2018-2020 RE:aktiv Thru Shaft

service manual

GEN.0000000005453 Rev E

SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing RockShox products.
Protect yourself! Wear your safety gear!

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RockShox Service

We recommend that you have your RockShox suspension serviced by a qualified bicycle mechanic. Servicing RockShox suspension requires knowledge of suspension components, as well as the use of specialized tools and lubricants/fluids. Failure to follow the procedures outlined in this service manual may cause damage to your component and void the warranty.

Visit www.sram.com/service for the latest RockShox Spare Parts catalog and technical information. For order information, please contact your local SRAM distributor or dealer.

Information contained in this publication is subject to change at any time without prior notice.

Your product's appearance may differ from the pictures contained in this publication.

For recycling and environmental compliance information, please visit www.sram.com/company/environment.

Part Preparation

Remove the component from the bicycle before service.

Disconnect and remove the remote cable or hydraulic hose from the fork or rear shock, if applicable. For additional information about RockShox remotes, user manuals are available at www.sram.com/service.

Clean the exterior of the product with mild soap and water to avoid contamination of internal sealing part surfaces.

Service Procedures

The following procedures should be performed throughout service, unless otherwise specified.

Clean the part with RockShox Suspension Cleaner or isopropyl alcohol and a clean, lint-free shop towel.

Clean the sealing surface on the part and inspect it for scratches.

Replace the o-ring or seal with a new one from the service kit. Use your fingers or a pick to pierce and remove the old seal or o-ring.

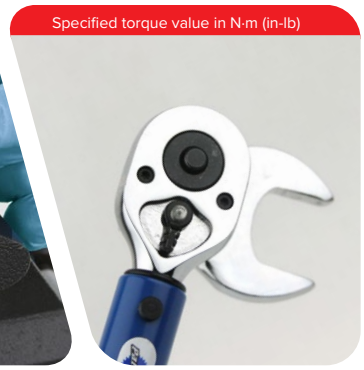
Apply RockShox Dynamic Seal Grease to the new seal or o-ring. If a brush is used to apply grease, confirm there are no loose bristles in the grease or on the part.

NOTICE

Do not scratch any sealing surfaces when servicing the product. Scratches can cause leaks. Consult the spare parts catalog to replace the damaged part.

To prevent damage to the shock, use aluminum soft jaws and position the eyelet in the vise so that the adjustment knobs are clear of the vise jaws.

Tighten the part with a torque wrench to the torque value listed in the red bar. When using a crowfoot socket and torque wrench, install the crowfoot socket at 90 degrees to the torque wrench.



Model Code Identification

Product model code and specification details can be identified with the serial number on the product. Model codes can be used to identify the product type, series name, model name, and product version associated with the production model year. Product details can be used to identify spare parts, service kit, and lubricant compatibility.

Model Code example: **RS-DLX-TKTV-A1**

RS = Product Type - **Rear Shock**
DLX = Platform/Series - **Deluxe**
TKTV = Model - **Trek Thru Shaft RE:aktiv**
A1 = Version - (**A** - first generation, **1** - first iteration)

To identify the model code, locate the serial number on the product and enter it into the **Search by Model Name or Serial Number** field at www.sram.com/service.

Warranty and Trademark

For SRAM Warranty information, visit: www.sram.com/warranty.

For SRAM Trademark information, visit: www.sram.com/website-terms-of-use.

Getting Started

Recommended Service Intervals

Regular service is required to keep your RockShox product working at peak performance. Follow this maintenance schedule and install the service parts included in each service kit that corresponds with the Service Hours Interval recommendation below. For spare part kit contents and details, refer to the RockShox Spare Parts Catalog at www.sram.com/service.

Service Hours Interval	Maintenance	Benefit
Every ride	Clean dirt from shock damper body	Extends wiper seal lifespan
		Minimizes damage to shock damper body
		Minimizes air can contamination
Every 50 Hours	Perform air can service	Reduces friction
		Restores small bump sensitivity
Every 200 Hours	Perform damper and spring service	Extends suspension lifespan
		Restores damping performance

Record Your Settings

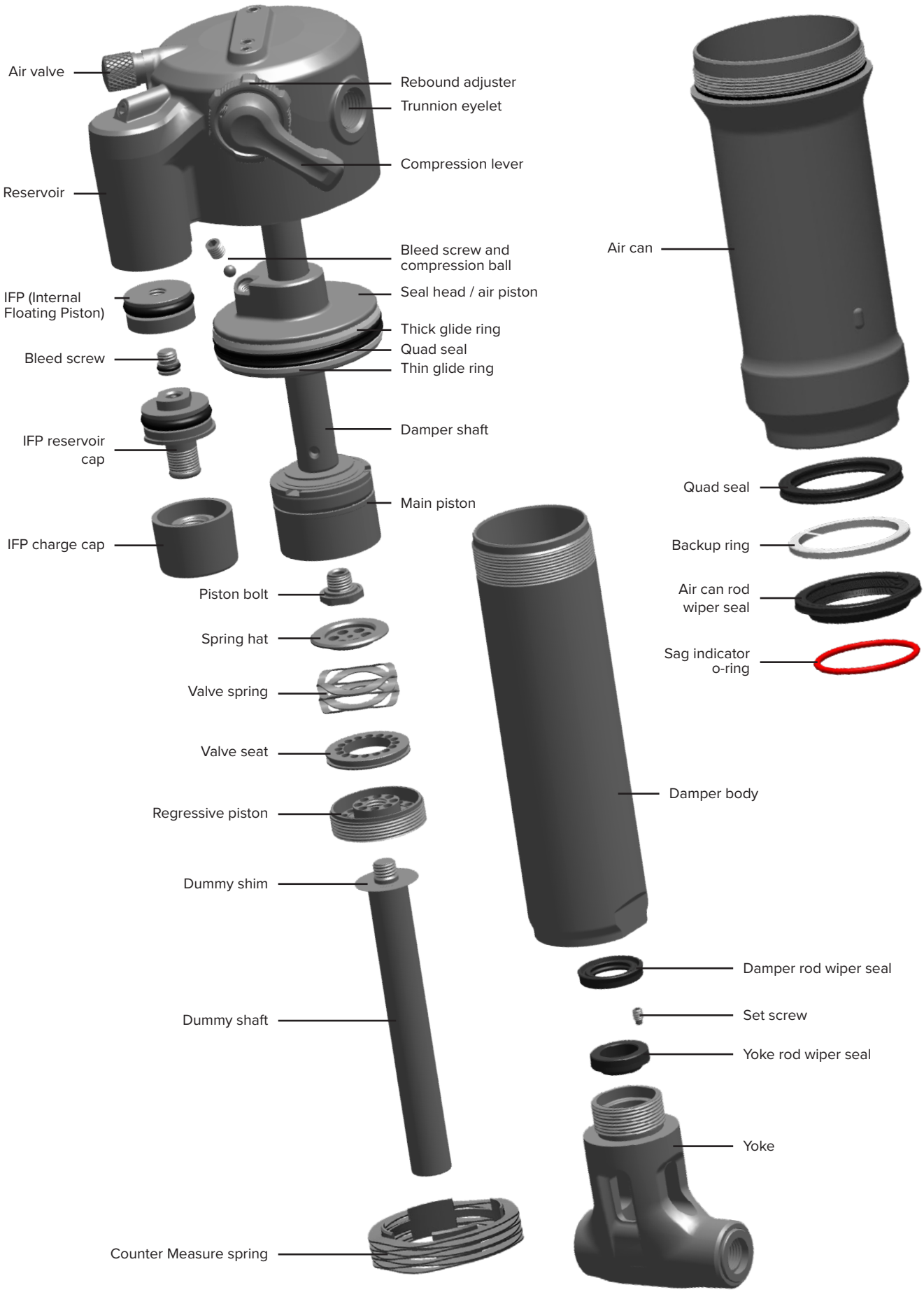
Use the charts below to record your shock settings to return your shock to its pre-service settings. Record your service date to track service intervals.

Service Hours Interval	Date of Service	Air Pressure	Rebound setting - count the number of clicks while turning the rebound adjuster fully counter-clockwise.
50			
100			
150			
200			

Torque Values

Part	Tool	Torque
Air can to shaft eyelet assembly	54 mm crowfoot (trunnion mount)	10 N•m (90 in-lb)
Regressive piston	RE:aktiv Piston Tool	2.3 N•m (20 in-lb)
Dummy shaft	3 mm hex wrench	1.1 N•m (10 in-lb)
Piston bolt	11 mm socket wrench	4.5 N•m (40 in-lb)
Seal head/air piston	17 mm crowfoot	28 N•m (248 in-lb)
Yoke	25 mm flat wrench	16.9 N•m (150 in-lb)

Exploded View



RE:aktiv Thru Shaft Service

Prior to servicing your rear shock, remove it from the bicycle frame according to the bicycle manufacturer's instructions.

Parts, Tools, and Supplies for Service

Parts
- RockShox RE:aktiv Thru Shaft 50 or 200 Hour Service Kit

Safety and Protection Supplies
- Apron
- Clean, lint-free shop towels
- Oil pan
- Nitrile gloves
- Safety glasses

Lubricants and Fluids
- Loctite Threadlocker Blue 242
- Maxima Maxum4 Extra 15w50 or Maxima PLUSH Dynamic Suspension Lube Light (included in service kit)
- RockShox 7wt or Maxima PLUSH 7wt suspension oil
- RockShox Dynamic Seal Grease (included in service kit)
- RockShox Suspension Cleaner or Isopropyl alcohol

RockShox Tools
- RE:aktiv Piston Tool
- RockShox Rear Shock Vise Block
- RE:aktiv Thru Shaft Bleed Plug
- RockShox IFP Puller Tool

Bicycle Tools
- Schrader valve core tool
- Shock pump

Common Tools
- Bench vise with aluminum soft jaws
- Crowfoot socket: 17 mm
- Flat wrench: 25 mm
- Hex bit socket: 3 mm
- Hex wrenches: 1.5 mm, 2 mm, 3 mm
- Metric caliper or small metric ruler
- Open end wrench: 17 mm
- Pick
- Pliers
- Retaining ring pliers
- Socket wrench: 11 mm
- Strap wrench
- Torque wrench
- TORX wrenches: T10, T25

Use ONLY RockShox, SRAM, and Maxima suspension oils/fluids and grease, unless otherwise specified. Use of any other lubricants can damage seals and decrease performance.

⚠WARNING

Before disassembly or service of any air system remove the air pressure from all air chambers and remove the air valve cores.

If your shock will not return to full extension, do not attempt to service or disassemble your shock. Attempting to service a shock that will not return to full extension can cause severe and/or fatal injuries.

SAFETY INSTRUCTIONS

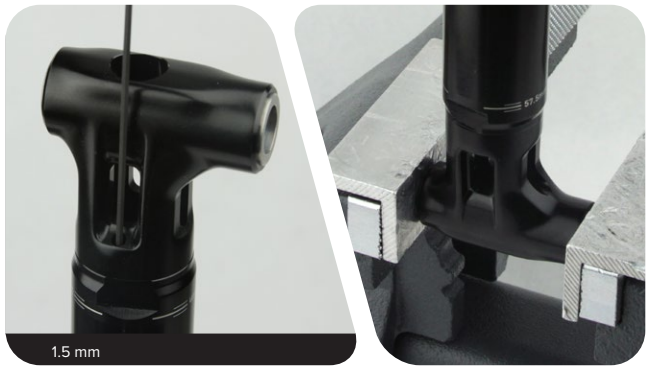
Always wear safety glasses and nitrile gloves when working with suspension oil.

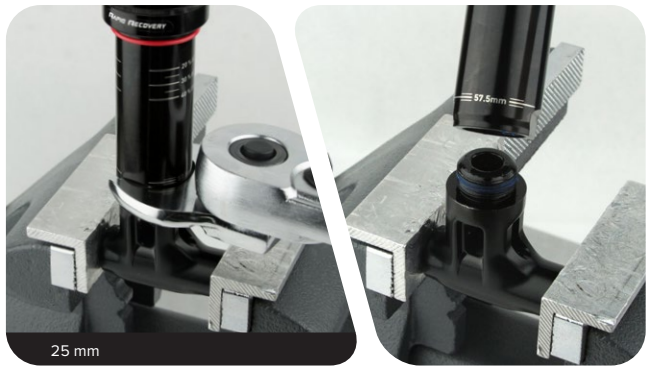
Place an oil pan on the floor underneath the area where you will be working on the shock.

1 To record your adjustment settings, turn the rebound adjuster knob counter-clockwise until it stops (full fast), while counting the number of detent clicks. This will assist you with post-service set up.

Turn the compression lever to the unlocked position.

2 Loosen the set screw in the yoke, then clamp the yoke into a vise. Loosen and remove the damper assembly from the yoke.



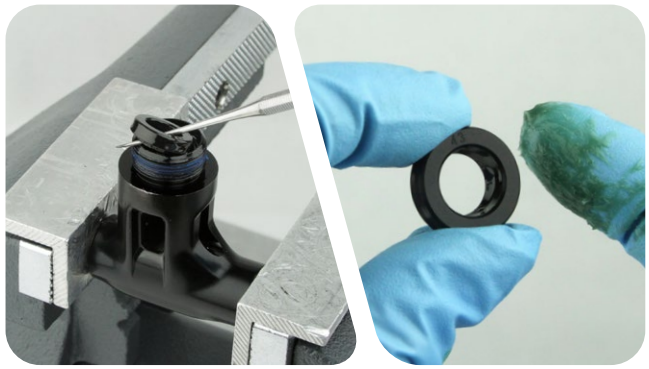


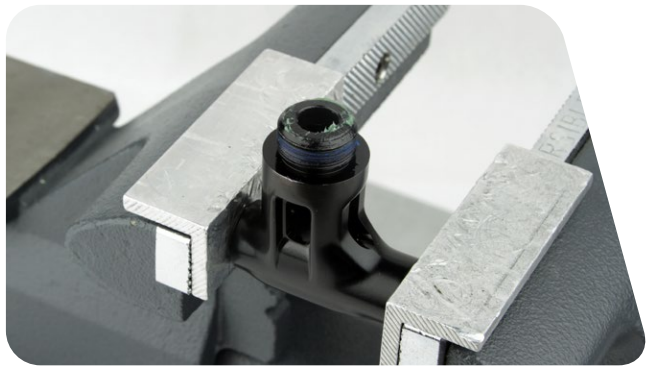
3 Remove the rod wiper seal, then clean the yoke.

Apply grease to the new rod wiper seal and install it.

NOTICE

Do not pierce the rod wiper seal.





4 Record your air pressure setting to assist with post-service set up.

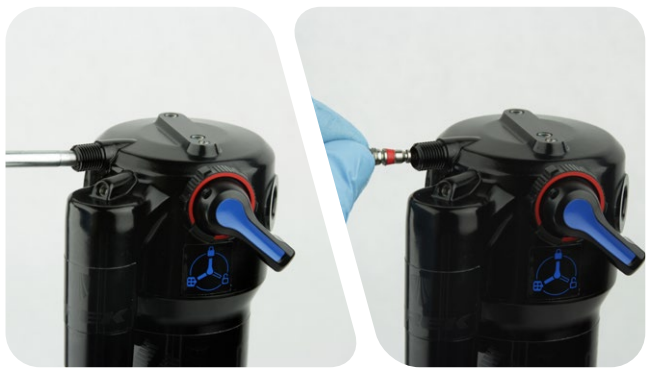
Remove the air valve cap. Lightly depress the Schrader valve and slowly release all air pressure from the air can.

⚠CAUTION

Do not disassemble a pressurized shock, this can cause suspension oil or debris to forcefully eject from the shock. Wear safety glasses.

Slowly release the air from the air can to make sure the air is removed from both chambers. Quickly releasing the air can trap air in the negative chamber and cause the air can to forcefully eject from the shock upon disassembly.

Use a Schrader valve tool to remove and reinstall the valve core from the valve body to make sure all air has been removed.



5 Clamp the eyelet into a vise, with the shock positioned horizontally.

6 Remove the sag indicator.

7 Use a strap wrench to remove the air can. Wrap the strap around the section of the air can where there are no decals. Turn the wrench counter-clockwise to unthread the air can.

Vacuum pressure will increase as you pull the air can along the damper body, and will suddenly release when the air can is pulled over the air piston.

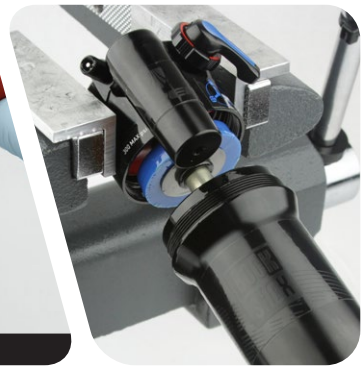
⚠CAUTION- EYE HAZARD

The air can may still have air pressure in the negative chamber, which may cause the air can to forcefully eject from the shock upon disassembly. Wear safety glasses.

NOTICE

Do not place the strap wrench on the air can decal.

Strap wrench



Once it is completely unthreaded, slowly pull the air can along the damper body to remove it and the Counter Measure spring.

Counter Measure Spring

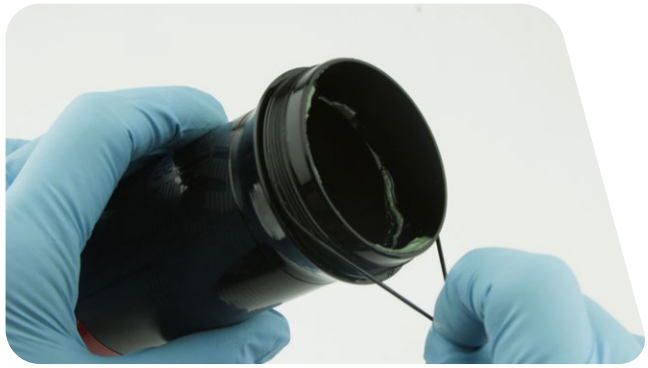
NOTICE

Do not scratch any sealing surfaces when servicing the product. Scratches can cause leaks. Consult the spare parts catalog to replace the damaged part.

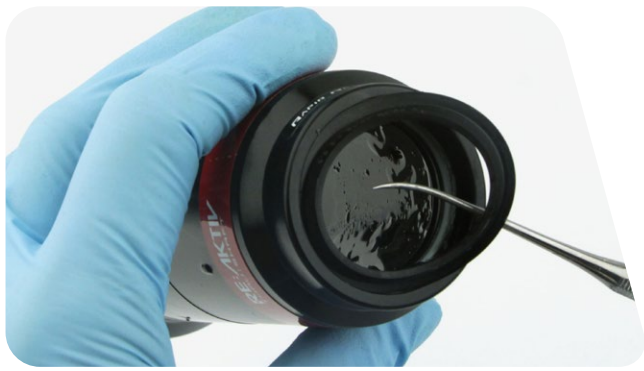
1 Remove the o-ring on the outside of the air can.

Clean the air can threads and eyelet body threads.

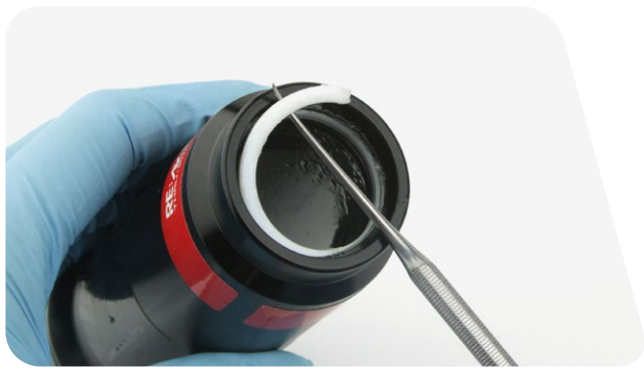
Apply grease to the new o-ring and install it.



2 Remove the air can wiper seal located in the top groove.



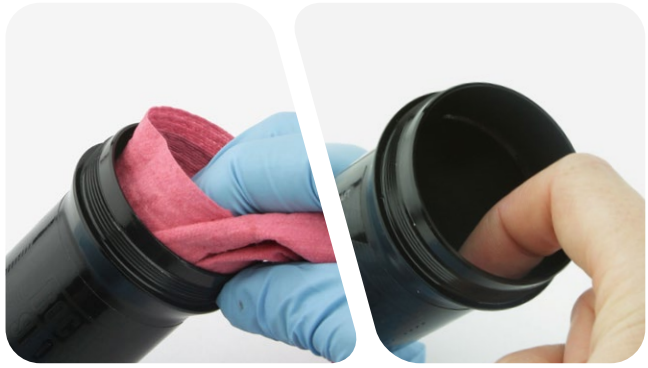
3 Remove the backup ring from the second groove inside the air can.



4 Remove the quad seal from the bottom of the second groove in the air can.

5 Clean the air can.

Remove a glove and use your finger to inspect the inside and outside of the air can for scratches, dents, or other surface deformations. Replace the air can if it is scratched or damaged.



6 Install the quad seal by inserting one end into the deepest groove in the air can, then push the remainder of the ring into the groove.

7 Install the backup ring by inserting one end into the air can, then push the remainder of the ring into the can, so that it rests on top of the quad seal.

8 Orient the new wiper seal step side up. Install it into the wiper seal groove at the top of the air can.

9 Apply grease to the quad seal, backup ring, and wiper seal.

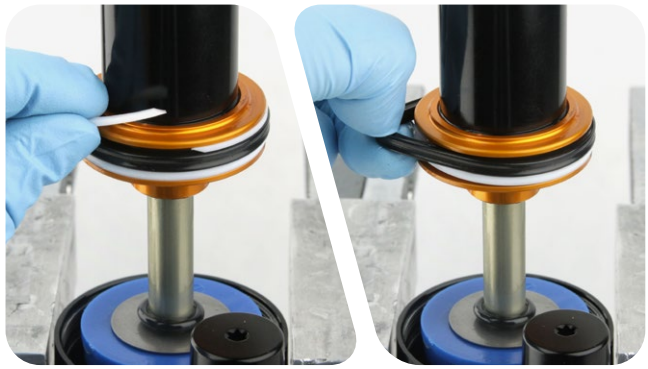
Set the air can aside.

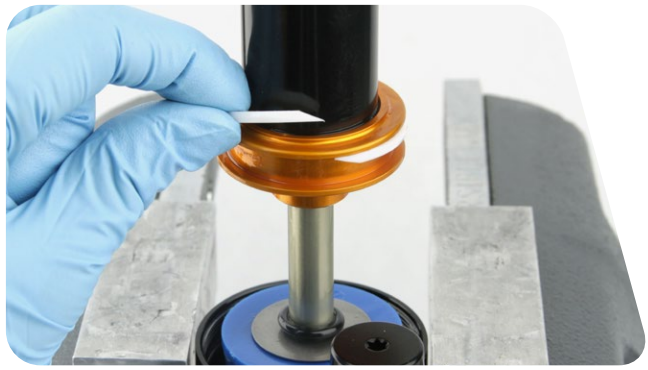
10 Clamp the eyelet vertically in the vise.

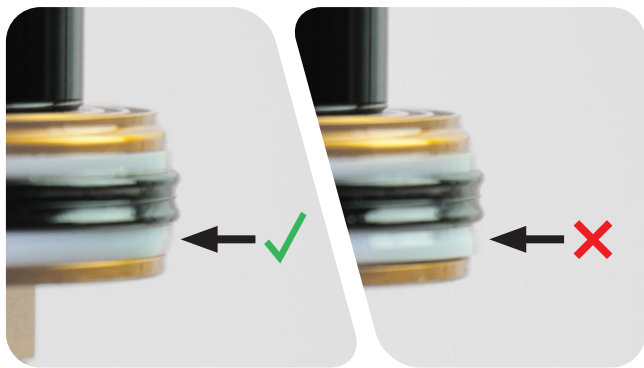
Remove the seal head/air piston quad seal and glide rings.

Clean the seal head/air piston.

Install the thick glide ring onto the seal head/air piston, chamfered/tapered side oriented **away** from the quad ring seal. Install the thin glide ring above quad ring seal.







To continue with the **50 Hour Service** go to Air Can Installation.

To continue with the **200 Hour Service** go to Damper Body Service.

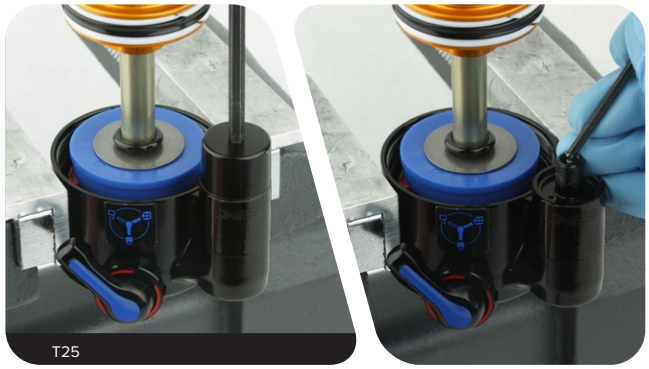
1 Remove the IFP charge cap. Release all air pressure from the damper.

Once the pressure has been released, depress the Schrader valve a second time. If the Schrader valve is able to move, the shock has been completely depressurized.

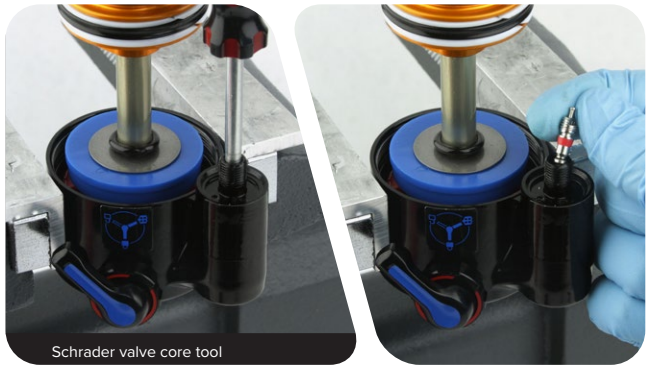
If the Schrader valve does not move at all, the shock is still pressurized and will need to be sent to an authorized RockShox dealer for further service.

⚠CAUTION - EYE HAZARD

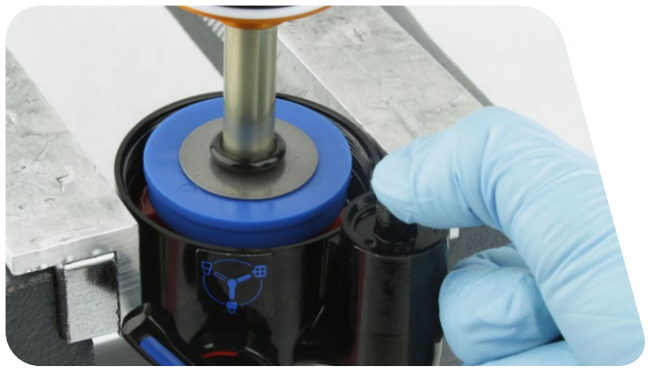
Verify all pressure is removed from the shock before proceeding. Failure to do so can cause the damper body to separate from the eyelet at a high velocity. Wear safety glasses.


T25

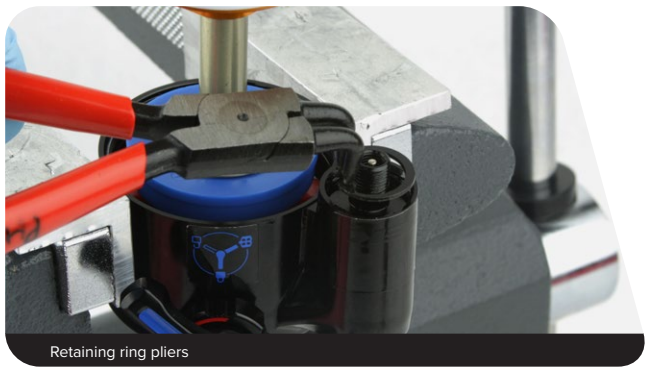
2 Remove and reinstall the Schrader valve core from the damper air/nitrogen fill port to make sure all pressure has been released.


Schrader valve core tool

3 Push the IFP reservoir cap into the reservoir until it stops.



4 Remove the retaining ring.


Retaining ring pliers

5 Install an air valve cap on the reservoir cap, then cover the air valve cap with a shop towel. Remove the reservoir cap.

Remove the air valve cap from the reservoir cap.

NOTICE

Use a shop towel to protect the air valve cap when removing the reservoir cap from the IFP reservoir.

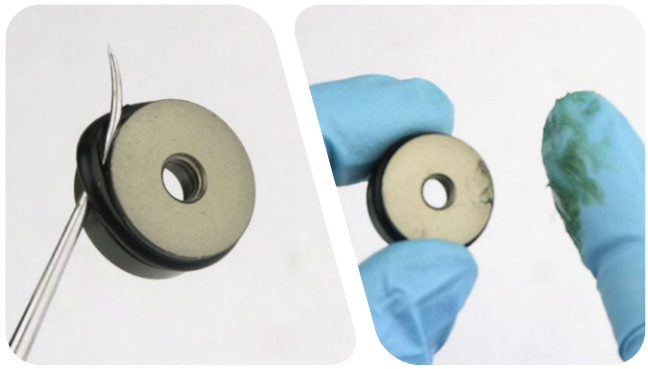
6 Remove the IFP bleed screw.

7 Thread the RockShox IFP Puller Tool into the IFP, then remove the IFP removal tool and IFP from the reservoir.

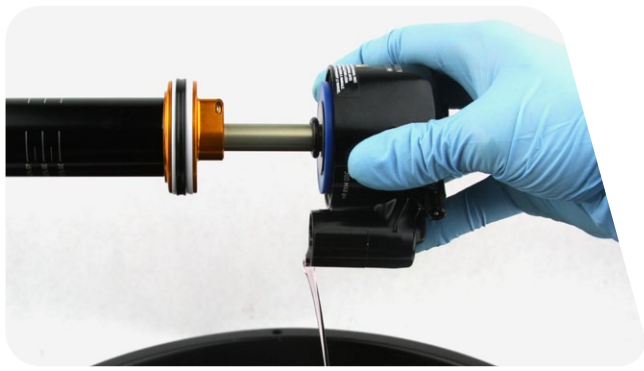
Unthread the RockShox IFP Puller Tool from the IFP.

8 Remove the IFP o-ring.

Install a new o-ring. Apply grease to the o-ring and IFP.

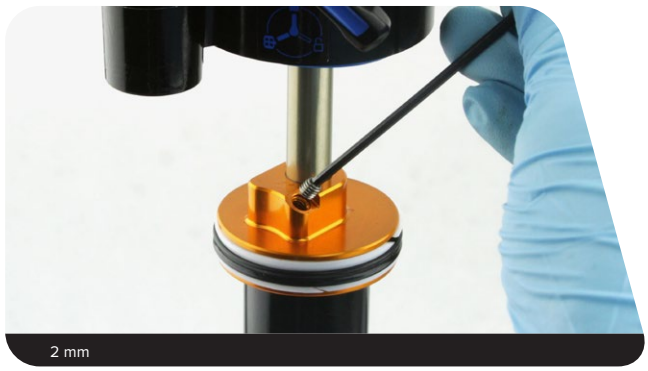


9 Remove the shock from the vise and hold it over an oil pan to drain the oil from the IFP reservoir.



1 Clamp the damper body wrench flats into the vise.

2 Remove the seal head/air piston bleed screw.



3 Place an oil pan beneath the damper body.

Loosen the seal head/air piston assembly from the damper body. Wrap a shop towel around the damper body, and remove the seal head/air piston assembly.

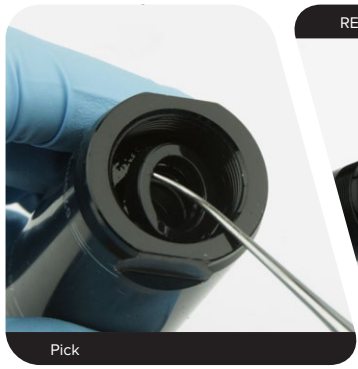
Oil will drain from the Thru Shaft port in the bottom of the damper body.

4 Remove the damper body from the vise.

Pierce and remove the rod wiper seal from the damper.

Apply grease to the new rod wiper seal.

Use the Thru Shaft bleed plug to block the port, and install the new rod wiper seal with the flat side facing out of the damper body.


Pick


RE:aktiv Thru Shaft Bleed Plug

1 Clean the shaft assembly.

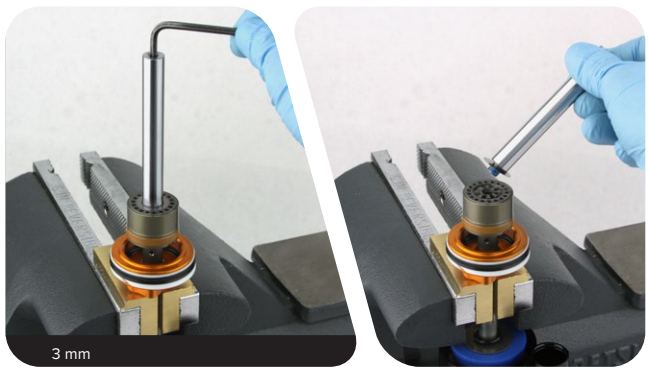
2 Clamp the damper shaft into the vise.

Do not remove the shaft from the eyelet.

NOTICE

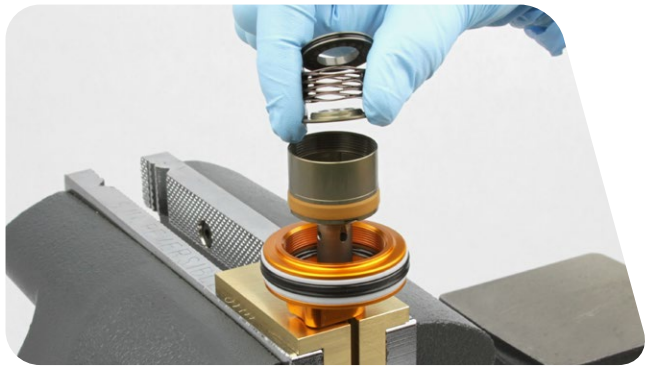
To prevent damage to the seal head/air piston, position the shaft in the vise so that the piston is clear of the vise jaws.

3 Remove the dummy shaft and shim.

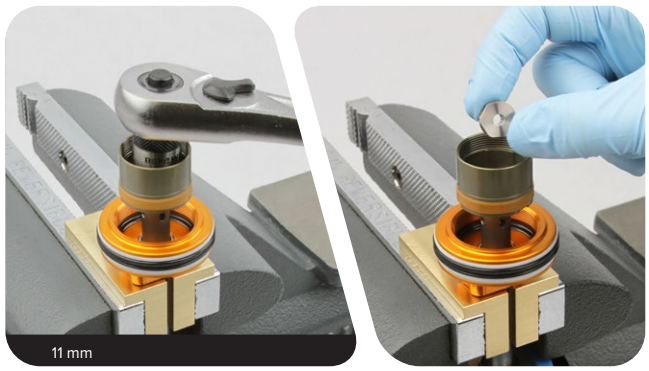


4 Remove the regressive piston from the main piston.

5 Remove the valve seat, valve spring, and spring hat from the main piston assembly.



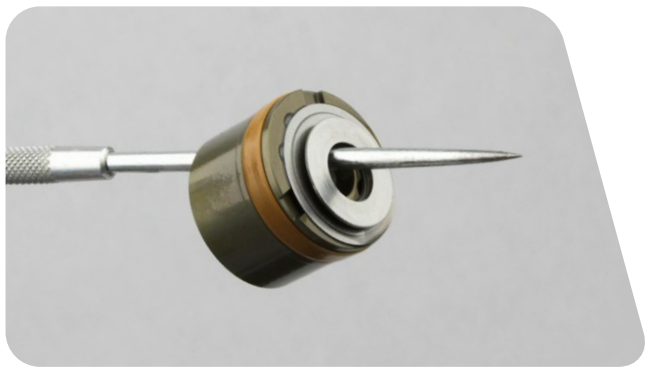
6 Remove and clean the piston bolt.



7 Use a small wrench or pick to slide the main piston assembly off the shaft and onto the tool.

NOTICE

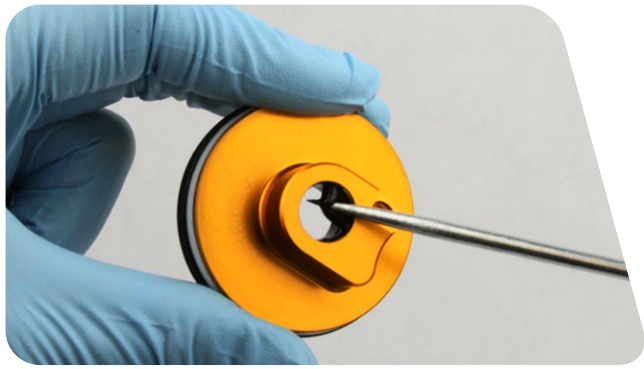
Keep all the parts together and set them aside. If the main piston assembly is disassembled, the shock will not perform properly. Contact an authorized RockShox dealer if the assembly becomes disassembled.



8 Remove the damper shaft from the vise, then remove the seal head/air piston from the damper shaft.

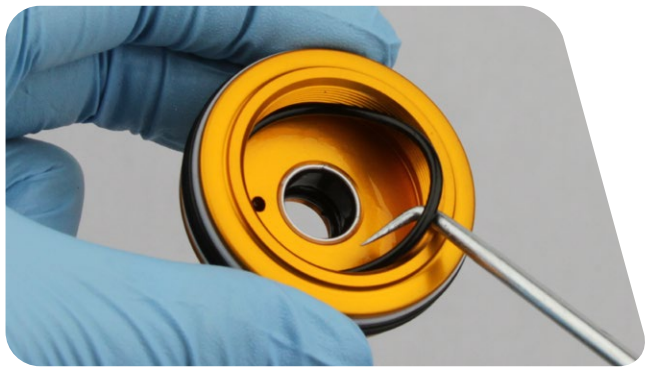
9 Remove the internal seal o-ring located in the internal seal gland.

Install a new internal seal o-ring into the seal gland.



10 Remove the inner o-ring, located at the base of the threads in the seal head/air piston.

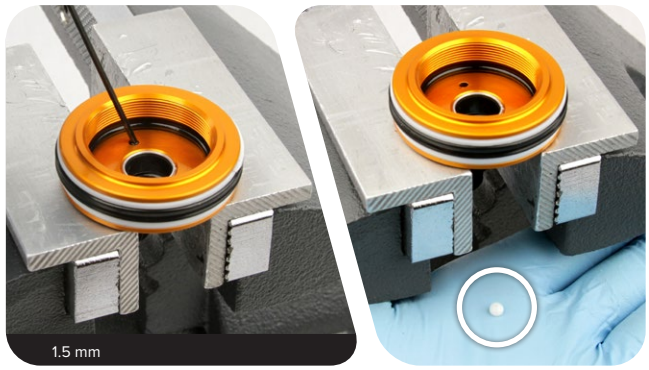
Install a new inner o-ring into the seal head/air piston.



11 Push the compression ball out of the backside of the seal head through the bleed port.

Do not replace the compression ball at this time; you will replace it later.

Do not reuse the compression ball.



12 Remove the o-ring located inside the eyelet threads.

Apply grease to the new o-ring and install it.

13 Install the seal head/air piston onto the damper shaft.

14 Clamp the damper shaft into the vise.

NOTICE

To prevent damage to the seal head/air piston, position the shaft in the vise so that the piston is clear of the vise jaws.

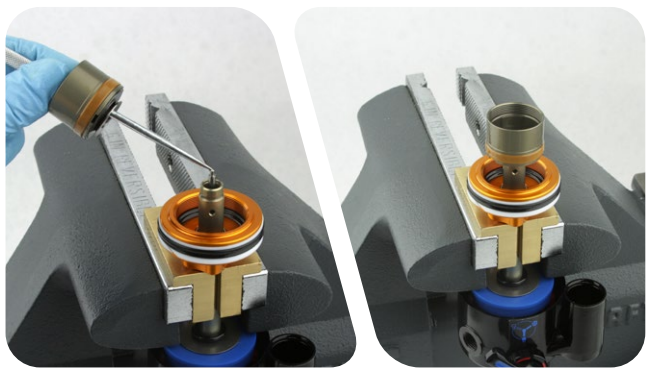
15 Install the main piston assembly that was removed in step 5 onto the damper shaft. Center the shim stack under the main piston.

If desired, install a new piston tune. Refer to the RockShox Spare Parts Catalog on www.sram.com.

Be sure to keep the main piston assembly parts in the same order.

NOTICE

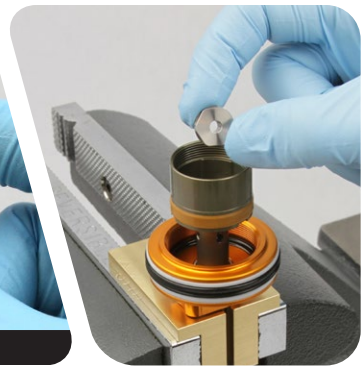
If the shims are not centered and in the correct order, the shock will not perform properly. Contact an authorized RockShox dealer if the assembly becomes disassembled.



16 Apply a thin layer of Loctite Threadlocker Blue 242 only on the threads of the piston bolt, then thread the bolt onto the damper shaft.

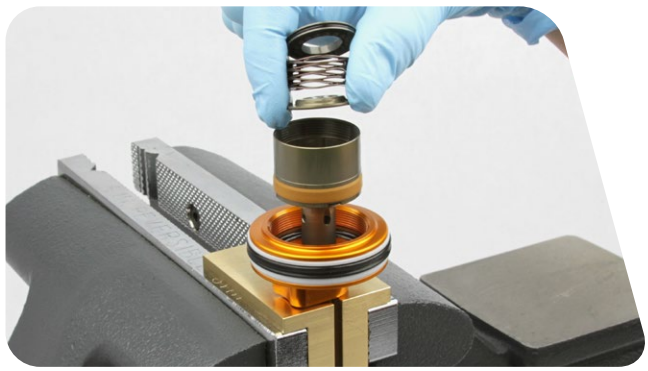
Tighten the piston bolt.


Loctite Threadlocker Blue 242




11 mm | 4.5 N·m (40 in-lb)

17 Install the spring hat, valve spring, and valve seat, in that order, into the main piston assembly.

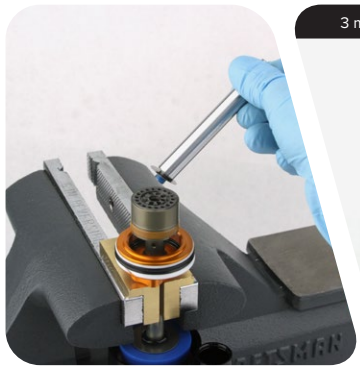


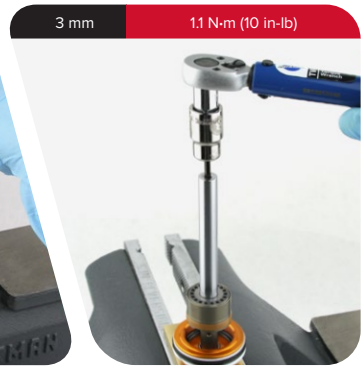
18 Install the regressive piston, as shown, onto the shaft assembly and tighten.


RE:aktiv Piston Tool | 2.3 N·m (20 in-lb)

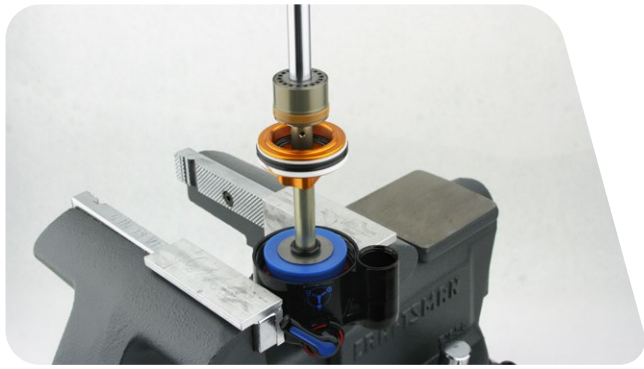
19 Install the shim and dummy shaft, and tighten.

Remove the damper shaft from the vise and set aside.





1 Clamp the eyelet into the vise.

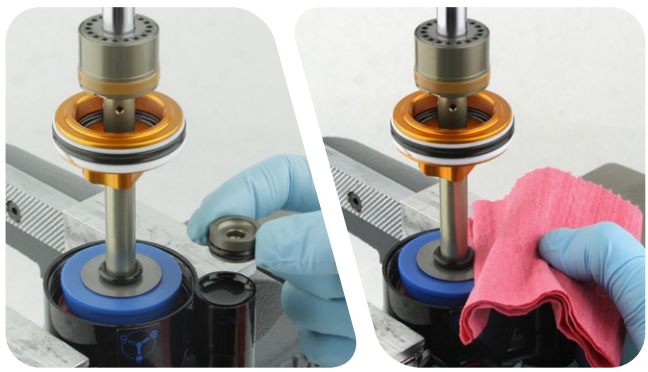


2 Pour RockShox 7wt or Maxima PLUSH 7wt suspension oil into the IFP reservoir until it is level with the top of the IFP reservoir.

3 Install the IFP into the IFP reservoir with the flat side down. Cover the IFP with a shop towel, and slowly push the IFP into the reservoir until oil starts to emerge from the bleed hole.

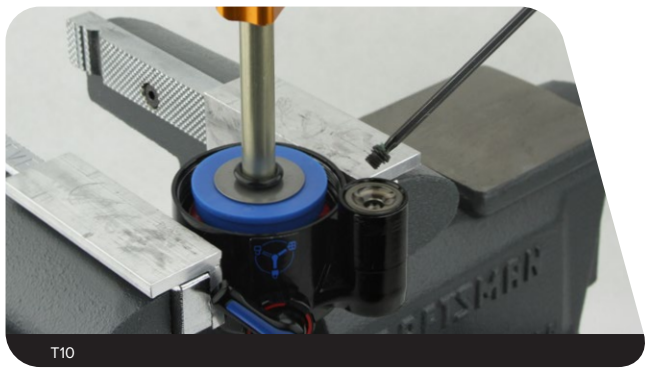
⚠CAUTION - EYE HAZARD

Oil can eject from the IFP bleed port. Wear safety glasses.



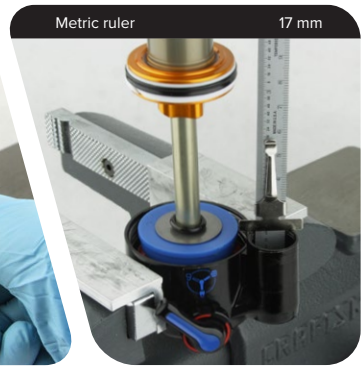
4 Install a new bleed screw into the bleed port and tighten it until the IFP begins to spin.

A small amount of grease on the tip of the TORX wrench will keep the bleed screw in place while installing it.



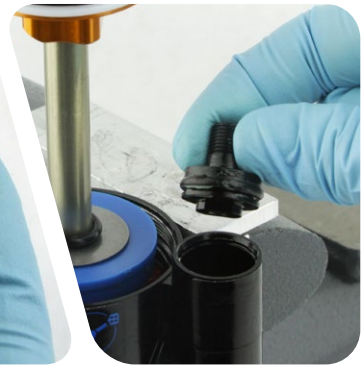
5 Push the IFP into the damper body to a depth of 17 mm. Measure from the top of the reservoir to the highest part of the IFP.

Oil will bubble out of the regressive piston as the IFP is set. This means the system is bled.



6 Apply a thin layer of grease to the IFP reservoir cap o-ring. Push the IFP reservoir cap into the IFP reservoir until the retaining ring groove is visible.

Depress the Schrader valve if the IFP reservoir cap will not stay below the retaining ring groove.



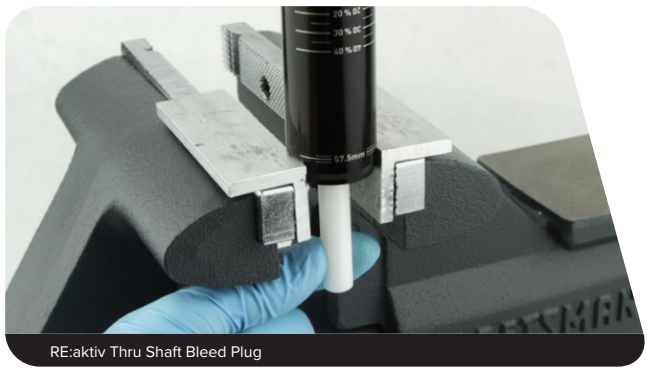
7 Install the new retaining ring into the groove.

⚠CAUTION- EYE HAZARD

The retention ring can eject rapidly as it is installed. Wear safety glasses.

8 Clamp the damper body wrench flats into a vise.

9 Install the Thru Shaft bleed plug into the bottom of the damper body so that the seal holds the plug in place.



RE:aktiv Thru Shaft Bleed Plug

10 Pour RockShox 7wt or Maxima PLUSH 7wt suspension oil into the damper body until it is level with the top.

7wt

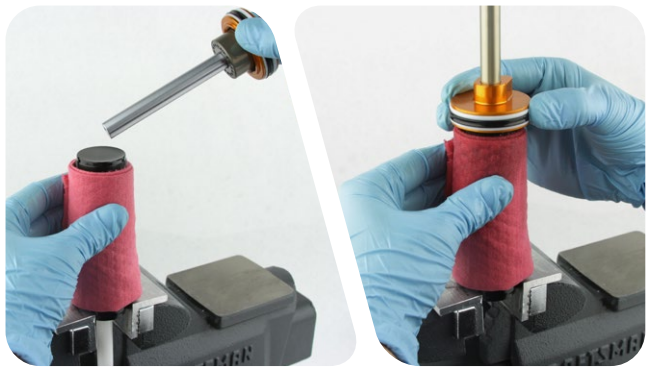
11 Wrap a shop towel around the damper body and place an oil pan beneath the shock.

Install the seal head/air piston onto the damper body. The dummy shaft will push the Thru Shaft bleed plug out.

Oil will be displaced out of the damper body and bleed port.

Do not hold on to the eyelet or damper shaft while inserting the seal head. It will move the piston/shaft assembly, causing too much oil to displace out of the damper body.

Check that the compression ball is removed from the seal head/air piston.



12 Tighten the seal head/air piston.

13 Allow air bubbles to escape from the bleed port in the seal head.

Insert the new compression ball into the bleed port.

14 Thread the bleed screw into the bleed port until you feel it touch the compression ball, then tighten the bleed screw an additional ½ turn.

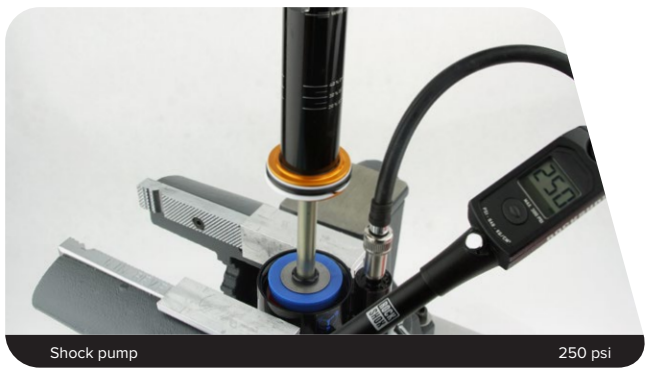
NOTICE

Overtightening the bleed screw can damage the compression ball.

15 Clamp the eyelet into the vise and inflate the reservoir to 250 psi.

You may substitute nitrogen if you have the proper fill equipment.

The reservoir cap will seat rapidly against the retaining ring as the reservoir is filled with air.



16 Install the IFP charge cap.

17 Remove the shock from the vise.
Clean the entire damper assembly.

1 Clamp the eyelet in the vise with soft jaws.

Install the Counter Measure spring onto the damper body. Apply grease to the seal head/air piston seals.

2 Inject one half packet (1 mL) of Maxima Maxum4 Extra 15w50 or Maxima PLUSH Dynamic Suspension Lube Light into the air can before installing the air can onto the damper. Firmly press the air can toward the eyelet until the sealhead/air piston is inserted into the air can.

3 Inject another one half packet (1 mL) of Maxima Maxum4 Extra 15w50 or Maxima PLUSH Dynamic Suspension Lube Light into the top of the air can.

4 Press the air can onto the damper, then thread it onto the eyelet and tighten.

5 Remove the shock from the vise. Clean the shock.

6 Install the sag indicator o-ring.

7 Pressurize the shock enough to extend the damper body to the full length.

8 Clamp the yoke into a vise. Thread the damper assembly onto the yoke and tighten.

Tighten the set screw.

9 Install the shock onto your bicycle frame according to the bicycle manufacturer's instructions.

10 Pressurize the shock to the desired air pressure. After adding air to the shock, the pressure will need to be equalized between the shock chambers.

Record the air pressure value on the pump, then unthread it from the shock. Slowly but firmly press or sit on the saddle to compress the shock until there is a hissing sound. This sound indicates air transfer between chambers. Reinstall the pump and pressurize the shock to the desired air pressure. Record the air pressure, then unthread it from the shock. Repeat this process until you reach the desired amount of sag, then install the valve cap.

NOTICE

When pressurizing the shock, do not exceed 300 psi.

The pump must be removed from the shock prior to checking sag to avoid damage to the pump or frame.

This concludes the service for the RE:aktiv Thru Shaft rear shock.

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