

# Rubicon Comp Maintenance Instructions

## 7/14/98

The Rubicon Comp rear suspension system uses a combination of four (4) Sealed Cartridge Bearings, six (6) Bronze Bushings, and a rotating Tension Link to achieve its unique suspension action. The Bronze Bushings and Tension Link will not wear significantly or make any noise if greased periodically. The Sealed Cartridge Bearings will require replacement at some point, depending upon the conditions of use. Wet and muddy conditions will necessitate periodic replacement of these bearings, especially at the Swingarm. Generally, squeaking of the rear suspension, after all Bronze Bushings have been greased, is caused by the Sealed Cartridge Bearings at the Swingarm.

These instructions are for complete teardown and inspection of the Rubicon Comp frame:

1. Support frame at the headtube, fork, stem, etc. for teardown. Don't use a seat post to support the frame since the Top Tube will be removed during disassembly.

### LINKAGE AND PIVOT DISASSEMBLY

2. Remove the Button Head Screws at the two (2) pivot points (Swingarm and Top Tube) while holding the other side of the pivot with a hex wrench.

-Note: Old style pivot uses 4mm allen wrench and 1" hex wrench. New style pivots use 5mm allen wrench and 3/4" hex wrench. To upgrade to new style pivots, order the following:

1	New Style Pivot Upgrade Kit (includes the following parts)
1	60-110A Top Tube Pivot
1	60-215B Main Pivot
2	60-115A Pivot Flange
2	60-275 M8x16 Button Head Screw
2	60-111 Pivot Plug

3. Remove six (6) Button Head Screws from suspension linkage using 5mm allen wrench and 1/2" hex wrench.

4. Remove Linkage Pins from suspension linkage using Kestrel 3/8" Alignment Tool. Gently drive out all six (6) linkage pins by lightly hammering Linkage Pins with Alignment Tool. If the pins show signs of severe wear, scoring, or damaged threads, they should be replaced.

-Note: Linkage Pin which connects linkage with Top Tube is steel. Other five (5) Linkage Pins are aluminum. Be sure these Linkage Pins are reinstalled in the proper location.

Early production frames used two styles of Grease Fittings- standard zerk fittings on two (2) lower Linkage Pins and Tension Link, and flush style fittings on four (4) upper Linkage Pins. The flush style fittings require a special grease-gun adapter and are difficult to grease. New production frames use zerk fittings throughout and require no special adapters. To upgrade to zerk style Grease Fittings, order the following:

4	60-270 Grease Fitting
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-Note: If Linkage Pins have any of the following features, they are old style:

-1/8" diameter grease hole (New style uses 0.060" diameter grease hole)

-0.25" deep hex head (New style uses 0.19" deep hex head)

To upgrade to new style linkage pins, order the following:

1	New Style Linkage Pin Upgrade Kit (includes the following parts)
1	60-156A Top Tube Linkage Pin (w/grease fitting)
5	60-155A Linkage Pin
6	60-275 M8x16 Button Head Screw

5. Check fit of Linkage Pins in Bronze Bushings. The new style parts are precision machined with about 0.001" clearance between the pin and the bushing. If the clearance is excessive, replace the bushings and/or the Linkage Pins.

To upgrade to new style bushings, order the following:

1	New Style Bushing Upgrade Kit (includes the following parts)
6	60-170 Bushing, Rubicon Comp
10	60-305 Spacer, Rubicon Comp
2	60-125 O-ring

### **TOPTUBE REMOVAL AND INSPECTION**

6. Drive out Top Tube pivot using Kestrel 17mm Alignment Tool. Gently tap with hammer until pivot is driven out. Remove Top Tube from frame by sliding straight back.

Check fit of Bronze Bushing in Top Tube by inserting Kestrel 3/8" Alignment Tool into bushing and rocking. There should be no movement. If the bushing moves, it should be replaced and reinstalled as described later.

Look inside the Top Tube at the aluminum inserts for the Top Tube pivot. If rubber o-rings are present, remove and discard. These o-rings are no longer used.

### **SWINGARM REMOVAL AND INSPECTION**

7. Drive out Main Pivot (at Swingarm) using Kestrel 17mm Alignment Tool. Gently tap with hammer until pivot is driven out. Remove Swingarm from frame by sliding straight back. Remove tension link from frame by pulling straight up with a side-to-side rocking motion.

Check condition of O-ring on tension link. If it is torn it should be replaced. Order:

1	60-195 Seal
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If Bronze Bushings are to be replaced, replace the bushing in the Tension Link at this time. Because the Bronze Bushing is a press fit into the Tension Link, an arbor press is recommended for removing and installing Bushing. Install Bushing so it is centered in Tension Link.

Look inside the swingarm mounting tabs at the aluminum inserts. If rubber o-rings are present, remove and discard. These o-rings are no longer used.

### **BEARING INSPECTION AND REPLACEMENT**

8. Check each of the four (4) sealed cartridge bearings for smooth operation. In general, the top tube bearings rarely require replacement because they are well protected from the elements. If required, order:

2-4	60-130 Sealed Cartridge Bearing
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Bearings can be removed using a large drift (punch) from the inside. Keep moving the drift so the bearing is removed straight out. The other side can be removed in the same manner or with a large diameter bar, deep well socket, etc. Clean the bearing seats in the frame thoroughly before installing new bearings.

Bearing installation:

- Support the back side of the frame bearing seat area with a block of wood.
- Place bearing onto bearing seat and tap gently into frame. Keep moving the hammer around the bearing outer race so the bearing goes in as straight as possible. It is important that the bearing is installed completely against the stops in the frame. It may be necessary to use a drift on the outer race to completely install the bearings. Repeat for other side.

### **SWINGARM INSTALLATION**

9. Apply grease to the bottom of the tension link o-ring seal and install in frame, with grease fitting on left side of frame. Be careful not to damage o-ring seal during installation. Slide Swingarm forward until tabs are nearly aligned with sealed cartridge bearings.

10. Install Kestrel 17mm Alignment Tool through the swingarm tabs, sealed cartridge bearings, and tension link from the right side of the frame.

11. Lightly grease Main Pivot and install from left side of frame, driving out alignment tool. Secure with Pivot Flange and Button Head Screw. Important: Use Locktite 222 (purple) threadlock on these fasteners.

### **TOP TUBE MAINTENANCE AND INSTALLATION**

12. If replacing Bronze Bushing in Top Tube, remove old bushing and clean cavity in Top Tube thoroughly using acetone or an appropriate solvent. Coat inside of cavity and outside of new bronze bushing with Locktite RC 609 Sleeve Retainer and install bushing in Top Tube. Bushing should be centered in Top Tube. Wait 24 hours before riding to allow Sleeve Retainer to cure thoroughly.

13. Slide Top Tube forward until the holes are nearly aligned with the Sealed Cartridge Bearings.

14. Install Kestrel 17mm Alignment Tool through the Top Tube holes and Sealed Cartridge Bearings from the right side of the frame.

15. Lightly grease Top Tube Pivot and install from the left side of frame, driving out alignment tool. Secure with Pivot Flange and Button Head Screw. Important: Use Locktite 222 (purple) threadlock on Button Head Screw threads.

### **LINKAGE OVERHAUL AND ASSEMBLY**

16. If replacing Bronze Bushings, remove old Bushings from Compression Link and Fox Shock unit. . Because the Bronze Bushing is a press fit into the Compression Link, an arbor press is recommended for removing and installing Bushing. Install new Bushings so they are centered in Compression Link and Fox Shock.

17. If installing new Grease Fittings, unscrew old flush fittings and discard. Install new Grease Fittings using a small amount of Locktite 222 (purple) threadlock on the threads.

18. Install Spacers on Fox Shock (4), Compression Link (4), and Tension Link (2). Install O-rings (2) on Top Tube Bushing.

19. Install Fox Shock in Frame. Shock should be oriented so that air valve is on the bottom right and damper adjustment knob is top front. Use Kestrel 3/8" Alignment Tool, installed from the right side of

frame, to align shock with mounting holes. Install Linkage Pin from the left side of frame, driving out Alignment Tool.

Important: Use aluminum Linkage Pin in this location. Steel (heavier) Linkage Pin is used at Top Tube Bushing location only.

Secure Linkage Pin with M8 Button Head Screw. Use Loctite 222 (purple) threadlock on the threads of Button Head Screw.

20. Install Compression Link in the same manner as Fox Shock, above. Secure with aluminum Linkage Pin.

21. Install left suspension linkage "Crank". Be sure white plastic Spacers (Shock, Tension Link, and Compression Link) and O-rings (Top Tube) are in position. Install Left Crank using Kestrel 3/8" Alignment Tool.

Important: Use aluminum Linkage Pins at Fox Shock, Tension Link, and Compression Link. Use steel Linkage Pin at Top Tube Bushing location only.

After all Linkage Pins have been installed, install Right Crank. Secure with M8 Button Head Screws. Use Loctite 222 (purple) threadlock on Button Head Screw threads.

22. Apply grease to all grease fittings.