



# VIVID AIR

## 2011 Technical Manual



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## SRAM LLC WARRANTY

### EXTENT OF LIMITED WARRANTY

SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. 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 component was purchased. Original proof of purchase is required.

### LOCAL LAW

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

- a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).
- b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

### LIMITATIONS OF LIABILITY

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party supplies be liable for direct, indirect, special, incidental, or consequential damages.

### LIMITATIONS OF WARRANTY

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM technical installation manual. The SRAM installation manuals can be found online at [www.sram.com](http://www.sram.com), [www.rockshox.com](http://www.rockshox.com), [www.avidbike.com](http://www.avidbike.com), [www.truvativ.com](http://www.truvativ.com), or [www.zipp.com](http://www.zipp.com).

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of 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.

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

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 ARE IDENTIFIED AS:

Dust seals/Bushings/Air sealing o-rings/Glide rings/Rubber moving parts/Foam rings/Rear shock mounting hardware and main seals/Stripped threads and bolts (aluminum,titanium, magnesium or steel)/Upper tubes (stanchions)/Brake sleeves/Brake pads/Chains/Sprockets/Cassettes/Shifter and brake cables (inner and outer)/Handlebar grips/Shifter grips/Jockey wheels/Disc brake rotors/Wheel braking surfaces/Bottom out pads/Bearings/Bearing Races/Pawls/Transmission gears/Spokes/Free hubs/Aero bar pads/Corrosion/Tools

This warranty shall not cover damages caused by the use of parts of different manufacturers.

This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorized by SRAM for use with SRAM components.

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

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## ROCKSHOX SUSPENSION 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 special tools and fluids used for service.

Used suspension fluid should be recycled or disposed of in accordance to local and federal regulations.

NEVER pour suspension fluid down a sewage or drainage system or into the ground or a body of water.

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For exploded diagram and part number information, please refer to the Spare Parts Catalog available on our web site at [www.sram.com](http://www.sram.com).

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

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

Your product's appearance may differ from the pictures/diagrams contained in this document.

Product names used in this document may be trademarks or registered trademarks of others.

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# **SAFETY FIRST!**

At SRAM, we care about YOU. Please, always wear your safety glasses and protective gloves when servicing your RockShox suspension. Protect yourself! Wear your safety gear!

# TOOLS NEEDED FOR SERVICE

The following chart is a list of the model year 2011 tools needed for service on your Vivid Air rear shock. While this chart is intended to be comprehensive, it is still only a guide. The tools required for each step of service are detailed in the text of the service section.

<b>TOOLS</b>
<b>Safety/Starting Equipment</b>
Safety Glasses
Nitrile Gloves
Apron
Clean Rags (Lint Free)
Oil Measuring Device
Oil Pan
Clean Work Area
Bench Vice
Soft Jaws
<b>General Tools</b>
2 mm Hex
2.5 mm Hex
4 mm Hex
13 mm Open-End/Box Wrench
30 mm Flat Wrench
Adjustable Wrench
Torque Wrench
Open-End 16 Notch External Bottom Bracket Tool With A 35 mm Opening (Such As The Pedro's® Shimano® Integrated Bottom Bracket Wrench)
Sharp Pick
Schrader Valve Core Removal Tool
T10 TORX® Wrench
Spanner Wrench
Felt Tip Pen
<b>SRAM Tools</b>
Mounting Hardware/Eyelet Bushing Tool
Shaft Clamps
Gauged Shock Pump
Vivid Air Pump Adapter (For IFP Reservoir)
Vivid Air Can Wrench
2011 24 mm Pin Spanner
<b>Oil/Liquids</b>
Air Can Lube (Maxima® Maxum4 Extra 15w50)
Suspension Oil (RockShox 3wt)
Grease (Parker® O-Lube)
Isopropyl Alcohol
Red Threadlock

# MOUNTING HARDWARE & BUSHING SERVICE

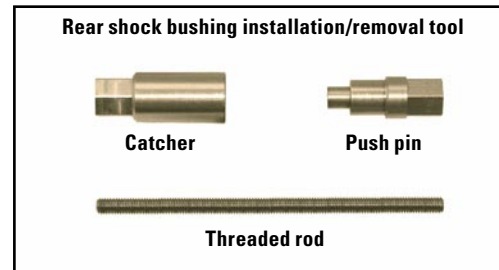
Prior to servicing your rear shock, you will first need to remove it from your bicycle frame according to your bicycle manufacturer's instructions. Once your shock is off your bicycle, you will need to remove the mounting hardware before performing any service.

Any time you need to clamp the rear shock eyelets into a vise, use aluminum soft jaws to prevent damage to the eyelets.

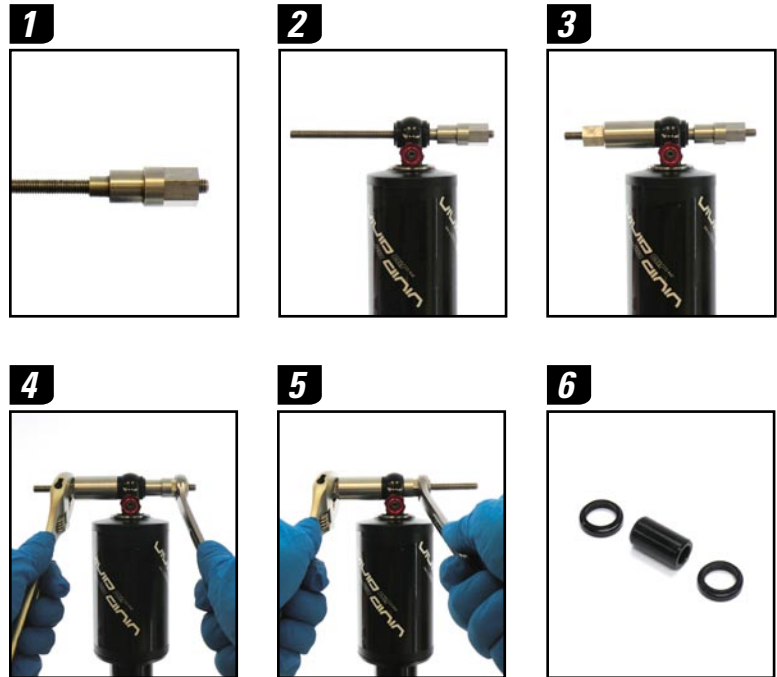
## MOUNTING HARDWARE REMOVAL

Some mounting hardware is easily removed using only your fingers. Try to remove the end spacers with your fingernail, then push the bushing pin out of the bushing. If this works, move on to the next section titled "Bushing Service".

If you are unable to remove your mounting hardware using your fingers, use the SRAM rear shock bushing installation and removal tool.



1. Thread the push pin onto the threaded rod, small diameter end first, until the rod is flush with or slightly protrudes from the hex-shaped end of the push pin.
2. Insert the threaded rod through the shock eyelet so that the push pin rests against the bushing pin.
3. Thread the catcher, with the large open end first, along the rod until it rests over the end spacer on the opposite side of the bushing pin.
4. Clamp the catcher in a vise or hold it secure with a 13 mm or adjustable wrench. Use a second 13 mm open ended or adjustable wrench to thread the push pin along the rod until it stops against the end spacer. Unthread the push pin from the threaded rod and remove the end spacer from that side.
5. Re-install the push pin onto the threaded rod and hand thread it along the rod until it rests against the bushing pin (inside the shock eyelet bushing) again. Use a 13 mm wrench to thread the push pin along the rod until it stops against the shock eyelet.
6. Unthread the catcher from the threaded rod. Remove the end spacer from the threaded rod and the bushing pin from the catcher. Remove the push pin and threaded rod from the shock. Set the mounting hardware aside until you have finished servicing your shock. Repeat for the other eyelet.



## BUSHING SERVICE

To replace damaged or worn out bushings, use the RockShox rear shock bushing installation and removal tool.

### BUSHING REMOVAL

1. Insert the threaded rod through the shock eyelet so that the base of the push pin rests against the bushing.
2. Thread the catcher, with the large open end first, along the rod until it rests on the opposite side of the shock eyelet.
3. Clamp the catcher in a vise or hold it secure with a 13 mm or adjustable wrench. Use a second 13 mm open ended wrench, an adjustable wrench, or a socket wrench with a 13 mm socket to thread the push pin along the rod until the push pin rests against the shock eyelet.
4. Unthread the catcher from the threaded rod. Remove the tool from the shock eyelet and discard the old bushing. Repeat for other eyelet.

1



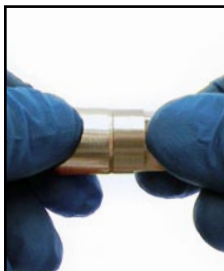
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3



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5



### BUSHING INSTALLATION

5. Apply a small amount of grease to the outside of the new bushing.
6. Position the shock eyelet and bushing between the soft jaws of a vise. Slowly turn the vise handle to begin pressing the bushing into the shock body.

**Check the alignment of the bushing as it enters the eyelet. If the bushing starts to enter the eyelet at an angle, remove the bushing from the eyelet, regrease the bushing, and repeat this step until the bushing enters the eyelet straight.**

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

7. Continue to press the bushing until it is completely seated in the eyelet.
8. Remove the shock from the vise and repeat the installation process for the other bushing and eyelet.

6



7



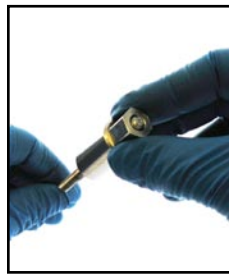
## MOUNTING HARDWARE INSTALLATION

Some mounting hardware is easily installed using only your fingers. Press the bushing pin into the shock eyelet bushing until the pin protrudes from both sides of the eyelet an equal amount. Then press an end spacer, large diameter side first, completely onto each end of the bushing pin. If this works, you have completed mounting hardware and bushing service.

If you are unable to install your mounting hardware using your fingers, use the SRAM rear shock bushing installation and removal tool.

1. Thread the push pin onto the threaded rod, small diameter end first, until the rod is flush with or slightly protrudes from the hex-shaped end of the push pin.
2. Insert the threaded rod through the bushing pin then through the shock eyelet so that the bushing pin is positioned between the push pin and the shock eyelet.
3. On the opposite side of the shock eyelet, thread the catcher, opening side first, along the rod until it rests against the shock eyelet.
4. Clamp the catcher in a vise or hold it secure with a 13 mm or adjustable wrench. Use a second 13 mm open ended wrench, an adjustable wrench, or a socket wrench with a 13 mm socket to thread the push pin along the rod so that it pushes the bushing pin into the shock eyelet bushing. Continue to thread the push pin and push the bushing pin into the shock eyelet bushing until the bushing pin protrudes from both sides of the eyelet an equal amount (you may need to unthread the catcher slightly to check the bushing pin spacing).
5. Unthread the catcher from the threaded rod and remove the tool from the shock eyelet.
6. Use your fingers to push an end spacer onto each end of the bushing pin, with the large diameter side of the spacers facing the shock eyelet.

**1**



**2**



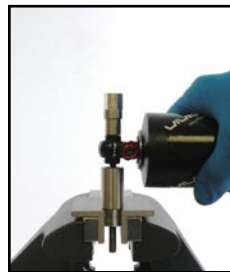
**3**



**4**



**5**



**6**





# VIVID AIR SERVICE

## INTRODUCTION

Prior to servicing your rear shock, you will first need to remove it from your bicycle frame according to your bicycle manufacturer's instructions. Once your shock is off your bicycle, remove the rear shock mount hardware. Rear shock mount hardware removal instructions can be found in the "Mounting Hardware and Bushing Service" section of this document.

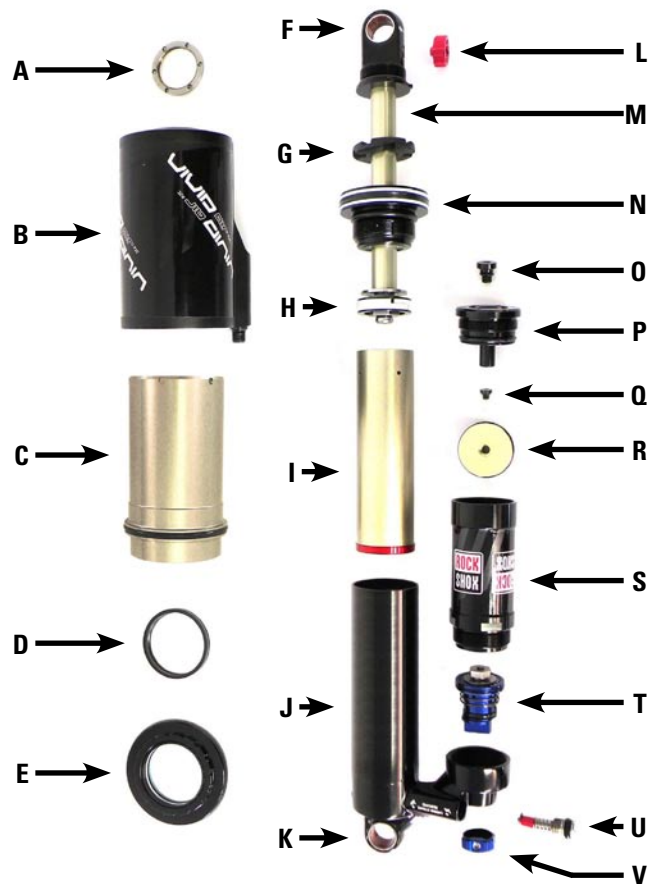
Vivid rear shock service includes instructions for completing both routine and comprehensive service procedures. Routine service procedures are maintenance items that should be performed at regular intervals in order to keep your shock functioning optimally. Comprehensive service procedures are long-term maintenance items that should be performed periodically as a supplement to the routine service items. When performing routine service intervals, you only have to complete the sections titled 'Routine Service'. When performing comprehensive service intervals, you will complete all instructions, in order, including the routine service procedures.

## SERVICE INSTRUCTIONS

### GETTING STARTED

1. Remove the shock mounting hardware (see the "Mounting Hardware And Bushing Service" section).
2. Place an oil pan on the floor underneath the area of the shock. Place a large oil absorbing rag directly underneath the vise where the shock will be clamped to catch all oil that will spill from the shock during service.
3. Check and record your current air pressure setting to assist with post-service set up.

### EXPLODED VIEW - VIVID AIR REAR SHOCK ASSEMBLY



- |                         |                          |  |
|-------------------------|--------------------------|--|
| A. Air can lock ring    | I. Damper inner sleeve   | Q. IFP bleed screw                           |
| B. Air can              | J. Shock body            | R. IFP                                       |
| C. Air can inner sleeve | K. Body eyelet           | S. IFP reservoir                             |
| D. Top out bumper       | L. Rebound adjuster knob | T. Low Speed Compression assembly (R2C)      |
| E. Air seal head        | M. Shaft                 | U. Ending Stroke Rebound assembly            |
| F. Shaft eyelet         | N. Seal head/air piston  | V. Low Speed Compression adjuster knob (R2C) |
| G. Bottom out bumper    | O. Nitrogen fill cap     |  |
| H. Piston               | P. IFP reservoir cap     |  |

4. Turn the Beginning Stroke Rebound and the Low Speed Compression (**R2C only**) adjusters clockwise, until they stop. Use a 2.5 mm hex to turn the Ending Stroke Rebound adjuster clockwise until it stops.  
**Count each detent click as you turn the adjuster and record the number of clicks to assist with post-service set-up.**

## AIR CAN REMOVAL (ROUTINE SERVICE)

5. Remove the air can valve cap. Use a small hex or pick to depress the Schrader valve and release all air pressure from the air can. Use a Schrader valve tool to remove the valve core.



### CAUTION

**Failure to remove all air pressure can lead to personal injury during air can disassembly.**

6. Use a T10 TORX TORX® to remove the air cap from the IFP (Internal Floating Piston) reservoir. Use a small hex or pick to depress the Schrader valve and release all air pressure from the IFP reservoir. Use a Schrader valve tool to remove the Schrader valve core.



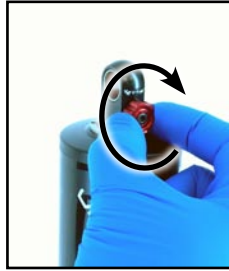
### CAUTION

**Failure to remove all air pressure can lead to personal injury during IFP reservoir disassembly.**

7. Use a 2.5 mm hex to remove the rebound adjuster knob bolt. Remove the rebound adjuster knob from the shaft eyelet.

8. Insert the tips of the spanner tool into the holes of air can retaining ring, which is located between the air can and shaft eyelet. Clamp the shock rebound eyelet between the soft jaws of a vise, leaving just enough room for the spanner to rotate, but not come out of the retaining ring.

4



5



6



7



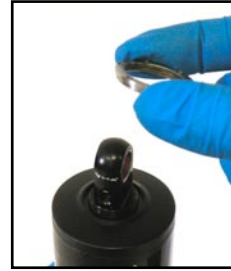
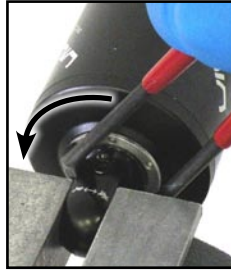
8



## SERVICE INSTRUCTIONS (CONTINUED)

9. Use the spanner tool to unthread the air can retaining ring from the shaft eyelet. Remove the shock from the vise and remove the retaining ring from the shaft eyelet.

9



10. Wrap electrical tape around the shock body, starting from the air can and extending approximately half the length of the shock body. *This will prevent damage to the surface of the shock body during air can removal.*

11. Clamp the SRAM Vivid Air Can Wrench into a vise. Place the shock, by the air can, in the SRAM Vivid Air Can Wrench, body eyelet side up. Use an open ended 16 notch external bottom bracket tool with a 35 mm opening to loosen the air can seal head, located at the bottom of the air can. Turn the tool counter-clockwise to unthread the seal head completely from the air can.

11



12. Remove the shock from the SRAM Vivid Air Can Wrench then clamp the body eyelet into a vise. Remove the air can pulling it straight up.

13. Use a 4 mm hex to turn the Beginning Stroke Rebound adjuster counter-clockwise until it stops.

14. Use the 2011 SRAM 24 mm pin spanner to loosen and unthread the damper seal head/air piston.

**The 2008 24 mm pin spanner will not work.**

**Hold the pin spanner head in place with your opposite hand to prevent slippage and damage to the seal head pin holes.**

15. Pull up on the seal head/air piston and remove the entire shaft assembly. *The shock body inner sleeve may become dislodged as you remove the shaft assembly; this is ok. If this occurs, simply separate the shaft assembly from the inner sleeve and remove the inner sleeve from the shock body.*

16. Remove the shock from the vise and pour all oil from the shock into the oil pan.

12



13



14



14



15



16



## AIR CAN SERVICE (ROUTINE SERVICE)

When using a pick to remove seals, be careful not to damage the shock parts. Any damage will allow air/oil to bypass the seals, resulting in decreased performance.

After the removal of each seal/glide ring, spray isopropyl alcohol into the glands and wipe them with a clean lint free rag. Apply a small amount of grease to the new glide rings/seals before installing them.

17. Remove the top out bumper and air seal head by pulling them up and off of the shock body.
18. Remove and replace the shaft eyelet/air can o-ring, located at the base of the threads on the shaft eyelet.

### 19. (COMPREHENSIVE SERVICE)

Use isopropyl alcohol to clean the inner surface of the air can inner sleeve. Remove the inner sleeve from the air can by wedging the index and middle fingers of each of your hands into the inside of the inner sleeve, then pushing against the air can with your thumbs.

*Make sure your fingers are clean and dry to achieve the best grip on the inner sleeve.*

### 20. (COMPREHENSIVE SERVICE)

Remove and replace the inner sleeve o-ring.

### 21. (COMPREHENSIVE SERVICE)

**If the plastic centering ring came dislodged from the air can during inner sleeve removal, re-install it into the air can with the stepped side oriented toward the inside of the air can.**

Install the inner sleeve, non-o-ring side first, into the air can. Locate the inner sleeve around the plastic centering ring. Press the inner sleeve into the can until it stops, then check the alignment of the sleeve in the can. The plastic centering ring should be completely visible inside the inner sleeve. If not, use your thumbs and fingers to center the sleeve in the can, then firmly press the sleeve into the can until it is completely seated.

**To prevent damage to the air can, center the inner sleeve around the plastic centering ring in the air can before pressing firmly on the inner sleeve or assembling the air can and air can seal head.**

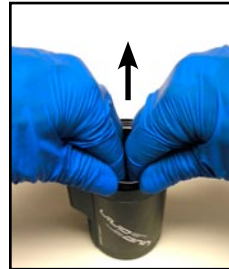
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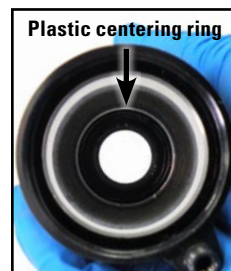
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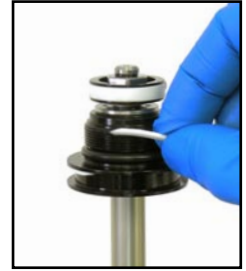
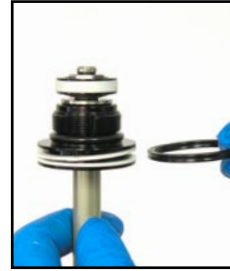
## SERVICE INSTRUCTIONS (CONTINUED)

22. Remove and replace the seal head/air can o-ring, located inside the large opening of the air can just above the internal threads.

22



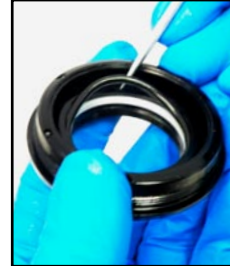
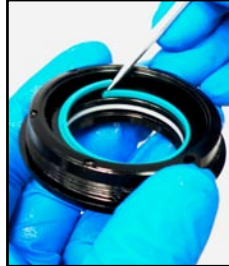
23



23. Remove and replace the damper seal head/air piston glide rings and quad-ring seal.

24. Use a pick to remove and replace the air can seal head bushing, quad-ring seal, backup ring, and dust wiper. Set the seal head assembly aside. *If the air can inner sleeve locator ring becomes dislodged from the seal head, clean the locator ring and seal head, then lightly dab grease around the outside diameter of the locator ring and install it into the seal head.*

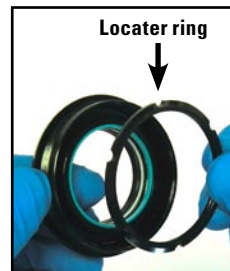
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### SHOCK BODY DISASSEMBLY (ROUTINE SERVICE)

25. Use your fingers to remove the inner sleeve from the shock body.

*The inner sleeve centering ring may become dislodged from the inner sleeve during disassembly. If this happens, use a pick with a 90 degree tip to "walk" the centering ring out of the shock body. Be careful not to scratch any of the parts.*



26. Use a pick to remove and replace the entering ring face seal.

27. Spray a clean lint free rag with isopropyl alcohol and wipe the inside of the shock body.

28. Spray isopropyl alcohol on the outer surface of the shock body and wipe it with a clean lint free rag. Inspect the outer surface of the shock body for damage or wear. If the surface of the shock body is damaged or excessively worn, the shock body will need to be replaced.

25



26



**SHOCK BODY SHAFT ASSEMBLY SERVICE  
(ROUTINE SERVICE)**

29. Spray the shaft assembly with isopropyl alcohol and wipe it with a clean lint free rag.
30. Use the SRAM Shaft Clamp Tool to clamp the shaft assembly into the vise, piston side up.  
**Spray isopropyl alcohol on the shaft clamp and wipe it with a clean rag prior to use.**
31. Remove and replace the glide ring located on the damper piston.
32. Use a 14 mm socket wrench to unthread the piston bolt. Carefully remove the main piston assembly (piston bolt, main piston, and shim stack washers), keeping all parts together, and set it aside.
33. Firmly pull up on the seal head/air piston to remove it.
34. Use a pick to remove and replace the main shaft o-ring located in the interior of the seal head.
35. Remove and replace the top out o-ring located on the backside of the side head.
36. Remove and replace the body seal o-ring located on the underside lip of the seal head. Set the seal head and main piston assembly aside.

**30**



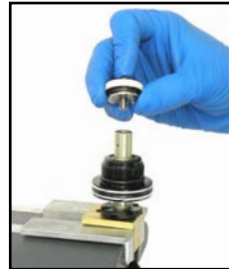
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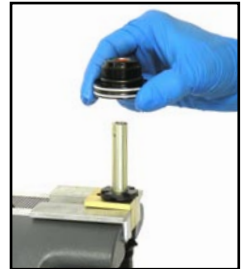
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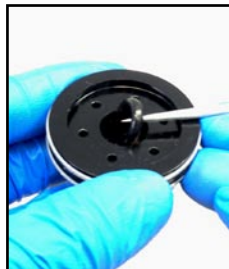
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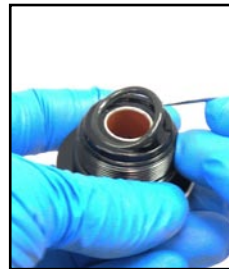
**33**



**34**



**35**



**36**



# **SHAFT EYELET SERVICE (COMPREHENSIVE SERVICE)**

37. Remove the shaft assembly from the shaft clamp and vise. Spray isopropyl alcohol onto the shaft and shaft clamp tool and wipe with a clean lint free rag.
38. Clamp the shaft assembly in the shaft clamp so that the shaft eyelet is accessible. Tighten the vise jaws firmly to prevent the shaft from spinning in the shaft clamp.
39. Use a heat gun, according the manufacturer's instructions, to moderately and evenly heat the eyelet/shaft in order to soften the threadlock that bonds the eyelet to the shaft.



## **CAUTION**

**To reduce the risk of burns, do not touch the heated shock until after it has cooled down. Do not aim the heat gun at a single area continuously for long period of time, this may damage the shock. Allow the shock to cool down naturally. Do not attempt to accelerate the cooling process, this may damage the shock.**

40. Use a 13 mm wrench to unthread the eyelet and remove it.

**Use a sharp sudden motion on the wrench to assist in breaking the threadlock bond.**

**Do not turn the rebound adjuster while the eyelet is separated from the damper shaft.**

41. Use a pick to clean all threadlock from the threads of the shaft and shaft eyelet.
42. Remove the rebound adjuster needle from the inside of the damper shaft.
43. Use a pick to remove and replace the rebound needle/damper shaft o-ring located inside of the damper shaft.
44. Remove and replace the shaft/eyelet o-ring.
45. Spray isopropyl alcohol on the shaft assembly threads and wipe with clean lint free rag.

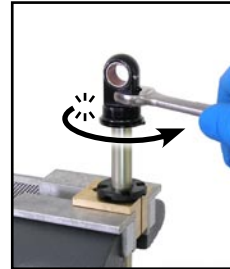
46. Apply a thin layer of red threadlock to the shaft threads.

**Do not allow threadlock to get between the rebound needle and shaft or on the shaft/eyelet o-ring. This will cause the parts to bind together.**

**39**



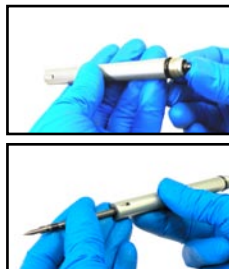
**40**



**41**



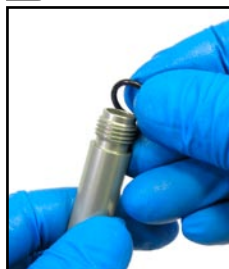
**42**



**43**



**44**



**46**



## SERVICE INSTRUCTIONS (CONTINUED)

47. Thread the eyelet onto the damper shaft. Use a torque wrench with a 13 mm crow's foot to torque it to 26 N·m (230 in-lb).

47



48. Flip the shaft assembly in the shaft clamp, leaving as much of the damper shaft extended upward as possible.

48



**If the bottom out bumper has come off the damper shaft, re-install it.**

Apply a small amount grease to the non-pointed end of the rebound needle. Install the rebound needle into the damper shaft, non-pointed end first, until it stops. Use a small hex wrench to push the rebound needle into the rebound shaft until you feel it engage the o-ring.

49



### SHOCK BODY/DAMPER SHAFT ASSEMBLY SERVICE (ROUTINE SERVICE)

49. Grease the interior of the seal head and install it onto the shaft assembly with the seal head threads oriented upward.

**Do not allow the shaft wiper seal to fold over when installing the seal head.**



50. Thread the piston assembly by hand back onto the shaft assembly and use a torque wrench with a 14 mm socket to torque it to 7.9 N·m (70 in-lb). Remove the shaft assembly from the vise and set it aside until the Shock Bleed & Reassembly section.

50



51

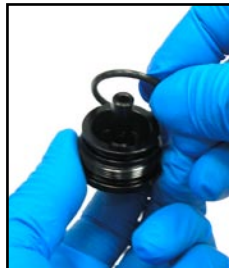


### IFP RESERVOIR SERVICE (ROUTINE SERVICE)

51. Clamp the body eyelet into the vise. Use a 30 mm flat wrench to secure the base of IFP reservoir to keep it from spinning. Use the 2011 SRAM 24 mm pin spanner on the top of the reservoir to unthread the reservoir cap and remove it.

**Hold the pin spanner head flat against the reservoir cap during use to avoid damaging the pin holes.**

52



53



52. Remove and replace the reservoir cap o-ring.

53. Use a 30 mm flat wrench at the base of the IFP reservoir to unthread and remove the reservoir.

54



54. Use your finger to push the IFP out of the IFP reservoir from the backside.



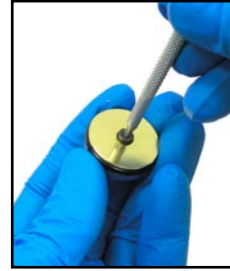
## SERVICE INSTRUCTIONS (CONTINUED)

55. Remove and replace the glide ring and quad-ring seal located on the IFP.
56. Use a T10 TORX® to remove the IFP bleed screw. Use a pick to remove and replace the IFP bleed screw o-ring.
57. Set aside the IFP reservoir, IFP, and IFP bleed screw until you get to the Shock Bleed & Reassembly section.

**55**



**56**



### R2C ONLY: LOW SPEED COMPRESSION VALVE SERVICE (COMPREHENSIVE SERVICE)

58. Use a 2 mm hex to loosen, but not remove, the Low Speed Compression knob set screw. Remove the Low Speed Compression knob.
59. Squeeze the Low Speed Compression valve assembly between your fingers, and carefully push it up and out of the IFP reservoir base. Set the assembly aside.  
*Continue to squeeze the compression valve assembly together as you remove it to prevent the detent ball and spring from getting dislodged.*

**58**



**59**



**60**



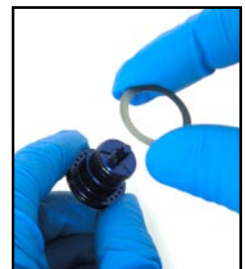
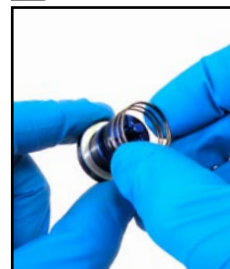
60. Remove and replace the reservoir base o-ring. **Once the o-ring is seated, apply a small amount of grease to the visible o-ring surface.**

61. Separate the inner knob and detent ball and spring from the Low Speed Compression valve assembly.

**61**



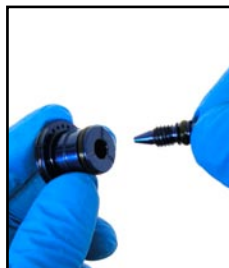
**62**



62. Slide the check spring and shim off the valve assembly. Inspect the check shim for damage and replace it if necessary.  
**If the check shim needs to be replaced, do not use a pick to remove it. Instead, use your fingernail to avoid damaging the valve sealing surface.**

63. Use your fingers to unthread the compression needle from the back of the Low Speed Compression valve assembly.

**63**



## SERVICE INSTRUCTIONS (CONTINUED)

64. Remove and replace the Low Speed Compression valve main o-ring, compression piston o-ring, and compression needle o-ring.

64



65. Remove the shock from the vise and pour out any remaining oil. Clamp the shock by the body eyelet back into vise.

66. Use your fingers to thread the compression needle completely into the Low Speed Compression valve assembly.

65



66

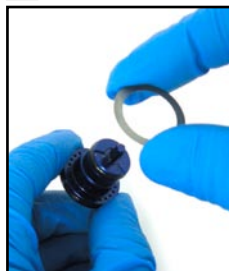


67. Slide the check shim, followed by the spring, onto the piston assembly.

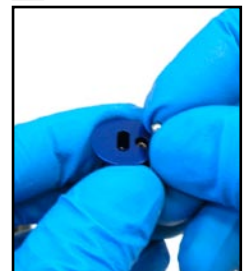
68. Using a dab of grease to hold parts together, insert the detent spring followed by the detent ball into the inner knob.

69. Install the inner knob onto the compression needle and hold the entire assembly together by squeezing it between your fingers.

67



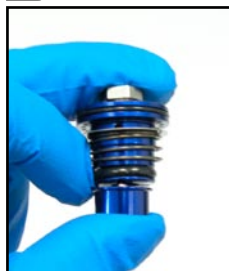
68



**Make sure the low speed compression valve assembly is fully seated. Be careful not to damage the main o-ring.**

**Check the function of the adjuster detents by rotating the adjuster back and forth 2-3 times. You should feel/hear detent clicks.**

69



70



71



71. Thread the IFP reservoir onto the shock body by hand until it is tight.

**Make sure there is no gap between the IFP reservoir and the shock body.**

72. Install the low speed compression knob onto the inner knob. Use a 2 mm hex to turn the set screw clockwise until it stops.

72



# ENDING STROKE REBOUND SERVICE (COMPREHENSIVE SERVICE)

73. Clamp the shock into the vise sideways by the body eyelet so that the Ending Stroke Rebound adjuster is easily accessible.
74. Use a pick to remove the Ending Stroke Rebound retaining ring.  
*Cup your other hand over the Ending Stroke Rebound adjuster area to prevent the retaining ring from flying off.*
75. Use a 2.5 mm hex to unthread and remove the Ending Stroke Rebound adjuster screw.
76. Use a pick to remove the remainder of the Ending Stroke Rebound assembly.  
*The ending stroke rebound assembly consists of the retaining ring, adjuster screw (and o-ring), detent ball, detent spring, valve spring, valve plug, 6 mm shim, and 7 mm shim. Separate and clean these parts.*
77. Use a pick to remove and replace the Ending Stroke Rebound adjuster screw o-ring.
78. Use a small amount of grease to hold the parts together, then place the rebound plug onto a 2 mm hex. Install the 6 mm shim, followed by the 7 mm shim onto the plug. Insert the plug/shim assembly into the shock body.  
**Closely monitor the shims as the assembly enters the shock body. If it appears that either shim moves from its position, remove the assembly, re-set the parts, and install the assembly again.**
79. Insert the coil spring into the shock body so that it rests against the plug.
80. Insert the detent spring and ball into the rebound adjuster screw, then apply a small amount of grease to the detent ball, adjuster screw threads, and o-ring.

73



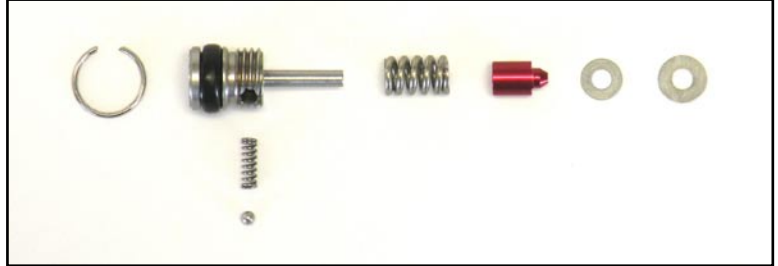
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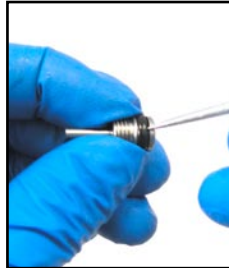
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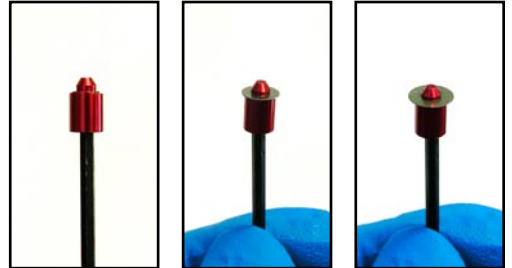
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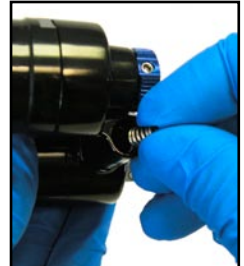
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79



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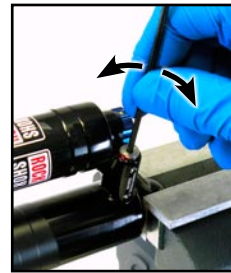
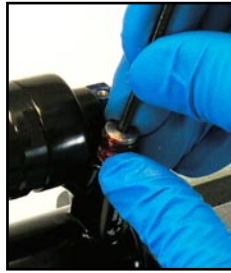




81. Place the rebound adjuster screw onto a 2.5 mm hex. Use your thumb or finger to hold the detent ball in the rebound adjuster screw and insert the rebound adjuster screw into the shock body. Gently push on the hex/screw while slightly rocking it back and forth until the screw seats far enough in the shock body that the detent ball is secured. Thread the screw completely into the shock body.

**As you thread the adjuster screw into place, it should remain smooth, then start to click.**

81



82. Use your fingers to install a new Ending Stroke Rebound retaining ring. Insert one end of the retaining ring into its groove, then press around the ring to seat it completely.

82



83



83. Use a 2.5 mm hex to turn the Ending Stroke Rebound adjuster fully counter-clockwise, toward the rabbit, to ensure the retaining ring is fully seated. Leave the adjuster in this position for the remainder of the shock service.

## SHOCK RE-ASSEMBLY & BLEED PROCEDURES (ROUTINE SERVICE)

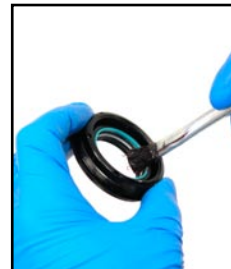
**Removing all air from the damper during the bleed process is critical for optimal shock performance.**

84. Clamp the shock by the body eyelet into the vise upright, so that the shock body and IFP reservoir openings are accessible.

84



85



85. Apply grease to the air can seal head seals and install the seal head, threaded side up, onto the shock body.

*Start to install the seal head at an angle, engaging one side of the seal head/seals onto the shock body. Use your middle fingers to stabilize the seal head, use your thumbs to brace against the shock body, and use your index fingers to pull on the inside of the seal head to engage the seal head completely onto the shock body.*



86



86. Slide the seal head down the shock body until it touches the electrical tape. Install the top out bumper onto the shock body, with the tapered end facing upward.

## SERVICE INSTRUCTIONS (CONTINUED)

87. Use a pick to remove and replace the face seal crush washer on the centering ring. Press the inner sleeve, centering ring side down, into the shock body.

87



88. **R2C only:** Turn the Low Speed Compression Knob fully counter-clockwise.

88



89



90



89. Use 3wt RockShox suspension oil to fill the IFP reservoir to the top. Oil will gradually flow from the IFP reservoir into the shock body through the small port located at the bottom of the IFP reservoir. Continue to fill the IFP reservoir until the oil level in the shock body reaches a depth of approximately 25 mm (from the bottom of the shock body).

90. Begin the reverse process of pouring oil into the shock body. Oil will begin to flow from the shock body into IFP reservoir. Continue until oil starts to overflow out of the IFP reservoir. This procedure effectively dislodges air bubbles from the system. Top off the oil in the shock body in order to continue oil flow from the shock body to the IFP reservoir (oil will continue to overflow from the IFP reservoir, this is normal).

91



92



91. Apply a small amount of grease to the IFP o-ring. Gently slide the IFP, stepped side down, into the top of the IFP reservoir. Let the IFP 'float' on top of the oil in the IFP reservoir.

92. Cover and seal the bleed hole on the IFP with your thumb or finger and push the IFP down into the IFP reservoir approximately 12 mm.

93



94



95



93. Top off the oil in the shock body again in order to continue oil flow from the shock body to the IFP reservoir.

**Wait for the oil to overflow from the IFP reservoir before continuing.**

94. Use a T10 TORX® to install the IFP bleed screw. Tighten the screw until the IFP spins.

95. Use a T10 TORX inserted into the bleed screw as a push rod and firmly push the IFP down into IFP reservoir until it stops at the bottom of the IFP reservoir.

96. Gently wiggle the inner sleeve side to side against the shock body with your finger to dislodge any air bubbles that may be trapped between the inner sleeve and the shock body inner surface.

96



97



97. Top off the oil in the shock body one last time.

98. Seat the seal head/air piston fully against the piston on the shaft assembly. Place the piston into the oil on top of the shock body at a 45 degree angle. Slowly rotate the shaft/piston assembly 2-3 times to fill any cavities in the piston assembly with oil. Continue to rotate the shaft assembly as you align it vertically, then gently insert the assembly into the shock body. This process minimizes trapped air during the assembly process.

98

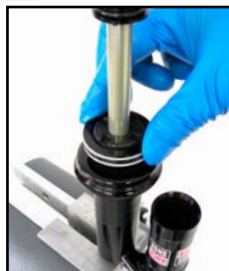


99. Hold the shaft assembly by the seal head/air piston and **slowly** thread the seal head onto the shock with your fingers. Trapped air and oil should escape through the notch in the seal head threads.

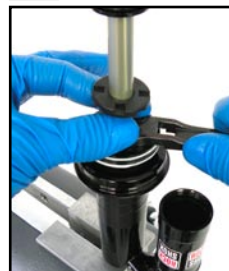
**Do not push on the shaft or shaft eyelet. This will displace more oil than is necessary at this time.**

**Be sure to perform this step slowly, allowing oil and air to escape through the notch.**

99



100



100. Continue to thread the seal head/air piston down until the seal head o-ring contacts the shock body. Use the 2011 SRAM 24 mm pin spanner tool to torque the seal head to 28.2 N·m (250 in-lb).

*Firmly hold the 2011 SRAM 24 mm pin spanner in place with one hand while torquing with the other.*

**The torque wrench should be attached at a 90° angle to the 2011 SRAM 24 mm pin spanner tool in order to obtain an accurate torque reading.**

101



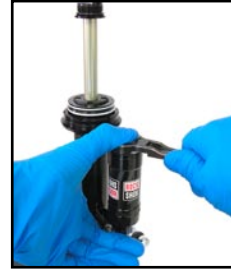
101. Remove the shock from the vise and pour out any remaining oil in the IFP reservoir, above the IFP.

**Failure to remove this excess oil will reduce the air volume, causing poor shock performance and limiting shock travel.**

102. Clamp the shock back into the vise at the body eyelet. Install the IFP reservoir cap onto the IFP reservoir and thread it by hand until the o-ring contacts the reservoir housing. Use the 2011 SRAM 24 mm pin spanner tool to tighten the seal head to 11.2 N·m (100 in-lb).

**The torque wrench should be attached at a 90° angle to the 2011 SRAM 24 mm pin spanner tool in order to obtain an accurate torque measurement.**

102



103. Use a Schrader valve tool to install a **new** valve core into the reservoir cap. Thread the core into the cap. Tighten the valve core to 1.1 N·m (10 in-lb)
104. Install the SRAM Vivid air pump adapter onto a gauged shock pump and pressurize the IFP chamber to:

103



104



Shock Model	Pressure
Vivid Air R2C	200 psi (13.8 bar)
Vivid Air R2	230 psi (15.9 bar)

**Once you have pressurized the shock, remove the SRAM Vivid air pump adapter from the air fill port BEFORE removing it from the shock pump. Separating the pump from the adapter first will allow all of the air to escape from the shock.**

105



106



105. Use a pick to remove and replace the IFP reservoir air cap o-ring.
106. Use a T10 TORX® wrench to install the IFP reservoir air cap.
107. Spray the entire shock with isopropyl alcohol and wipe it with a clean rag.  
**Clean all oil out of the air can seal head threads.**



# AIR CAN INSTALLATION (ROUTINE SERVICE)

108. Use a 4 mm hex to turn the Beginning Stroke Rebound adjuster fully clockwise, toward the turtle.
109. Remove the shock from vise. Turn the shock horizontal and clamp it back into vise at the body eyelet.
110. Apply Parker® O-Lube to the shaft eyelet/air can o-ring, the seal head/air can o-ring, and the air piston seals and glide rings.

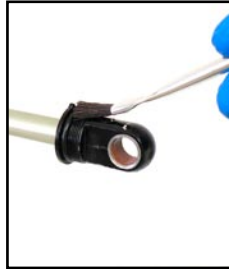
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109

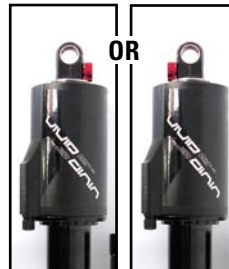


110



111. Align the shaft eyelet so that it is parallel with the body eyelet.  
*For optimal access to the rebound adjuster once the shock is installed in the bike, you may wish to rotate the shaft and shaft eyelet 180 degrees.*
112. Look inside the air can from the large opening. Locate the four key slots positioned around the smaller opening. Determine which key slot should engage the tab on shaft eyelet so that when the shock is installed on the bicycle the air can is positioned to allow for optimal frame clearance and air valve access. Use a felt tip pen to make a mark on the outside of the air can around the small opening that corresponds with the key slot of choice.

111

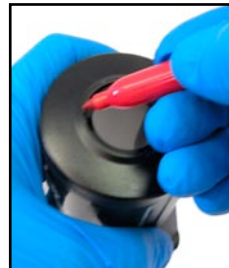
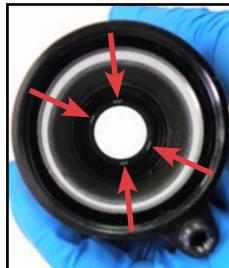


113. Pour 3 cc of Maxima® Maxum4 Extra 15w50 oil into the air can inner sleeve and use your finger to spread it evenly on the inner surface of the sleeve.

**Keep the air can positioned so that the lube does not spill out of the air can.**

**Avoid getting oil onto the air can threads.**

112



113



114. Align the mark on the air can with the tab on the shaft eyelet and firmly press the air can onto the shock until the shaft eyelet is fully extended from the air can. Continue to push on the air can and gently twist it to ensure that the eyelet tab is engaged with the air can key slot.

**Do not allow the air piston glide rings to become dislodged from the piston during air can assembly. If this occurs, you will need to remove the air can, reinstall the glide rings, then reinstall the air can.**

**Once the air can is installed onto the shock, the locating tab on the shaft eyelet will no longer be visible. Use the rebound adjuster as a reference, as it is in direct alignment with the locating tab.**

114



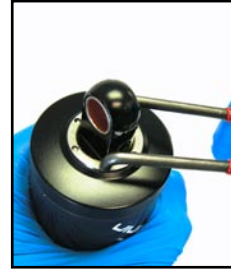


## SERVICE INSTRUCTIONS (CONTINUED)

115. Spray isopropyl alcohol on the air can retaining ring threads and shaft eyelet threads and wipe them with a clean lint free rag.

116. Apply red threadlock to the retaining ring threads. Guide the retaining ring over the shaft eyelet and thread it by hand onto the eyelet base threads, then use the spanner to continue to thread the retaining ring on the eyelet until it just starts to tighten.

**116**

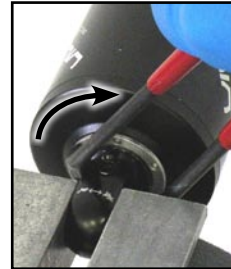


**117**



117. Remove the shock from the vise. Thread the air can seal head, by hand, into the air can until it is hand tight.

**118**



118. Position the spanner tool into the retaining ring, then clamp the shock by the rebound eyelet into the vise leaving just enough room for the spanner to rotate, but not come out of the retaining ring. Use the spanner tool to torque the ring to 22.6 N·m (200 in-lb). Remove the shock and spanner from the vise.

*There is a small amount of air can rotation available once the eyelet tab is seated in the air can key slot. Prior to tightening the air can retaining ring, use this small amount of rotation to position the air can valve body away from the reservoir.*

119. Clamp the SRAM Vivid Air Can Wrench into the vise. Place the shock, by the air can, into the SRAM Vivid Air Can Wrench, body eyelet side up. Use an open ended 16 notch external bottom bracket tool with a 35 mm opening to thread the air can seal head into the air can and tighten it to 28.2 N·m (250 in-lb). Remove the shock from the SRAM Vivid Air Can Wrench.

**119**

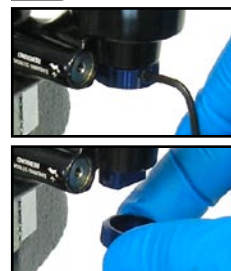


120. Remove the electrical tape from the shock body. Spray isopropyl alcohol onto the shock body and use a clean lint free rag to remove any tape residue from the shock.

**120**



**121**



**122**



**121. R2C only:** Use a 2 mm hex key to remove the Low Speed Compression adjuster knob. Spray the entire shock, including the adjuster knob, with isopropyl alcohol and wipe it with a clean rag. Use the 2 mm hex key to re-install the Low Speed Compression adjuster knob.

122. Install the rebound adjuster knob. Use a 2.5 mm hex to tighten the rebound knob bolt to 0.45 N·m (4 in-lb).

123. Use a Schrader valve tool to install a **new** valve core into the air can. Thread the valve core into the valve body until the tip of the core is just below the top of the valve body, up to a maximum depth of 1 mm.

**123**



124. Install the shock onto the bicycle according to the bicycle manufacturer's instructions.

### **PRESSURIZE THE SHOCK**

**To pressurize the shock for the first time after it has been rebuilt, you will need to perform a "fill/swap" process.**

**128**



125. Pressurize the shock to the desired pressure, remove the pump, then compress the shock at least 20 mm. *You may need to sit on the bike the first time as there will be a substantial amount of force required to compress the shock.* You should hear a brief hissing sound as air in the shock transfers from the positive air chamber to the negative.
126. Pressurize the shock again to the desired pressure. Repeat the compression procedure until you hear a brief hissing sound. *It should take less force to compress the shock.*
127. Repeat the pressurization and compression process until the air pressure in the shock stabilizes at the desired pressure.
128. Install the air valve cap.

### **ORIGINAL SETTINGS**

129. Refer to the rebound and damper settings that you wrote down for your shock at the beginning of the service. Set each adjuster to the recorded number of clicks/turns.

[www.sram.com](http://www.sram.com)

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