

MARA 50 HOUR AIR CAN
& PISTON SERVICE GUIDE

M MANITOU



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INTRODUCTION

This manual is intended to guide the user through the steps necessary to service the air can and air piston of the Gen 2 Mara rear shocks with Balance Groove technology.

⚠ 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.

⚠ WARNING ⚠

We highly recommend that service 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 Hayes Customer Support at:

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TOOLS AND MATERIALS

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
- Complete Seal Kit - Mara Gen 2 Balance Groove part number 142-37512-K063

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

Before removing the air can, ensure all air is released from both chambers and the shock is as full extension. It is recommended the air is released slowly in 100psi increments by pressing the shock pumps bleed button. (note air pressure before releasing)

This process should be completed with the shock in the bike or a hand dyno

If the shock “sucks down” (negative chamber does not release causing the eye to eye to shrink, cycle the shock until the eye to eye is extended to the nominal measurement.

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



AIR CAN REMOVAL

- 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.



- 4 Remove air can, foam ring bumper, and spacer. These may remain in the air can, Note orientation, remove and save for later re-assembly.

NOTE: Bumper and Spacer must be reinstalled before use!



KING CAN SERVICE

If shock does not have King Can skip to next section “Air Can Service” on page 10.

1

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



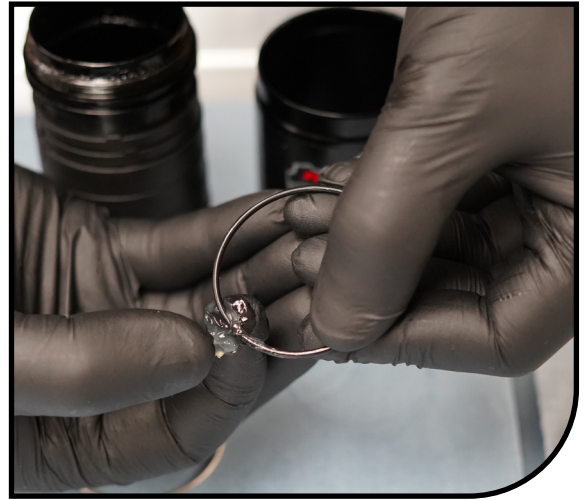
2

Note orientation of Spacers in the positive and negative air chambers. Do not alter spacer orientation unless an air volume tuning change is desired.



KING CAN SERVICE

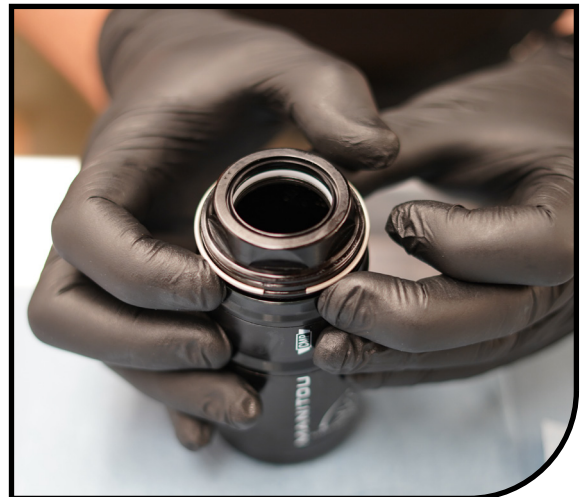
- 3** Lightly Grease new O-rings and install into seal glands using a plastic O-ring tool or by hand.



- 4** **4a** Slide outer air can sleeve onto inner can.



- 4b** Install wire ring.



KING CAN SERVICE

- 4c** Flip the can over and push the outer can down to the wire ring.



AIR CAN SERVICE

- 1** Carefully remove the dust wiper using an O-ring pick.



AIR CAN SERVICE

2 Remove glide ring from the air can.



3 Remove quad ring from the air can. Clean inside of air can, inspect for damage.



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

NOTE: Lightly grease Air Can Seal Tool before inserting into the Air Can

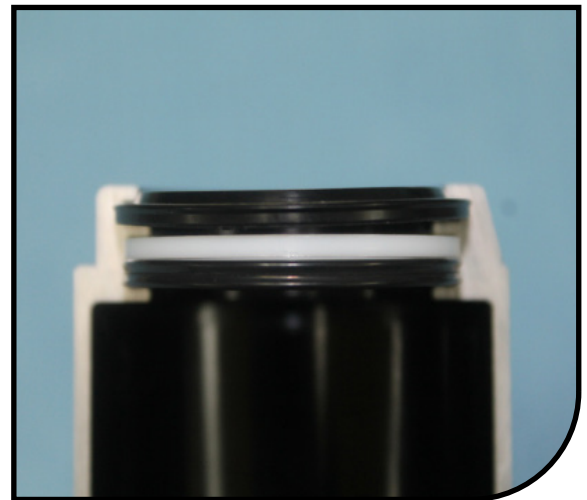


AIR CAN SERVICE

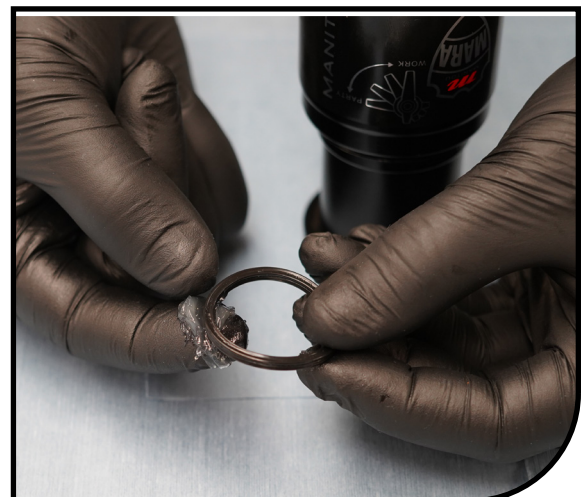
- 5** Place the air can onto the seal tool or onto a flat surface.



- 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.



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



AIR CAN SERVICE

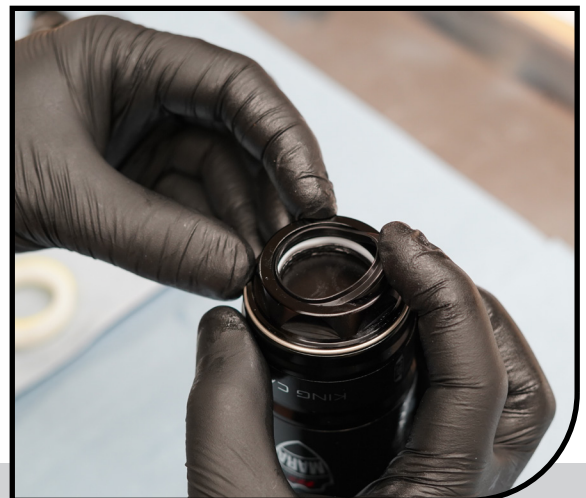
- 8** Install the air can quad ring into the lower groove in the air can. Ensure it is not twisted.



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



- 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. Inspect white glide ring. replace if wear is found. To remove glide ring must be cut. Installation requires sizing before quad ring is installed. 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

NOTICE

IF PERFORMING A COMPLETE 250 HOUR / ANNUAL SERVICE REFER TO MODEL SPECIFIC GUIDE FOR STEPS.

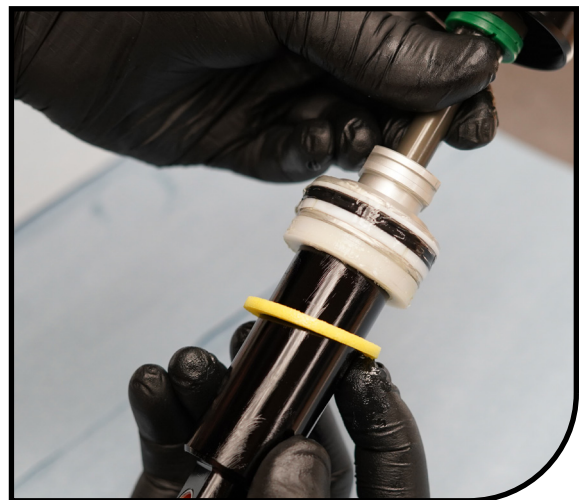
Apply Slickoleum grease to the air piston seals.



2

Install foam ring bumper and spacer onto damper body.

NOTE: Foam ring bumper and spacer must be installed before use!



AIR CAN INSTALL

3 Install air can onto shock, using air can wrench thread air can clockwise until the hard stop against top cap.

NOTE: Slightly compressing the shock with a hand dyno or mounted in the frame can aid in the installation.

If King Can sleeve was removed, it is likely that the graphics will not align with the thread stop point. The sleeve can be rotated by hand when reinstalled onto freshly greased o-rings to align with the shock orientation.



4 Pressure should be increased in increments of 75psi. With the shock pump attached cycle the shock a few times past the sag point to balance the positive and negative chambers. The first few cycles may feel firm / top out, this is normal until the negative is balanced. When the desired air pressure is achieved, cycle the shock and recheck the pressure.

NOTE: Mara Gen 2 Balance groove shocks all use air cans with balance groove technology. This groove balances the positive and negative air pressures as the shock is cycled.



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