SERVICE GUIDE

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INTRODUCTION

This manual is intended to guide the user through the steps necessary to fully service and maintain the Magnum Comp suspension fork.

WARNING We highly recommend that service to this fork 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 fork or the manual itself should be directed to Manitou Customer Support at:
Phone: 888-686-3472
Email: techsupport@hayesbicycle.com

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

TABLE OF CONTENTS

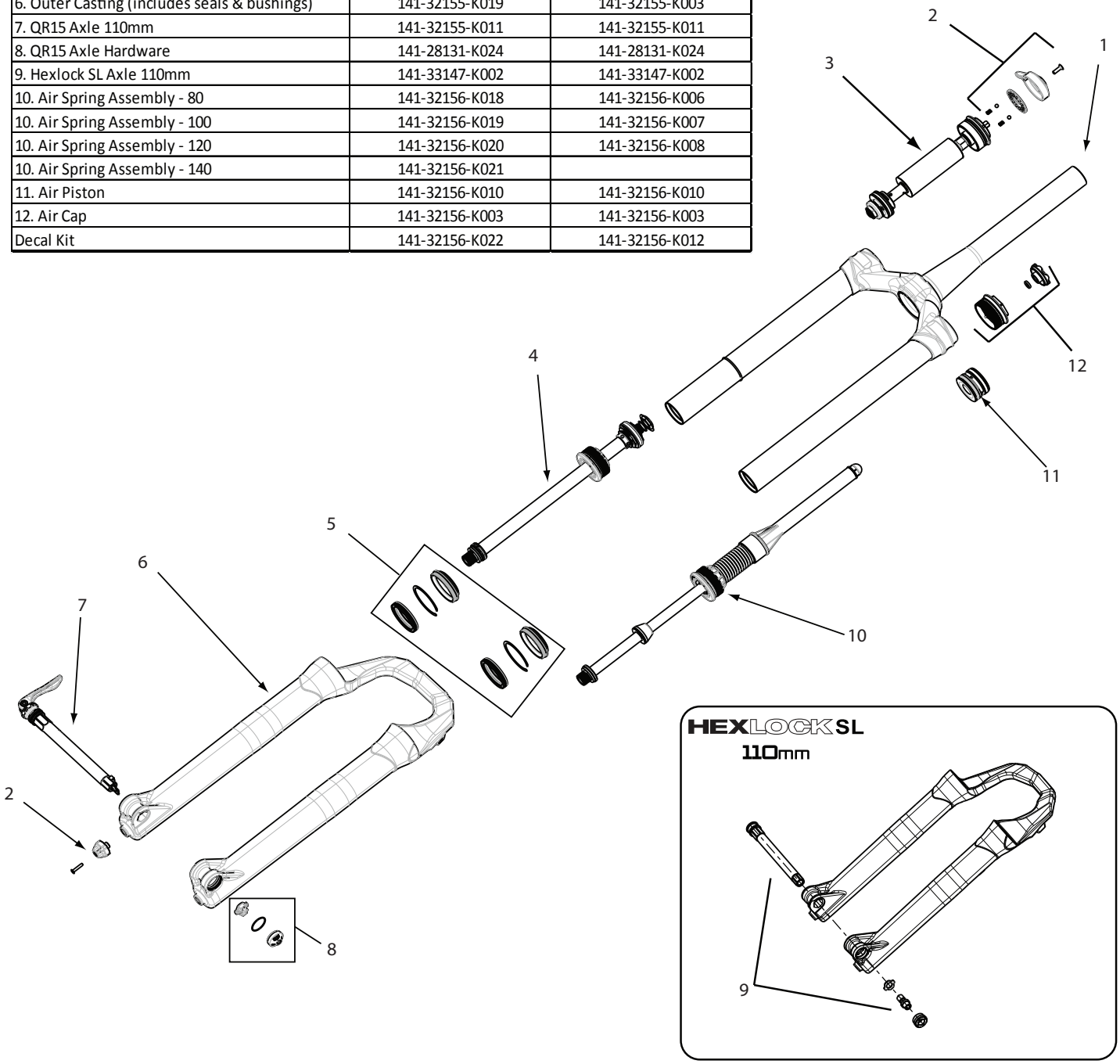
REQUIRED TOOLS

Below is a list of tools necessary for servicing the Magnum Comp fork.

- Safety Glasses
- Nitrile Gloves
- Lint-Free Rags
- Torque Wrench
- Mattoc Tool Kit - Manitou part number 172-31133
- Slickoleum Grease
- Semi-bath Oil, 5/40w Synthetic - Manitou part number 85-0022
- 5wt Maxima Fork oil - Manitou part number 85-0023
- 34mm Seal Press Tool - Manitou part number 172-31123
- 8mm Allen Socket
- 2mm Allen Wrench
- 24mm Socket
- Ratchet
- 1” Crow’s Foot
- Fork/Shock Pump
- Pick
- Adjustable Wrench
- Downhill tire lever or flat blade screwdriver

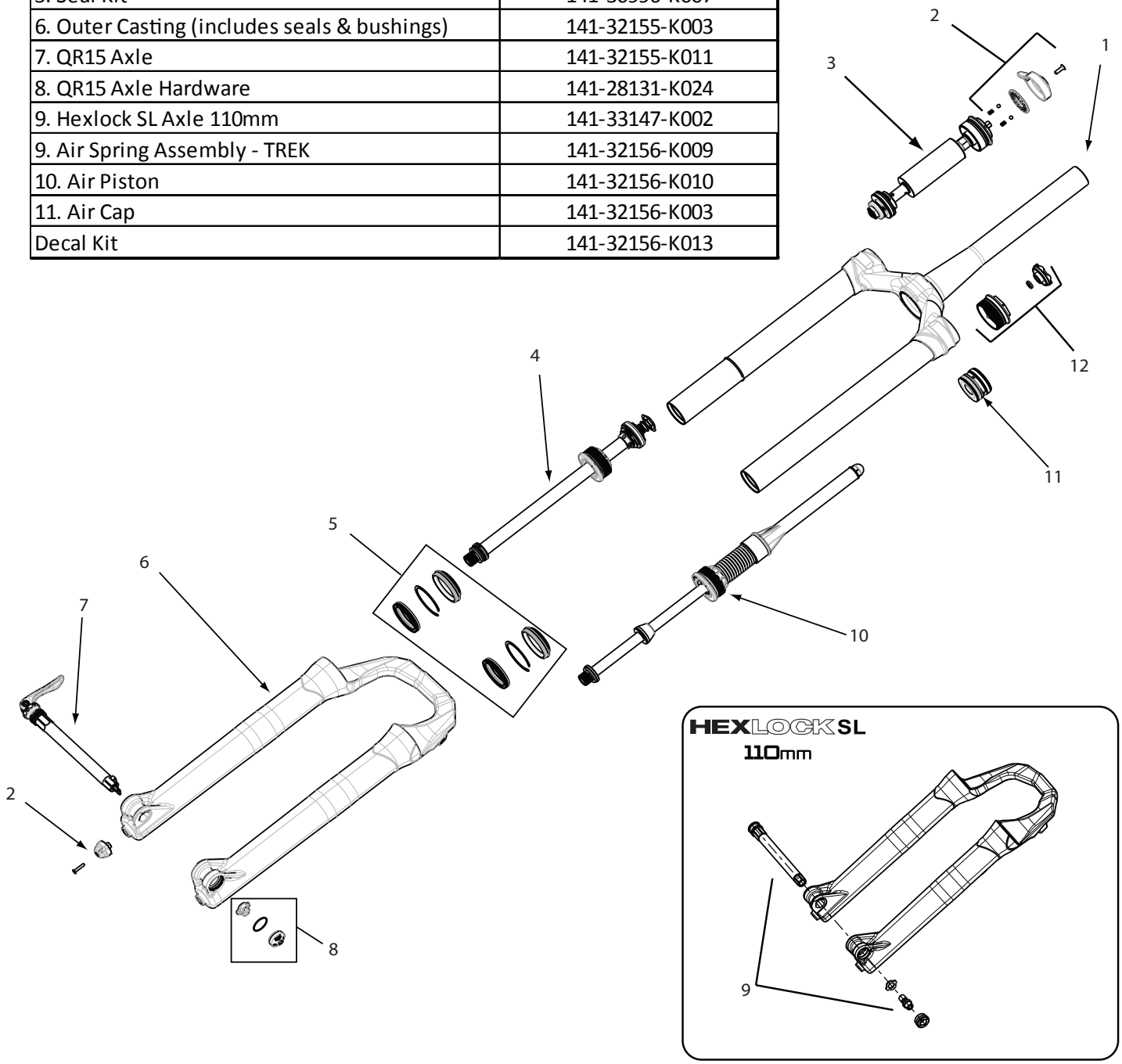
MAGNUM COMP 29 & 27.5 EXPLODED VIEW

PART DESCRIPTION	PART NUMBER	
	27.5"	29"
1. Crown/Steer/Leg - 80/100	141-32156-K015	141-32156-K001
1. Crown/Steer/Leg - 120		141-32156-K002
1. Crown/Steer/Leg - 120/140	141-32156-K016	
2. Complete Knob Kit	141-32156-K014	141-32156-K014
3. ABS+ Compression Damper - Includes Knob	141-32156-K005	141-32156-K005
4. Rebound Damper Assembly	141-32156-K017	141-32156-K004
5. Seal Kit	141-30996-K007	141-30996-K007
6. Outer Casting (includes seals & bushings)	141-32155-K019	141-32155-K003
7. QR15 Axle 110mm	141-32155-K011	141-32155-K011
8. QR15 Axle Hardware	141-28131-K024	141-28131-K024
9. Hexlock SL Axle 110mm	141-33147-K002	141-33147-K002
10. Air Spring Assembly - 80	141-32156-K018	141-32156-K006
10. Air Spring Assembly - 100	141-32156-K019	141-32156-K007
10. Air Spring Assembly - 120	141-32156-K020	141-32156-K008
10. Air Spring Assembly - 140	141-32156-K021	
11. Air Piston	141-32156-K010	141-32156-K010
12. Air Cap	141-32156-K003	141-32156-K003
Decal Kit	141-32156-K022	141-32156-K012



MAGNUM COMP TREK 29 EXPLODED VIEW

PART DESCRIPTION	PART NUMBER
	TREK COMP 29"
1. Crown/Steer/Leg	141-32156-K001
2. Complete Knob Kit	141-32156-K014
3. ABS+ Compression Damper - Includes Knob	141-32156-K005
4. Rebound Damper Assembly	141-32156-K004
5. Seal Kit	141-30996-K007
6. Outer Casting (includes seals & bushings)	141-32155-K003
7. QR15 Axle	141-32155-K011
8. QR15 Axle Hardware	141-28131-K024
9. Hexlock SL Axle 110mm	141-33147-K002
9. Air Spring Assembly - TREK	141-32156-K009
10. Air Piston	141-32156-K010
11. Air Cap	141-32156-K003
Decal Kit	141-32156-K013



HAYES PERFORMANCE SYSTEMS WARRANTY

Limited Warranty:
HAYES warrants its products to be free from defects in materials or workmanship under normal intended use for a period of one year (two years in European Union countries) from the date of purchase, subject to normal wear and tear. Unless otherwise prohibited by law, any such defective products will be repaired or replaced at the option of HAYES when received with proof of purchase, freight prepaid. This warranty does not cover breakage, bending, or damage that may result from crashes or falls. This warranty does not cover any defects or damage caused by alterations or modifications of HAYES products or by normal wear, accidents, improper maintenance, damages caused by the use of HAYES products with parts of different manufacturers, improper use or abuse of the product, application or uses other than those set forth in the HAYES instruction manual or failure to follow the instructions contained in the applicable HAYES instruction manual. Instruction manuals can be found on-line at www.hayescomponents.com. Any modifications made by the BUYER or any subsequent user will render the warranty null and void. This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed from the product. The cost of normal maintenance or replacement of service items, which are not defective, shall be the BUYER's responsibility. If permitted by local law, this warranty is expressly in lieu of all other warranties (except as to title), express or implied, and in particular and without limitation HAYES disclaims the implied warranties of merchantability or fitness for purpose If for any reason warranty work is necessary, return the component to the place of purchase or contact your dealer or local HAYES distributor. In the USA, contact HAYES for a return authorization number (RA#) at (888) 686-3472. At that time, instructions for repair, return, or replacement shall be given. Customers in countries other than the USA should contact their dealer or local HAYES distributor.

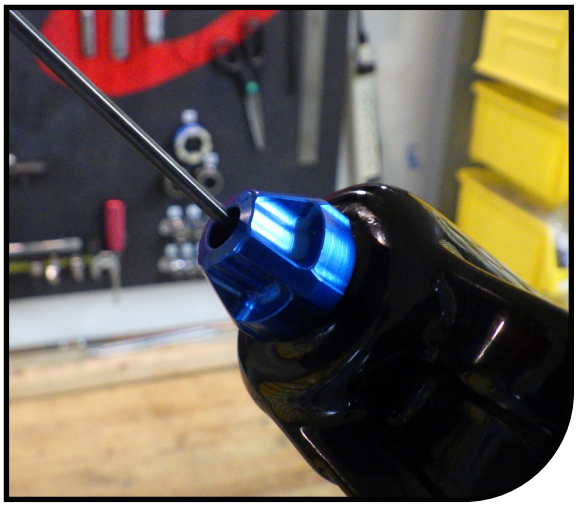
Limitation of Liability.
Unless required by mandatory law, HAYES shall not be liable for any incidental, indirect, special or consequential damages.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage through normal use, failure to service according to recommendations or riding in conditions other than recommended. The cost of normal maintenance or replacement of service items, which are not defective, shall be paid for by the original purchaser. Wear and tear parts that will not be replaced under warranty include but are not limited to the following:

- Bushings
- Rear Shock Mount Hardware
- Handlebar grips
- Tubeless Valves
- Dust Seals
- Fork and Shock air Seals and/or O-rings
- Bearings
- Upper Stanchion Tubes
- Stripped or worn bolts
- Remote Lockout Cable
- Gloves
- Lower Stanchion Tubes(Dorado)

CASTING REMOVAL & SERVICE

1 Remove rebound knob using a 2mm Allen wrench.



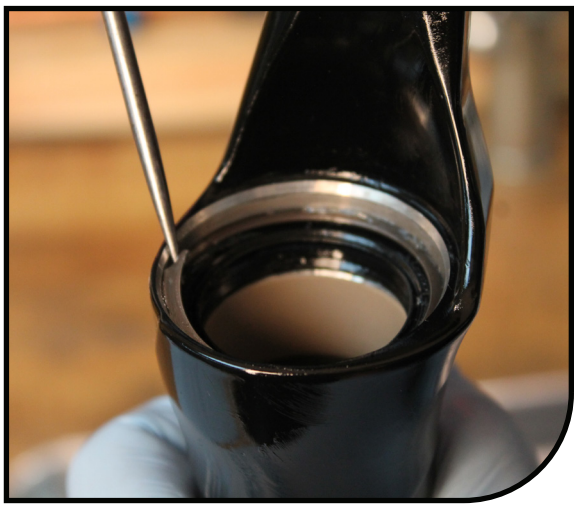
2 Insert an 8mm Allen wrench into the end of the rebound damper rod and turn the rod **clockwise** until it is disengaged from the casting and can be pushed into the casting. Repeat on the other fork leg with the end of the compression rod.

3 Remove casting from fork. It is recommended this be done over a drain pan as the lower casting contains semi-bath oil. Allow oil in casting to drain out before continuing to next step.

CASTING REMOVAL & SERVICE

4 Using a downhill tire lever or similar tool, gently pry the dust seals out of the casting.

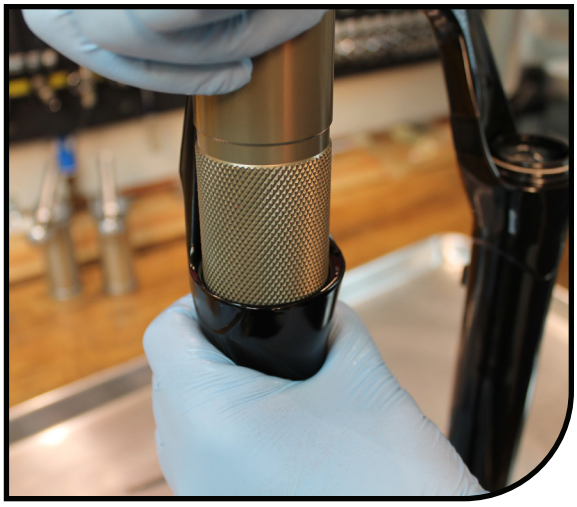
5 Carefully remove oil seal retaining ring using a pick or similar tool.



6 Gently pry the oil seals out of the casting. It is recommenced that you place a rag between the casting and the prying tool to prevent damage to the casting. Clean out casting and seal seats.

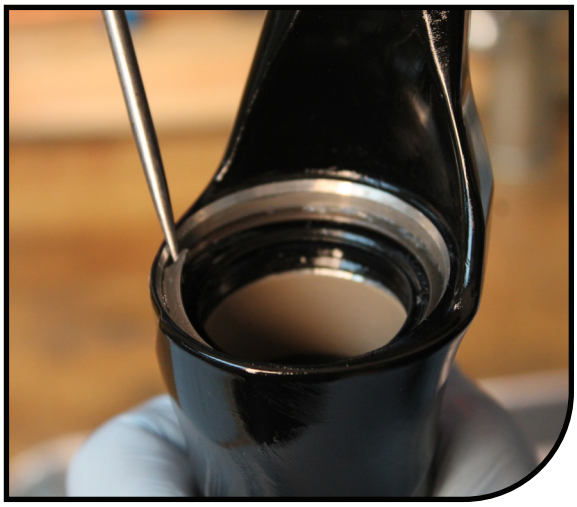
CASTING REMOVAL & SERVICE

7 Install oil seals into the casting. The oil seals are installed with the writing side facing up. Use the Manitou 34mm Seal Press or large socket to install the seals. Press firmly on them until they are fully seated.

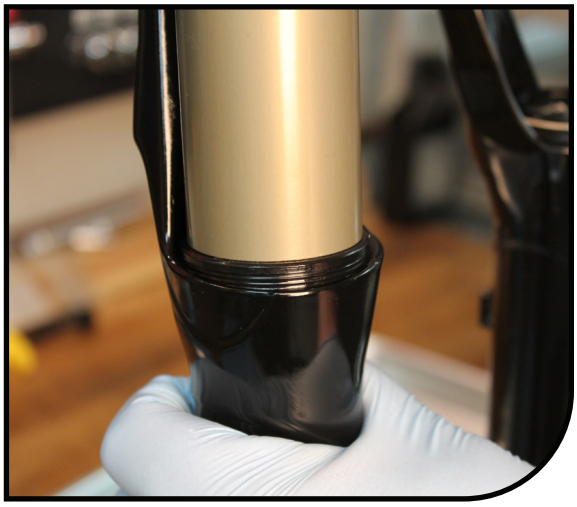


CASTING REMOVAL & SERVICE

8 Install snap rings on top of the oil seals.

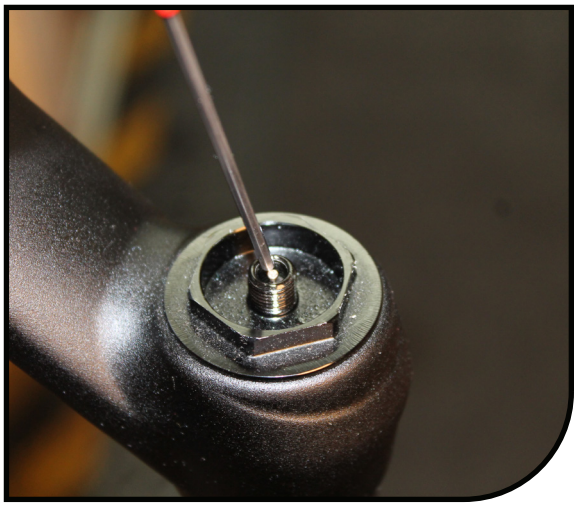


9 Remove springs from lip of dust seals. Using the Manitou 34mm Seal Press or large socket press in the dust seals. Reinstall springs onto seals.



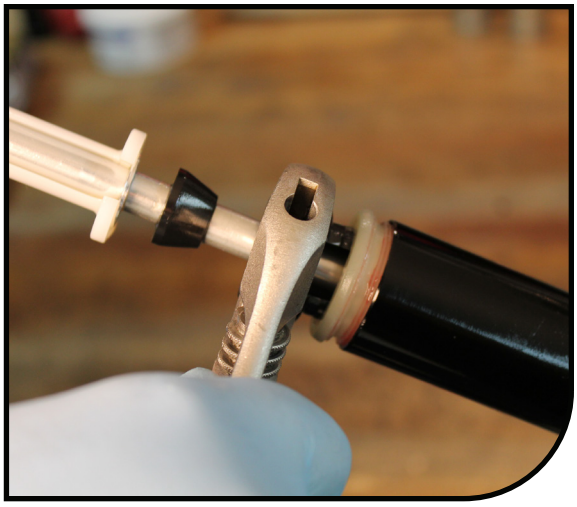
AIR SPRING SERVICE

1 Release air from the fork. Depress Schrader valve a few times to ensure all air is released.



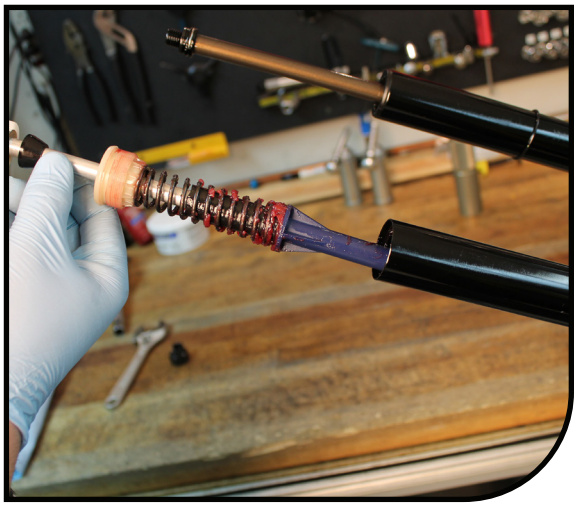
2 Remove air cap using a 24mm socket.

3 Invert the fork and use the Mattoc cassette tool to unthread the air spring assembly from the stanchion.



AIR SPRING SERVICE

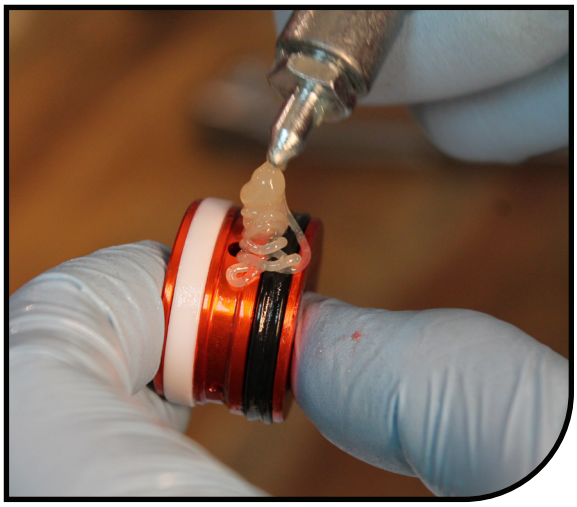
4 Remove air spring assembly from the stanchion. Clean spring and rod assembly and re-grease.
TIP: Ensure grease is worked into the ID of the rubber top-out bumper to improve ride quality and topping feel.



5 Using a long dowel rod or similar tool push the air piston down the stanchion and out of the bottom. Be careful to not scratch the inner surface of the stanchion. Once the piston is removed clean the inside of the stanchion with isopropyl alcohol and a lint free towel. Inspect the inside and outside of the stanchion for scratches or other damage.

AIR SPRING SERVICE

6 Take new Magnum Comp Air Piston (141-32156-K010) out of bag and liberally grease the piston quad seal and outer surface with Slickoleum™ grease.



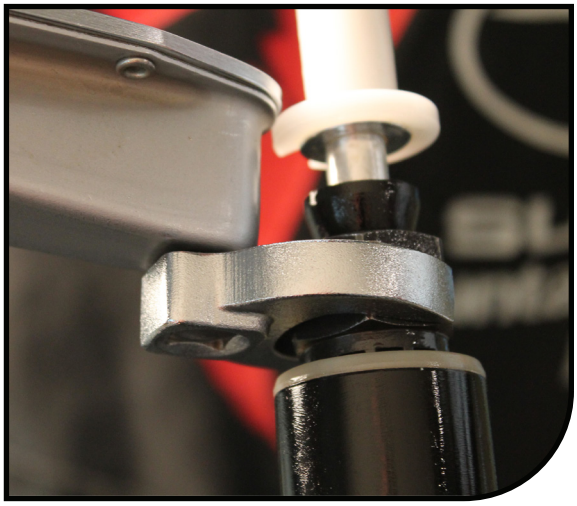
7 Install new, greased air piston into the top of the stanchion and push it down past the threads.

8 Add 8cc's of Slickoleum™ grease to the top of the air piston

AIR SPRING SERVICE

9 Install air cap onto stanchion. Tighten to 60-80 in lbs. [6.8-9.0 NM].

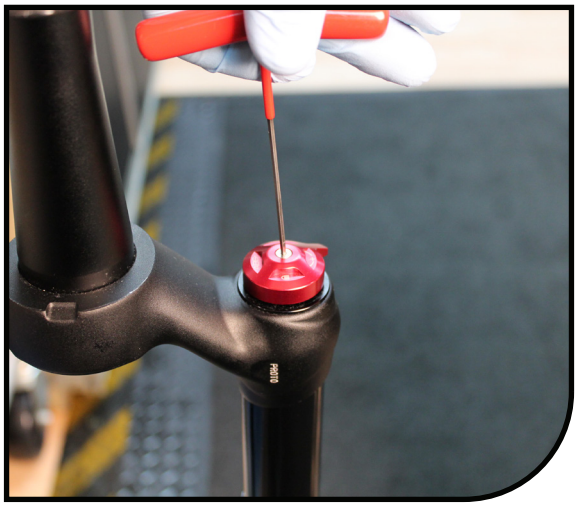
10 Install air spring assembly into stanchion. Using the Mattoc cassette tool and a crow's foot, tighten assembly end cap to 80-100 in lbs [9.0-11.3 NM].



11 Attach a shock pump and inflate air leg to 30-50PSI. This will aid in installing the casting later.

DAMPER SERVICE

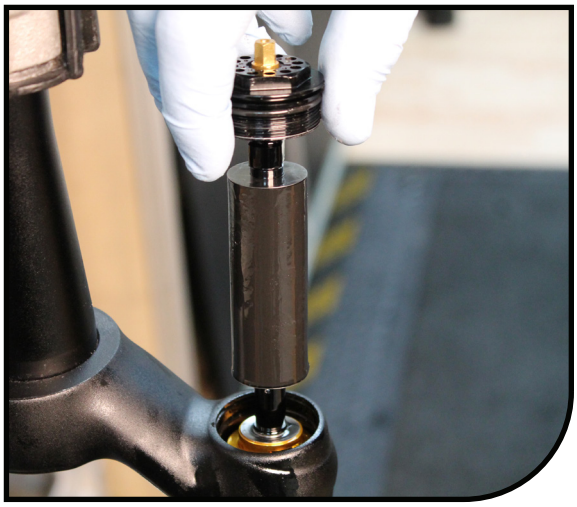
1 Remove ABS+ knob using a 2mm Allen wrench. Remove knob carefully as there are two detent ball bearings on springs below the knob.



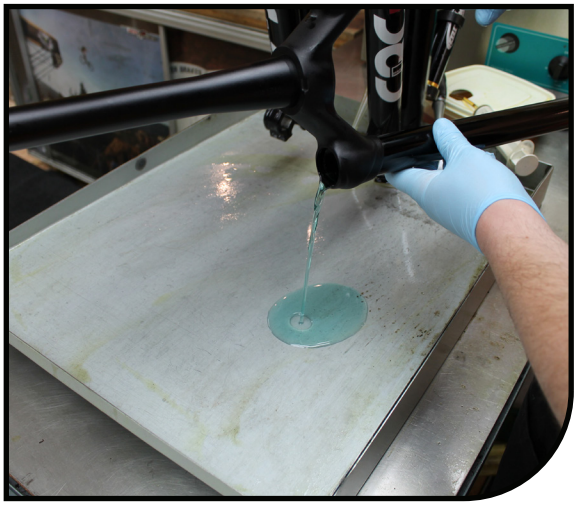
2 Unthread ABS+ compression damper assembly from the stanchion using a 24mm socket and ratchet.

DAMPER SERVICE

3 Remove ABS+ compression damper assembly from the stanchion.



4 Pour damper oil into a catch pan.

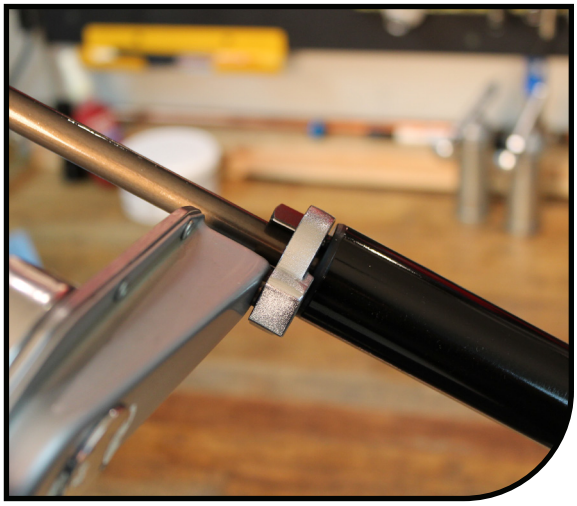


5 Using the Mattoc cassette tool and wrench or crow's foot unthread the rebound damper assembly from the fork stanchion.

DAMPER SERVICE

6 Remove rebound damper assembly from the fork. Once the damper assembly is removed, clean the inside of the stanchion with isopropyl alcohol and a lint free towel. Inspect the inside and outside of the stanchion for scratches and other damage. Inspect rebound damper for damage as well. Replace if necessary.

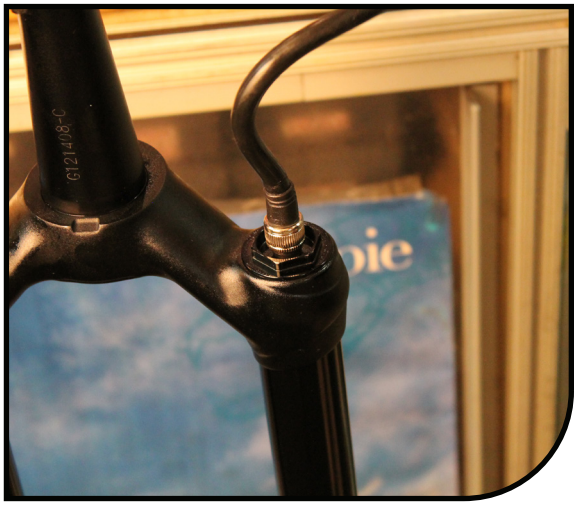
7 Install rebound damper into stanchion. Using the Mattoc cassette tool, a crow's foot and torque wrench, tighten the rebound damper assembly end cap to 80-100 in lbs [9.0-11.3 NM].



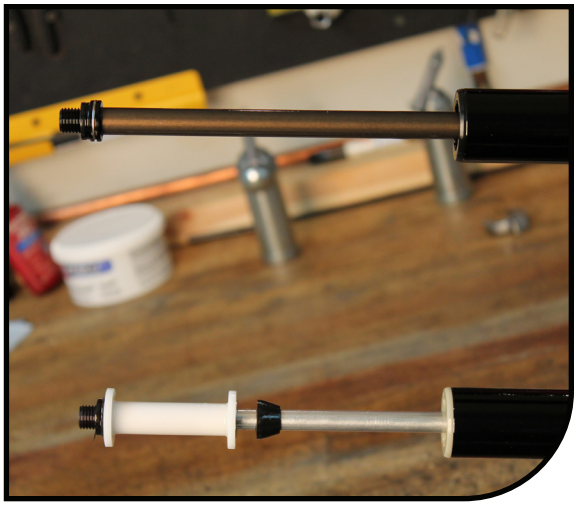
CASTING INSTALL

1 Before filling the fork with fork oil and installing the ABS+ compression damper, we must first install the casting. This ensures a correct oil level. First apply a generous amount of grease to the oil seal/dust seal area of the casting.

2 Fill the air chamber with a small amount of air (20-30PSI). This will extend the air spring assembly and make casting installation easier.



3 Fully extend the rebound damper rod.

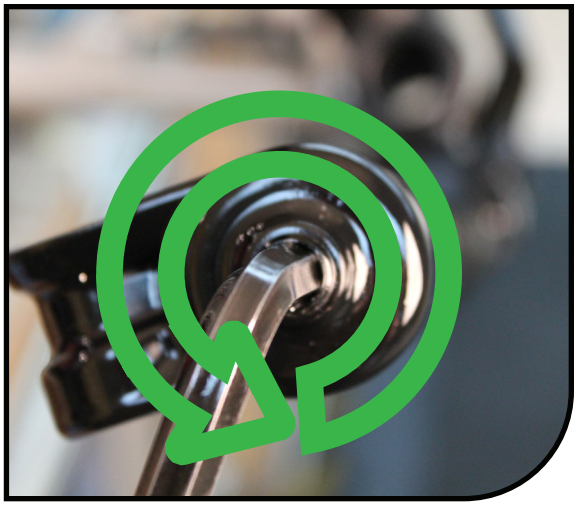


CASTING INSTALL

4 Slide casting onto the stanchion assembly. Only slide the casting down about halfway at this point. Take care that the seals do not get folded over on installation.

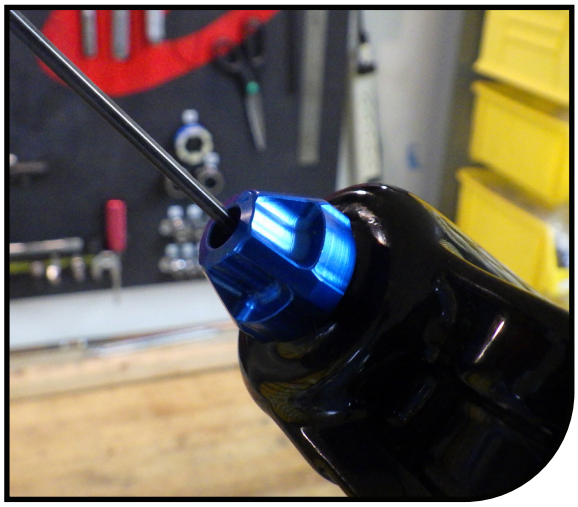
5 Insert 15cc's (15ml) of semi-bath into each casting leg. Once the semi-bath is in the legs slide the casting the rest of the way onto the stanchion assembly.

6 Using an 8mm Allen wrench tighten the rebound damper rod and air spring assembly to 35–40in lbs [3.95–4.5 Nm] by turning them **counter-clockwise.** Do not overtighten, doing so can damage the end of the rods.



CASTING INSTALL

7 Install the rebound knob using a 2mm Allen wrench. Add a small drop of blue Loctite to the screw before installation to prevent the screw from backing out during riding.



ABS+ DAMPER INSTALL

1 Pour 5wt Maxima fork oil into the damper leg. Fill it up about halfway.

2 Place a lint-free towel over the opening in the damper leg and compress the fork 10-15 times.

3 Pour additional 5wt fork oil into the damper leg until the oil height (space from the top of the damper leg to the top of the oil) is 85–90mm (87mm is nominal). An oil height setting tool used for motorcycle forks similar to the one pictured makes this job easier.

ABS+ DAMPER INSTALL

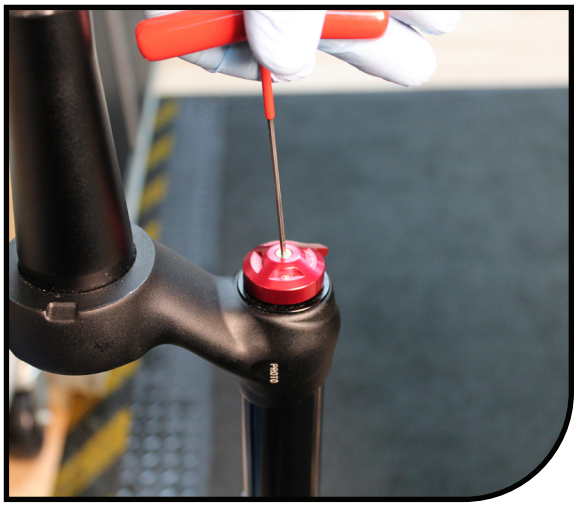
4 Insert the ABS+ compression damper into the damper leg. Ensure the damper is set in the unlocked position when installing.

5 Using a 24mm socket and torque wrench, tighten the ABS+ damper to 60–80 in lbs [6.8–9.0 NM].

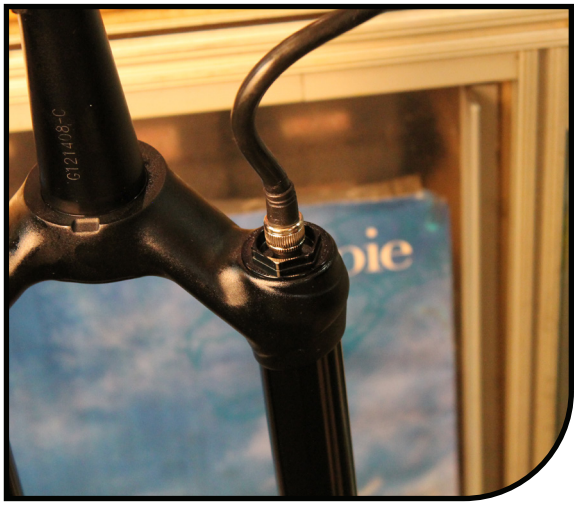
6 Install springs and ball bearings into ABS+ top cap. A small dab of grease on top of the spring can help hold the ball bearings in place.

ABS+ DAMPER INSTALL

7 Using a 2mm Allen wrench, install the ABS+ knob.



8 Clean fork and use a shock pump to set to desired pressure. Pressure chart below for reference.



ISO AIR 34

PATENTS: WWW.HAYESCOMPONENTS.COM/PATENTS

RIDER WEIGHT LBS	RIDER WEIGHT KGS	AIR PRESSURE PSI	AIR PRESSURE [BAR]
>220	>100	72-80	[5-5.5]
200	91	65-72	[4.5-5]
170	77	57-65	[3.9-4.5]
140	64	48-57	[3.3-3.9]
120	55	39-48	[2.7-3.3]

MAX PRESSURE NOT TO EXCEED 150 PSI [10.3 BAR]

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