



For exploded diagram and part number information, refer to the Spare Parts Catalog available on our website at [www.rockshox.com](http://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 RockShox suspension 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 internal's service.
4. Place oil pan under fork on floor.

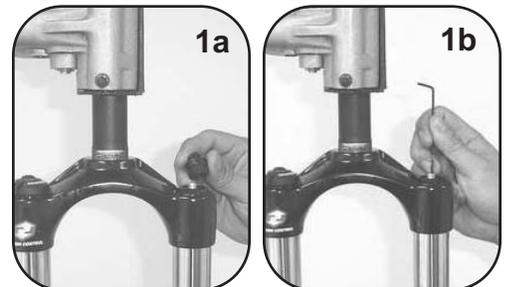
## TOOLS

- Safety Glasses
- Clean Rags
- Oil Pan or Bucket
- Bicycle Stand / Clean Work Table/Area
- 24mm 6-point Socket
- Plastic-Faced Mallet
- Snap Ring Pliers (internal and external)
- Shock Pump
- 2mm, 2.5mm, 5mm Hex Wrench
- Long and Short Plastic or Wood Dowel, 3/4" Diameter (non-metallic)
- Torque Wrench
- Sharp Pick/Dental Pick
- Oil Mixing Syringe & Measuring cup
- Isopropyl Alcohol/Spray Bottle
- 5wt and 15wt Suspension Oil



## LOWER LEG REMOVAL (AIR AND U-TURN)

1. **Tora Air:** Remove air valve cover cap from the left side air top cap (fig 1a).  
Depress schrader valve and remove all air from air spring chamber (fig 1b).



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



3. Using a 5mm hex wrench, loosen both shaft bolts 3 to 4 turns (fig. 3a).

With hex wrench in shaft bolt, tap each bolt free with plastic mallet. Using your fingers, remove both shaft bolts completely (fig. 3b).

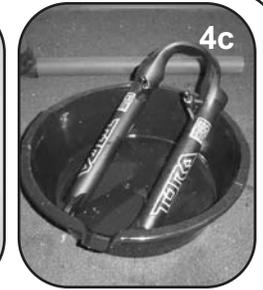
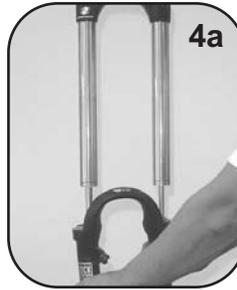
Using your fingers, remove shaft bolts from both threaded shaft ends (fig. 3c).



4. Firmly pull the lower leg assembly down by holding each leg or the brake arch (figs 4a/4b).

Remove lower leg assembly and allow all excess oil to drain into an oil pan (fig 4c).

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



5. Spray isopropyl alcohol onto and into each lower leg; wipe lower legs clean. Wrap a clean rag around a long dowel and clean inside of each lower leg.

TORA U-TURN: SKIP TO STEP 19.

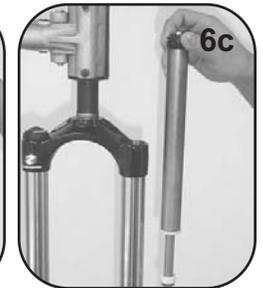
## TORA SOLO-AIR SPRING ASSEMBLY

### REMOVAL

6. Verify all air pressure is removed from air chamber before proceeding. Depress schrader air valve again to remove any remaining air pressure.

Using a 24mm socket wrench, loosen air top cap assembly from upper tube/crown (fig 6a).

Pull top cap up and out to remove air top cap and air spring/tube assembly from upper tube/crown (figs 6b/6c).



7. Pull top cap out of air tube (fig 7a). Pour any air seal lubricant oil from air tube, into oil pan.

Pull air shaft and air seal head from air tube. You may need to twist the air-seal to remove. Pull firmly and remove air assembly from air tube (fig 7b).



8. Spray isopropyl alcohol into upper tube (fig 8). Wrap a clean rag around a long dowel. Insert rag into upper tube and clean inside of tube.

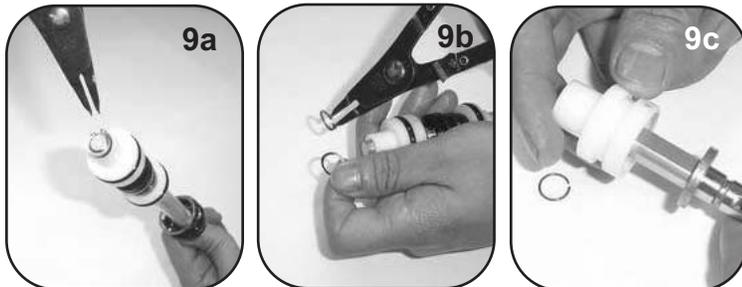


DISASSEMBLY & SERVICE

PART KIT REQUIRED: TORA SERVICE KIT (11.4310.706.000)

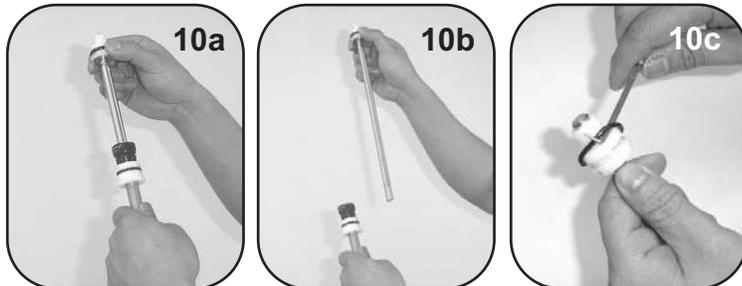
9. Using external snap ring pliers, remove air piston retainer ring (fig 9a).

Remove air piston wavy spring washer (fig 9b) and piston from air shaft (fig 9c).



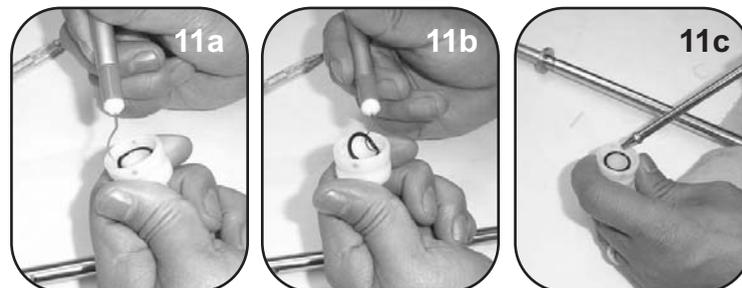
10. Slide air sleeve/seal head assembly from air shaft (figs 10a/10b).

Pinch main air seal o-ring, and remove with a pick (fig 10c).



11. Using a sharp pick, remove inner piston o-ring. Do not scratch piston with pick (figs 11a/11b).

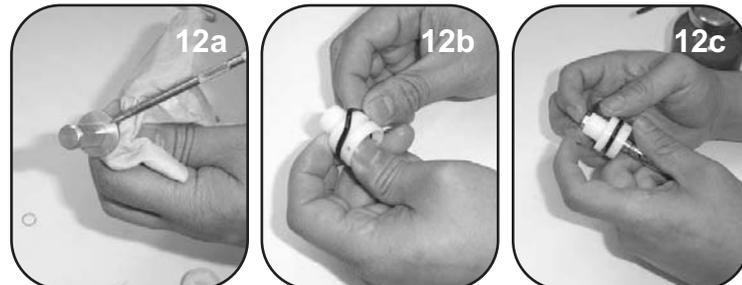
Replace with a new o-ring and coat new o-ring with 15wt suspension oil (fig 11c).



12. Spray air shaft head with isopropyl alcohol and wipe clean with a rag (fig 12a).

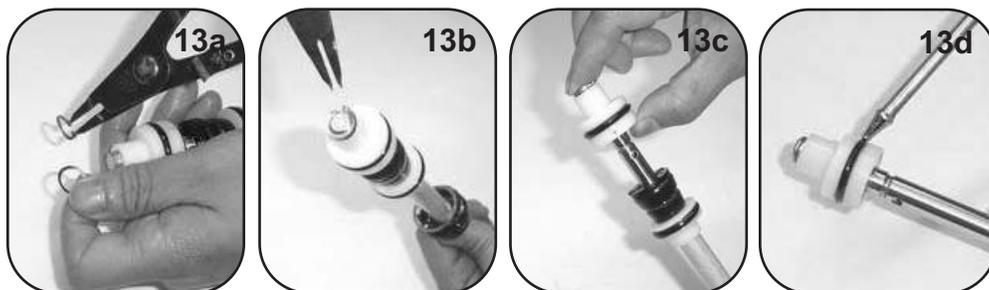
Install new main air piston o-ring onto air piston (fig 12b).

Insert air piston back onto air shaft head. Install spring wavy washer onto air shaft end (fig 12c).



13. Install external retaining ring just above wavy spring washer and secure air piston to air shaft head (fig 13a/13b).

Check retaining ring fit and make sure it is secure. Piston should compress slightly with spring resistance against wavy spring washer and retaining ring (fig 13c).

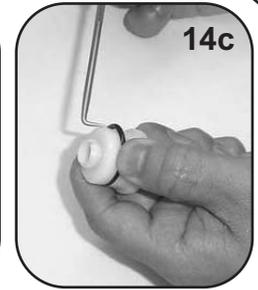


Coat main air piston o-ring with 15wt suspension oil (fig 13d).

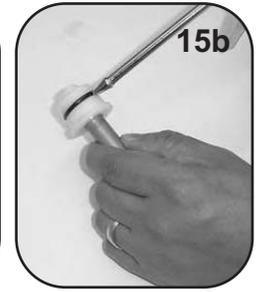
14. Remove bottom-out bumper and pad from negative air sleeve/seal head (fig 14a).

Using a sharp pick, remove the inner air seal head o-ring. You may need to pierce the o-ring with the pick and pull to remove (fig 14b). Replace with new o-ring

Pinch outer o-ring and remove with a pick (fig 14c). Replace with new outer o-ring.

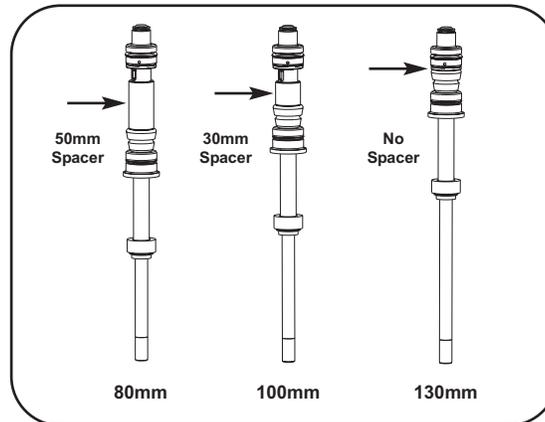


15. Apply 15wt suspension oil to new inner and outer air seal head o-rings for lubrication (figs 15a/15b).



#### ALL-TRAVEL CONFIGURATIONS

**NOTE: TORA AND RECON ALL-TRAVEL SPACERS ARE LOCATED JUST ABOVE THE AIR SEAL HEAD. SNAP ONTO SEAL HEAD TO DECREASE TRAVEL.**



#### INSTALLATION

16. Insert bottom-out bumper and pad back onto air seal head. Slide air seal head/sleeve assembly back onto air shaft, bumpers first (fig 16a).

Insert lubricated air assembly, both pistons and air sleeve into one end of air tube (fig 16b).

Push air seal head into air tube and press in until firmly seated in air tube (fig 16c).



17. Insert air shaft into top of upper tube, through crown. Guide the bottom of the air shaft through the shaft guide in bottom of upper tube. Insert air tube assembly into upper tube until it rests inside upper tube (fig 17a).

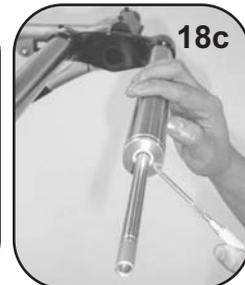
Pour 3cc/ml of 15wt suspension oil into air tube (fig 17b). Suspension oil in the air chamber lubricates the air seal o-ring during use and maintains the air seal.



18. Push air shaft to lift air tube out of upper tube a couple inches. Insert the air top cap into air tube, and press tight into air tube (fig 18a).

Drop air tube/top cap assembly into upper tube (fig 18b).

Check bottom of upper tube and make sure air shaft guide is seated into upper tube shaft guide (fig 18c).



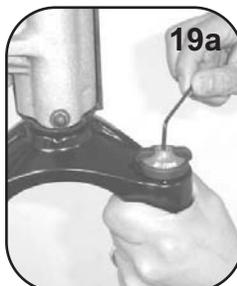
## TORA U-TURN SPRING ASSEMBLY

### REMOVAL

19. Using a 2.5mm hex wrench, remove U-Turn knob screw (fig 19a).

Remove U-Turn adjuster knob (fig 19b).

Using a magnet, remove detent ball bearings and detent springs from top cap (fig 19c).



20. Using a 24mm socket wrench, loosen and remove U-Turn spring top cap (figs 20a/20b). The spring is attached to the top cap and spring shaft. Pull and lift entire spring assembly from upper tube (fig 20c).

**IMPORTANT!** PRESS DOWN SQUARE AND FIRM WHEN LOOSENING TOP CAPS.



21. Remove U-Turn negative spring assembly from upper tube (fig 21). You may need to remove fork from bicycle workstand and turn upside down to remove. Clean and re-install.

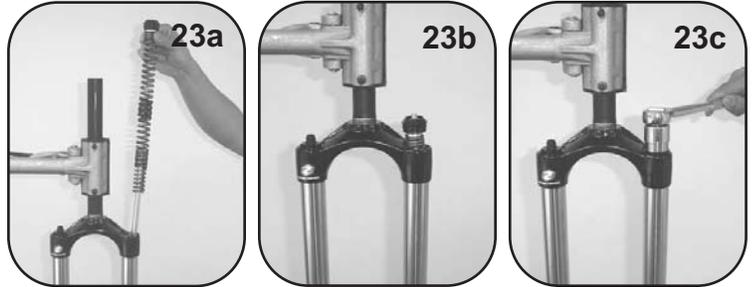


22. Spray entire spring assembly with isopropyl alcohol. Wipe all grease and oil from top cap, spring and shaft. Apply grease to outside of entire coil spring and spring isolator.

## INSTALLATION

23. Insert U-Turn spring assembly into left upper tube, through crown (shaft-end first). Align and seat the spring, shaft through shaft guide/base plate (fig 23a).

Press down on U-Turn spring top cap and thread into upper tube/crown (fig 23b). Using a 24mm socket wrench, tighten to 60 in-lb (fig 23c).



24. Insert each detent spring into top cap detent holes, evenly spaced. Place each detent ball bearing on top of each detent spring (figs. 19c & 19b).

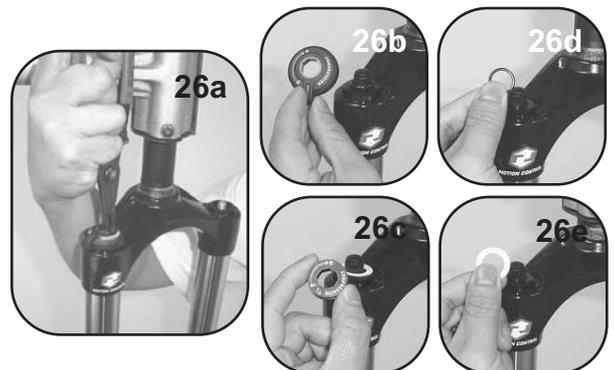
Place U-Turn adjuster knob on top of hex. Secure with knob screw. Tighten screw snug with 2.5mm hex wrench (fig. 19a).

## MOTION CONTROL DAMPER SERVICE

## REMOVAL

25. **Tora 302:** Using a 24mm socket wrench loosen and remove non-adjust rebound top cap.
26. **Tora 318:** Using external snap ring pliers, remove external compression adjuster knob retaining ring (fig 26a). Remove compression adjust knob or remote spool (figs 26b/26c) and top cap seal or o-ring (figs 26d/26e).

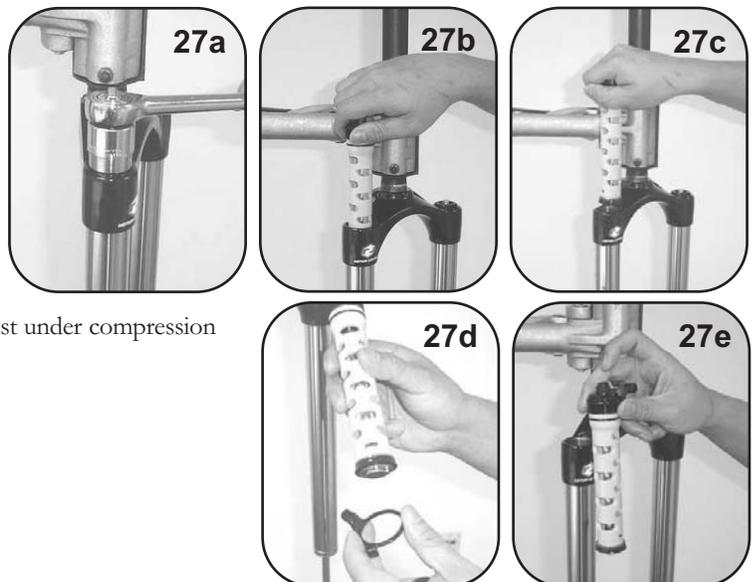
**NOTE: REMOTE COMPRESSION ADJUSTER SPOOL USES A WHITE PLASTIC WASHER/TOP CAP SEAL. THE STANDARD COMPRESSION KNOB USES AN O-RING TOP CAP SEAL.**



27. Using a 24mm socket wrench, loosen compression damper top cap from upper tube (fig 27a).

By hand, slowly remove compression damper from upper tube (figs 27b/27c/27e). Use care when removing compression damper from upper tube (Use a slow twisting motion). This helps ease the u-cup seal past the upper tube threads.

**Remote:** Remove cable stop clamp which is positioned just under compression damper top cap (fig 27d).



28. Replace compression damper top cap o-ring (located at top of damper) (fig 28a).

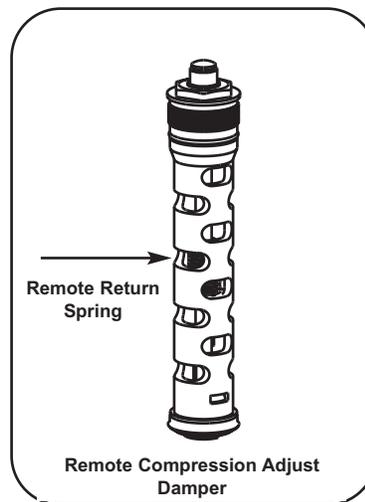
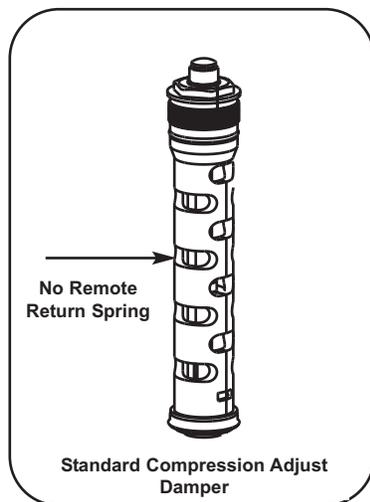
Pinch compression damper u-cup seal. Remove with a sharp pick (figs 28b/28c).

Install new u-cup seal. Apply a few drops of 15wt suspension oil to new o-ring and u-cup seal.



**UPGRADE: NON-REMOTE TO REMOTE ADJUST**

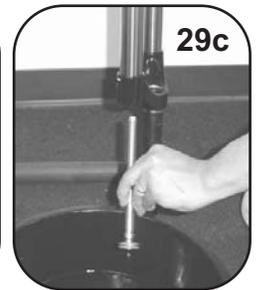
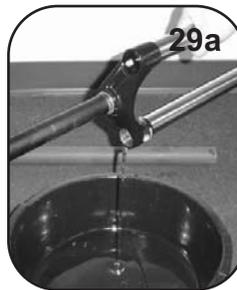
**UPGRADING A NON-REMOTE COMPRESSION ADJUST FORK (CROWN-MOUNTED ADJUSTER KNOB) TO REMOTE COMPRESSION ADJUST (REMOTE POPLOC LEVER ADJUSTER), REQUIRES REPLACING THE NON-REMOTE COMPRESSION DAMPER WITH A REMOTE COMPRESSION DAMPER AND CABLE-STOP CLAMP. THE REMOTE RETURN SPRING IS DESIGNED INTO THE COMPRESSION DAMPER, AND IS REQUIRED FOR USE WITH THE POP-LOC REMOTE LEVER ASSEMBLY. **ALSO REQUIRED:** REMOTE COMPRESSION SPOOL. (11.4310.643.000)**



29. Remove fork from bicycle stand and pour damper oil into oil pan (fig 29a).

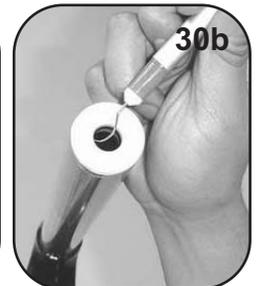
Push rebound damper shaft up and into upper tube/seal head (fig 29b).

Turn upside down and remove rebound damper from upper tube (fig 29c).



30. Remove rebound damper glide ring and replace (fig 30a).

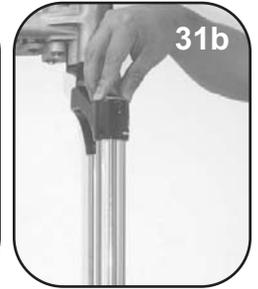
Using a sharp pick, remove damper inner seal head o-ring and replace with new o-ring (fig 30b). Do not scratch o-ring gland with pick. Scratches may cause oil to leak.



## INSTALLATION

31. Clamp fork back into bicycle stand. Insert rebound damper back into right side upper tube, shaft first (fig 31a).

Guide rebound damper shaft through damper seal head at bottom of upper tube, and pull through (fig 31b).



32. Insert shaft bolt into seal head and thread into rebound damper shaft end (fig 32a).

Pull shaft bolt down to pull rebound damper shaft through seal head (figs 32b/32c).



33. With rebound damper shaft in the fully-extended position, measure and pour or inject 130cc/ml (+/- 5cc/ml) 5wt suspension oil into upper tube (through crown) (fig 33).

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

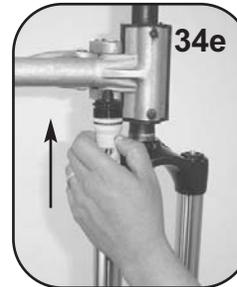
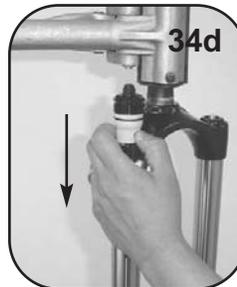


34. Coat the new compression damper u-cup seal with suspension oil.

**REMOTE: SLIDE REMOTE CABLE-STOP CLAMP OVER REMOTE COMPRESSION DAMPER BODY BEFORE INSTALLATION INTO FORK. POSITION CABLE-STOP TO THE 10 O'CLOCK POSITION (FROM RIDER'S PERSPECTIVE). SEE (FIG 27d).**

Insert compression damper into upper tube, through crown (fig 34a). Push down and twist slowly on compression damper, rocking side to side, as it passes upper tube threads (figs 34b/34c). As soon as the u-cup seal passes upper tube threads, pull up slightly, then push back down (figs 34d/34e).

Compression damper should slide easily up and down. This step ensures the u-cup seal is not folded over, and is in the correct position inside upper tube. Repeat until compression damper moves with little resistance.



Press the damper down until the upper damper o-ring contacts the upper tube threads. Turn the damper clockwise and thread into upper tube (fig 34f).. This will protect the upper damper o-ring as it passes the upper tube threads. Do not push straight down; this will damage the compression damper o-ring seal. Hand-thread top cap into upper tube (fig 34f) and tighten to 60 in-lb with a 24mm socket wrench (fig 27a).

- 35.** Insert compression damper top cap seal (o-ring or plastic) over top cap (figs 26d/26e).

Place compression knob or remote spool onto compression damper top cap, with knob dial or cable set screw at 3 o'clock position (figs 26b/26c).

Using external snap ring pliers, secure compression knob or remote spool with external retaining ring (fig 26a).

**36. Motion Control Remote Forks: Cable Installation**

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

**LOWER LEG INSTALLATION**

- 37.** Pour or inject 15wt suspension oil onto new or clean foam rings, just under dust seal, inside lower leg; each side (fig 37).



- 38.** 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.

Slide lower leg assembly over and onto the ends of each upper tube. Make sure both dust seals slide onto the tubes correctly and do not fold under (fig 38a).

Continue sliding lower leg assembly onto upper tubes until you feel the lower bushings touch the end of the upper tubes. Stop (fig 38b).



- 39.** Measure and pour (or inject...an oil syringe works best) 15cc/ml of 5, 10 or 15wt RockShox suspension oil into lower legs (left and right sides), through both shaft bolt holes (fig 39).

Wipe all excess oil from lower legs.



- 40.** Inspect and clean both damper and air spring shaft bolts and black nylon crush washers. Replace crush washers and crush washer retainers if damaged. Damaged or dirty crush washers can cause oil to leak.

Insert rebound damper and air spring shaft bolts into threaded shaft ends, through lower leg shaft holes, and tighten with a 5mm hex wrench to 60 in-lb (fig 40a).

Insert external rebound damper knob into rebound damper shaft bolt. Push in to secure (fig 40b). Adjust as desired.



- 41. Spray a light coating of isopropyl alcohol onto entire fork, and wipe with a clean rag. Replace decals if needed.
- 42. **Tora Air:** Inflate positive air chamber with shock pump to desired air pressure (fig 42). See air chart, or decal on back of fork lower leg, for reference. Thread air top cap valve cover cap onto air top cap.



## TORA AIR

RIDER WEIGHT	AIR PRESSURE	
	80MM	100-130MM
< 140 (63kg)	120-140 psi	80-100 psi
140 - 160 (63-72 kg)	140-160 psi	100-120 psi
160 - 180 (72-81 kg)	160-180 psi	120-140 psi
180 - 200 (81-90 kg)	180-200 psi	140-160 psi
>200 (99 kg)	220+ psi	160+ psi

## TORA U-TURN SPRINGS

RIDER WEIGHT AND U-TURN TRAVEL 80-130mm	SPRING COLOR	SPRING ASSEMBLY PART#
<140 lbs (63 kg)	Yellow	11.4310.168.000
140-160 lbs (63 to 70 kg)	Red (Standard)	11.4310.169.000
160-180 lbs (70-80 kg)	Blue	11.4310.170.000
>180 lbs (80 kg)	Black	11.4310.171.000

## OIL

TORA AIR RIGHT LEG			
TOP VOLUME	OIL WEIGHT	BOTTOM VOLUME	OIL WEIGHT
130cc/ml	5 wt	15cc/ml	15 wt
TORA AIR LEFT LEG			
TOP VOLUME	OIL WEIGHT	BOTTOM VOLUME	OIL WEIGHT
3cc/ml	15 wt	15cc/ml	15 wt
TORA U-TURN RIGHT LEG			
TOP VOLUME	OIL WEIGHT	BOTTOM VOLUME	OIL WEIGHT
130cc/ml	5 wt	15cc/ml	15 wt
TORA U-TURN LEFT LEG			
TOP VOLUME	OIL WEIGHT	BOTTOM VOLUME	OIL WEIGHT
x	x	30cc/ml	15 wt

## TROUBLE-SHOOTING

### AIR LOSS

- Inspect air piston o-rings. Replace if necessary.
- To avoid air loss, remove DualAir 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.

### 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](http://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.