



MARA 50 HOUR AIR CAN & PISTON | SERVICE GUIDE



## MANITOU

---

5800 W Donges Bay Rd  
Mequon, WI 53092

manitoumtb.com

888.686.3472

Support: [manitoumtb.com/support](https://manitoumtb.com/support)

Warranty:

For full warranty information please visit [hayesbicycle.com/warranty](https://hayesbicycle.com/warranty)

**HAYES**

**m**  
manitou

**PROTAPER**

**REYNOLDS**

**SUN**  
ringle


**WHEELSMITH**  
W  
SPOKES


---

**HAYES**  
PERFORMANCE SYSTEMS

# INTRODUCTION

This manual is intended to guide the user through the steps necessary to service the air can and air piston of the Mara Pro and Mara Inline rear shock.

 **WARNING** We highly recommend that service to this shock be performed by a certified bicycle mechanic. Failure to follow instructions presented in this manual could lead to serious injury or death. Any questions about the servicing of this shock or the manual itself should be directed to Manitou Customer Support at:  
Phone: 888-686-3472  
Email: [techsupport@hayesbicycle.com](mailto:techsupport@hayesbicycle.com)

 **WARNING** Suspension shocks by design can contain preloaded springs, gases and fluids under extreme pressures. Warnings contained in this manual must be observed to avoid damage to shock, serious injury or even death.

# TABLE OF CONTENTS

---

SECTION	PAGE NUMBER
REQUIRED TOOLS	5
AIR CAN REMOVAL	6-7
KING CAN SERVICE	8-9
AIR CAN SERVICE	10-13
AIR PISTON SERVICE	14-15
AIR CAN INSTALL	16-17

# REQUIRED TOOLS

---

Below is a list of tools necessary for servicing the Mara shock.

- Safety Glasses
- Nitrile Gloves
- Lint-Free Rags
- Isopropyl Alcohol
- Slickoleum grease
  - 10-oz Tub - Manitou Part Number 20-32929
  - 5MI Tube - Manitou Part Number 141-33604-K001
- Air Can Wrench - Manitou part number 142-37512-K033
- Air Can Seal Install Tool - Manitou part number 172-32193-K001 (Optional)
- Plastic O-ring pick
- Torque wrench
- Bench mounted Vise
- Hand Dyno
- Shock Pump
- Air Can Seal Kit - Manitou Part Number 142-31535-K002
- King Can Seal Kit - Manitou Part Number 142-31535-K035

# AIR CAN REMOVAL

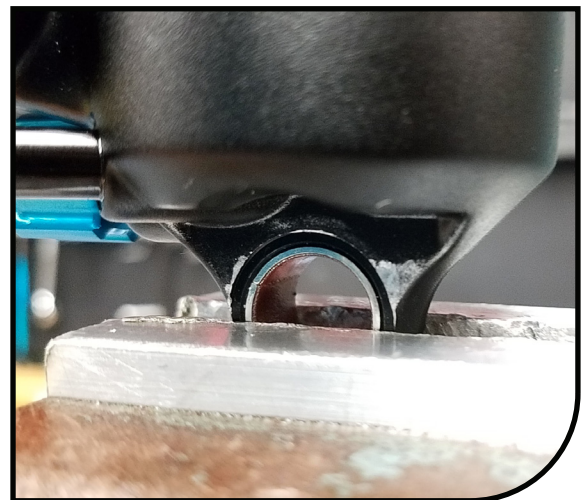
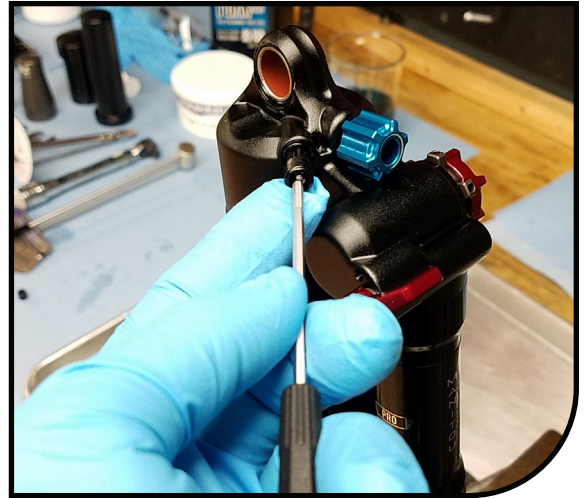
- 1 Remove valve cap, thread shock pump on. Note air pressure and use pump's release valve to release all air from shock. (Use a 3mm hex key to gently depress the valve, ensuring all air is released.)

## CAUTION

**Do not proceed to next step without completely depressurizing the air spring.**

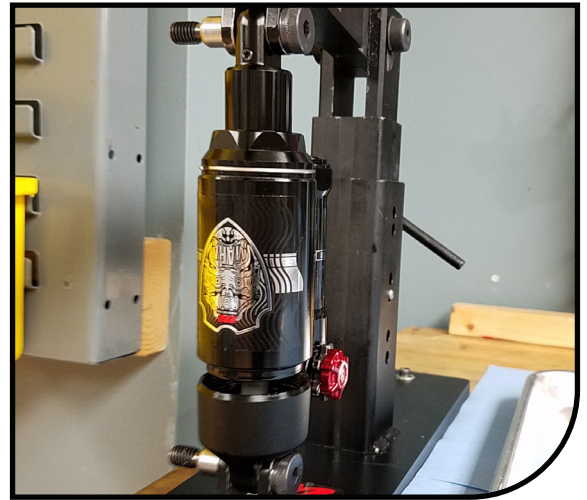
- 2 Clamp upper eyelet of shock in vise. If Trunion shock, clamp on trunion mounts. (Use soft jaws to not damage the shock)

- 3 With the shock top cap in a vise use the air can wrench PN 142-37512-K033 to loosen the air can on the shock. **DO NOT** completely remove the air can at this point, only loosen one full turn. Removing the air can completely at this point will damage the threads due to pressure in the negative chamber.



# AIR CAN REMOVAL

- 4 Place shock in a hand dyno or in a bicycle frame, compress the shock. At this point unthread the air can fully.



- 5 Remove air can, bumper, and spacers (if present). These may remain in the air can, locate and save for later re-assembly.



# KING CAN SERVICE

- 1 Remove wire ring and slide outer air can sleeve off of the inner can.



- 2 Remove the upper and lower O-rings. (Remove Mid King O-ring if being used.)



- 3 Lightly Grease new O-rings and install into seal glands using a plastic O-ring tool or by hand.





# KING CAN SERVICE

- 4 Slide outer air can sleeve onto inner can. Install wire ring.



# AIR CAN SERVICE

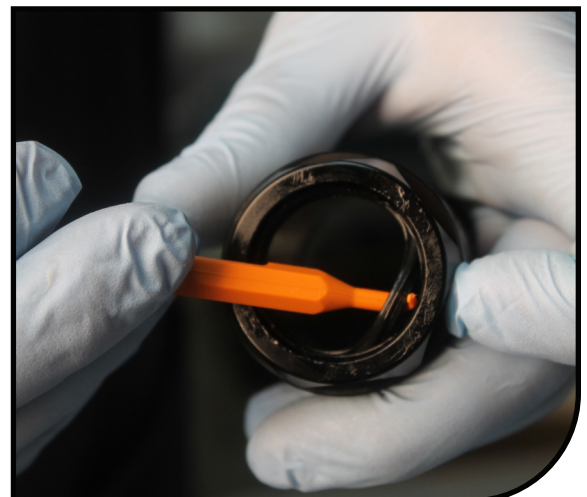
- 1** Remove the negative chamber MCU and spacer(s). Carefully remove the dust wiper using an O-ring pick.



- 2** Remove glide ring from the air can.



- 3** Remove quad ring from the air can.



# AIR CAN SERVICE

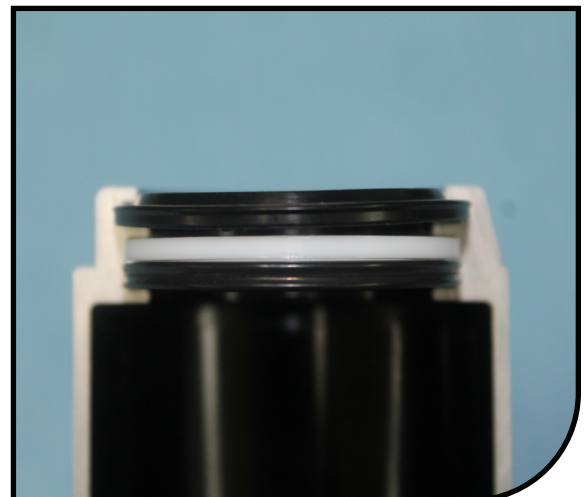
- 4** To make air can seal installation easier use the Air Can Seal Install tool, Manitou part number 172-32193-K001.



- 5** Place the air can onto the seal tool or onto a flat surface.



- 6** This cut away of the air can shows the seal placement for reference. The air can quad seal is the bottom seal followed by the white glide ring. They both sit in the lower groove. The air can wiper seal sits in the upper groove.



# AIR CAN SERVICE

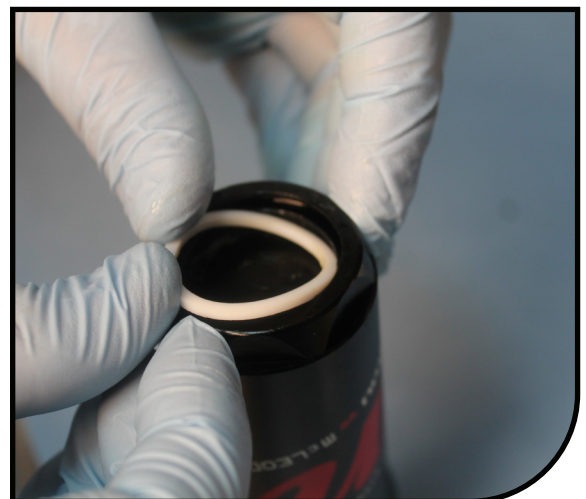
- 7 Remove the new air can quad ring from the seal kit and liberally apply Slickoluem grease.



- 8 Install the air can quad ring into the lower groove in the air can. Ensure it is not twisted.



- 9 Install the air can glide ring into the same groove as the quad ring. It will sit on top of the quad ring.



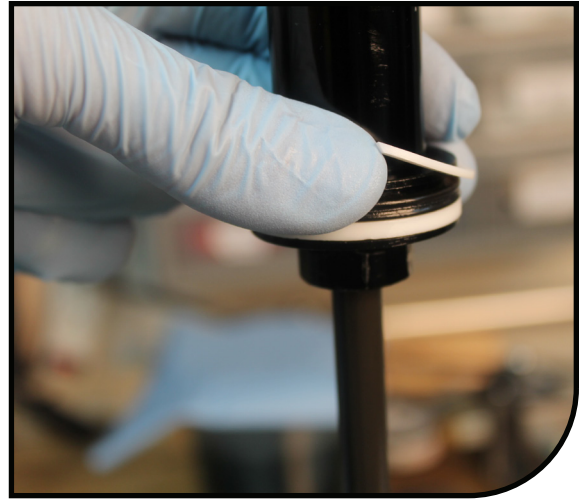
# AIR CAN SERVICE

- 10 Lightly grease and install the air can wiper seal into the upper groove of the air can.



# AIR PISTON SERVICE

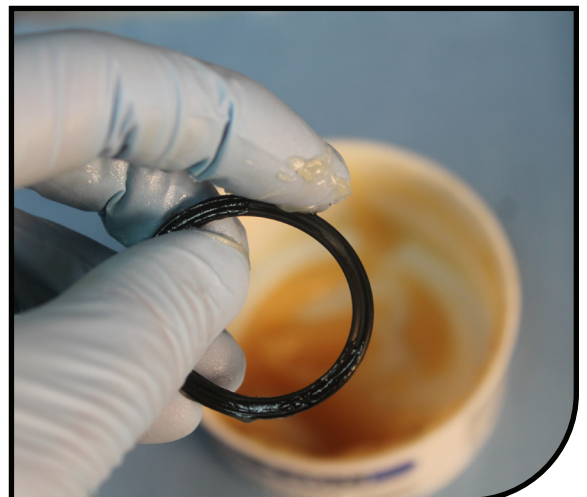
- 1 Remove the split glide ring from the air piston.



- 2 Remove the air piston quad seal. DO NOT REMOVE WHITE GLIDE RING! Clean the white glide ring and air piston with isopropyl alcohol.



- 3 Liberally grease the air piston quad ring.

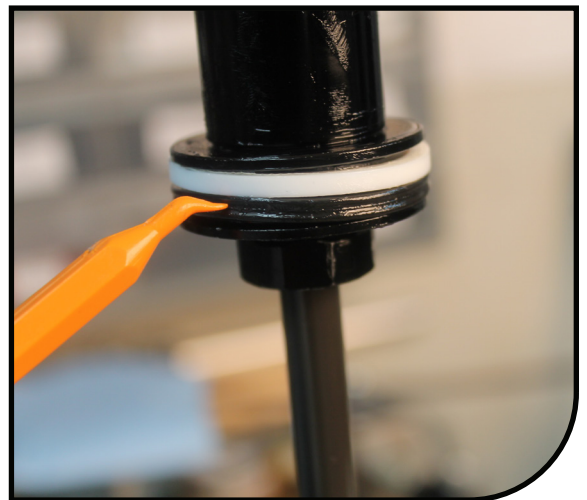


# AIR PISTON SERVICE

**8** Install the air piston quad ring onto the air piston.



**9** Ensure the air piston quad ring is not twisted and push it tight against the glide ring, making a space for the split glide ring.

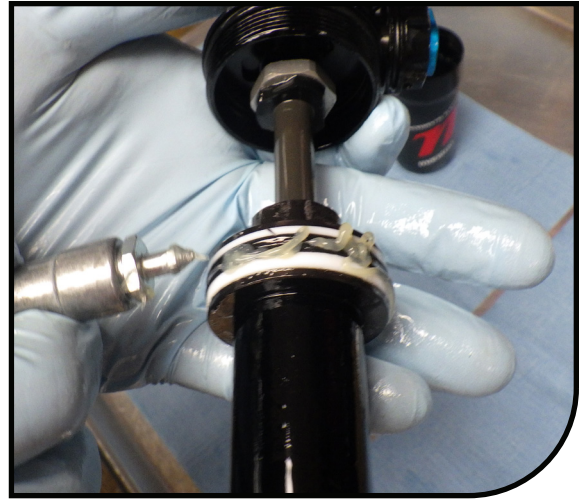


**10** Install the split glide ring onto the air piston.

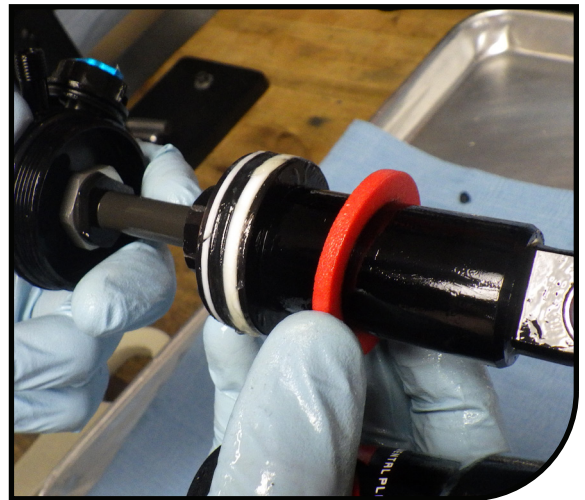


# AIR CAN INSTALL

- 1 Apply Slickoleum grease to the air piston seals.



- 2 Install foam ring and spacer(s) onto damper body.



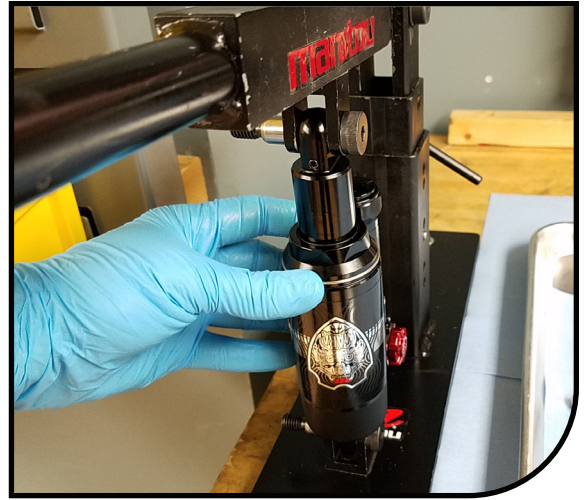
- 3 Install air can onto shock as far as it can be easily pushed. Due to the negative chamber it can be difficult to install air can completely without mounting it in a frame or shock tester and compressing the shock.



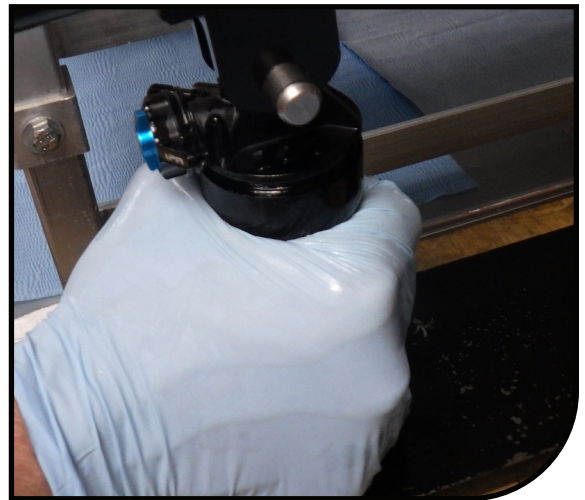


# AIR CAN INSTALL

- 4 Install shock into bench tester or frame and partially compress shock. Compress until air can can be threaded onto top cap.



- 5 Tighten air can onto shock until the hard stop. Do not tighten past this point.



- 6 Set the air pressure, clean shock, update the tuning notes and go ride!)



## GLOBAL HEADQUARTERS & HAYES BICYCLE GROUP USA

5800 W. Donges Bay Rd.  
Mequon, WI 53092

## HAYES BICYCLE GROUP EU

Dirnismaning 20 a  
85748 Garching (b. Munich)  
Germany

## HAYES BICYCLE GROUP ASIA

16F, No. 37, Sec. 3  
Mincyuan E. Rd.  
Zhongshan District

[facebook.com/ManitouMTB](https://facebook.com/ManitouMTB)



[instagram.com/ManitouMTB](https://instagram.com/ManitouMTB)



*#ScienceofSmooth*

HAYES

*M*  
manitou

PROTAPER

REYNOLDS

SUN  
ringlé

WHEELSMITH  
W  
SPOKES

HAYESBICYCLE.COM

HAYES  
PERFORMANCE SYSTEMS