2005-2006 PIKE REBA REVELATION AIR U-TURN SERVICE GUIDE

PIKE
REBA
REVELATION
ROCK SHOX

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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PN 95.4310.763.000, Rev. A

- Perform service every 100 hours of riding (less depending on riding conditions and riding style).
- Regular maintenance ensures your RockShox suspension fork performs as it should.
- For dust seal, foam ring, oil seal, and 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 internal's service.
4 Place oil pan under fork on floor.

TOOLS

- Safety Glasses
- Clean Rags
- Oil Pan or Bucket
- Bicycle Stand/Clean Work Table/Area
- 24mm and 10mm 6-point Socket
- Plastic-Faced Mallet
- Snap Ring Pliers (internal and external)
- Shock Pump
- 2, 2.5, 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

PROCEDURES FOR AIR U-TURN 2006 PIKE, 2005 REBA AND 2006 REVELATION ARE THE SAME FOR EACH FORK. REVELATION PICTURED HERE.

LOWER LEG / INTERNALS REMOVAL

1. Remove positive and negative air caps (Dual Air and Air U-Turn) (figs 1a/1b).

2. Gently pull external rebound adjuster knob and remove from the right shaft bolt (fig 2a).

   Depress negative (lower) schrader valve; release air pressure (fig 2b).

   Depress positive (upper) schrader valve; release air pressure (fig 2c).

NOTE: OIL WILL ESCAPE WHEN AIR VALVE IS DEPRESSED. THIS IS NORMAL.

3. Using a 5mm hex wrench, loosen the right shaft bolt 3 to 4 turns (fig 3a).

   Using a 10mm open end wrench, loosen (left side) Dual Air shaft nut (fig. 3b). Loosen so nut is unthreaded just past the threaded shaft end (fig 3c).

4. Using a plastic mallet, tap 10mm shaft nut (left) and rebound shaft bolt (right) free. This frees the shaft ends from the lower leg shaft bore press-fit and allows the lower leg to be removed from upper tubes (figs 4a/4b).

   Using your fingers, remove 10mm shaft nut and bolt from both threaded shaft ends (fig 4c/4d).

   NOTE: OIL DRAINS WHEN SHAFT BOLT IS REMOVED. PLACE AN OIL PAN BELOW THE FORK TO CATCH THE OIL.

5. Firmly pull the lower leg assembly down by holding each leg or the brake arch (fig. 5a/5b).

   Spray isopropyl alcohol into lower legs. Wrap a rag around a dowel and wipe inside of lower legs clean. Set lower legs in oil pan to drain (fig. 5c).

   IMPORTANT! DO NOT STRIKE OR TAP THE BRAKE ARCH WITH A MALLET. THIS DAMAGES THE MAGNESIUM.

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

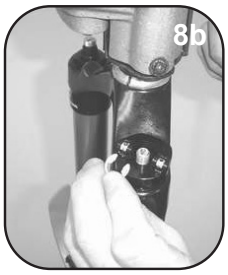
6. Spray isopropyl alcohol onto each upper tube and wipe clean.

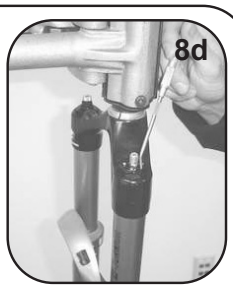
AIR SPRING SERVICE

AIR U-TURN SPRING ASSEMBLY

7. Adjust travel setting to 130mm (full-travel). Ensure all air pressure is removed from positive and negative air chambers.

8. Using a sharp pick or screwdriver, push external retaining clip from above U-Turn knob. (fig. 8a/8b). Remove adjuster knob (fig 8c). Remove each detent ball bearing and spring from top cap. (fig 8d) A magnet works best.

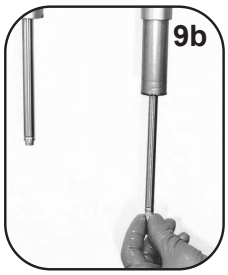


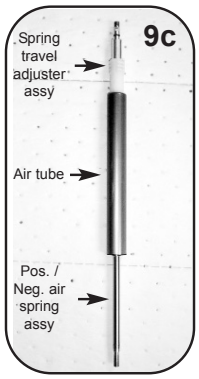


VERY IMPORTANT! **IN THE EVENT THE AIR U-TURN (24MM) TOP CAP MUST BE REMOVED FROM UPPER TUBE/CROWN, USE A 24MM SOCKET WRENCH TO REMOVE. BEFORE INSTALLATION, ADD A FEW DROPS OF BLUE THREAD-LOCK TO THE TOP CAP THREADS.**

9. Turn Air U-Turn travel adjust shaft (protrudes from center of top cap), or bottom of air shaft, CLOCKWISE to unthread air spring assembly from Air U-Turn top cap (fig 9a). Top cap should be tight inside crown/upper tube.

   Pull down on Air U-Turn shaft to remove entire spring assembly from bottom of upper tube (fig 9b).



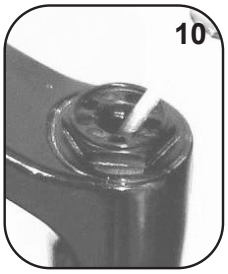


DISASSEMBLY & SERVICE: U-TURN AIR PISTON / SHAFT ASSEMBLY

Disassembly and service should be performed on a clean work surface.

10. Remove Teflon washer from inside of top cap. To remove, push down with a pick or flat-head screwdriver (fig 10). Washer will exit bottom of upper tube.

    NOTE: **GREASE MAY CAUSE TEFLON WASHER TO REMAIN IN UNDERSIDE OF TOP CAP. USE A SHARP PICK TO DISLODGE.**



11. Using external snap ring pliers, remove small external retaining ring (fig 11a). This secures the air tube guide plate.

    Remove guide plate (fig 11b).

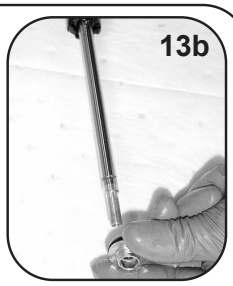
12. Using a flat-head screwdriver, push down on seal head (position screwdriver head against step, away from shaft) to free the retaining ring from seal head (fig 12a). You may need to release additional remaining positive air to help release seal head. After seal head slides into air tube, use snap ring pliers to remove seal head retaining ring from air tube (fig 12b).

    IMPORTANT! **DO NOT SCRATCH AIR SHAFT. A SCRATCH WILL CAUSE AIR TO LEAK.**

13. Pull air shaft, negative air seal head and positive air piston assemblies out of air tube (fig 13a).

Slide and remove aluminum seal head from air shaft (fig 13b).

IMPORTANT! DO NOT SCRATCH O-RING GROOVES WHEN REMOVING O-RINGS. DAMAGE WILL CAUSE PERMANENT AIR LEAK.

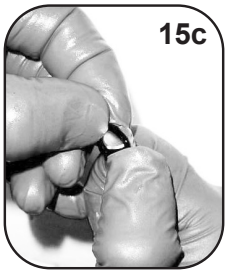


14. Use external snap ring pliers to remove positive air piston retaining ring (fig 14a).

Remove positive air piston (fig 14b).

15. Pinch small o-ring on air piston shaft groove; remove and replace (figs 15a/15b/15c).

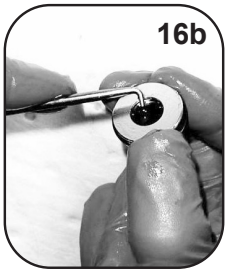
Coat new o-ring with suspension oil (15wt) (fig 15d).



16. Pinch external air piston o-ring; remove and replace (fig 16a).

Use a sharp pick to remove seal head external and internal o-rings (fig 16b)

Coat new o-ring with suspension oil (15wt) (fig 16c).



17. Place air piston back onto shaft end (fig 17a) and secure with NEW 10mm external retaining ring (fig 17b).

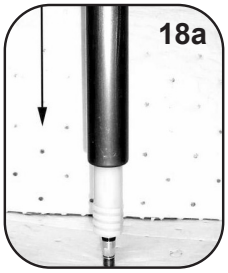
IMPORTANT! THE 10MM EXTERNAL RETAINING RING MAY BECOME DAMAGED IF STRETCHED OPEN TOO FAR DURING ASSEMBLY. ENSURE THE RETAINING RING IS FULLY SEATED INTO SHAFT GROOVE AND NOT LOOSE. PINCH RETAINING RING TIGHT WITH PLIERS IF NECESSARY.

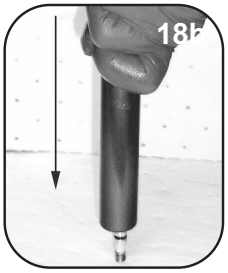
DISASSEMBLY & SERVICE: TRAVEL ADJUSTER / CHOKE ASSEMBLY

Disassembly and Service should be performed on a clean work surface.

18. Holding the air tube, place upper choke assembly end on flat surface (fig 18a). Firmly press tube down on flat surface to push choke assembly through tube. Press firm to break the seal (fig 18b).

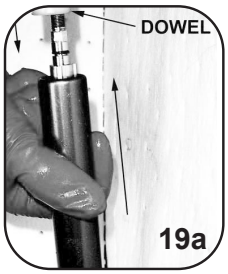
Choke assembly will feel tight inside tube while pushing choke out of air tube. You may need to tap the end of the air shaft onto flat working surface to free the upper air spring assembly from the air tube.

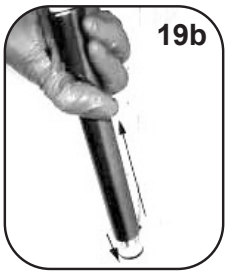


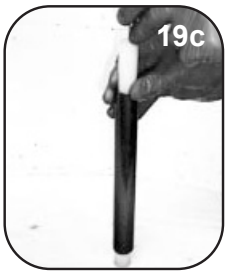


19. Use a non-metallic dowel/rod (wood/plastic dowel works well) to continue to push the assembly through and out of air tube. Remove assembly completely from air tube (figs 19a/19b/19c).

IMPORTANT! A NON-METALLIC DOWEL/ROD ENSURES THAT THE INSIDE OF AIR TUBE IS NOT SCRATCHED.





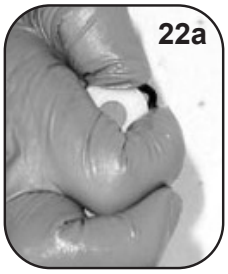


20. Spray isopropyl alcohol inside of air tube. Wrap clean rag around end of dowel, and push through tube to clean inside tube surface (fig. 20).

21. Remove external choke retaining ring from travel adjustment shaft (fig 21a). Remove choke piston and choke/shaft washer (fig 21b).

22. Remove external choke o-ring and replace (fig 22a).

Apply 15wt suspension oil (not grease) to new o-ring (fig. 22b).



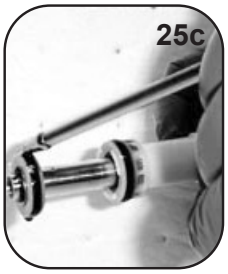
23. Remove upper seal head from adjuster shaft (fig 23a). Remove upper seal head outer and inner o-rings (fig 23b). Use a sharp flat head screwdriver to remove inner o-ring retaining ring. (figs 23c/23d). Replace both o-rings and coat new o-ring with 15wt suspension oil (fig 23e/23f). Reinstall inner o-ring retaining ring with small, sharp flat-head screwdriver.

24. Re-install upper seal head onto travel adjustment shaft (fig 24a). Apply 15wt oil to adjuster shaft, and onto inner seal head o-ring (fig 24b).

Install choke piston and secure with NEW 10mm external retaining ring (fig 24c).

25. Apply a few drops of 15wt suspension oil to the exposed shaft in between upper seal head and choke piston (fig 25a).

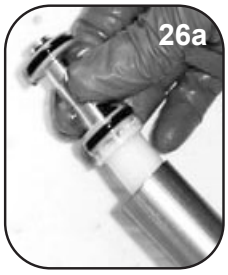
Apply 15wt oil to both piston o-rings (figs 25b/25c).

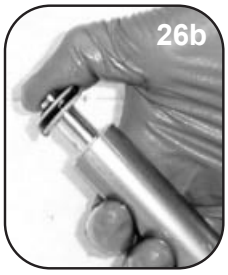


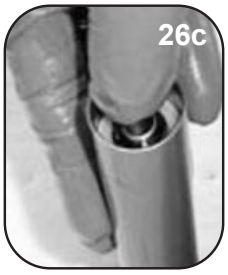
INSTALLATION

26. Insert the upper choke assembly into open end of air spring tube, schrader valve end first (figs 26a/26b/26c). Press completely into air tube.

Using a long plastic or wood dowel, push assembly up into the air tube until seated flush against rolled end of air tube (fig 26d).





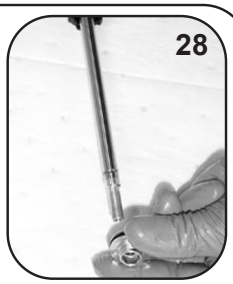


IMPORTANT! BOTH UPPER SEAL HEAD AND CHOKE PISTON O-RINGS MUST BE WELL LUBRICATED WITH 15WT OIL BEFORE INSTALLATION.

27. Hold air tube with open end up. Pour 3 to 5cc of 15wt suspension oil into air tube/positive air chamber, on top of upper choke assembly (fig 27). This will lubricate the choke o-ring and positive air piston o-ring when fork is compressed. Set aside, upright, so oil does not spill.

28. Slide negative air seal head onto DualAir spring shaft, flat end first. Slide up to bottom out bumper (fig 28).

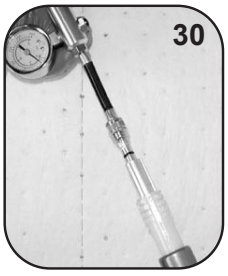
Inner seal head o-ring must be lubricated with 15wt oil.



29. Lubricate positive and negative air piston o-rings well with with 15wt oil before installation (figs 29a/29b). Insert positive air piston into open end of air spring tube (fig 29c). Push air shaft assembly into air tube. Using a small flathead screwdriver, press down on seal head shaft step to seat into place inside air tube (fig 29d). Secure seal head into air tube step with retaining ring (figs 29e/29f). Ensure retaining ring is secure in air tube before continuing..

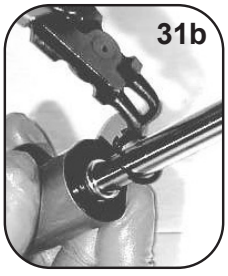
IMPORTANT! **CHECK RETAINING RING; MUST BE FULLY SEATED IN UPPER TUBE GROOVE.**

30. Add air to the positive air chamber (40 to 60 psi) to ensure assembly components are seated properly inside air tube (fig 30).



31. Insert air tube guide plate onto end of air tube. (fig 31a) Secure around small seal head groove with NEW 13mm external retaining ring (fig 31b). Verify retaining ring is seated against guide plate so it cannot move freely (fig 31c).

IMPORTANT! **EXTERNAL RETAINING RINGS MAY DEFORM WHEN REMOVED AND INSTALLED. PINCH ENDS TIGHT WITH PLIERS TIGHT, TO ENSURE CORRECT FIT.**



THE U-TURN AIR SPRING ASSEMBLY IS NOW ASSEMBLED AND READY TO BE INSTALLED INTO FORK UPPER TUBE/CROWN.

32. Place Teflon washer over threaded shaft end, flat against travel shaft (figs 32a/32b).

33. Insert Air U-Turn spring assembly into bottom of left fork upper tube (adjuster end first) (fig 33a).

Slide into upper tube until upper assembly engages top cap (fig 33b).

Hold bottom of air shaft, turn COUNTERCLOCKWISE, and thread assembly into top cap until it stops (fig 33c).

34. Insert each detent spring into top cap detent hole. Place detent ball bearings on top of detent springs (fig 34a).

Place Air U-Turn adjuster knob onto hex shaft end.

Secure knob onto air shaft with external retaining clip. Press clip into groove with small flat-head screwdriver (fig 34b). Make sure retaining clip is inserted into groove, not air shaft threads.

IMPORTANT! AIR U-TURN FORK MUST BE SET TO FULL-TRAVEL SETTING BEFORE INSTALLING LOWER LEGS. TURN AIR U-TURN KNOB COUNTERCLOCKWISE TO SET TRAVEL TO 130MM (FIG 34C).

MOTION CONTROL DAMPER SERVICE

REMOVAL

35. **Compression knob/remote spool**: Using external snap ring pliers, remove external compression adjuster knob/spool retaining ring (figs 35b/35e).

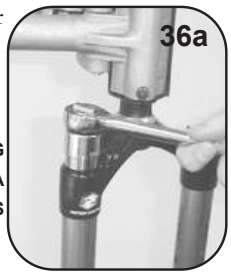
Remove compression adjust knob (fig. 35c) or remote spool (fig 35f).

Remove top cap o-ring seal (fig 35d) or remote spool seal (fig 35g).

NOTE: REMOTE COMPRESSION ADJUSTER SPOOL USES A WHITE PLASTIC WASHER/TOP CAP SEAL. THE STANDARD COMPRESSION KNOB USES AN O-RING TOP CAP SEAL).

36. Using a 24mm socket wrench, loosen compression damper top cap from upper tube (fig 36a) By hand, slowly pull compression damper from upper tube (fig 36b/36c).

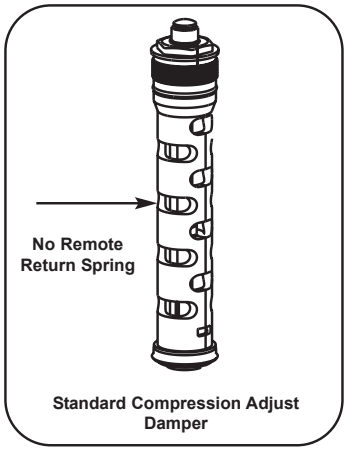
IMPORTANT! USE CARE WHEN REMOVING COMPRESSION DAMPER FROM UPPER TUBE. USE A SLOW TWISTING MOTION WHILE PULLING UP. THIS HELPS EASE THE O-RING PAST THE UPPER TUBE THREADS.

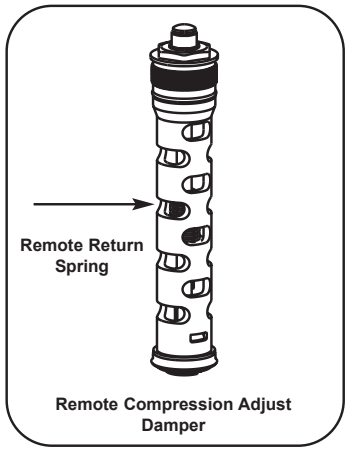


38. Inspect compression damper o-rings, located at top (fig 38a) and bottom of damper (fig 38b) and replace if necessary. Apply oil to new o-rings.

UPGRADE: NON-REMOTE TO REMOTE ADJUST

UPGRADING A NON-REMOTE COMPRESSION ADJUST FORK (CROWN-MOUNTED ADJUSTER KNOB) TO REMOTE COMPRESSION ADJUST (REMOTE POPLOC LEVER 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 POP-LOC REMOTE LEVER ASSEMBLY.





39. Remove fork from bicycle stand and pour damper oil into oil pan (fig 39).

40. Use snap ring pliers to remove rebound damper/seal head retaining ring, located inside bottom of right upper tube (fig 40a).

Pull to remove the rebound damper and seal head assemblies from upper tube (figs 40b/40c).

41. Slide seal head assembly and upper tube base ring off damper shaft (fig 41a).

Remove and replace outer and inner seal head o-rings (figs 41b/41c).

Coat new o-rings with suspension oil (fig 41d).

42. Spray rebound damper shaft with isopropyl alcohol. Wipe shaft with a clean rag.

43. If damaged, remove and replace rebound damper piston glide ring (fig 43a). Position upper tube base ring on top on seal head step. Slide lubricated rebound seal head assembly back onto rebound damper shaft (fig 43b).

44. Spray isopropyl alcohol into upper tube (fig 44a).

Wrap a clean rag around a long dowel/rod. Insert rag into upper tube and clean inside of tube (fig 44b).

INSTALLATION

45. Insert rebound damper piston into bottom of upper tube. Insert at an angle, open-ended side of glide ring out. This aids insertion of piston and glide ring. Angle and rotate until glide ring is inside upper tube. (fig 45a). Position upper tube base ring and seal head into the upper tube step.

Slide seal head up into upper tube step and press into upper tube with your thumb (fig 45b).

Secure seal head into upper tube with retaining ring (fig 45c). Ensure retaining ring is secure in upper tube groove (fig 45d).

46. Pull rebound damper shaft down (out) into the fully extended position. With the rebound damper shaft in the fully-extended position, pour 5wt suspension oil into upper tube, through crown(fig 46).

PIKE - 120cc/ml (+/-5cc/ml)
REBA - 110cc/ml (+/-5cc/ml)
REVELATION - 115cc/ml (+/-5cc/ml)

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

47. 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 47a).

Using a 24mm socket wrench, tighten to 60 in-lbs. (fig 47b)

48. Insert compression damper top cap seal (o-ring or plastic) over top cap (see figs 35d/35g).

Place compression knob (see fig 35c) or remote spool (see fig 35f) onto compression damper top cap, with knob dial or cable set screw at 3 o'clock position.

Using external snap ring pliers, secure compression knob or remote spool with external retaining ring (see figs 35b/35e).

49. Motion Control Remote Forks: Cable Installation

1) Thread remote cable through cable stop base.

2) Thread cable around remote compression spool, under cable set screw; tighten with a 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

50. 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.

51. Pour, or inject, a small amount of 15wt suspension oil onto new or clean foam rings, just under dust seal, and inside each lower leg (fig 51).

52. 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 (fig. 52).

53. Invert fork about 30 to 45 degress in bicycle stand. Measure and pour (or inject...an oil syringe works best) 15cc of 15wt (stock) suspension oil into both lower legs, through the shaft bolt holes (figs 53a/53b).

Wipe all excess oil from lower leg.

54. 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 allow oil to leak.

55. Slide lower leg assembly onto upper tubes until both shaft ends appear in lower leg shaft holes (fig 55a). You may need to guide damper threaded shaft end, with a hex tool, into each lower leg shaft hole.

Insert damper shaft bolt (right side) into damper threaded shaft end (right side) and tighten with a 5mm hex wrench to 60 in-lb (figs 55b/55c).

Thread shaft nut/crush washer (left side) onto threaded shaft end tighten with 10mm wrench (fig 55d).

Wipe away excess oil.

56. Insert external rebound damper adjuster knob into damper shaft bolt. Push in to secure (fig 56).

57. Using a shock pump, inflate positive (upper) air pressure first (fig 57a); inflate negative air chamber second (fig 57b). 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.

Install the air valve caps.

58. 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
Pike	120cc/ml	5wt	15cc/ml	15wt (stock)
Reba	110cc/ml	5wt	15cc/ml	15wt (stock)
Revelation	115cc/ml	5wt	15cc/ml	15wt (stock)
	Left Leg			
	Left Leg Top (Volume)	Oil Weight	Left Leg Bottom (volume)	Oil Weight
Pike	3 - 5 cc/ml	15wt	15cc/ml	15wt (stock)
Reba	3 - 5 cc/ml	15wt	15cc/ml	15wt (stock)
Revelation	3 - 5 cc/ml	15wt	15cc/ml	15wt (stock)

AIR PRESSURE SETTINGS

Air Spring Tuning

With independently adjustable positive (top) and negative (bottom) air chambers, the air spring system of your 'air' fork can be easily tuned for your weight and riding style. Use the following instructions as a starting point. If further fine tuning is desired, follow the hints at the end of this section.

Step 1 - Selecting Positive Air Pressure

Positive air pressure determines the amount of force required to compress your fork. More positive air pressure results in less suspension sag and higher bottom out forces. Less positive air pressure results in more suspension sag and lower bottom out forces. Using the chart below as a guide, inflate the positive air chamber to the desired pressure.

Rider Weight	Air UT Dual Air Positive Air Pressure
< 140 (63kg)	90 - 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+ psi

Step 2 - Selecting Negative Air Pressure

Negative air pressure effects the amount of force required to initiate suspension travel. Negative air pressure works with bump input AGAINST the force of the positive air chamber. More negative air pressure results in a suspension set-up that is more active, especially to small bump input. Less negative air pressure results in a suspension set-up does not move or "bob" under rider input or small bumps. Start with pressure equal to positive pressure, and decrease or increase as desired. More negative pressure = more active initial compression stroke. Adjust as needed to achieve the desired compression stroke.

TROUBLE-SHOOTING

AIR LOSS

- Inspect air piston o-rings. Replace if necessary.
- To avoid air loss, remove Dual Air top cap and check oil level inside air chamber, every 25 to 50 riding hours. If there is little or no oil on top of air piston o-ring, pour 3 to 5cc RockShox 15wt suspension oil into air spring chamber. Oil will keep air seal lubricated.
- Inspect schrader valve assembly. Replace if damaged or malfunctioning. Clean if clogged.

LOSS OF, OR VARIANCE IN DAMPING

- Inspect all damper o-rings. Replace and lubricate.
- Inspect damper oil volume. Remove damper top cap/compression damper assembly. 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 to 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-ring for air bypass. If there is a repeated loss of air pressure, air may be the cause of oil loss at 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.