



SRAM® LLC WARRANTY

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS AGAINST SRAM, LLC. YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE, COUNTRY, OR PROVINCE. THIS WARRANTY DOES NOT AFFECT YOUR STATUTORY RIGHTS. TO THE EXTENT THIS WARRANTY IS INCONSISTENT WITH THE LOCAL LAW, THIS WARRANTY SHALL BE DEEMED MODIFIED TO BE CONSISTENT WITH SUCH LAW. FOR A FULL UNDERSTANDING OF YOUR RIGHTS, CONSULT THE LAWS OF YOUR COUNTRY, PROVINCE, OR STATE.

EXTENT OF LIMITED WARRANTY

Except as otherwise set forth herein, SRAM warrants its bicycle components to be free from defects in materials or workmanship for a period of two (2) years after original purchase of the product.

SRAM warrants all Zipp MOTO Wheels and Rims to be free from defects in materials or workmanship for the lifetime of the product.

SRAM warrants all non-electronic Zipp branded bicycle components, Model Year 2021 or newer, to be free from defects in materials or workmanship for the lifetime of the product.

GENERAL PROVISIONS

This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM product was purchased or a SRAM authorized service location. Original proof of purchase is required. All SRAM warranty claims will be evaluated by a SRAM authorized service location whereupon acceptance of the claim the product will be repaired, replaced, or refunded at SRAM's discretion. To the extent allowed by local law claims under this warranty must be made during the warranty period and within one (1) year following the date on which any such claim arises.

NO OTHER WARRANTIES

EXCEPT AS DESCRIBED HEREIN, AND TO THE EXTENT ALLOWED BY LOCAL LAW, SRAM MAKES NO OTHER WARRANTIES, GUARANTIES, OR REPRESENTATIONS OF ANY TYPE (EXPRESS OR IMPLIED), AND ALL WARRANTIES (INCLUDING ANY IMPLIED WARRANTIES OF REASONABLE CARE, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE) ARE HEREBY DISCLAIMED.

LIMITATIONS OF LIABILITY

EXCEPT AS DESCRIBED HEREIN, AND TO THE EXTENT PERMITTED BY LAW, IN NO EVENT SHALL SRAM OR ITS THIRD PARTY SUPPLIERS BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. SOME STATES (COUNTRIES AND PROVINCES) DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed, adjusted, and/or maintained according to the respective SRAM user manual. The SRAM user manuals can be found online at sram.com/service.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturer's specifications of intended usage, or any other circumstances in which the product has been subjected to forces or loads beyond its design.

This warranty does not apply when the product has been modified, including but not limited to, any attempt to open or repair any electronic and electronic related components, including the motor, controller, battery packs, wiring harnesses, switches, and chargers.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced, or removed.

SRAM components are designed for use only on bicycles that are pedal powered or pedal assisted (e-Bike/Pedelec).

Notwithstanding anything else set forth herein, the battery pack and charger warranty does not include damage from power surges, use of improper charger, improper maintenance, or such other misuse.

This warranty shall not cover damages caused by the use of parts of different manufacturers or parts that are not compatible or suitable for use with SRAM components.

This warranty shall not cover damages resulting from commercial (rental) use.

WEAR AND TEAR

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations, and/or riding or installation in conditions or applications other than recommended.

WEAR AND TEAR PARTS INCLUDE:

ZIPP IMPACT REPLACEMENT POLICY

- Aero bar pads
- Air sealing o-rings
- Batteries
- Bearings
- Bottomout pads
- Brake pads
- Bushings
- Cassettes

Corrosion
Disc brake rotors

Chains

- Dust seals
- Free hubs, Driver bodies, Pawls
- Foam rings, Glide rings
- Handlebar grips
- Jockey wheels

- Rear shock mounting
 hardware and main seals
- Rubber moving partsShifter and Brake cables
- (inner and outer)
- Shifter grips
- Spokes
 Sprockets

- Stripped threads/bolts (aluminum, titanium, magnesium or steel)
- Tires
- Tools
- Transmission gears
- Upper tubes (stanchions)
- Wheel braking surfaces
- Zipp branded products, Model Year 2021 or newer, are covered under a lifetime impact-damage replacement policy. This policy can be used to obtain a replacement of a product in the event of non-warranty impact damage occurring while riding your bicycle. See www.zipp.com/support for more information.



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 <u>www.sram.com/service</u> 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 <u>www.sram.com/service</u>.

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. For hard to reach places (e.g. upper tube, lower leg), wrap a clean, lint-free shop towel around a non-metallic dowel to clean the inside.

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 grease to the new seal or o-ring.

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.





Use aluminum soft jaws when placing a part in a bench vise.

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.





Parts

- AM SVC KIT 200H/1YR DEBONAIR ZEB R/SELECT (2020-2021)
- AM SVC KIT 200H/1YR DEBONAIR ZEB SELECT+/ULT (2020-2021)
- AM SVC KIT 200H/1YR DPA ZEB R/SELECT (2020-2021)
- AM SVC KIT 200H/1YR CHGR2 DPA ZEB (2020-2021)

Safety and Protection Supplies

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

Lubricants and Fluids

- Loctite 2760 High Strength Threadlocker Red
- RockShox 0w-30 Suspension Oil
- Maxima PLUSH 3wt or RockShox 3wt Suspension Oil
- RockShox Dynamic Seal Grease
- RockShox Suspension Cleaner or Isopropyl alcohol

RockShox Tools

- RockShox Bleed Syringe
- RockShox Charger Vise Blocks
- Fork Lower Leg Dust Seal Installation Tool 38 mm
- RockShox Shock Pump
- RockShox Top Cap/Cassette tool (3/8" / 24 mm) or RockShox x
 Abbey Bike Tools Top Cap/Cassette Tool

Bicycle Tools

- Bicycle work stand
- Downhill tire lever
- Shock pump

Common Tools

- Air compressor with air gun nozzle
- Bench vise and aluminum soft jaw inserts
- Crowfoot: 23 mm
- Hex bit sockets: 2, 2.5, 5
- Hex wrenches: 2, 2.5, 5, 8 mm
- · Internal retaining ring pliers large
- Long plastic or wooden dowel
- Open end wrenches: 12, 19, 23 mm
- Pick
- Rubber or plastic mallet
- Sockets: 10, 12, 13, 24 mm or RockShox x Abbey Bike Tools 24 mm Socket
- Socket wrench
- TORX bit socket: T10
- TORX wrench: T10
- Torque wrench

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 suspension fork.

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 <u>www.sram.com/service</u>.

Service Hours Interval	Maintenance	Benefit	
Every ride		Extends wiper seal lifespan	
	Clean dirt from upper tubes and wiper seals	Minimizes damage to upper tubes	
		Minimizes lower leg contamination	
Every 50 hours		Restores small bump sensitivity	
	Perform lower leg service	Reduces friction	
		Extends bushing lifespan	
Every 200 hours		Extends suspension lifespan	
	Perform damper and spring service	Restores small bump sensitivity	
		Restores damping performance	

Record Your Settings

Use the table below to record your suspension settings to return your suspension to its pre-service settings. Record your service dates to track service intervals.

Service Hours Interval	Date of Service	Air Pressure	Pressure Rebound setting - Count the number of clicks while turn- ing the rebound adjuster fully counter-clockwise. Low (LSC) and High (HSC) Speed Compression settir - Count the number of clic while turning the compres adjusters fully counter- clockwise.		High (HSC) ssion settings nber of clicks ne compression counter-
				LSC	HSC (RC2)
50					
100					
150					
200					

Part	ТооІ	Torque
Air spring shaft nut	8 mm hex and 12 mm socket	3.3 N•m (29 in-lb)
Bleed screw - rebound damper seal head (Charger 2.1 Damper)	T10 TORX bit socket	1.7 N•m (15 in-lb)
Bottom bolts	5 mm hex bit socket	7.3 N•m (65 in-lb)
Bottomless Tokens	8 mm hex and 24 mm or RockShox Top Cap/ Cassette Tool (or standard cassette tool)	4 N∙m (35 in-lb)
Compression damper into cartridge tube (Charger Damper RC)	24 mm socket or RockShox Top Cap/Cassette Tool (or standard cassette tool)	9 N•m (80 in-lb)
Retaining nut - Dual Position Air (DPA) adjuster knob	10 mm socket	2 N•m (18 in-lb)
Retaining screw - compression knob (Charger 2.1 Damper)	2 mm hex bit socket	1.2 N•m (10 in-lb)
Retaining screw - compression knob (Charger Damper RC)	2.5 mm hex bit socket	1.4 N•m (12 in-lb)
Seal head - rebound damper (Charger 2.1 Damper)	23 mm crowfoot	5.1 N•m (45 in-lb)
Set screw - rebound adjuster knob	2.5 mm hex bit socket	0.9 N•m (8 in-lb)
Top caps	24 mm socket or RockShox Top Cap/Cassette Tool (or standard cassette tool)	28 N•m (250 in-lb)

Oil Volume and Lubricant

		Damper							Spring			
			Upper Tube			Lower Leg			Upper Tube Lower Le		r Leg	
Model Year	Fork	Damper	Oil Weight	Oil Height* (mm)	Volume (mL)	Oil Weight	Volume (mL)	Spring	Oil Weight [‡] (wt) and/or Grease	Volume (mL)	Oil Weight	Volume (mL)
	ZEB UltimateCharger 2.1 RC2 DamperZEB Select+Charger 2.1 RC Damper	Channen						DebonAir				
		arger RC2 arger RC nper		Plead	0	20	Dual Position Air	‡RockShox Dynamic Seal Grease	Grease	0	20	
							DebonAir					
							Dual Position Air					
2021	ZEB Charger Select RC Damper	3wt Charger	3Wt	-	віееа	0w-30	20	DebonAir	(DebonAir:	Piston	0w-30	20
					Dual Position Air	+ 3mL 0w- 30)						
								DebonAir				
	ZEB	Charger R Damper						Dual Position Air				

 $^{\ast}\mbox{Oil}$ Height - Measure from the top of the crown (above the upper tube) down to the oil.

\$ Air Spring Oil / Grease - ZEB forks are compatible with RockShox Dynamic Seal Grease.













Lower Leg Removal and Service - All Forks

50/200 Hour Service Lower Leg Removal

Remove the air valve cap.





DebonAir

Dual Position Air

2

3

Depress the Schrader valve and release all air pressure.

▲CAUTION - EYE HAZARD

Verify all pressure is removed from the fork before proceeding. Failure to do so can result in injury and/or damage to the fork. Wear safety glasses.





DebonAir

Turn the rebound adjuster knob counter-clockwise until it stops. This is the full open/fast rebound setting.

Loosen the rebound adjuster knob screw and remove the rebound adjuster knob.





2.5 mm







5

6

Strike each bottom bolt to dislodge the shafts from the lower leg on each side. The bolt head should contact the bottom of the lower leg. Remove each bottom bolt. Clean each bolt and set them aside.





Spring Side





Spring Side

Firmly pull the lower leg downward until fluid begins to drain. Continue pulling downward to remove the lower leg.

If the lower leg does not slide off of the upper tube or if oil does not drain from either side, the press fit of the shaft(s) into the lower leg may still be engaged. Reinstall the bottom bolts 2 to 3 turns and repeat the previous step.

NOTICE

Do not strike the fork arch with any tool when removing the lower leg as this could damage the lower leg.





50 Hour Service Continue the 50 Hour Service with Lower Leg Service. 200 Hour Service Continue the 200 Hour Service with Lower Leg Seal Service.

> Lower Leg Removal 16



Remove the foam rings.







2 Clean the foam rings.

Replace the foam rings if worn, damaged, or excessively contaminated.











3 Soak the foam rings in RockShox suspension oil.





Clean the inside and outside of the lower leg. Clean the wiper seals.



5

Install the foam rings under the wiper seals.

Confirm the foam rings are installed evenly in the space under the wiper seals and do not protrude over the bushings.





50 Hour Service Continue the 50 Hour Service with Lower Leg Installation.

200 Hour Service Lower Leg Seal Service



2

Remove and discard the foam rings.

Remove the outer wire springs from the dust wiper seals.





Stabilize the lower leg on a bench top. Place the tip of a downhill tire lever under the wiper seal. Press down on the downhill tire lever handle to remove the seal.

Repeat on the other side. Discard the wiper seals.

NOTICE

Keep the lower leg stable. Do not allow the lower leg to twist in opposite directions, compress toward each other, or be pulled apart. This will damage the lower leg.





Downhill Tire Lever





Clean the inside and outside of the lower leg.





Soak the new foam rings in RockShox suspension oil. Install the new foam rings into the lower leg.







Remove the outer wire spring from each new dust wiper seal and set them aside.





Insert the narrow end of a new wiper seal into the recessed end of the 38 mm Dust Seal Installation tool.



Stabilize the lower leg on a bench top. Hold the lower leg steady and press the wiper seal into the lower leg until the top of the seal is flush with the top of the lower leg.

Repeat on the other side.

NOTICE

Only press the wiper seal into the lower leg until it is flush with the top surface of the lower leg. Pressing the wiper seal below the top surface of the lower leg will compress the foam ring.







Air Spring Service - DebonAir

200 Hour Service DebonAir - Air Spring Removal

MARNING- EYE HAZARD

Verify all pressure is removed from the fork before proceeding. Depress the Schrader valve again to remove any remaining air pressure. Failure to do so can result in injury and/or damage to the fork.

NOTICE

Inspect each part for scratches. Do not scratch any sealing surfaces when servicing your suspension. Scratches can cause leaks.

When replacing seals and o-rings, use your fingers or a pick to remove the seal or o-ring. Spray isopropyl alcohol on each part and clean with a clean lint-free rag.

Apply RockShox Dynamic Seal grease to the new seals and o-rings.





3

Remove the air spring top cap. Clean the upper tube threads.





Remove the top cap o-ring and discard it. Apply grease to a new o-ring and install it.





Push the air shaft into the upper tube with your thumb. While holding the shaft in, remove the retaining ring. Slide the retaining ring onto your thumb and carefully release the air spring shaft.

NOTICE

Do not scratch the air spring shaft. Scratches on the air shaft will allow air to bypass the seal head into the lower leg, resulting in reduced spring performance.





Thread a bottom bolt into the end of the air shaft.

 Δ

5

Wrap a shop towel around the end of the air shaft for extra grip

Push the shaft half way into the upper tube, then quickly and firmly pull the shaft out to dislodge the seal head. Remove the air spring assembly from the upper tube.

Remove the red seal head spacer and the bottom bolt from the air shaft

Note: Some earlier ZEB forks were built with a red seal head. A silver seal head is shown in this Service Manual and is included in the service kits.

NOTICE

Do not scratch the inside of the upper tube. Scratches will allow air to bypass the seals resulting in reduced spring performance.









Clamp an 18 mm socket into a vise. Position the air piston onto the socket. While holding the air shaft, unthread and remove the air shaft nut from the air spring shaft.

Remove the air assembly from the vise.





18 mm

12 mm





Remove the seal head and top out bumper from the air spring shaft. Discard the seal head.

Clean and inspect the shaft for damage.

Clean the top out bumper.

NOTICE

Scratches on the air spring shaft can cause air to leak. If a scratch is visible the air spring assembly may need to be replaced.







Remove the quad ring seal from the air piston and discard it. Clean the air piston.

Apply grease to a new quad ring seal and install it.

NOTICE

Do not scratch the air piston. Scratches will cause air to leak.







Clean the inside and outside of the upper tube.

Inspect the inside and outside of the upper tube for damage.

NOTICE

Scratches on the inside surface of the upper tube can cause air to leak. If an internal scratch is visible, the crown steerer upper tube assembly may need to be replaced.





DebonAir - Air Spring Travel Change and Bottomless Tokens (optional)

To increase or decrease the travel in your RockShox ZEB fork, the air spring must be replaced with the appropriate length air spring shaft assembly. For example, to change a ZEB with a maximum of 160 mm of travel to a maximum of 180 mm of travel, a 180 mm air spring shaft assembly must be installed.

Bottomless Tokens can be added to, or removed from the DebonAir (DA) top cap to fine-tune the bottom-out feel and spring curve. Use the chart below to help determine the number of Bottomless Tokens that can be used with each maximum fork travel option. If fork travel is changed from stock, it may be necessary to add or remove Bottomless Tokens.

Refer to the RockShox Spare Parts Catalog at www.sram.com/service for available air spring and Bottomless Token kits.

For part ordering information, please contact your local SRAM distributor or dealer.

DebonAir - Travel and Bottomless Token Tuning

	27.5"	Boost	29" [Boost
Fork Travel	Bottomless TokensBottomless TokensFactory InstalledMaximum		Bottomless Tokens Factory Installed	Bottomless Tokens Maximum
190	0	4	0	4
180	0	4	0	4
170	1	4	1	4
160	2	5	2	5
150	2	5	2	5

DebonAir - Bottomless Tokens Installation (optional)

Bottomless Tokens reduce air volume in your fork and create greater ramp at the end of the fork travel. Add tokens to tune your fork's bottomless feel. See <u>Air Spring Travel Change and Bottomless Tokens</u> for the maximum number of Tokens for your fork.

Thread a Bottomless Token into another Bottomless Token, or into the the bottom of the top cap, and tighten.



DebonAir - Air Spring Installation

It is optional to change maximum fork travel by replacing the stock air spring shaft assembly with a shorter or longer air spring shaft assembly. If maximum travel is increased or reduced, use the new complete air spring shaft assembly in the following installation steps. It may also be necessary to add or remove Bottomless Tokens. Refer to <u>Air Spring Travel Change and Bottomless Tokens</u> for details.

Refer to the RockShox Spare Parts Catalog available at <u>www.sram.com/service</u> for the required spare part kits. For part ordering information, please contact your local SRAM distributor or dealer.

1

Apply a liberal amount of grease evenly around the end of a clean plastic dowel, approximately 150 mm from one end. Use the dowel to apply the grease to the inside surface of the upper tube, approximately 150 mm into the tube.









Install the top out bumper onto the shaft.





Apply a liberal amount of grease to the air spring shaft.





Install the new seal head assembly onto the air shaft.



6 Apply red Loctite 2760 to the first two to three full threads on the end of the air shaft.

Clamp an 18 mm socket into a vise. Insert the air piston onto the socket to secure it. Install the air shaft nut onto the air shaft and tighten it.







8

Apply grease to the air piston and seal head outer o-rings/seals. Apply 0w-30 suspension oil to the spring shaft, above the seal head.





Insert the air spring assembly into the upper tube. Firmly push the air piston into the upper tube.

Insert the red spacer into the upper tube and firmly press it into the upper tube until it stops.





Retaining rings have a sharper-edged side and a rounder edged side. Installing retaining rings with the sharper-edged side facing the tool will allow for easier installation and removal.

Place the tips of the retaining ring pliers into the eyelets of the retaining ring. Guide the retaining ring with your finger to prevent the shaft from getting scratched while installing the retaining ring.

Use the pliers to push the seal head into the upper tube while installing the retaining ring into the groove. Release the retaining ring pliers when the ring is fully seated in the groove.

Confirm the retaining ring is properly seated in the retaining ring groove by using the retaining ring pliers to rotate the retaining ring and seal head back and forth a few times, then firmly pull down on the air shaft.

NOTICE

Do not scratch the air spring shaft. Scratches on the air shaft will allow air to bypass the seal head into the lower leg, resulting in reduced spring performance.





Pull the shaft out until it stops.

10







11

Install the air spring top cap into the upper tube and tighten it.





200 Hour Service To continue with Charger 2.1 Damper service, go to <u>Charger 2.1 Damper Service</u>.
200 Hour Service To continue with Charger RC Damper service, go to <u>Charger RC Damper Service</u>.
200 Hour Service To continue with Charger R Damper service, go to <u>Charger R Damper Service</u>.

Air Spring Service - Dual Position Air (DPA)

200 Hour Service DPA - Air Spring Removal

MWARNING- EYE HAZARD

Verify all pressure is removed from the fork before proceeding. Depress the Schrader valve again to remove any remaining air pressure. Failure to do so can result in injury and/or damage to the fork.

NOTICE

Inspect each part for scratches. Do not scratch any sealing surfaces when servicing your suspension. Scratches can cause leaks.

When replacing seals and o-rings, use your fingers or a pick to remove the seal or o-ring. Spray isopropyl alcohol on each part and clean with a clean lint-free rag.

Apply RockShox Dynamic Seal grease to the new seals and o-rings.





Remove the travel adjuster knob retaining nut. Remove the travel adjuster knob.





10 mm



2

Remove the air spring top cap. Clean the upper tube threads.









4

5

Push the air shaft into the upper tube to prevent it from getting scratched while removing the retaining ring.

Remove the retaining ring.

NOTICE

Do not scratch the air spring shaft. Scratches on the air shaft will allow air to bypass the seal head into the lower leg, resulting in reduced spring performance.





Retaining ring pliers

Retaining ring pliers

Thread the shaft bolt into the end of the air spring shaft for added grip.

With the shaft pushed half way into the upper tube, quickly and firmly pull the shaft out to remove the seal head and air spring assemblies from the upper tube.

Remove the shaft bolt from the air spring shaft.

Note: Some earlier ZEB forks were built with a red seal head. A silver seal head is shown in this Service Manual and is included in the service kits.







Remove the seal head and top out bumper from the air spring shaft. Discard the seal head.

Clean and inspect the shaft for damage.

Clean the top out bumper.

NOTICE

Scratches on the air spring shaft can cause air to leak. If a scratch is visible the air spring assembly may need to be replaced.







Remove the inner and outer air piston o-rings and discard them. Clean the air piston.

Apply grease to new o-rings and install them.

NOTICE

Do not scratch the air piston. Scratches will cause air to leak.







8

Clean the inside and outside of the upper tube.

Inspect the inside and outside of the upper tube for damage.

NOTICE

Scratches on the inside surface of the upper tube can cause air to leak. If an internal scratch is visible, the crown steerer upper tube assembly may need to be replaced.



DPA - Air Spring Travel Change and Bottomless Tokens (optional)

To increase or decrease the travel in your RockShox ZEB fork, the air spring must be replaced with the appropriate length air spring shaft assembly. For example, to change a ZEB with a maximum of 160 mm of travel to a maximum of 180 mm of travel, a 180 mm air spring shaft assembly must be installed.

Bottomless Tokens can be added to, or removed from, the Dual Position Air (DPA) air spring assembly to fine-tune the bottom-out feel and spring curve. Use the chart below to help determine the number of Bottomless Tokens that can be used with each maximum fork travel option. If fork travel is changed from stock, it may be necessary to add or remove Bottomless Tokens.

Refer to the RockShox Spare Parts Catalog at <u>www.sram.com/service</u> for available air spring and Bottomless Token kits.

For part ordering information, please contact your local SRAM distributor or dealer.

DPA - Travel and Bottomless Token Tuning

	27.5"	Boost	29" E	Boost
Fork Travel	Bottomless TokensBottomless TokensFactory InstalledMaximum		Bottomless Tokens Factory Installed	Bottomless Tokens Maximum
180	0	4	0	4
170	0	5	0	5
160	1	5	1	5

DPA - Bottomless Tokens Installation (optional)

Bottomless Tokens reduce air volume in your fork and create greater ramp at the end of the fork travel. Add tokens to tune your fork's bottomless feel. Do not install more than the maximum number of Bottomless Tokens for your fork.

Install Bottomless Token onto the DPA air spring shaft, as desired.



DPA - Air Spring Installation

It is optional to change maximum fork travel by replacing the stock air spring shaft assembly with a shorter or longer air spring shaft assembly. If maximum travel is increased or reduced, use the new complete air spring shaft assembly in the following installation steps. It may also be necessary to add or remove Bottomless Tokens. Refer to Air Spring Travel Change and Bottomless Tokens for details.

Refer to the RockShox Spare Parts Catalog available at <u>www.sram.com/service</u> for the required spare part kits. For part ordering information, please contact your local SRAM distributor or dealer.

1

Apply a liberal amount of grease evenly around the end of a clean plastic dowel, approximately 60 mm from one end. Use the dowel to apply the grease to the inside surface of the upper tube, approximately 60 mm into the tube.



Dowe





Install the top out bumper onto the shaft. Apply a liberal amount of grease to the air spring shaft.







4 Install the retaining washer/backup ring, a new wave spring, and the new seal head assembly, in that order, onto the air shaft.



Apply grease to the air piston and seal head outer o-ring/seals.





Insert the air spring assembly into the upper tube. Firmly push the air piston into the upper tube.

Use your fingers to firmly press the seal head into the upper tube until it stops.

Insert the seal head spacer into the upper tube.





Retaining rings have a sharper-edged side and a rounder edged side. Installing retaining rings with the sharper-edged side facing the tool will allow for easier installation and removal.

Push the air shaft into the upper tube to prevent it from getting scratched while installing the retaining ring.

Place the tips of the retaining ring pliers into the eyelets of the retaining ring, then use the pliers to push the seal head into the upper tube while installing the retaining ring into the groove.

Confirm the retaining ring is properly seated in the retaining ring groove by using the retaining ring pliers to rotate the retaining ring and seal head back and forth a few times, then firmly pull down on the air shaft.

NOTICE

Do not scratch the air spring shaft. Scratches on the air shaft will allow air to bypass the seal head into the lower leg, resulting in reduced spring performance.






Thread a bottom bolt into the shaft 2 to 3 turns and pull the shaft out until it stops. Remove the bolt.

9 Apply a liberal amount of grease to the top cap upper air spring shaft.



Install the air spring top cap into the upper tube and tighten it. Press down firmly when tightening the top cap. 10





11

Place the adjuster knob onto the top cap with the long tab near the back of the crown. Turn the adjuster knob counter-clockwise until it engages the first detent space.

Thread the knob retaining nut onto the threaded air valve body and tighten the knob retaining nut.



10 mm in-lb

2 N•m (18 in-lb)



200 Hour Service To continue with Charger 2.1 Damper service, go to <u>Charger 2.1 Damper Service</u>.
200 Hour Service To continue with Charger RC Damper service, go to <u>Charger RC Damper Service</u>.

200 Hour Service To continue with Charger R Damper service, go to Charger R Damper Service.

Charger 2.1 Damper RC2 and RC - Damper Service

200 Hour Service Charger 2.1 Damper - Controls Removal

1

2

The compression damper must be in the full open position in order to perform bleed procedure.

Turn the compression adjuster knobs counter-clockwise, to the full open position, until they stop.







Charger 2.1 RC2



Remove the knob retaining screw.



2.5 mm Charger 2.1 RC2





Charger 2.1 RC2



Charger 2.1 RC2: Remove the low speed compression adjuster knob and the high speed compression adjuster knob.

Charger 2.1 RC: Remove the high speed compression adjuster knob.





Charger 2.1 RC2



Unthread the damper top cap and remove the Charger 2.1 Damper assembly.

Clean the upper tube threads.



Top cap / Cassette tool







Remove the o-ring from the top cap. Clean the top cap threads and o-ring groove. Apply grease to a new o-ring and install it.



Clamp the cartridge tube wrench flats in a vise with flat soft jaw inserts, 2 with the rebound damper oriented upwards.

Wrap a shop towel around the cartridge tube to absorb oil.





Δ

Unthread and slowly remove the rebound damper seal head assembly from the cartridge tube.





23 mm

Remove the seal head from the rebound damper shaft and discard it.





The solid band glide ring is not removable and only requires cleaning. Do not remove.







6 Apply grease to the new rebound damper seal head seals.







Install the new seal head onto the rebound damper shaft, threaded end first, and slide it towards the piston until it stops.



8

Remove the bleed screw from the seal head.





Remove the cartridge tube from the vise and pour the oil into an oil pan.

Squeeze the bladder to drain the oil from the compression damper assembly into an oil pan.







11

12

Clamp the cartridge tube, on the bladder coupler wrench flats, back into the vise.

Spray RockShox Suspension Cleaner or isopropyl alcohol into the cartridge tube.





Squeeze the bladder 5-6 times to circulate the cleaner into the damper.



Remove the tube from the vise. Orient the tube downward and squeeze the bladder until the cleaner and any remaining oil is drained into an oil pan.

Place the tube on a shop towel for a few minutes to allow any excess cleaner to drain.





Dry the cartridge tube and compression damper assembly with compressed air.



200 Hour Service Charger 2.1 Damper - Damper Assembly

Clamp the cartridge tube wrench flats lightly into the vise and soft jaw inserts. Wrap a shop towel around the tube to absorb any oil.

Pour 3wt suspension oil into the cartridge tube until it is full.

Squeeze the bladder until trapped bubbles stop purging. Pour additional oil into the cartridge tube until full.





The rebound damper must be in the full open/fastest rebound setting before installation.

Insert the rebound adjuster knob into the rebound damper shaft until it contacts the rebound adjuster screw. Turn the knob counter-clockwise until it stops.

Remove the adjuster knob from the shaft.

2







Insert the rebound damper piston slowly into the cartridge tube and thread the sealhead into the tube.

Tighten the seal head.



23 mm

5.1 N·m (45 in-lb)

4

Thread the rebound bottom bolt into the shaft 3-4 turns.





Draw 3wt suspension oil into a RockShox Bleed syringe until it is half full.

Hold the syringe upright, cover the tip with a shop towel, and gently depress the plunger to purge any air bubbles from the syringe.

NOTICE

Only use a RockShox bleed syringe.

1

3

Do not use syringes that have been in contact with DOT brake fluid. DOT brake fluid will permanently damage the seals and will cause the fork to malfunction.



RockShox Bleed Syringe

Thread the syringe bleed fitting into the seal head bleed port. Depress the plunger to pressurize the damper assembly.

Push the rebound damper shaft into the cartridge tube while applying opposing pressure on the syringe plunger as the syringe fills with oil.







Pull the rebound damper shaft slowly out of the cartridge tube while applying opposing pressure on the syringe plunger as oil fills the damper.

Repeat this process until bubbles are no longer pulled from the damper into the syringe.



Fully extend the rebound damper shaft. Push the syringe plunger down, then release the plunger. Allow the bladder to expand and retract until it stops in a resting position.











6

Unthread the syringe bleed fitting from the bleed port.

Install the bleed screw and tighten it.

Wipe away any excess oil.

▲CAUTION - EYE HAZARD

Oil may eject from the bleed port if the bladder is not in a resting position. Wear safety glasses.









1

Cycle the rebound shaft a few times. Remove the bottom bolt and clean the Charger 2.1 Damper assembly.



Charger 2.1 Damper - Test Compression

While compressing the damper, use a 13 mm socket to rotate the compression cam clockwise until it stops in the firm position

Consistent resistance should be felt with no gaps in movement. If gaps are felt during compression, repeat the bleed process.

If the bleed was successful, rotate the compression cam counterclockwise until it stops, to the unlocked position.



13 mm





Install the Charger 2.1 Damper assembly into the damper side upper tube. Thread the top cap into the upper tube.







Top cap / Cassette tool

Tighten the top cap.

2



Install the high speed compression adjuster knob.





Charger 2.1 RC2

Charger 2.1 RC

Install the low speed compression adjuster knob onto the hex adjuster rod.





1

2

Install and tighten the retaining screw.









200 Hour Service Continue the 200 Hour Service with Lower Leg Installation.

Charger RC Damper - Damper Service

200 Hour Service Charger RC Damper - Damper Removal

Turn the compression adjuster knob counter-clockwise, to the full open position, until it stops.



2

Remove the retaining screw and remove the knob (RC).





3

Unthread the damper top cap and remove the damper assembly.

Clean the upper tube threads.





Top cap / Cassette tool





Clamp the cartridge tube in a vise with Charger Vise Blocks.





Charger Vise Blocks

2

3

Δ

Unthread the top cap from the tube.

NOTICE

The cartridge tube and vise blocks must be dry and free of oil to provide enough grip to unthread the top cap. If the cartridge tube slips, clean and dry the tube and vise blocks.



Top cap / Cassette tool or 24 mm

Wrap a shop towel around the cartridge tube under the top cap to absorb oil.

Carefully remove the compression damper.



Remove the cartridge tube and rebound damper assembly from the vise and pour the oil into an oil pan.

Clean the exterior of the cartridge tube.





6

7

Clamp the cartridge tube into a vise with Charger Vise Blocks. Remove the rebound damper seal head and rebound damper. Remove the cartridge tube from the vise.





Charger Vise Blocks





Remove the seal head from the rebound damper shaft. Discard the seal head.



Inspect the inside of the cartridge tube for scratches.

NOTICE

Scratches on the inside surface of the tube can cause oil to leak. If an internal scratch is visible, the cartridge tube may need to be replaced.





Remove the o-rings from the compression damper and discard them. Apply grease to new o-rings and install them.





9 The solid band glide ring is not removable and only requires cleaning. Do not remove.





Apply grease to the inner seal and bushing in the new rebound damper seal head.

Apply grease to the end of the rebound damper shaft.











Slide the seal head toward the piston.



2

Insert the rebound adjuster knob into the rebound damper shaft and rotate it counter clockwise until it stops. This is the full open position.



Clamp the seal head into the vise.





5

Insert the rebound damper shaft into the cartridge tube. Tighten the seal head hand tight.





Pull the damper shaft to full extension. Thread a bottom bolt into the rebound damper shaft.



6 Secure a shop towel around the cartridge tube to absorb oil. Pour 3wt suspension oil into the tube until it is approximately half full.





Slowly cycle the rebound damper in and out half way to remove air bubbles trapped under the rebound damper piston.

Stop when no bubbles are visible in the oil.





8

9

Push the rebound damper into the cartridge tube until there is **100 mm** (length) of shaft extended. Do not push the damper into the tube any further.



Pour 3wt suspension oil into the tube until the oil is just below the purge holes.





Insert the compression damper into the cartridge tube and slowly push it into the tube. The rebound damper will slowly extend as the compression damper is installed; this is normal.

Firmly push down and thread the top cap into the tube.



Tighten the top cap to the specified torque. The rebound damper seal head will be tightened onto the other end of the cartridge tube simultaneously.



12

11

Pull the rebound damper to full extension.

Secure a plastic cable tie around the shaft $\mathbf{19}\ \mathbf{mm}$ from the end of the shaft.



Cover the purge hole(s) with the secured towel.

Oil may exit the cartridge tube purge hole(s). Wear safety glasses and keep your eyes and face away from the purge hole(s) when compressing the rebound damper.



14

Slowly push the rebound damper shaft into the tube until the cable tie contacts the seal head, then stop. **Do not push the damper in any further.**

Slowly, pull the shaft out to full extension.

Repeat 3-5 more times. This will allow any excess oil and air to escape from system.

Remove the bottom bolt. Remove the damper assembly from the vise and clean it with a shop towel.

Do not remove the cable tie.





1

Use the adjuster knob to rotate the compression cam clockwise, until it stops, to the firm position.

The cable tie must be **19 mm** from the end of the shaft. **Do not** compress the rebound damper further than this point.

Cover the oil purge hole(s) with the secured towel.

Oil may exit the cartridge tube purge hole(s). Wear safety glasses and keep your eyes and face away from the purge hole(s) when compressing the rebound damper.

Push down on the damper assembly slowly to test the firmest compression setting. Firm and consistent resistance should be felt with no gaps in movement.

Rotate the compression damper to open setting and repeat the compression test. Light consistent resistence should be felt with no gaps in movement.

If gaps are felt during compression, repeat the oil fill and purge process. If the assembly process was successful, set the compression damper to the open setting and remove the cable tie.



200 Hour Service Charger RC Damper - Damper Installation

Install the damper assembly into the damper side upper tube. Thread the top cap into the upper tube and tighten it







Install the adjuster knob with the tab in the 7-8 o'clock, unlocked, position.









Charger R Damper – Damper Service

200 Hour Service Charger R Damper - Damper Removal

1 Unthread the damper top cap and remove the damper assembly.



Top cap / Cassette tool



Clean the upper tube threads.



Clamp the cartridge tube in a vise with Charger Vise Blocks.



Charger Vise Blocks

2

3

Δ

Unthread the seal head from the tube.

NOTICE

The cartridge tube and vise blocks must be dry and free of oil to provide enough grip to unthread the top cap. If the cartridge tube slips, clean and dry the tube and vise blocks.



Wrap a shop towel around the cartridge tube under the top cap to absorb oil.

Carefully remove the compression damper.



Remove the seal head from the rebound damper shaft. Discard the seal head.





The solid band glide ring is not removable and only requires cleaning. Do not remove.





6

7

Apply grease to the inner seal and bushing in the new rebound damper seal head.

Apply grease to the end of the rebound damper shaft.







Remove the cartridge tube and rebound damper assembly from the vise and pour the oil into an oil pan.

Clean the exterior of the cartridge tube.





9

10

8

Unthread the top cap from the tube.

NOTICE

The cartridge tube and vise blocks must be dry and free of oil to provide enough grip to unthread the top cap. If the cartridge tube slips, clean and dry the tube and vise blocks.



Wrap a shop towel around the cartridge tube below the top cap to absorb oil.

Carefully remove the top cap and IFP spring.





Remove the o-rings from the top cap and discard them. Apply grease to new o-rings and install them.





12 Insert a dowel into the bottom of the damper tube and remove the IFP. Replace the IFP o-ring.



Dowel



13

Spray RockShox Suspension Cleaner or isopropyl alcohol into the cartridge tube and clean the inside of the tube with a clean shop towel and a thin dowel (\leq 16 mm diameter).

Inspect the inside of the cartridge tube for scratches.

NOTICE

Scratches on the inside surface of the tube can cause oil to leak. If an internal scratch is visible, the cartridge tube may need to be replaced.







Slide the seal head toward the piston.



2

Insert the rebound adjuster knob into the rebound damper shaft and rotate it counter clockwise until it stops. This is the full open position.



3

Clamp the seal head into the vise.





Insert the rebound damper shaft into the cartridge tube. Tighten the seal head hand tight.





Pull the damper shaft to full extension. Thread a bottom bolt into the rebound damper shaft.



6

7

8

Secure a shop towel around the cartridge tube to absorb oil. Pour 3wt suspension oil into the tube until it is approximately half full.



Slowly cycle the rebound damper in and out half way to remove air bubbles trapped under the rebound damper piston.

Stop when no bubbles are visible in the oil.





Push the rebound damper into the cartridge tube until there is 100 mm (length) of shaft extended. Do not push the damper into the tube any further.




11

Pour additional 3wt suspension oil into the tube until the oil is just below the purge holes.



10 Insert the IFP into the cartridge tube, with the recessed of the IFP facing away from the cartridge tube.

Slowly insert the compression damper into the cartridge tube.

Firmly push down and thread the top cap into the tube. Insert and tighten the top cap into the cartridge tube.













Pull the rebound damper to full extension.

Secure a plastic cable tie around the shaft $\mathbf{19}\ \mathbf{mm}$ from the end of the shaft.



13

14

Cover the purge hole(s) with the secured towel.

ACAUTION

Oil may exit the cartridge tube purge hole(s). Wear safety glasses and keep your eyes and face away from the purge hole(s) when compressing the rebound damper.



Slowly push the rebound damper shaft into the tube until the cable tie contacts the seal head, then stop. **Do not push the damper in any further.**

Slowly, pull the shaft out to full extension.

Repeat 3-5 more times. This will allow any excess oil and air to escape from system.

Remove the bottom bolt. Remove the damper assembly from the vise and clean it with a shop towel.

Do not remove the cable tie.





Charger R Damper - Test Compression

The cable tie must be **19 mm** from the end of the shaft. **Do not** compress the rebound damper further than this point.

Cover the oil purge hole(s) with the secured towel.

ACAUTION

Oil may exit the cartridge tube purge hole(s). Wear safety glasses and keep your eyes and face away from the purge hole(s) when compressing the rebound damper.

If gaps are felt during compression, repeat the oil fill and purge process.

If the assembly process was successful, set the compression damper to the open setting and remove the cable tie.



200 Hour Service Charger R Damper - Damper Installation

- Install the damper assembly into the damper side upper tube. Thread the top cap into the upper tube and tighten itCharger Damper ${\rm RC}$ Service



Top cap / Cassette tool

Lower Leg Assembly

50/200 Hour Service Lower Leg Installation

1

Clean the upper tubes.



2

Apply grease to the inner surfaces of the dust wiper seals.



Install the lower leg assembly onto the upper tubes and slide it just enough to engage the upper bushings with the upper tubes.

NOTICE

Make sure both wiper seals slide onto the tubes without folding the outer lip of either seal.

The inside bottom of the lower leg should not contact the spring or damper shafts. A gap between the shaft ends and the lower leg bolt holes should be visible.



4

3

Position the fork at an angle with the bolt holes oriented upward. Inject RockShox 0w-30 suspension oil into **each lower leg** through the bottom bolt holes.

NOTICE

Do not exceed the recommended oil volume per leg as this can damage the fork.





The spring and damper shafts should be visible through the bottom bolt holes.

Verify each shaft is centered and seated in the lower leg shaft/bolt hole and no gap is visible between the lower leg and the shaft end.



200 Hour Service Remove the old crush washers from each bottom bolt.

Hold the crush washer with needle nose pliers and unthread it from the bolt by turning the bolt counter-clockwise. Discard the crush washers.

Clean the bolts and install new crush washers.

6

NOTICE

Dirty or damaged crush washers can cause oil to leak from the fork.















8

9

Install the black bottom bolt into the spring side shaft. Install the silver or red bottom bolt into the damper side shaft.







5 mm

Damper side

Install the rebound damper knob and tighten the set screw.

Do not over-tighten the set screw. Over-tightening will seize the adjuster knob and it will not turn.

Refer to your pre-service recorded rebound setting to adjust the rebound damping.





Charge

Refer to your pre-service recorded settings, or use the air chart on the fork's lower leg, and pressurize the air spring.

You may see a drop in the indicated air pressure on the pump gauge while filling the air spring; this is normal. Continue to fill the air spring to the recommended air pressure.

Cycling the fork will equalize the positive and negative air chambers. After the fork is cycled 3-4 times, check the pressure and add air as needed.

Install the air valve cap.







This concludes the service of your RockShox ZEB suspension fork.

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