



For exploded diagram and part number information, refer to the Spare Parts Catalog available on our website at www.rockshox.com.

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- Perform service every 100 hours of riding (less depending on riding conditions and riding style).
- Regular maintenance ensures your fork performs as it should.
- For bushing removal and installation, please reference the Bushing Service Guide.
- **Right side equals rider's right; left side equals rider's left.**

GETTING STARTED

1. Remove fork from bicycle.
2. Spray entire fork with isopropyl alcohol and wipe all dirt and mud from fork. Clean around dust seals and upper tubes.
3. Lay tools out on work bench, and create a clean work area for internals service.
4. Place oil pan on floor, under fork.

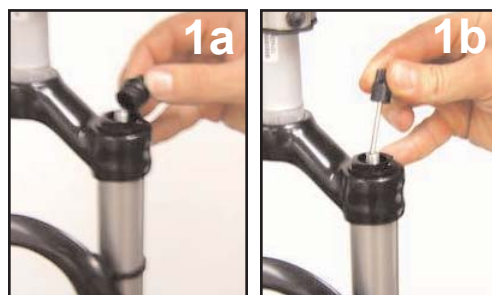
TOOLS

- Safety Glasses
- Clean Rags
- Oil Pan or Bucket
- Bicycle Stand and Clean Work Table/Area
- 24mm & 15mm 6-point Socket
- Plastic-Faced Mallet
- Snap Ring Pliers (internal and external)
- Shock Pump
- 5mm Hex Wrench
- Long and Short Plastic or Wood Dowel, 3/4" diameter (non-metallic)
- Torque Wrench
- Sharp Pick/Dental Pick
- Oil Mixing Syringe and Measuring cup
- Isopropyl Alcohol/Spray Bottle
- 5wt and 15wt Suspension Oil
- Isopropyl Alcohol (in Spray Bottle)



LOWER LEG / INTERNALS REMOVAL

1. Remove top positive air cover cap (fig 1a). Depress positive schrader valve to release air pressure (fig 1b).



2. Gently pull external rebound adjuster knob and remove from the right shaft bolt (fig 2a). Using a 5mm hex wrench, loosen right and left shaft bolts 3 to 4 turns (fig 2b).



- Using a plastic mallet, tap both shaft bolts free. This frees the shaft ends from the lower leg shaft bore press-fit, and allows the lower leg assembly to be removed from the upper tubes (fig 4a and 4b). Using the 5mm hex wrench, or your fingers, remove the shaft bolts from both threaded shaft ends (fig 4c).



- Firmly pull the lower leg assembly down by holding each leg or the brake arch. Spray isopropyl alcohol into lower legs. Wrap a rag around a dowel and wipe inside of lower legs clean.

NOTE: SEE THE BUSHING SERVICE GUIDE FOR BUSHING INSPECTION AND REPLACEMENT PROCEDURES.



- Spray isopropyl alcohol onto each upper tube and wipe clean.



HYDRA AIR SPRING SERVICE

REMOVAL

- Using a 24mm socket wrench, press firm on top cap, turn counterclockwise, and remove (figs 7a & 7b).

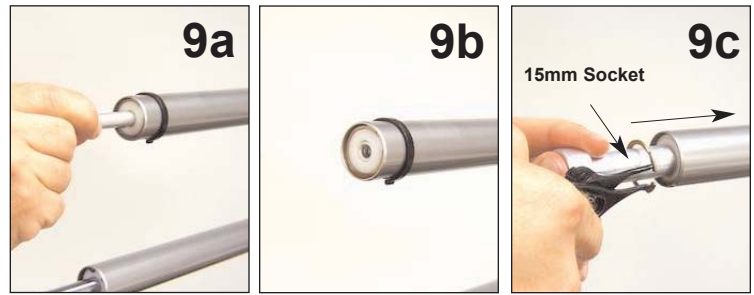
IMPORTANT! ENSURE ALL AIR PRESSURE IS REMOVED BEFORE REMOVING TOP CAP.



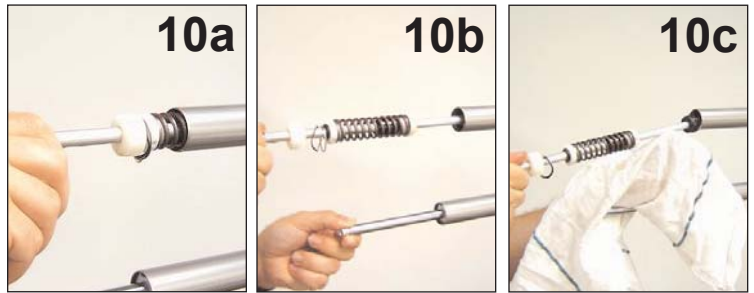
- Remove fork from bicycle stand and pour any oil inside air chamber into an oil pan.



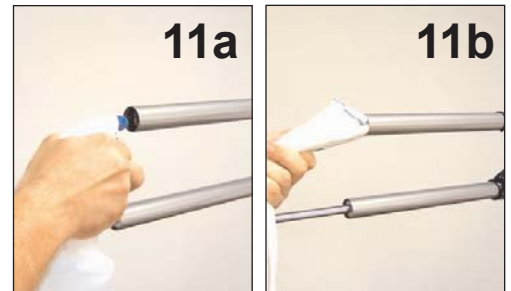
9. Clamp fork back into bicycle stand, and wipe shaft and base plate with a rag. Push air shaft up and into base plate, leaving only tip of threaded shaft end protruding base valve (fig 9a & b). Slide a 15mm socket tool over end of the threaded shaft end and press firmly against base plate. While pressing firmly to unseat base valve, use internal snap ring pliers to remove external retaining ring. (fig 9c).



10. When retaining ring is removed, pull air shaft to remove air spring assembly and base plate assembly from upper tube (fig 10a, b, & c).



11. Spray the inside of air upper tube with isopropyl alcohol (fig 11a). Wrap a clean rag around a dowel, and wipe the inside of the upper tube clean (fig 11b).



..... HYDRA AIR SERVICE

REQUIRED KITS:

11.4309.206.000 (05 DUKE MOTION CONTROL DAMPER SERVICE KIT)

11.4306.297.000 (DUKE AIR SPRING SERVICE KIT)

12. Remove base plate, wavy spring and base ring from Hydra Air shaft (fig 12a). Remove the air piston o-ring and replace (figs 12b). Apply grease to air piston o-ring. (fig 12c).



13. Insert air piston into bottom of upper tube and push up to insert (fig 13a). Insert the base plate ring into the upper tube and position it flat into upper tube step (fig 13b). Insert wavy spring into upper tube, and position it flat against base ring (fig 13c). Slide the base plate over the air shaft and insert it into the upper tube. Press it into the upper tube and against the wavy washer. You will feel resistance, so press firmly.



NOTE: BEFORE INSTALLING HYDRA AIR SPRING ASSEMBLY, ENSURE INSIDE OF THE UPPER TUBE IS CLEANED WITH ISOPROPYL ALCOHOL AND A CLEAN RAG. CHECK FOR SCRATCHES INSIDE UPPER. IF THERE ARE ANY SCRATCHES, REPLACE CSU.

14. Slide base plate over air shaft, and insert into upper tube. Press into upper tube against the wavy spring. You will feel resistance, so press firmly (fig 14a). Using a 15mm socket tool, press the base plate into the upper tube, to compress the wavy spring. Secure retaining ring (sharp edge facing out) while pressing against base plate. (fig 14c)



15. Pour 3 to 5cc/ml of 5 wt suspension oil into upper tube (air spring side), through crown (fig 14a). Oil inside air chamber lubricates o-ring during use and maintains air seal. Clean air top cap threads and hand threaded into upper tube (fig 14b). Using a 24mm socket, tighten to 60 in-lb. (fig 14c).



MOTION CONTROL DAMPER SERVICE

REMOVAL

16. Duke XC Air: Skip to step 19.
17. Compression knob (Duke SL and Race only): Using external snap ring pliers, remove external compression adjuster knob (plastic or aluminum remote) retaining ring (fig. 17a). Remove the compression adjuster knob (figs 17b) and top cap seal*.

*Blue plastic manual knob has an o-ring top cap seal.

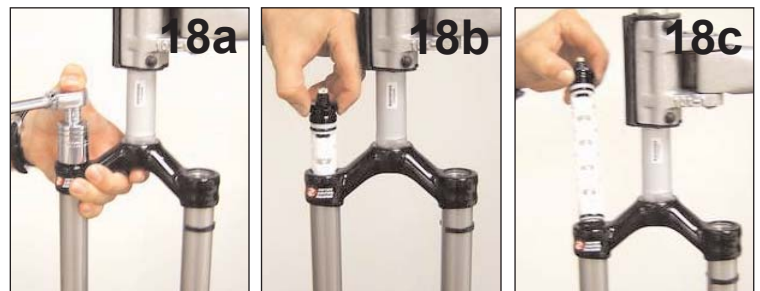
*Blue aluminum remote knob has a white plastic top cap seal.

NOTE: REMOVAL OF THE REMOTE COMPRESSION ADJUSTER KNOB FOLLOWS THE SAME PROCEDURE.



18. Using a 24mm socket wrench, loosen compression damper top cap from upper tube (fig 18a). By hand, slowly pull compression damper from upper tube (figs 18b & 18c).

IMPORTANT! USE CARE WHEN REMOVING COMPRESSION DAMPER FROM UPPER TUBE. USE A SLOW TWISTING MOTION WHILE PULLING UP. THIS HELPS EASE THE O-RING PAST THE UPPER TUBE THREADS.

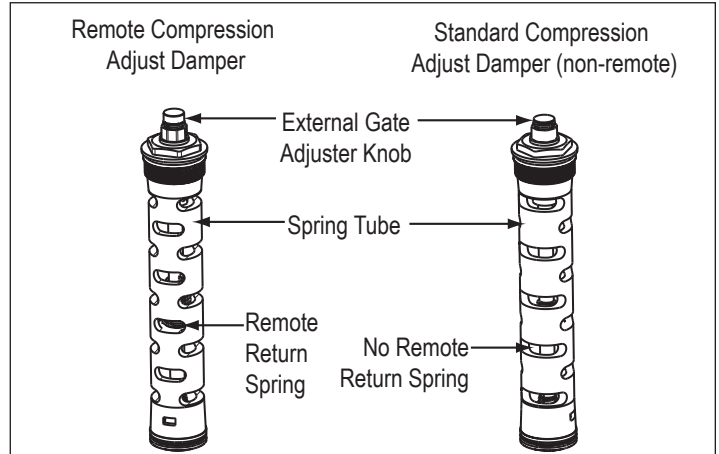


19. Inspect compression damper o-rings (located at top and bottom of damper) and replace if necessary. Apply oil to new o-rings.



..... **UPGRADE: Non-Remote to Remote Adjust**

Upgrading a non-remote compression adjust fork (crown-mounted adjuster knob) to remote compression adjust (remote lever (PopLoc) adjuster), requires replacing the non-remote compression damper with a remote compression damper. The remote return spring is designed into the compression damper, and is required for use with the PopLoc remote lever assembly.

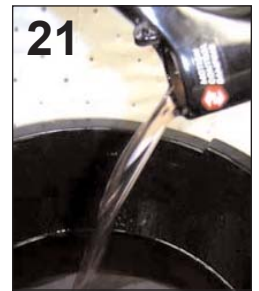


20. Duke XC Air ONLY: Using a 24mm socket wrench, loosen and remove the non-adjust rebound top cap (figs 19a and b).

NOTE: DUKE XC AIR FEATURES THE MOTION CONTROL REBOUND DAMPER ONLY. THE MOTION CONTROL COMPRESSION DAMPER (STANDARD AND REMOTE) CAN BE INSTALLED TO UPGRADE THE FORK TO LOCKOUT AND COMPRESSION ADJUST. SEE ABOVE FOR DETAILS. SEE THE 2005 SPARE PARTS CATALOG FOR PART NUMBERS.



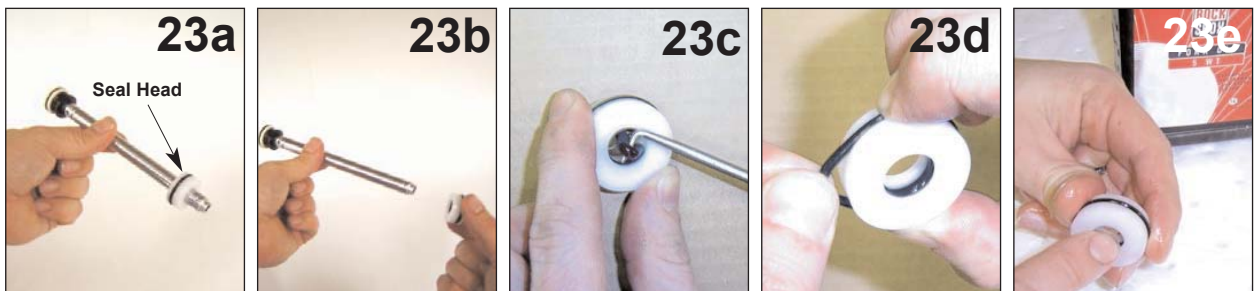
21. Remove fork from bicycle stand and pour damper oil into oil pan.



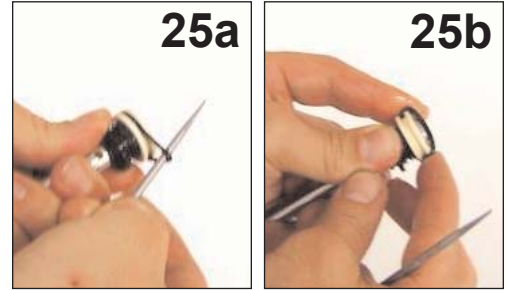
22. Use snap ring pliers to remove rebound damper/seal head retaining ring and base ring, located inside bottom of right upper tube (figs 22a & 22b). Pull to remove the rebound damper and seal head from upper tube (fig 22c & 22d).



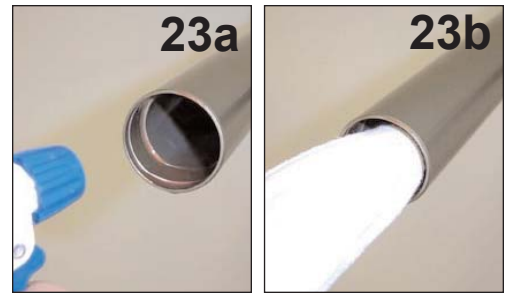
23. Slide seal head off damper shaft. Remove and replace inner and outer seal head o-rings. Coat new o-rings with suspension oil (5, 10 or 15wt).



- 24. Spray rebound damper shaft with isopropyl alcohol. Wipe shaft with a clean rag.
- 25. Remove and replace rebound damper piston o-ring (fig 25a and b). Apply a coat of suspension oil to new piston o-ring.

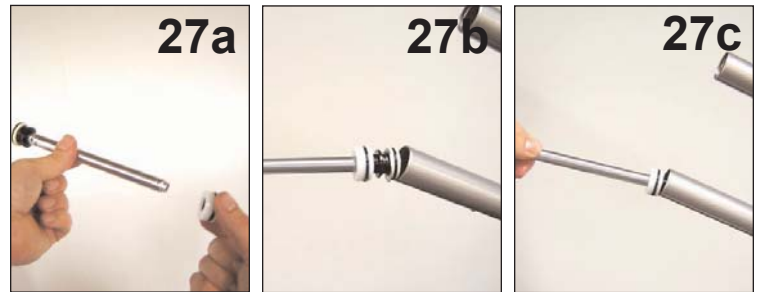


- 26. Spray isopropyl alcohol into damper-side upper tube. Wrap a clean rag around a long dowel/rod. Insert rag into upper tube and clean inside of tube.



..... **INSTALLATION**

- 27. Insert rebound damper seal head back onto rebound damper shaft (fig 27a). Insert rebound damper piston into bottom of upper tube (fig 27b). Slide seal head up into upper tube step (fig 27b).



- 28. Press seal head firmly into upper tube (fig 28a). Secure seal head into upper tube with retaining ring, sharp edge facing out. (fig 28b) Ensure retaining ring is secure in upper tube groove. Pull rebound damper shaft down (out) into the fully extended position.



- 29. With rebound damper shaft in the fully-extended position, measure and pour 95cc (+/-5cc) RockShox 5wt suspension oil into upper tube, through crown (fig 29a). Or, pour oil into upper tube through crown, and measure 5" (+/- 0.25") (127mm) oil height level, measured from the top of the crown, down to top of oil level (fig 29b).

IMPORTANT! OIL HEIGHT IS CRITICAL. TOO LITTLE OIL DECREASES DAMPING PERFORMANCE. TOO MUCH OIL REDUCES AVAILABLE FORK COMPRESSION/TRAVEL, AS WELL AS POSSIBLE RISK OF DAMAGE TO FORK FROM COMPRESSION BOTTOM-OUT.



- 30. Standard Compression Knob Duke Models:** Insert compression damper into upper tube, through crown. Press firm and push damper into upper tube slowly. Use a slow twisting motion while firmly pressing compression damper into upper tube (fig 30a).



Remote Duke Models: Position the cable stop clamp on top of the crown, with the cable stop guide facing forward. Insert the compression through cable stop clamp, and into upper tube (fig 30b). Using a 24mm socket wrench, tighten to 60 in-lb (fig 30c).

NOTE: MAKE SURE COMPRESSION DAMPER IS IN THE FULL-OPEN POSITION (TURN ADJUSTER SHAFT COUNTERCLOCKWISE).

- 31.** Insert compression damper top cap seal (o-ring or white plastic seal) over top cap. Place compression knob onto top cap, with dial at the 3 o'clock position. Using snap ring pliers, secure the compression knob with external retaining ring (fig 28b). Remote knob should be positioned with cable set screw at approximately 3 o'clock.



NOTE: REMOTE KNOB TOP CAP SEAL PICTURED AT RIGHT (FIGS 28c). REMOTE COMPRESSION ADJUSTER KNOB USES A WHITE PLASTIC WASHER/TOP CAP SEAL.

32. Motion Control Remote Forks: Cable Installation

- 1) Thread the remote cable through cable stop base.
- 2) Thread cable around compression knob, under cable set-screw, and tighten with 2mm hex wrench. Knob should be positioned in 3 o'clock position and full-open.
- 3) Test PopLoc remote lever function for proper lockout/compression adjust.
- 4) Adjust cable tension as needed.

LOWER LEG INSTALLATION

- 33.** Invert fork in bicycle stand to 45-degree angle, upper tubes facing up. Spray upper tubes with isopropyl alcohol and wipe with a clean rag.
- 34.** Pour, or inject, a small amount of 5, 10 or 15wt RockShox suspension oil onto new or clean foam rings, just under dust seal, inside lower leg (each side).



35. Slide lower leg assembly over and onto the ends of each upper tube. Ensure both dust seals slide onto the tubes correctly and do not fold under. Slide lower leg assembly onto upper tubes until you feel the lower bushings touch the end of the upper tubes. Stop.



36. Invert fork about 30 to 45 degrees in bicycle stand. Measure and pour (or inject with an oil mixing syringe works best) 15cc of 5wt, 10wt, or 15wt (stock) RockShox suspension oil into both lower legs, through the shaft bolt holes. Wipe all excess oil from lower leg.



37. Inspect and clean damper shaft bolt (hollow/right side), spring shaft bolt (solid/left side), and black nylon crush washers. Replace crush washers and crush washer retainers if damaged. Damaged crush washers can cause oil to leak.



38. Slide lower leg assembly onto upper tubes until both shaft ends appear in lower leg shaft holes. You may need to guide both shaft ends, with a hex tool, into each lower leg shaft hole. Insert damper shaft bolt into damper threaded shaft end (right side) and tighten with a 5mm hex wrench to 60 in-lb (fig 38a). Insert Hydra Air spring shaft bolt and tighten with a 5mm hex wrench to 60 in/lb (fig 38b).



Wipe away excess oil.

39. Insert external rebound damper knob into damper shaft bolt. Push in to secure.



40. Using a shock pump, inflate positive air pressure. Refer to either the air chart in this guide or the air pressure decal on the back of the fork lower leg for air pressure settings (fig 37a). Install the air valve cover cap (fig 37b).



41. Spray a light coating of isopropyl alcohol onto entire fork, and wipe with a clean rag.

OIL

RIGHT LEG			
Right Leg Top (Volume)	Oil Weight	Right Leg Bottom (Volume)	Oil Weight
95 cc/ml	5wt	10 cc/ml	5, 10 or 15wt (stock)
LEFT LEG			
Left Leg Top (Volume)	Oil Weight	Left Leg Bottom (volume)	Oil Weight
3 - 5 cc/ml	5wt	10 cc/ml	5, 10 or 15wt (stock)

AIR PRESSURE SETTINGS

Rider Weight	Air Pressure
< 140 (63kg)	70-115 psi
140 - 160 (63-72 kg)	115 -130 psi
160 - 180 (72-81 kg)	130 -145 psi
180 - 200 (81-90 kg)	145 -160 psi
>220 (99 kg)	160 - 180 psi

TROUBLE-SHOOTING

AIR LOSS

- Inspect air piston o-ring and replace if necessary.
- To avoid air loss, deflate positive air chamber, remove air top cap every month and pour 3 to 5cc RockShox 15wt suspension oil into air spring chamber. This keeps air seal lubricated.
- Maximum air pressure may have been exceeded. Do not exceed recommended air pressures!

LOSS OF/OR VARIANCE IN DAMPING

- Inspect all damper o-rings. Replace and grease.
- Inspect damper oil volume. Remove damper top cap/compression damper assembly. Using a thin ruler, measure the oil height. Correct height is five inches from the top of the upper tube (when fork is set at 140mm travel). Add or remove oil as needed.

REMOTE: INSPECT REMOTE CABLE TENSION. CABLE MAY STRETCH OR BECOME LOOSE. LOOSEN CABLE SCREW, TENSION CABLE, AND TIGHTEN. TEST. ADJUST AS NEEDED.

COMPRESSION STROKE NOT SMOOTH

- Remove both shaft bolts. Pull lowers down about an inch. Allow oil to drain. Inject or pour 15cc of fresh suspension oil into lower leg through shaft bolt holes.
- Lubricate upper tubes near dust seals. Press down on fork a few times. Wipe away excess lubricant.

BUSHING PLAY

- Inspect and replace worn bushings. Bushings are a wear and tear item, and need to be replaced after approximately 100-200 riding hours, depending your riding style, condition, riding time and body weight. If you ride a lot, check those bushings!

SEE THE 'BUSHING INSTALLATION' GUIDE AT WWW.ROCKSHOX.COM FOR PROCEDURES.

OIL LOSS

- Inspect the air piston o-rings for air bypass. Air pressure can force oil out of the left dust seal.
- Inspect your shaft bolt crush washers. Replace if worn or damaged.
- Inspect your top cap o-rings. Replace if torn or knicked.