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ML7.0 SHOCK SERVICE MANUAL

1. OVERVIEW

1.1. The Maverick ML7.0 rear shock is an oil damped system with internal coil spring with air spring assist. It has external rebound and air pressure adjustments. In Addition, the internal coil spring and rebound valving can be changed internally.

1.2. The shock is built similar to a front fork, with two telescoping tubes and a bushing designed to take heavy side loads. The outer telescoping tube is rigidly mounted to the rear frame triangle to increase stiffness and securely hold the shock. The shock also plays an important roll in creating the linear wheel path, which is the cornerstone of the Monolink system.

1.3. The damping system is a relatively simple unit, and is entirely housed within the inner tube of the shock. It can be quickly removed for service of the damper unit itself, or cleaning of the Wiper and Main Seal. In almost every service procedure, the outer Shock Body can be left in place, remaining attached to the frame.

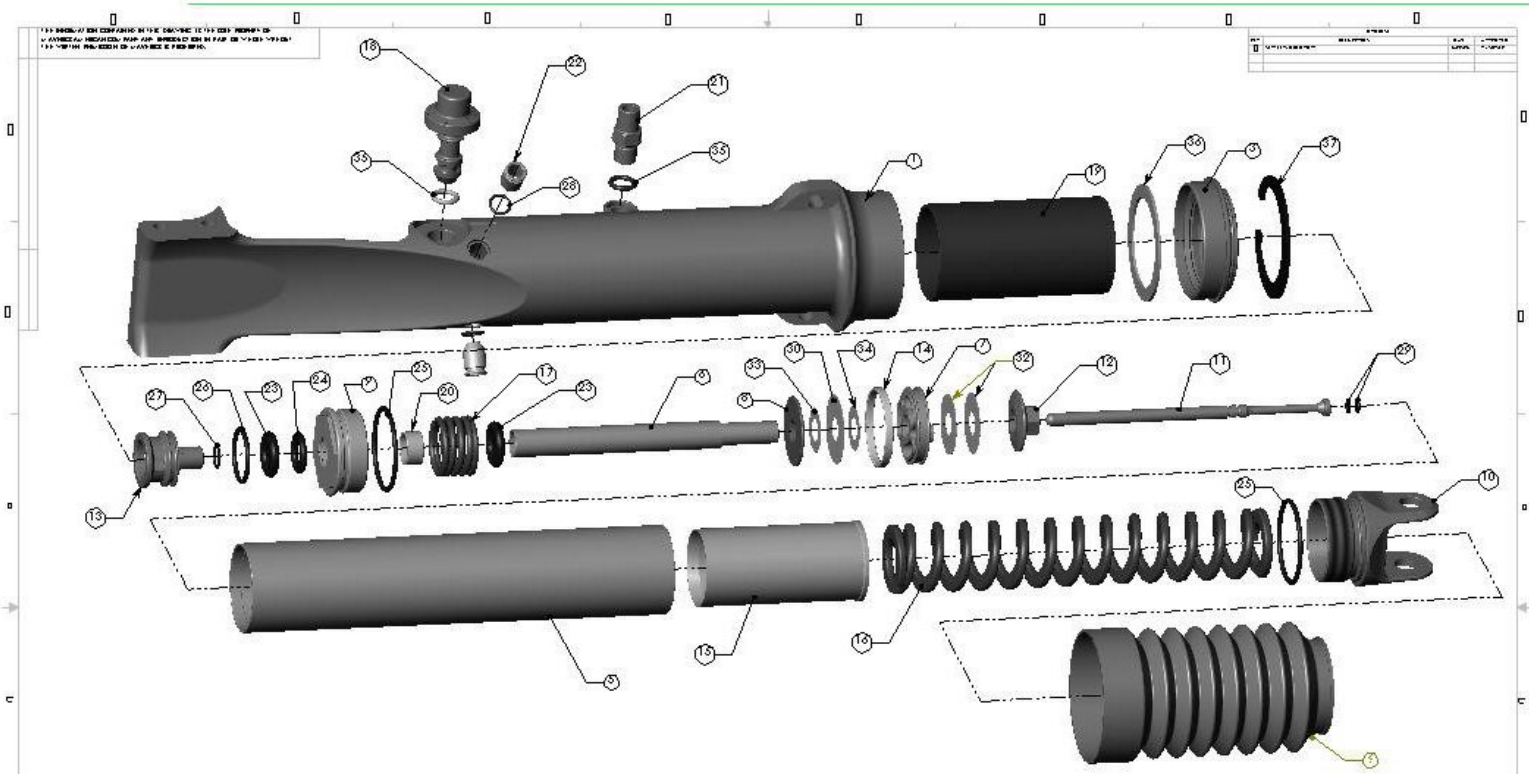
2. DESCRIPTION OF FUNCTIONS AND EXPLODED VIEWS (See Page 4 for Exploded Views and Parts List)

2.1. DAMPER: The damper assembly, all contained within the Inner Tube, contains a 5 wt shock oil and a small charge of air pressure. The Damper Shaft at the bottom end is threadably fixed to the Attachment Boss, which holds the Damper to the Shock Body. The Damper Shaft passes through the Seal Head and holds the Damper Piston assembly at its top end. The Damper Piston has Valve Shims clamped to its upper and lower faces to create separate rebound and compression damping rates.

The Damper Nut holding the Piston to the Damper Shaft has a flange that rests against the internal Main Spring (coil) and acts to compress the spring when the shock is compressed.

The Damper Unit contains 5-wt shock oil that the piston passes through when the shock is moving. When the shock is compressed or extended, the corresponding Valve Shim is forced open by the oil pressure to create the appropriate damping effect. Oil may also pass through the center of the shaft and out a side hole in the Damper Shaft. The amount of oil that may pass through the hole, and bypass's the Piston Valves, is altered by the Adjuster Rod that runs down the center of the Damper Shaft and is moved by the Adjuster Knob.

The air charge is to allow for the volume the shaft will displace when it is pushed into the Damper Unit. As the shaft is pushed in, the air is further compressed. The air is pressurized so oil will pass through the Damper Piston instead of compressing that air, causing a loss of damping.



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	ML7 ShockBody Mag	
2	1	ML7 Shock Boot	
3	1	FOX Wiper - 32mm	
4	1	Main Seal - 32mm	
5	1	ML7 UpperTube	
6	1	ML7 Damper Shaft	
7	1	ML7 Damper Piston	
8	1	ML7 Top-Out Spacer	
9	1	ML7 SealHead Rev-B	
10	1	ML7 Top Cap	
11	1	ML7 Adjuster Rod Rev-B	
12	1	ML7 Damper Nut	
13	1	ML7 Attachment Boss	
14	1	ML7 Glide Ring	
15	1	ML7 Spring Sleeve	
16	1	Spring-CV1000-6000-115	
17	1	Spring-.850 X 1.00 X .098	
18	1	ML7 Adjuster Knob-rev D	
19	1	ML7 Bushing, Main	
20	1	DU Bushing 10 X 12 X 6	
21	1	Shrader Valve	
22	2	ML7 Set Screw	
23	2	O-Ring, .139 X .375	
24	1	O-Ring .103 X .375	
25	2	O-Ring .070 X 1.063	
26	1	O-Ring .070 X .63	
27	1	O-Ring 1mm X 7	
28	2	O-Ring 1.0 X 6	
29	2	O-Ring 1mm X 3	
30	1	Shim - 8 X 25 X .15	
31	1	Shim - 8 X 22 X .15	
32	1	Shim - 8 X 22 X .10	
33	1	Shim - 8 X 16 X .10	
34	1	Shim - 8 X 16 X .08	
35	2	O-Ring .070 X .25	
36	1	Washer, Under Seal	
37	1	Snap-Ring, 5008-162	

NOTES

3 - PRESSURIZE SHOCK ASSEMBLY TO 45 PSI.

2 - FILL SHOCKBODY WITH 3 ml OF 90 WT ASSEMBLY OIL BEFORE INSERTING DAMPER.

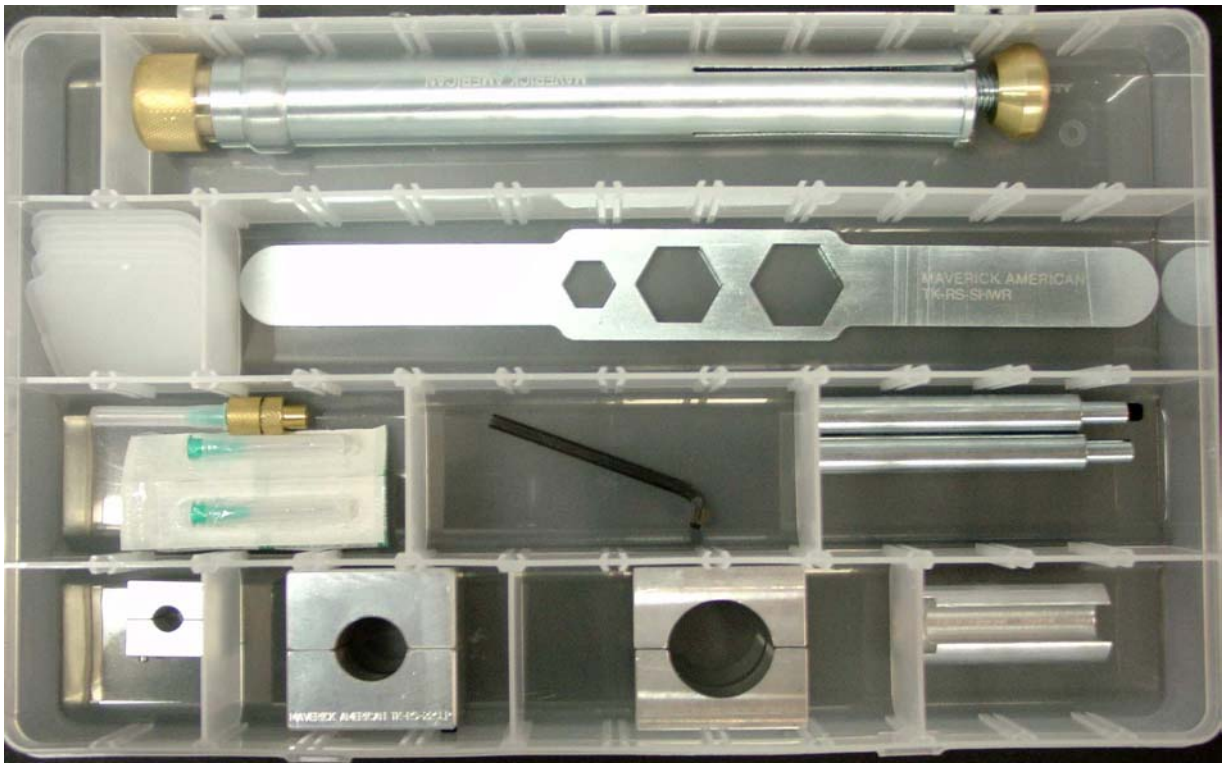
1 - FILL DAMPER WITH 65 ml OF 5 WT SHOCK OIL. PRESSURIZE TO 150 PSI

ML7 SHOCK ASSY

Maverick

3. REQUIRED TOOLS AND/OR EQUIPMENT (Show pic of tools)

3.1. One Maverick Suspension Tool Kit



3.2. One Shock Pump

3.3. Two 5mm Hex Keys

3.4. One Flat Head Screwdriver

3.5. One Pair of Snap Ring Pliers

3.6. One 10mm Wrench

3.7. One 26mm Socket and Wrench

3.8. Medium Strength (Blue) Locktite

3.9. 5wt Fork Oil

3.10. Access to a Flat Jawed Vice and Work Stand

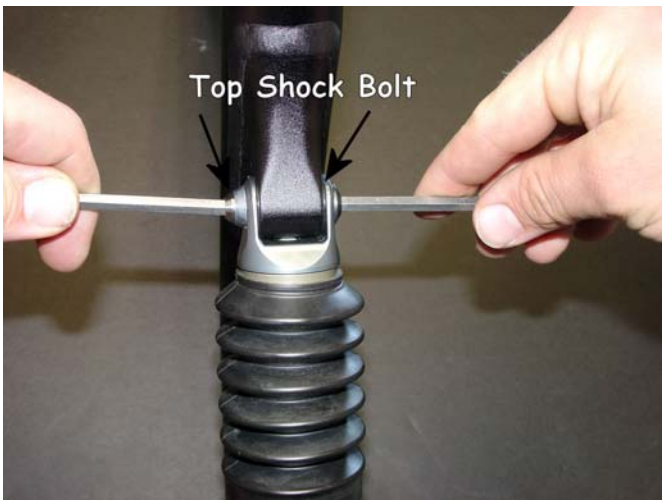
4. SERVICE PROCEDURES

4.1. Removing shock from frame

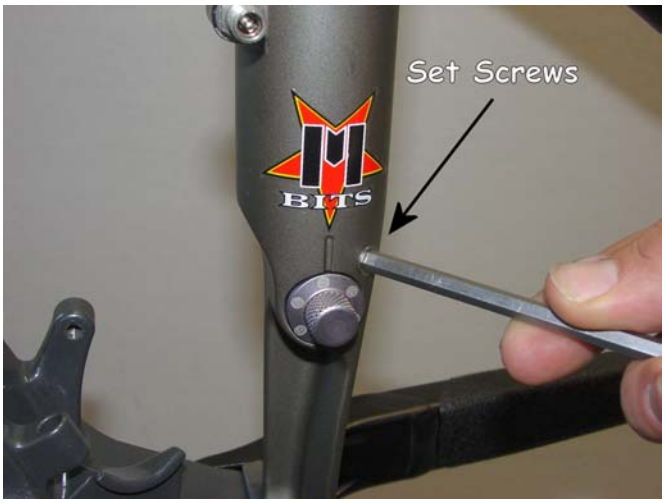
4.1.1. Wash the bike. (You'll thank us later)

4.1.2. Release the air pressure from the shock through the Schrader Valve (*very important!*). Pull the Adjuster Knob out of the Shock Body by pulling and twisting at the same time.

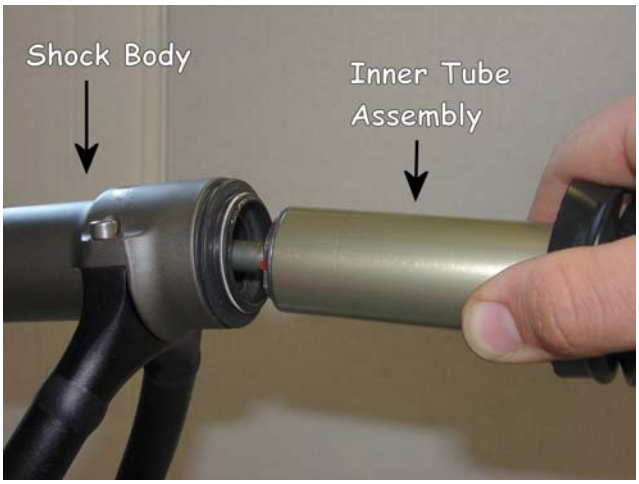
4.1.3. Remove the Top Shock Bolt using two 5mm hex keys.



4.1.4. Loosen the Set Screws two turns using a 5mm Hex key.

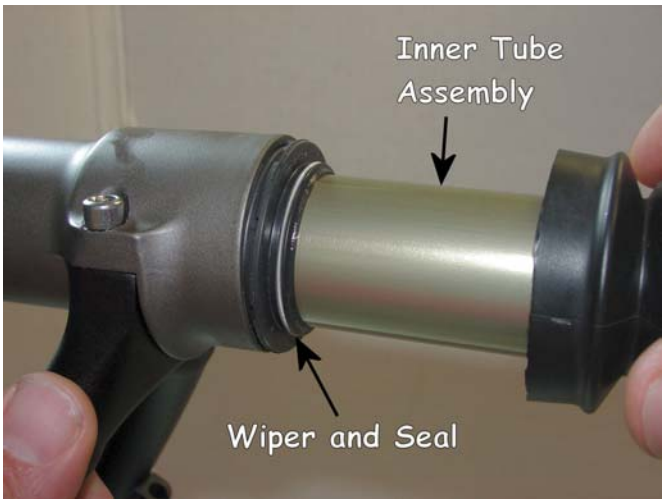


4.1.5. Rotate the bike in the stand so the shock is horizontal (this will prevent the lubrication oil from running out of the Adjuster Knob hole). Now grasp the Top Cap and pull the Inner Tube out of the Shock Body.

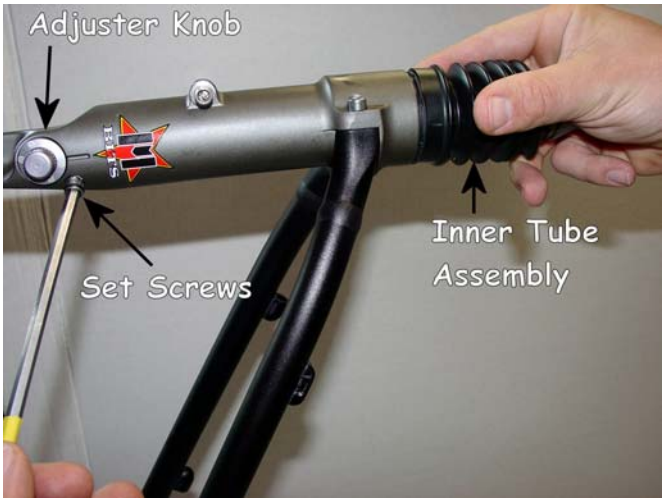


4.1.6. To re-install, position the bike so the Shock Body is horizontal, add 2ml of Maverick Gunna-Flow lube into the Shock Body. Smear another 1ml of lube to the Wiper, Main Seal and Bushing.

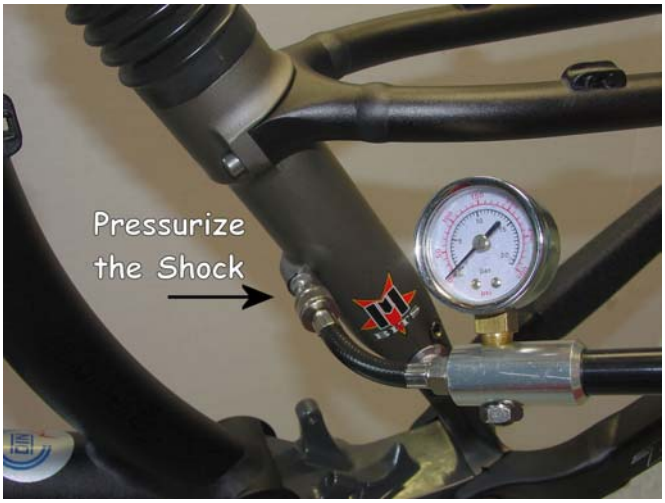
4.1.7. Slide the Damper Unit into the Shock Body and past the Wiper and Seal. The damper will need to be wobbled and rotated to ensure that the Wiper is not damaged or the sealing lips are not inverted.



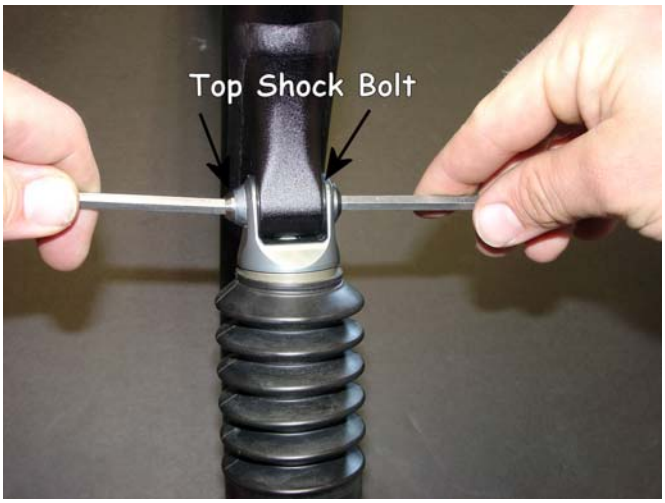
4.1.8. The Damper Unit should be pushed in as far as possible to seat the Attachment Boss into the bore at the Bottom of the Shock Body. Now tighten the Set Screws. The outside edge of the Set Screws should tighten flush against the outside of the Shock Body. If they tighten at a point above or below that, then the Attachment Boss is not seated correctly. Remove one of the Set Screws and look in the hole to see if the groove of the Attachment Boss is level with the center of the Set Screw hole. If it is not, push the Damper Unit further in.



4.1.9. Install the Adjuster Knob and pressurize the shock the appropriate amount.



4.1.10. Install the Top Shock Bolt.



4.1.11. The Shock should be ready to ride!!!!

4.2. Cleaning the Wiper and Main Seal

4.2.1. Remove the Damper from the Shock Body (as detailed in Section 4.1)

4.2.2. Use a clean, lint-free rag to wipe out the Wiper, Main Seal and Bushing. The lubrication oil should also be cleaned out of the entire Shock Body. Be sure to thoroughly clean any dirt or grime out of the sealing lips of the wiper and Main Seal.

4.2.3. It is HIGHLY recommended to replace the wiper with the more current model used in the 7.2 shock and Maverick DUC32 fork. It has far superior sealing capabilities.

NOTE: If the shock was loosing air pressure, it was most likely caused by dirt in the lips of the Main Seal. *It should not be necessary to replace the Main seal.* Rarely does one wear out and it is far more likely to damage the seal or Shock Body during replacement.

4.2.4. Re-install the Damper unit as detailed in Section 4.1.

4.3. Bushing replacement

4.3.1. Remove the Inner Tube Assembly from the Shock Body as Detailed in Section 4.1.

4.3.2. Gently pry the Wiper out of the Shock Body by twisting the tip of a small screwdriver between the Shock Body and Wiper's flange.

4.3.3. Remove the Snap Ring that holds the Main Seal in Place, and carefully pry the Main Seal out of the Shock Body using a large screwdriver. This will destroy the Main Seal and it will need to be replaced. The tip of the screwdriver should be positioned just under the lip and within the outer ring of the seal. DO NOT ALLOW THE SCREWDRIVER TIP TO SCRATCH THE SEAL BORE OF THE SHOCK BODY WHEN PRYING IT OUT OR YOU MIGHT CREATE A LEAK PATH THAT CAN'T BE FIXED!

4.3.4. Remove the Seal Washer.

4.3.5. The bushing can now be pulled from the Shock Body using the Maverick Bushing Tool. This can usually be done while the Shock Body is still in the frame.

Insert the split end of the Bushing Tool through the Bushing. Tighten the nut on the end of the Tool snug, but not tight. Pull the bushing out of the Shock Body.

If the bushing is too tight to remove while the Shock Body is in the frame, remove it and clamp the Bushing Tool into a vice. Use a vice with soft "V" shaped jaws. *Be careful not to damage the bulged end of the tool in the vice.*

4.3.6. Install the new Bushing by pushing it into the Shock Body by hand. Install the Seal Washer, Main Seal, Snap Ring (sharp edge facing up) and Wiper. The bore and seals should be lightly greased beforehand. BE SURE THE SEAL IS FACING THE CORRECT DIRECTION!

4.3.7. Once in place, the Bushing will need to be sized with the Maverick Bushing Tool. This is done by pushing the bulged end of the tool through the bushing several times. Lubricate the Bushing beforehand with grease or Gunna-Flow.

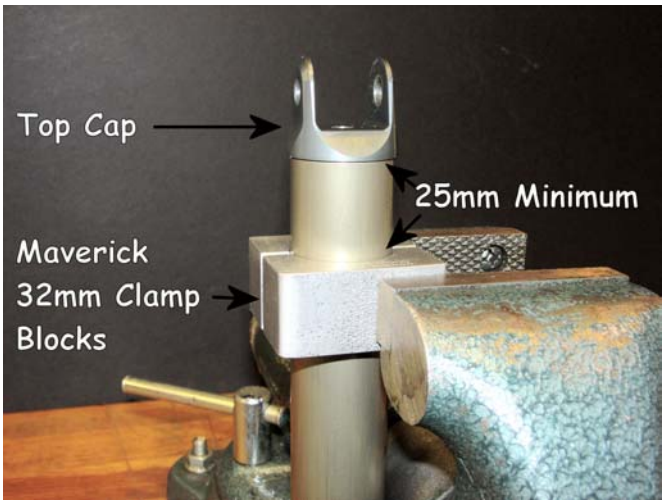
4.3.8. The Damper Unit can now be installed as detailed in Section 4.1.

4.4. Damper Unit Service

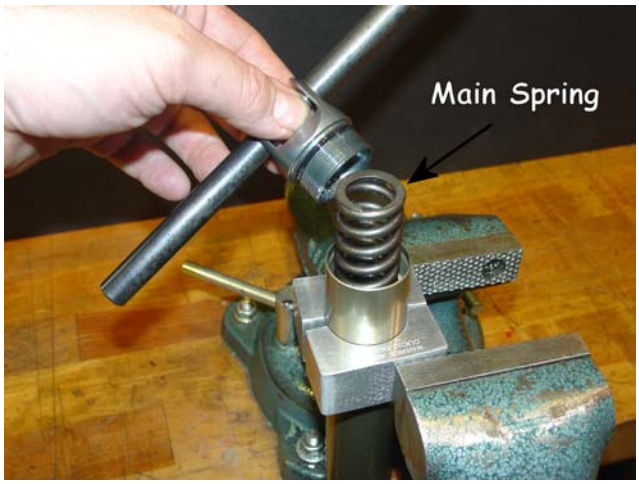
4.4.1. Remove the Damper Unit from the Shock Body as detailed in Section 4.1.

4.4.2. Using a Scribe or other pointed object, remove plastic insert from Set Screw located at the center of the Top Cap. Using a 4mm hex key, loosen (do not remove) the Set Screw. This will allow the air pressure charge to be released from the Damper Unit.

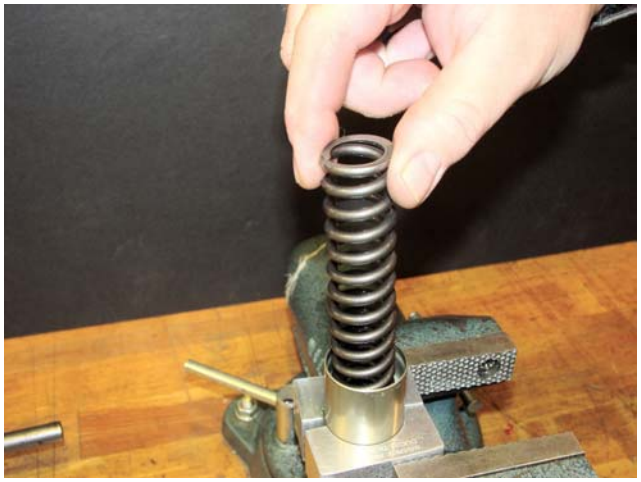
4.4.3. Clamp the Damper Assembly in a vice using the Maverick 32mm Shaft Clamp Blocks, with the Top Cap facing upwards. Place blocks approximately 25mm below bottom edge of top cap to avoid clamping the Top Cap threads.



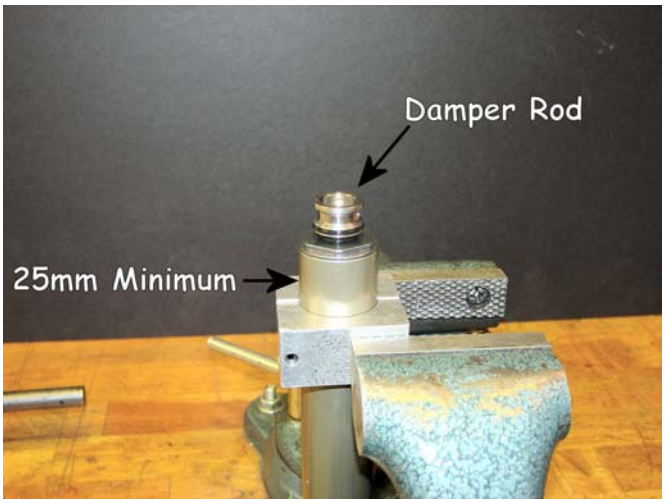
4.4.4. Install Maverick Top Cap Handle Set and Loosen by turning Counter-clockwise. Use caution during the last few threads of engagement, as the Main Spring inside is preloaded and the Top Cap will pop out suddenly at the end. Pull the Spring out of the Inner Tube.



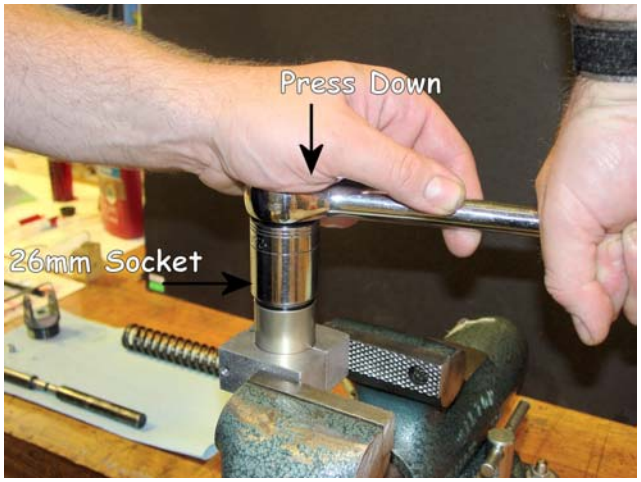
4.4.5. Drain the damper Oil from Damper Assembly Tube. Pump the shaft a few times to purge all oil from the system. Dispose of Oil Properly.



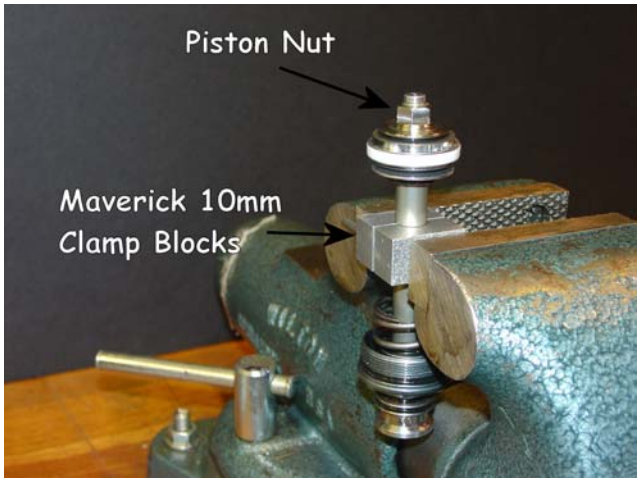
4.4.6. Clamp the Damper Assembly in a vice using the Maverick 32mm Shaft Clamp Blocks, with the Damper Rod Assembly facing upwards. Place blocks approximately 25mm below bottom edge of top cap to avoid clamping the threads.

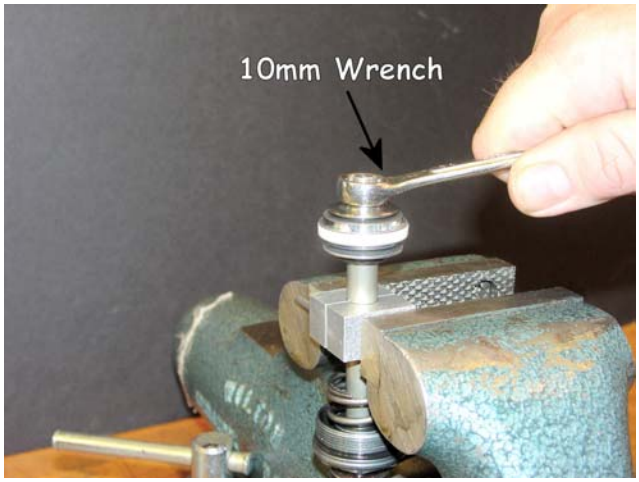


4.4.7. Remove Seal Head and Damper Rod Assembly from Damper Tube using a 26mm Socket. The Seal Head will be very tight and a good quality socket should be used. Apply some downward force on the socket when breaking Seal head free from Damper Tube. The Damper Rod assembly can now be removed and serviced.

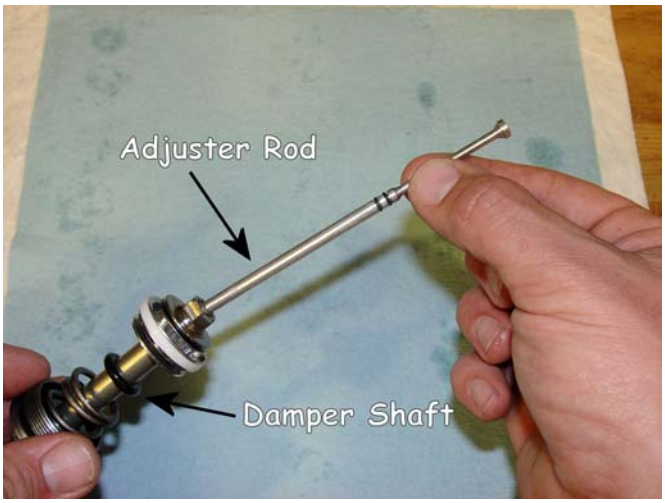


4.4.8. To disassemble the Piston parts, clamp the Damper Shaft in a vice using the Maverick 10mm Clamp Blocks. Remove the Piston Nut with a 10mm wrench. The Piston and the rest of the parts can now be disassembled. Pay special attention as to which direction the piston is on the Damper Shaft.

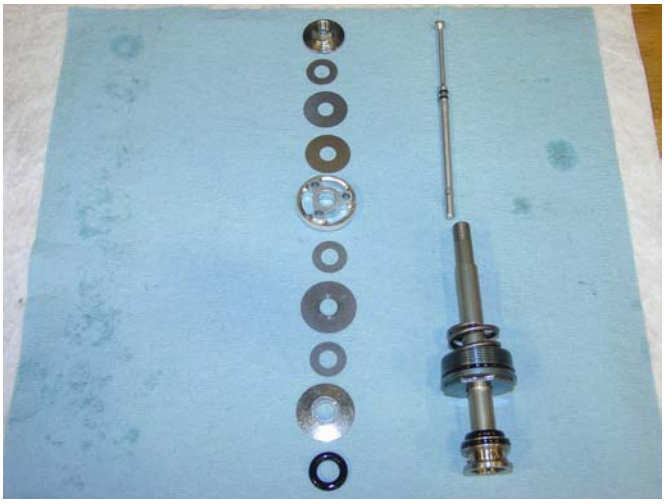




4.4.9. If needed, the Adjuster Rod can simply be pulled out of the Damper Shaft.



4.4.10. Re-assemble the Piston assembly as shown in the diagram. Be sure the piston is facing the correct way. Tightened the Piston Nut to 6NM with a small amount of Locktite.



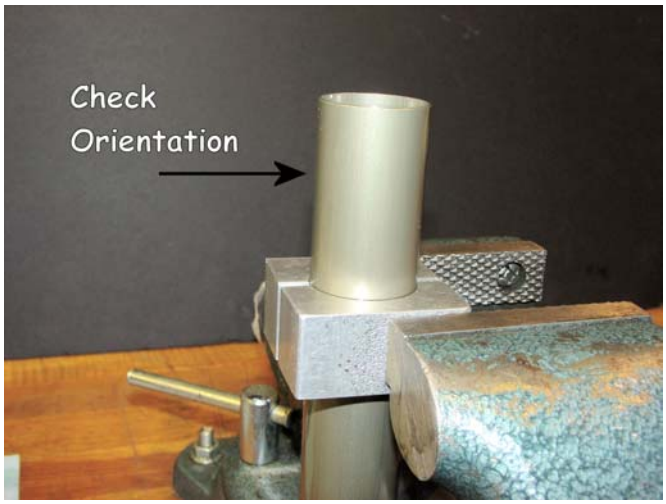
4.5. Special note on rebuilding the Reposado (no Main Spring) damper.

4.5.1. The amount of oil in the damper should be increased to 65 ml.

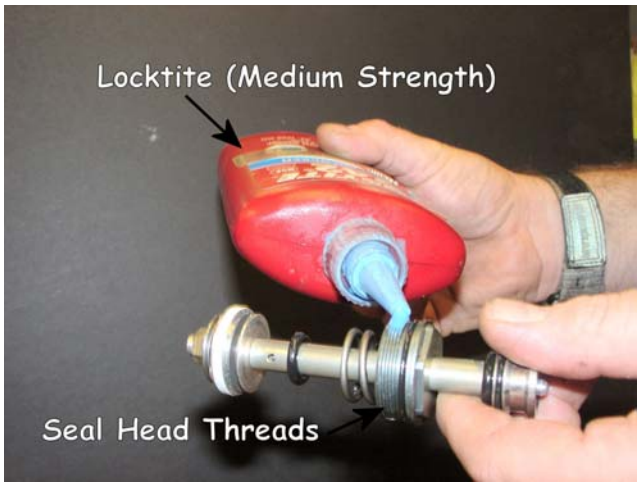
4.5.2. All parts in the damper are the same between the shocks except the Damper Shaft and Adjuster rod, which are both 10mm shorter. Everything else may be interchanged.

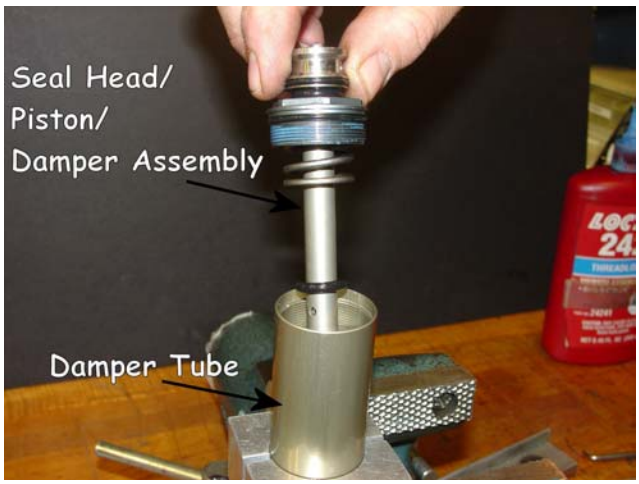
5. Re-Assembly of Damper Tube Assembly

5.1. Clamp the cleaned and empty damper tube assembly in a vise using the Maverick 32mm Clamp Blocks with bottom end facing up. The bottom end does not have the inner white plastic damper tube spring protector.

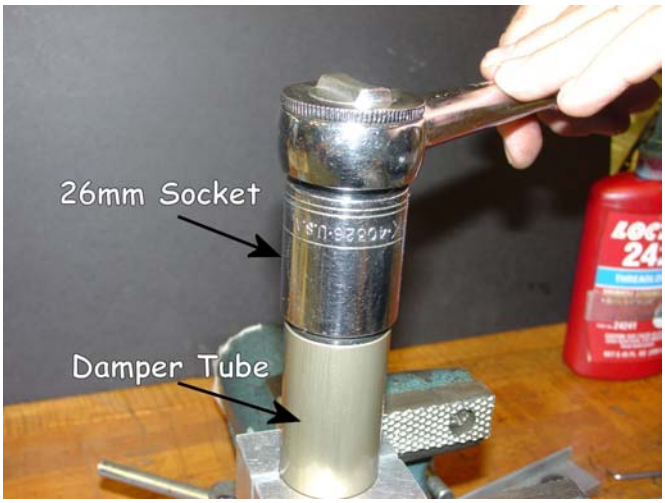


5.1.1. Apply a small amount of Medium Strength Lock-tite (Blue) to the seal head threads. Making sure the rebound adjuster rod has been reinstalled into the damper shaft. Install the complete seal head/piston/damper shaft assembly into the damper tube.

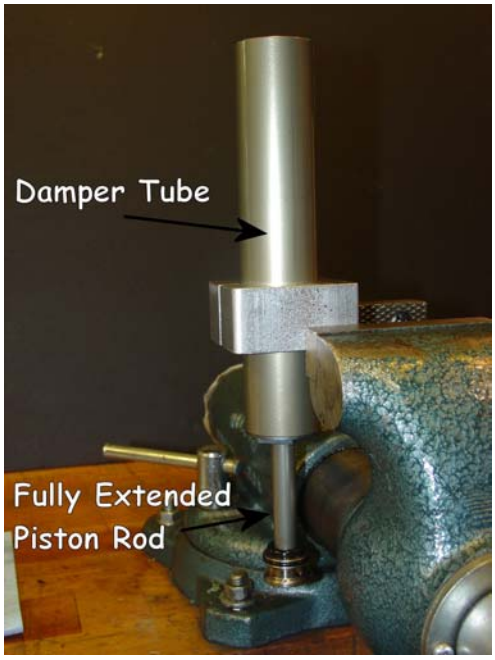




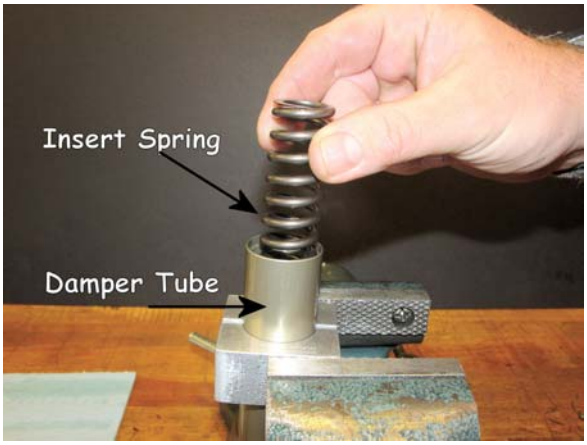
5.1.2. Tighten the seal head with a 26mm socket to 8NM.



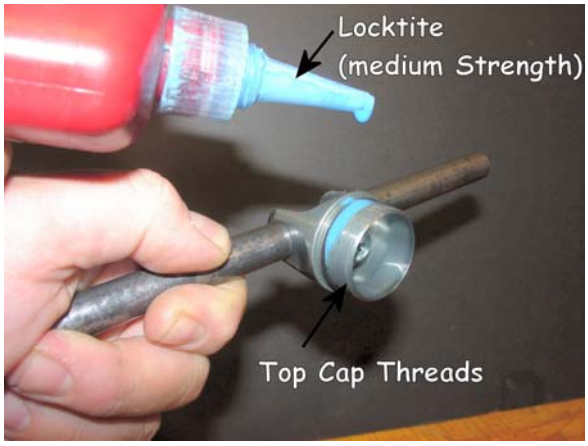
5.1.3. Remove Damper tube assembly from vise and turn right-side up so the open end is facing upwards. With the Damper/piston rod fully extended, pour in 50ml of 5wt oil.

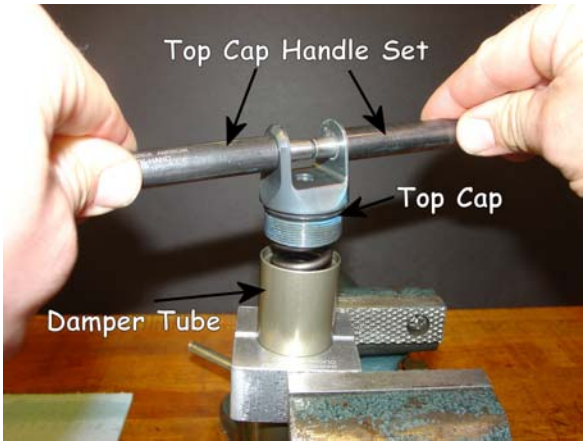


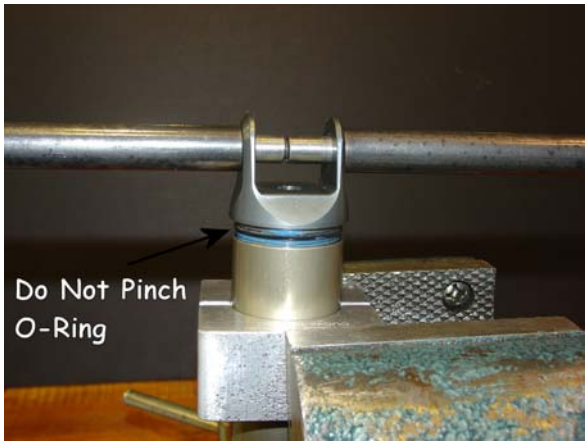
5.1.4. Install the Spring into the Damper Tube Assembly. Note: Spring will protrude approximately 25mm from top of Damper Tube.



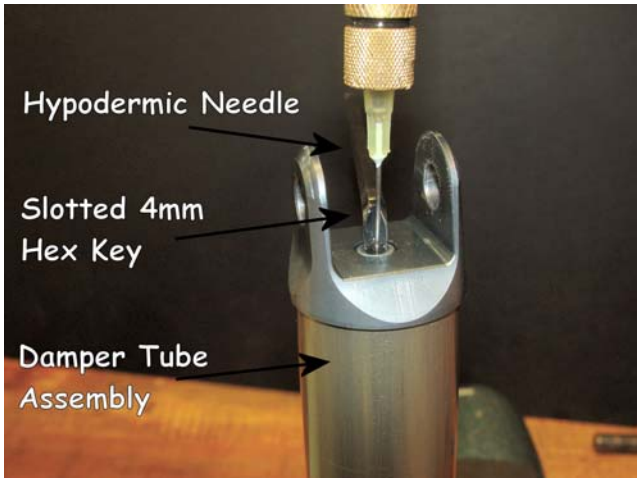
5.1.5. Apply a small amount of Medium Strength Lock-Tite (blue) to the Top Cap Threads. Using the Maverick Top Cap handle set, thread on the Top Cap to the Damper Tube Assembly. The Top Cap will be under load as it compresses the spring. TAKE CARE NOT TO CROSS THREAD THE TOP CAP THREADS OR PINCH THE O-RING.







5.1.6. Pressurize the Damper to 150 psi using the Hypodermic needle attached to a standard shock pump. The Set Screw should be loose when inserting the needle, and tightened using the Slotted 4mm Hex key before removing the needle. After removing the needle, fully tighten the Set Screw.



5.1.7. Reinstall the plastic Set Screw insert.

5.1.8. Install the damper into the Shock Body.

6. SERVICE INTERVALS AND REQUIREMENTS
    6.1. Change Oil Bath Every 100 Hours
    6.2. Overhaul Damper Every 500 Hours
    6.3. Clean and Inspect Wiper Every 100 Hours

7. SERVICE CENTERS

7.1. USA

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8. NOTES