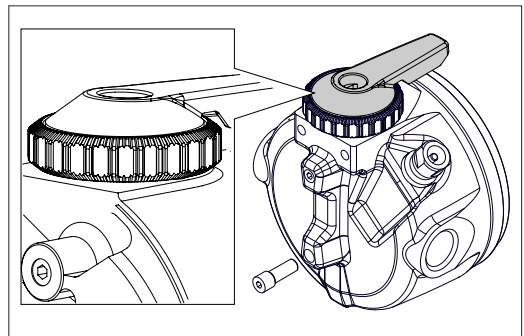
24. Slightly grease the shaft of the rebound wheel and slide it into the end cap and onto the lockout shaft.
25. Put thread locker onto the thread of the fixing screw, push down the rebound wheel and screw in the fixing screw until it touches the rebound shaft. Then unscrew the fixing screw 1/2 turn.



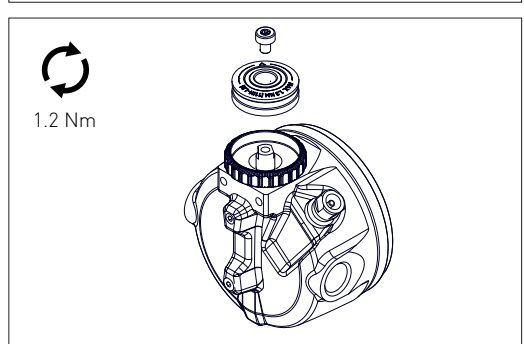
26. Put a lever onto the lockout shaft.
27. Push down the rebound wheel and the lever and turn the lockout shaft clockwise one turn until the lever is in DRIVE position.



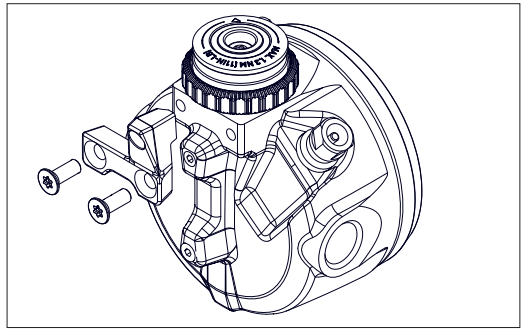
28. Let the lever come up a bit until the edge of the lever is flush with the remote wheel.
29. Put thread locker onto the stop screw.
30. Hold the lever in this position and screw in the stop screw of the lockout shaft until stop. Then screw back the stop screw 1/2 turn.
31. Check the function of the lockout shaft:
 - The radius of movement of the lever must be +/- 50° from drive position.



32. Remove the lever.
33. Put on the remote wheel.
34. Put thread locker on the fixing screw of the remote wheel.
35. Screw in the fixing screw and tighten it with 1.2 Nm.



36. Put on the cable guide, insert the fixing screws and tighten them with a torque of 1 Nm.
37. Put on the curved tube, if present.

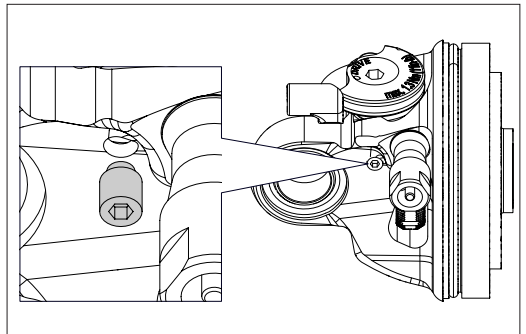


8.7 SERVICING THE REMOTE UNIT (STANDARD SHOCK MOUNT)

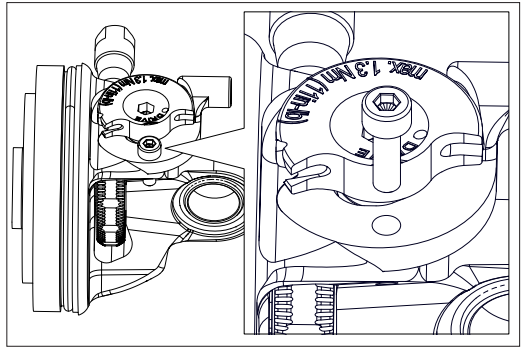
Preparatory Steps	Link	
Dismount the remote lever and the remote cable.		
Required Tools and Material	Specification	Quantity
degreaser / cleaner	see „7. Cleaning the Shock“ on page 32	as required
thread locker	Loctite 241 or Loctite 243	as required
remote unit spare parts		as required

DISASSEMBLING THE REMOTE UNIT

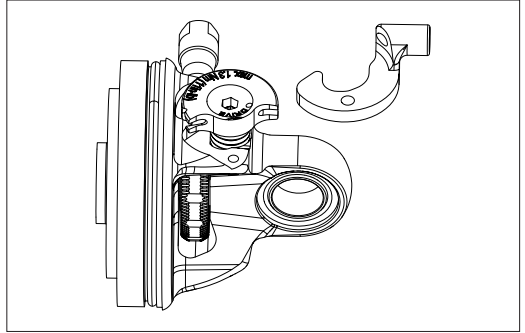
1. Screw out the remote wheel fixing screw using a 1.5 mm Allen key.



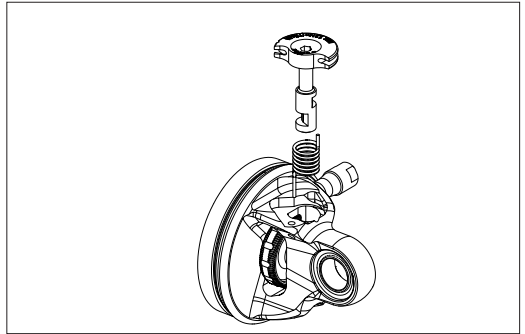
2. Turn the remote wheel clockwise using a 3 mm Allen key until you can reach the stop screw.
3. Unscrew the stop screw using a 2 mm Allen key.
4. Slowly rotate the remote wheel counter clockwise until there is no more tension on the spring.



5. Remove the hose support.



6. Take off the remote wheel with the spring.

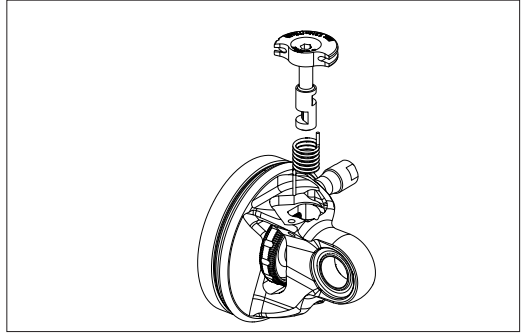


CHECKING THE PARTS OF THE REMOTE UNIT

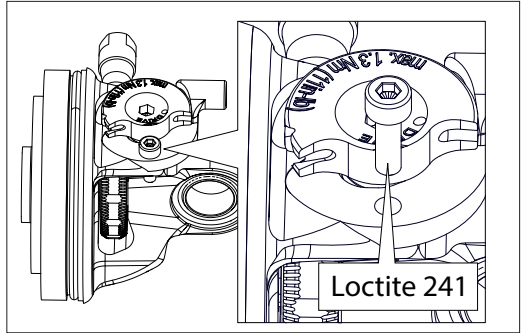
1. Check the parts of the remote unit for damages such as
 - wear
 - broken or bent spring
2. Change the parts if there are any damages.

ASSEMBLING THE REMOTE UNIT

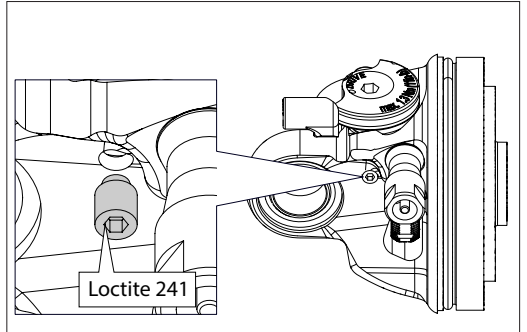
1. Slightly grease the spring.
2. Put the remote wheel with the spring into the end cap.
 - The long arm of the spring must be fitted inside the hole of the end cap.



3. Turn the remote wheel one turn clockwise that you can reach the hole of the stop screw using a 3 mm Allen key.
4. Put on the hose support and the stop screw.
5. Put thread locker onto the stop screw.
6. Screw in the stop screw using a 2 mm Allen key



7. Put thread locker onto the fixing screw of the remote wheel.
8. Ensure that the lockout shaft is pushed in fully and the remote wheel is in the «DRIVE» position.
9. Screw in the fixing screw using a 1.5 mm Allen key until the top of the screw touches the shaft of the remote wheel.
10. Turn back the fixing screw 90°.
 - The fixing screw must just not touch the lockout shaft.



11. Check the axial play of the lockout shaft.
 - The play of the lockout shaft must be smaller than 1 mm.

9. ASSEMBLING THE SHOCK

The following table provides an overview of the service progress.

Action		Reference	
Disassembling the Shock		6 on page 23	✓
Cleaning the Shock		7 on page 32	✓
Servicing the Parts of the Shock	Air Chamber Housing	8.1 on page 33	✓
	Oil Chamber and IFP	8.2 on page 37	✓
	Oil Chamber Tab	8.3 on page 41	✓
	Damping Piston Unit	8.4 on page 43	✓
	End Cap (standard mount)	8.5 on page 46	✓
	End Cap (trunnion mount)	8.6 on page 53	✓
	Remote Unit (standard shock mount)	8.7 on page 62	✓
→ Assembling the Shock		9 on page 65	
Servicing Spherical Bearings		9.5 on page 74	
Servicing DU Bushings		9.6 on page 76	
Testing the Shock		10 on page 81	

Preparatory Steps

Link

not required

Required Tools and Material	Specification	Quantity
cleaner / degreaser	see „7. Cleaning the Shock“ on page 32	as required
grease	Buzzy's Slick Honey	as required
oil	DT Swiss Factory Shock Oil	as required
thread locker	Loctite 241 or Loctite 243	as required
valve insert		2
SAG O-ring, O-ring piston rod	see „5.6 Seal Kits“ on page 17	1

special tools, see (see „5.1 Special Tools“ on page 14)



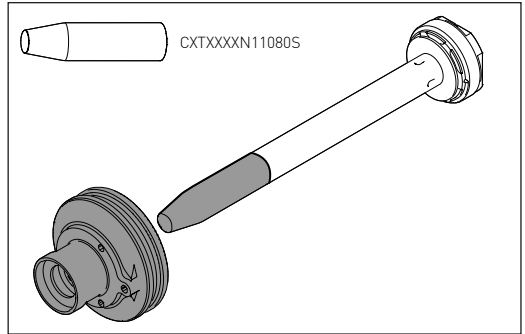
NOTE

RISK OF DAMAGING THE SHOCK!

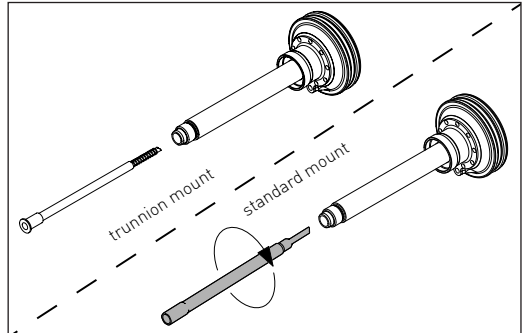
To avoid damages, always clamp the shock or parts of the shock into ground clamping jaws, aluminum clamping jaws or plastic clamping jaws.

9.1 ASSEMBLING THE DAMPING PISTON UNIT AND OIL CHAMBER TAB

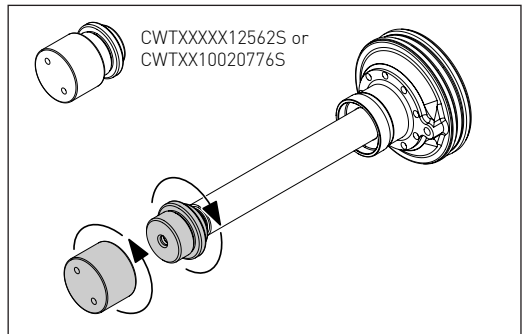
1. Slide the cone for piston rod CXTXXXXN11080S (see „5.1 Special Tools“ on page 14) onto the thread of the damping piston.
2. Grease the piston rod and the sealings of the oil chamber tab with shock oil.
3. Slide the oil chamber tab onto the piston rod.
4. Remove the special tool.



5. Trunnion mount:
 - a. Slide the spring onto the rebound pin.
 - b. Slide the rebound pin with the spring into the piston rod.
6. Standard shock mount:
 - a. Slide the rebound pin into the piston rod.
 - b. Screw the rebound pin fully into the piston rod.
 - c. Turn back the rebound pin one turn.



7. Screw the two parts of the lockout opening fixture (see „5.1 Special Tools“ on page 14) apart.
 - lockout opening fixture standard mount: CWTXXXXX12562S
 - lockout opening fixture trunnion mount: CWTXX10020776S
8. Screw the first part of the lockout opening fixture onto the piston rod.



9.2 ASSEMBLING AND BLEEDING THE OIL CHAMBER



DANGER

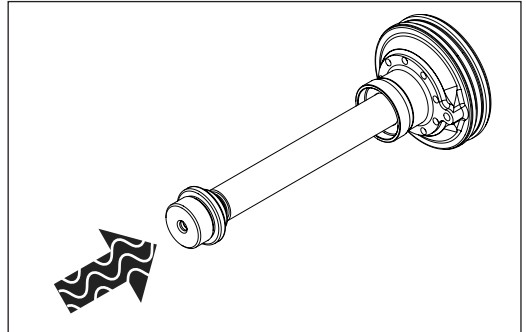
SHOCK OIL MAY BE DANGEROUS FOR YOUR HEALTH!

- Avoid contact with skin or eyes!
- Wear safety gloves and safety glasses.
- Consider the chapter „2. Safety Measures for Handling Shock Oil“ on page 7.

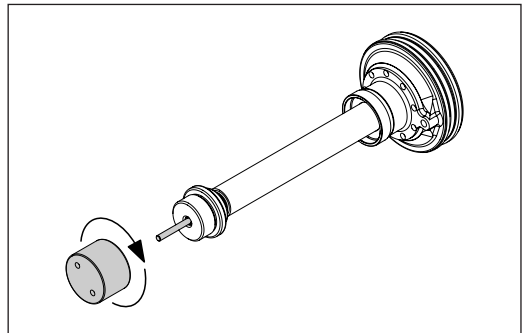


The filling and bleeding of the oil chamber has to be done in an oil reservoir. The reservoir should provide enough space so that the assembly is fully submerged at any time.

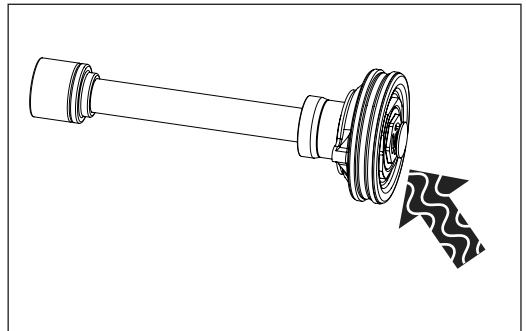
1. Put the assembly into the oil.
2. Bleed the piston rod and the rebound pin.



3. Only standard mount: Generously grease the O-ring of the lockout pin with Slick Honey and slide it into the rebound pin.
4. Screw on the second part of the lockout opening fixture.
→ When the second part of the lockout opening fixture is fully screwed on, the lockout pin opens the lockout cap.



5. Bleed the area around the lockout cap.

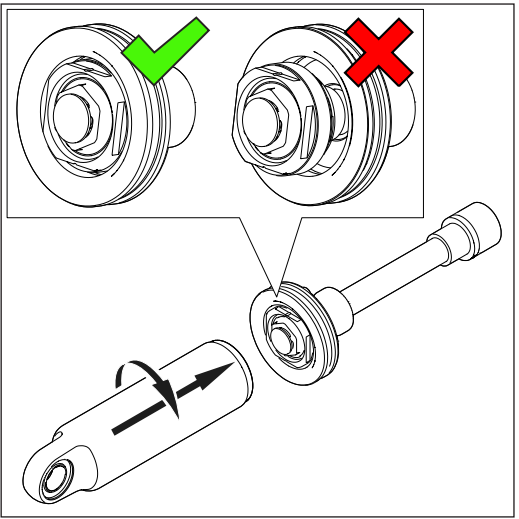


6. Fully push the damping piston into the oil chamber tab.
7. Slowly slide the damping piston into the oil chamber.

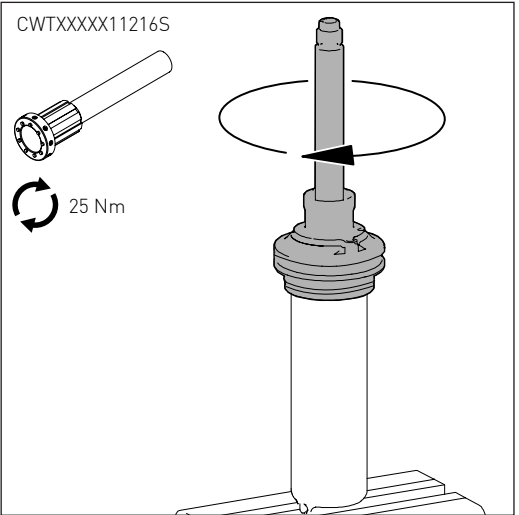
The oil chamber must be closed with one move. If the damping piston will be moved backwards, the position of the IFP will be changed. This will cause a malfunction of the shock.

If the position of the IFP has changed during assembling, go back to "Setting the IFP" on page 39.

8. Screw on the oil chamber tap by hand.
9. Take the oil chamber assembly out of the oil.
10. Clean the assembly.
11. Remove the lockout opening fixture.

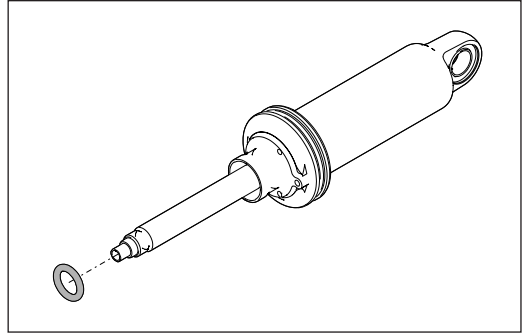


12. Put the oil chamber assembly into a vice.
13. Tighten the oil chamber tab using the special tool (see „5.1 Special Tools“ on page 14, pos.1) and an 8 mm hex key with a torque of 25 Nm.



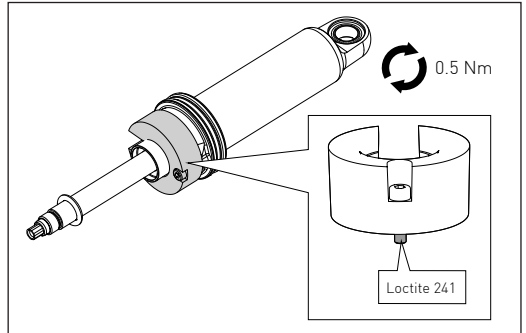
9.3 MOUNTING THE END CAP AND THE AIR CHAMBER

1. Put a new O-ring onto the piston rod.



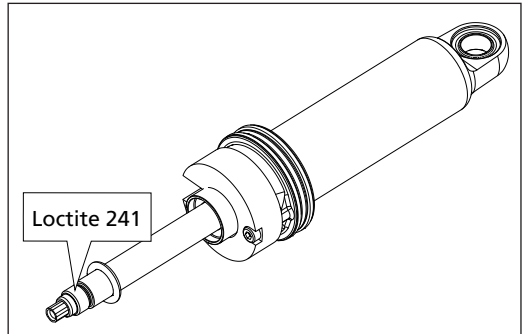
2. If required, install the volume spacer.

- a. Push the fixing screw through the volume spacer.
- b. Degrease the thread of the screw and the thread inside the oil chamber tab and put thread locker on the part of the screw that sticks out of the volume spacer.
- c. Push the volume spacer onto the oil chamber tab.
- d. Screw in the fixing screw and tighten it with 0.5 Nm.



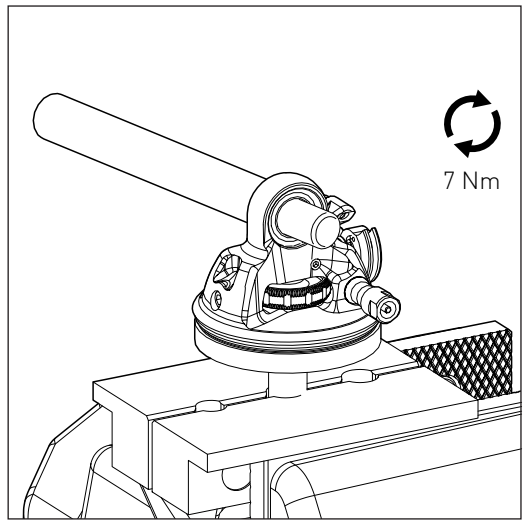
3. Degrease the thread of the piston rod.

4. Put thread locker onto the thread of the piston rod.



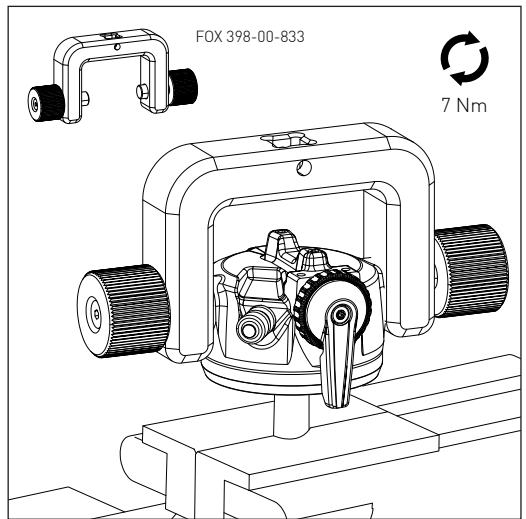
Standard shock mount:

5. Clamp the piston rod into a vice using the clamping jaws CWTXX10021857S (see „5.1 Special Tools“ on page 14).
The oil chamber must face downwards.
6. Screw on the end cap using a rod that fits through the spherical bearing and tighten it with a torque of 7 Nm.
 - Ensure that the rebound wheel does not stuck.
 - If necessary, turn the rebound wheel counter clockwise while screwing on the end cap.
7. Take the assembly out of the vice.



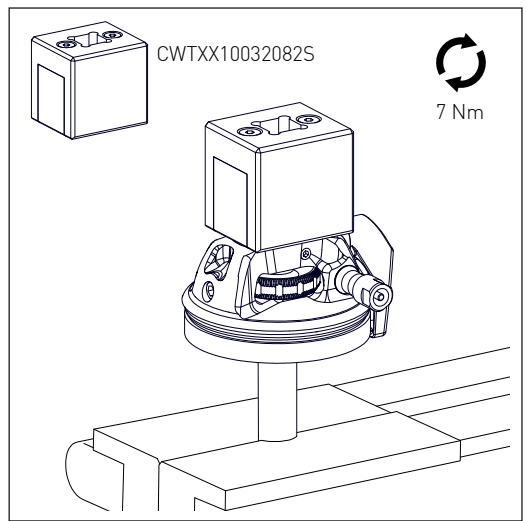
Trunnion shock mount:

8. Clamp the piston rod into a vice using the clamping jaws CWTXX10021857S (see „5.1 Special Tools“ on page 14).
The oil chamber must face downwards.
9. Screw on the end cap clockwise using the tool FOX 398-00-833 (see „5.1 Special Tools“ on page 14) and a 3/8" ratchet and tighten it with a torque of 7 Nm.
10. Take the assembly out of the vice.



Shocks with DU bushings:

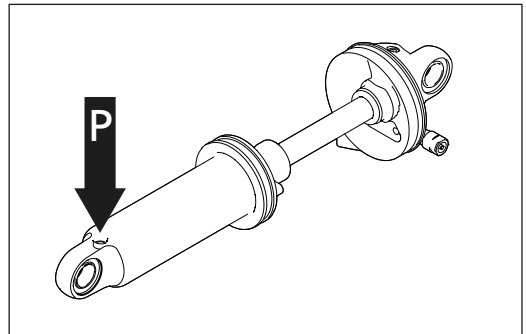
11. Clamp the piston rod into a vice using the clamping jaws CWTXX10021857S (see „5.1 Special Tools“ on page 14).
The oil chamber must face downwards.
12. Screw on the end cap clockwise using the tool CWTXX10032082S (see „5.1 Special Tools“ on page 14) and a 1/4" ratchet and tighten it with a torque of 7 Nm.
 - Ensure that the rebound wheel does not stuck.
 - If necessary, turn the rebound wheel counter clockwise while screwing on the end cap.
13. Take the assembly out of the vice.



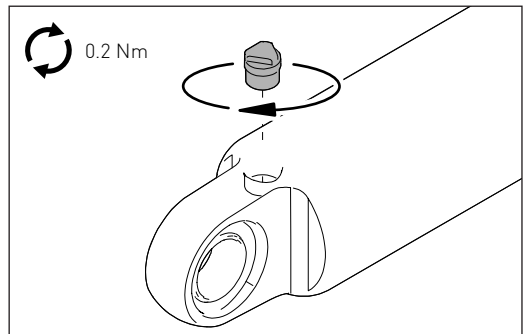
14. Inflate the oil chamber using an appropriate shock pump.

The air pressure inside the oil chamber depends on the shock tuning:

- SM: 25 bar
- LM: 25 bar
- MM: 25 bar
- HM: 30 bar

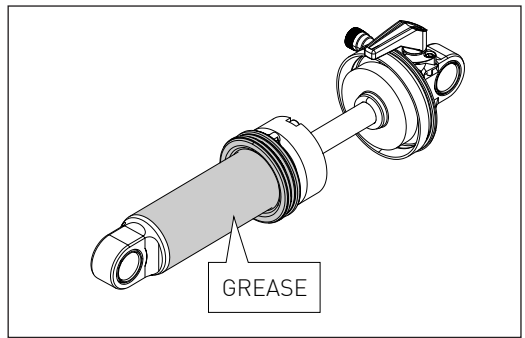


15. Put on the valve cap using the special tool (see „5.1 Special Tools“ on page 14, pos. 8).

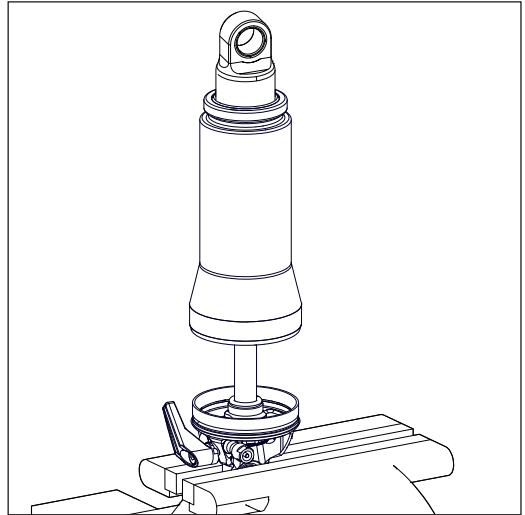


16. Put the shock into the testing device.
17. Check if the full stroke of the shock can be reached.
 - If you hear the piston hitting the IFP at the end of the stroke, the IFP is not positioned the right way. In this case, restart the assembly procedure.
18. Put the shock out of the testing device.

19. Slightly grease the quadding, the support rings and the oil chamber.

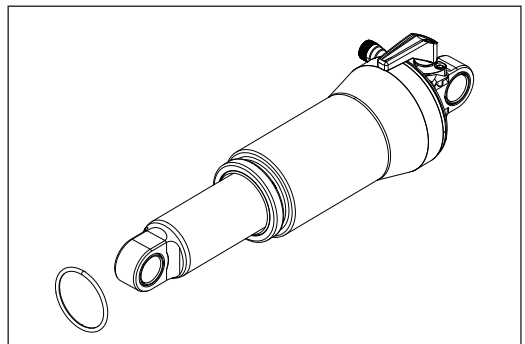


20. Clamp the end cap into the vice.
21. Slide on the air chamber and tighten it by hand.
- Ensure that the support rings on the oil chamber tab does not get twisted.
 - Ensure that the O-ring between the air chamber and the end cap does not get jammed.
 - If you can't push down the air chamber by hand, mount the shock into the test bench and compress the shock while screwing on the air chamber.



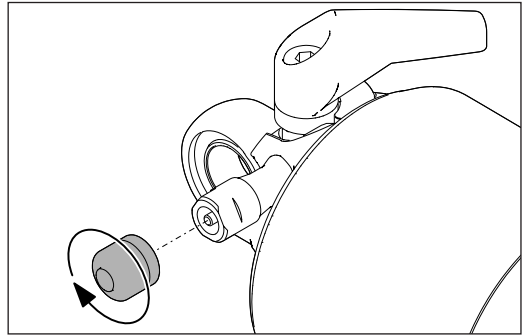
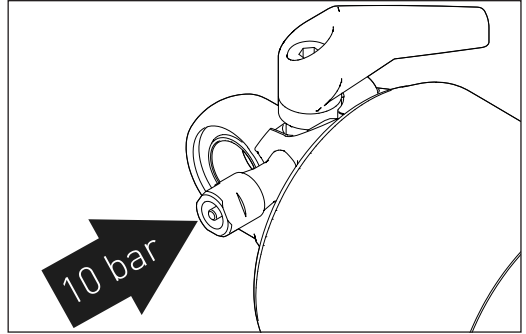
22. Take the shock out of the vice.

23. Put a new SAG O-ring (see „5.6 Seal Kits“ on page 17) onto the oil chamber.



9.4 INFLATING THE SHOCK

1. Inflate the air chamber with 10 bar.
In between inflating, compress the shock a few times to balance the negative and the positive air chamber.
2. Check the air pressure and repeat previous steps if necessary.
3. Screw on the valve cap.



Closing Steps

Testing the shock

Link

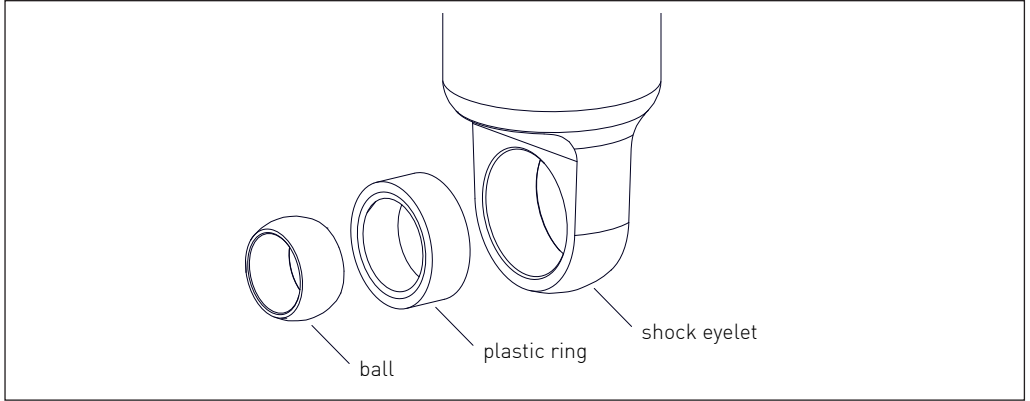
see 10 on page 81

9.5 SERVICING THE SPHERICAL BEARING

Preparatory Steps	Link
not required	

Required Tools and Material	Specification	Quantity
degreaser / cleaner	see 7 on page 32	as required
thread locker	high-strength	as required
special tools for spherical bearings	see 5.3 on page 15	as required

OVERVIEW

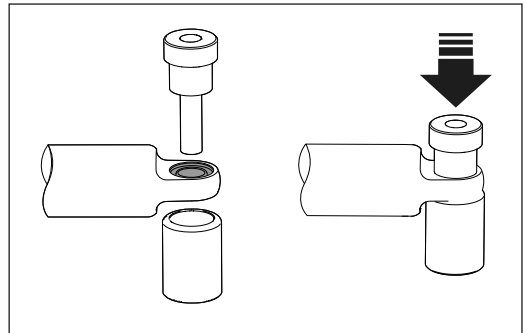


CHECKING THE SPHERICAL BEARINGS

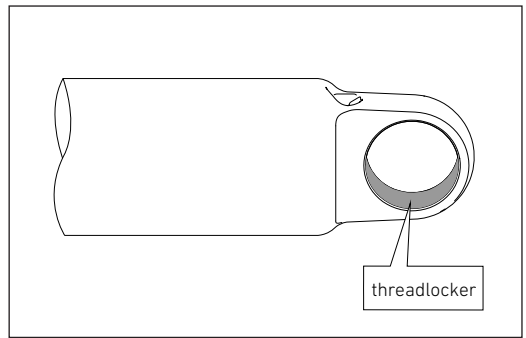
1. Check the play of the spherical bearing by hand.
→ If the spherical bearing can be moved without resistance, the spherical bearing should be replaced

CHANGING THE SPHERICAL BEARINGS

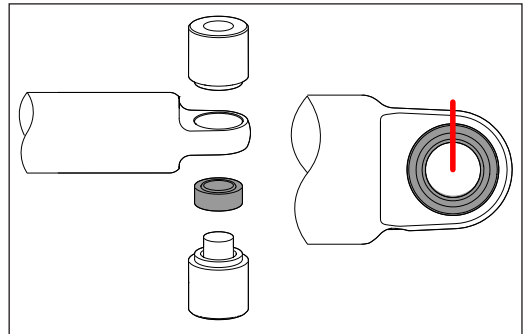
1. Insert the dismantling tool ST04 (see „5.3 Special Tools for Spherical Bearings“ on page 15, pos.6) from one side into the spherical bearing.
2. Plug the counter sleeve onto the other side.
3. Press out the spherical bearing by pressing the dismantling tool.
For pressing out, you can use a bench vise, a press or something similar.



- Clean the eye of the shock with a degreaser and put a small amount of high-strength thread locker onto the inner surface of the shock's eye.



- Position the spherical bearing to the shock eyelet that the gap in the plastic ring is oriented 90° to the axis of movement of the shock.
- Press in the new spherical bearing using the tool ST04 (see „5.3 Special Tools for Spherical Bearings“ on page 15, pos.5). For pressing in, you can use a bench vise, a press or something similar.
- Take the tool and the parts out of the vice.
- Remove the excessive thread locker with a degreaser.
- Check, if the spherical bearing is in the middle of the shock's eye.
- Check the spherical bearing again (see step 1).



Closing Steps

not required

Link

9.6 SERVICING THE DU BUSHING

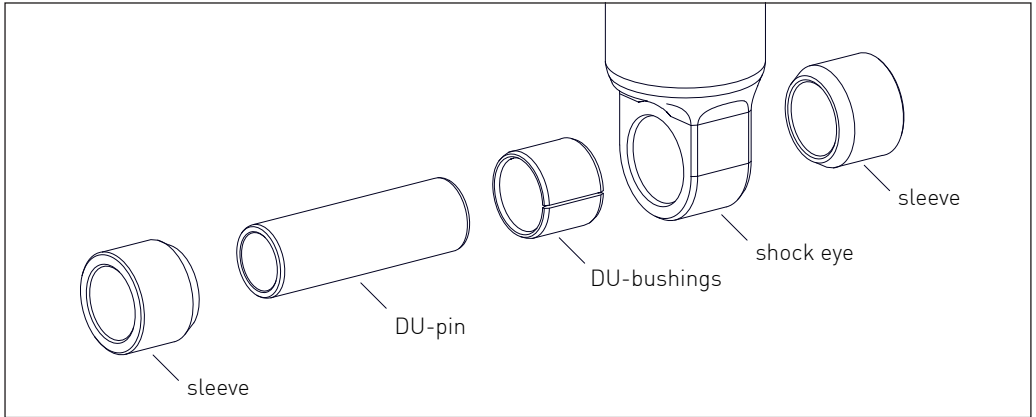
Preparatory Steps	Link
not required	

Required Tools and Material	Specification	Quantity
degreaser / cleaner	see 7 on page 32	as required
grease	Buzzy's Slick Honey	as required
special tools for spherical bearings	see 5.4 on page 15	as required



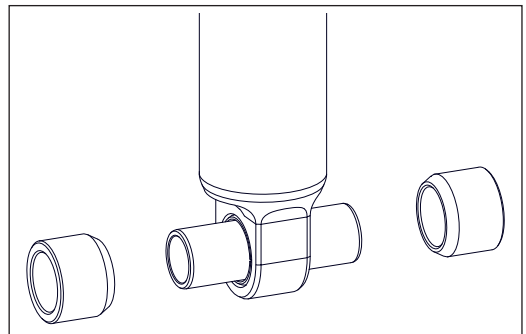
The DU bushings should be changed with every full service!

OVERVIEW



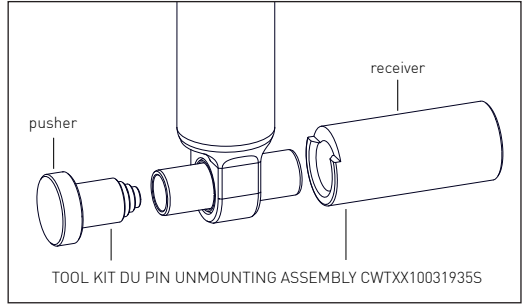
REMOVING THE SLEEVES

1. Remove the sleeves by hand.

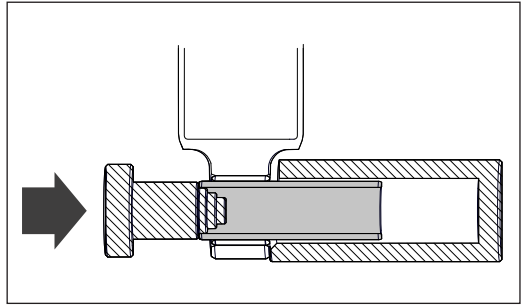


REMOVING THE DU PIN

1. Slide the pusher into the DU pin.
2. Align the receiver like shown in the picture.

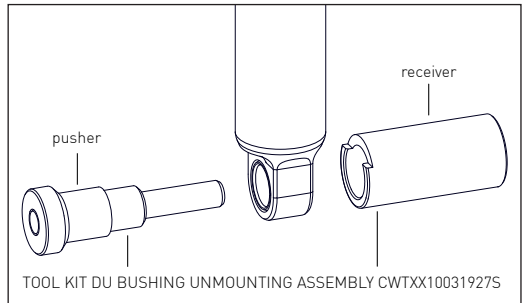


3. Push out the DU pin using a press or a bench vise.

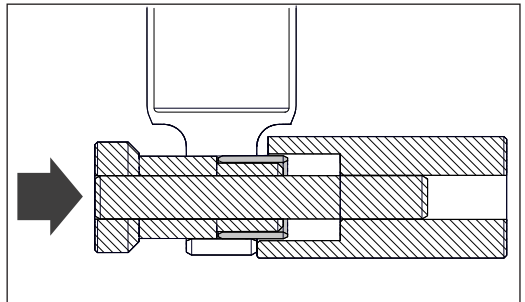


REMOVING THE DU BUSHING

1. Slide the pusher into the DU bushing.
2. Align the receiver like shown in the picture.

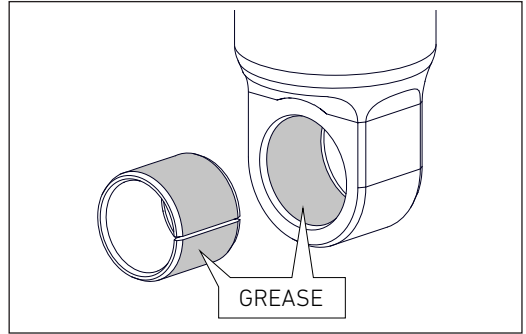


3. Push out the DU bushing using a press or a bench vise.

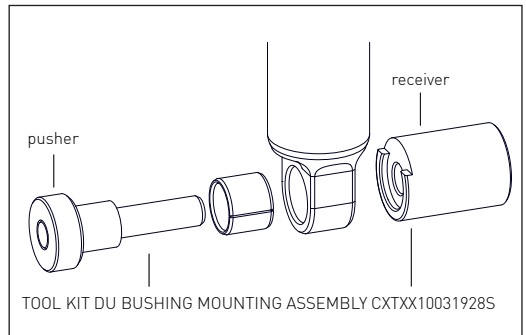


MOUNTING THE DU BUSHING

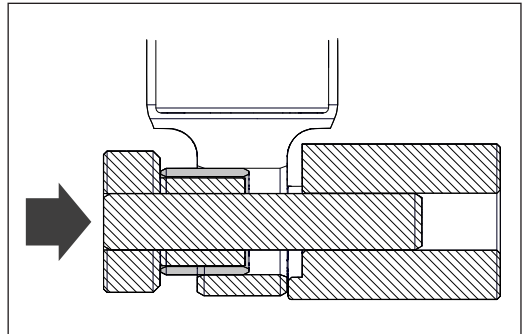
1. Slightly grease the inner surface of the shock eyelet and the outer surface of the bushing.



2. Put the bushing onto the pusher.
3. Position the bushing to the shock eyelet that the gap is oriented 90° to the axis of movement of the shock.
4. Align the receiver like shown in the picture.

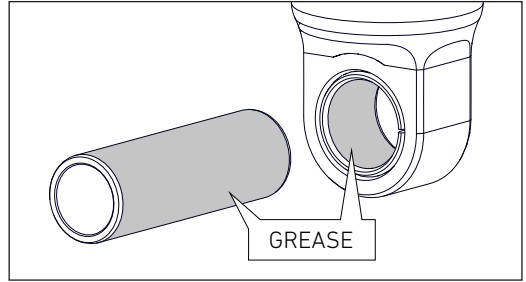


5. Push in the bushing using a press or a bench vise.

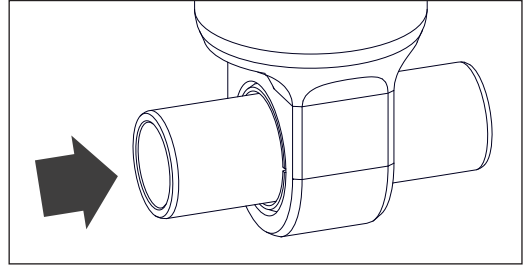


MOUNTING THE DU PIN

1. Slightly grease the inner surface of the DU bushing and the outer surface of the DU pin.

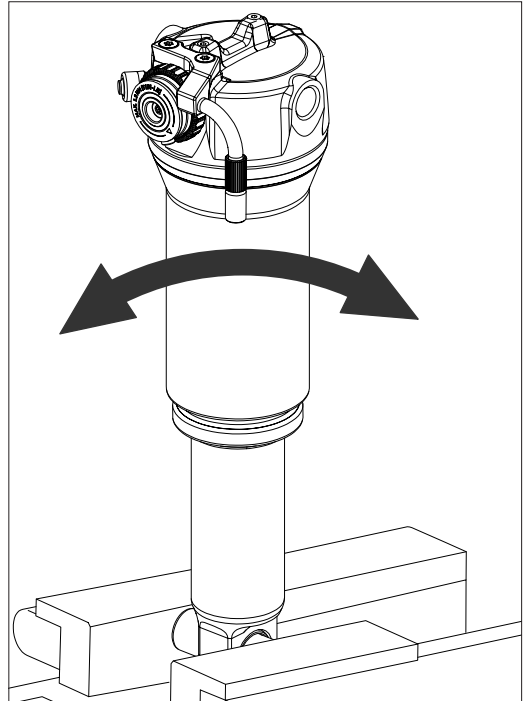


2. Push in the DU Pin by hand.
3. Position the pin centrally by clamping the pin in the vice and while turning the shock, pushing it to the center.



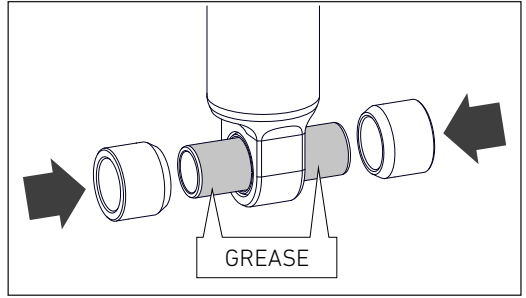
TESTING THE BUSHING

1. Clamp the pin into a vice and wait a few minutes.
2. Rotate the shock on the pin to check the DU bushing.
 - If the shock can only be rotated with resistance, the bushing is good!
 - If the shock can be rotated without resistance, change the bushing again. If this test fails a second time, check the oil chamber and take appropriate action.



MOUNTING THE SLEEVES

1. Slightly grease the DU pin.
2. Push the sleeves onto the DU pin.



Closing Steps

not required

Link

10. TESTING THE SHOCK

The following table provides an overview of the service progress.

Action		Reference	
Disassembling the Shock		6 on page 23	✓
Cleaning the Shock		7 on page 32	✓
Servicing the Parts of the Shock	Air Chamber Housing	8.1 on page 33	✓
	Oil Chamber and IFP	8.2 on page 37	✓
	Oil Chamber Tab	8.3 on page 41	✓
	Damping Piston Unit	8.4 on page 43	✓
	End Cap (standard mount)	8.5 on page 46	✓
	End Cap (trunnion mount)	8.6 on page 53	✓
	Remote Unit (standard shock mount)	8.7 on page 62	✓
Assembling the Shock		9 on page 65	✓
Servicing Spherical Bearings		9.5 on page 74	
Servicing DU Bushings		9.6 on page 76	
→ Testing the Shock		10 on page 81	

1. Check the exact air pressure inside the air chamber and note it.
2. Put the shock under water and check if the shock is leaking air.
 - Small air bubbles should be removed with a brush.
 - Within two minutes there must be no air bubbles.
3. Put the shock out of the water.
4. Dry the shock.

CHECK THE «OPEN», «DRIVE» AND «LOCK»-MODE

1. Turn the rebound wheel anti clockwise so that the rebound is fully opened.
2. Mount the remote lever (if your shock is designed for remote operation).
3. Put the shock into the test bench (see „5.5 Test bench“ on page 16).
4. Put the remote lever (or the adjusting lever) in the «open» position.
5. Check if the open mode is working correctly.
 - There is no sound while testing.
6. Put the remote lever (or the adjusting lever) in the «drive» position.
7. Check if the drive mode is working correctly.
 - There is no sound while testing.
 - The increased compression is clearly noticeable.
8. Put the remote lever (or the adjusting lever) in the «lock» position.
9. Check if the lockout mode is working correctly.

- There is no or just little motion of the piston rod if you push with the same force as step 5. Depending on the shock tune, the piston moves a few millimeters.
- The piston is not flowing if you keep the force.

CHECK THE REBOUND

1. Put the remote lever in the «open» position.
2. Turn the rebound wheel anti-clockwise until it is fully opened.
3. Compress the shock and let it release by its own.
 - The shock releases fast.
4. Turn the rebound wheel clockwise until it is fully closed.
5. Compress the shock and let it release by its own.
 - The shock releases slowly.
6. If there are any malfunctions, check the damping piston unit (see „8.4 Servicing the Damping Piston Unit“ on page 43).

Closing Steps	Link
If required, mount the bushings.	
If required, mount the shock into the bike.	

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CXD10000003030S