MACHETE COMP | SERVICE GUIDE

manitou

MANITOU

5800 W Donges Bay Rd
Mequon, WI 53092

manitoumtb.com

888.686.3472

Support: manitoumtb.com/support

Warranty:
For full warranty information please visit hayesbicycle.com/warranty

HAYES PERFORMANCE SYSTEMS

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INTRODUCTION

This manual is intended to provide the information necessary for installation, set-up, normal maintenance and service of the Manitou Machete Comp suspension fork. We highly recommend installation be performed by a qualified mechanic. These instructions can be downloaded from the Hayes Performance Systems website at www.manitoumtb.com

⚠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 Hayes Customer Support at:

Hayes Bicycle USA	5800 W Donges Bay Road Mequon WI 53092
	Phone: 888.686.3472
	Email: techsupport@hayesbicycle.com

Hayes Bicycle Europe	Dirnismaning 20 a 85748 Garching (b. Munich) Germany
	Phone: +49 89 203237450
	Email: techsupportEU@hayesbicycle.com

Hayes Bicycle Asia	16F, No. 37, Sec. 3 Mincyuan E. Rd. Zhongshan District Taipei City 10476 Taiwan ROC
	Phone: 886-2-2518-1108

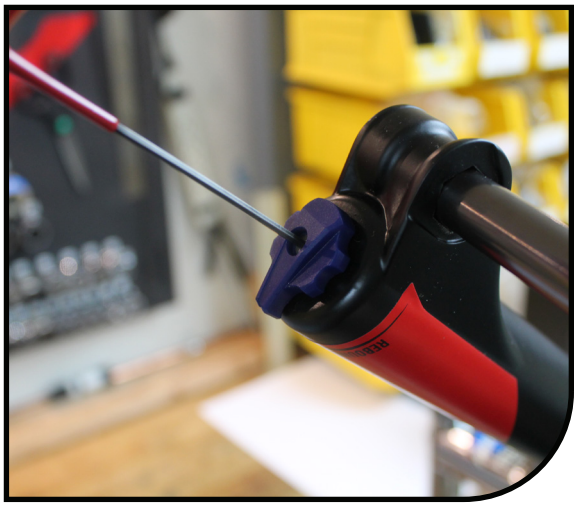
TABLE OF CONTENTS

TOOLS AND MATERIALS

- Safety Glasses
- Nitrile Gloves
- Lint-Free Rags
- Slickoleum™ Grease
  10-Oz Tub – Manitou Part Number 20-32929
  5Ml Tube – Manitou Part Number 141-33604-K001
- Semi-Bath Oil, 5/40W Synthetic
  Manitou Part Number 85-0022
- 5W Maxima Fork Oil
  Manitou Part Number 85-0023
- 32mm Seal Press
  Manitou Part Number 172-31122
- 32mm Rebuild Kit
  Manitou Part Number 141-28528-K010
- Manitou Tool Kit – Manitou Part Number 172-31133
  (Includes The 3 Tools Below)
  Manitou Slotted Cassette Tool
  Manitou Thin Walled 8mm Socket
  Manitou 24mm Flat Ground Socket
- 2mm Hex Wrench
- 4mm Hex Wrench
- 6mm Hex Wrench
- 8mm Hex Socket
- 22mm Wrench
- Torque Wrench
- Park Tool FR-5.2 Cassette Lockring Tool, or similar
- 1” Socket, for use with Park Tool FR-5.2 Cassette Lockring Tool
- Socket Wrench
- 22mm Crow’s Foot
- Fork/Shock Pump
- Pick
- Adjustable Wrench
- Downhill Tire Lever Or Flat Blade Screwdriver
- Support Block (2”x4”x4” Wood, Plastic, or Similar)
- Long Dowel or M6x1 x50mm length screw for TS air piston removal.

CASTING REMOVAL & SERVICE

1 Remove rebound knob using a 2mm hex wrench.



2 Insert an 8mm hex 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.

3 Use a 6mm hex wrench to remove the compression rod turn the rod **clockwise** until it is disengaged from the casting and can be pushed into the casting.

CASTING REMOVAL & SERVICE

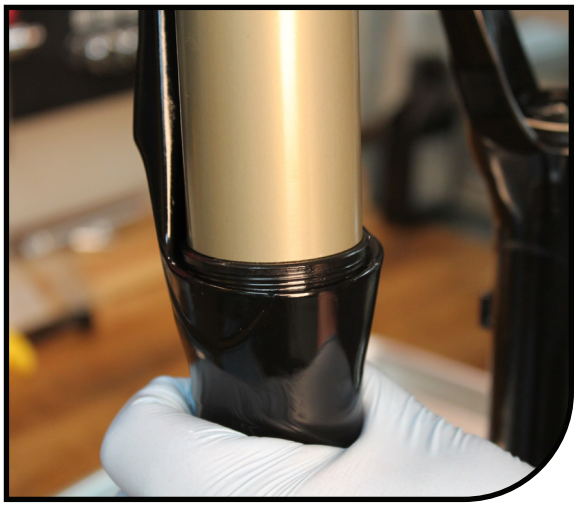
4 Remove casting from fork. It is recommended this be done over a drain pan as the lower casting contains semi-bath oil. Allow oil in casting to drain out before continuing to next step.

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

6 Remove old foam wiper rings. Apply semi-bath fluid to the new foam wiper rings and install into fork casting.

CASTING REMOVAL & SERVICE

7 Remove springs from lip of dust seals. Using the Manitou 32mm 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.

CAUTION

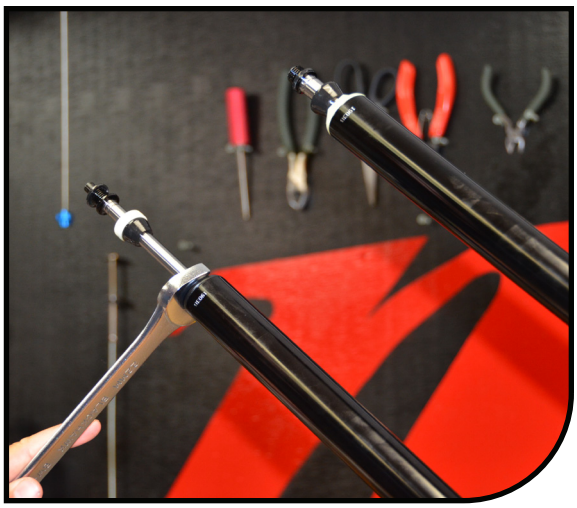
Do not begin disassembly until completely depressurizing air spring.

2 Using Manitou 24mm Flat Ground Socket, rotate air spring top cap counter-clockwise and remove when threads completely disengage from the stanchion.

NOTICE

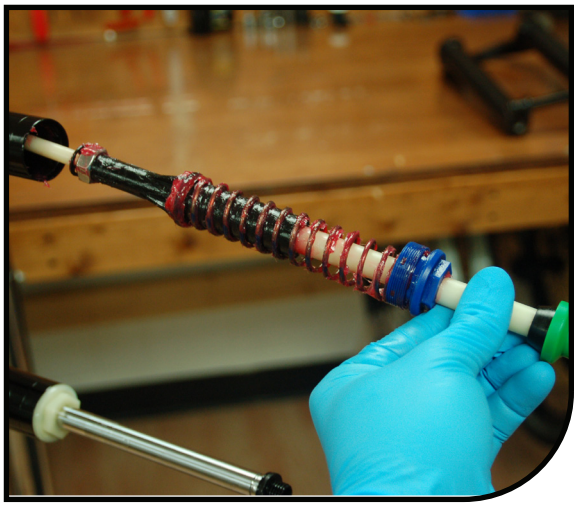
Make sure to apply top down force on tool to prevent slipping

3 Invert the fork. Using a 22mm wrench, rotate the air spring end cap counter-clockwise until threads completely disengage from stanchion.



AIR SPRING SERVICE

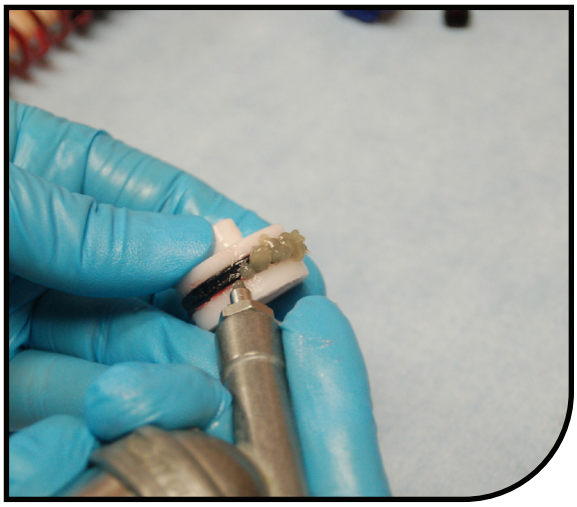
4 Remove air spring assembly. Clean assembly with isopropyl alcohol and a lint-free towel. Inspect air spring shaft and bumpers for wear/ damage and replace if necessary.



5 Air piston can be removed by either pushing the piston down through the bottom of the leg with a long dowel rod or threading an M6x1 bolt into the top of the piston and pulling up through the top of the leg. Once the piston is removed, clean the inside of the stanchion with isopropyl alcohol and a lint-free towel. Be careful to not scratch the inner surface of the stanchion at any point. Inspect the inside and outside of the stanchion for scratches or other damage.

AIR SPRING SERVICE

6 Inspect the air piston and piston seal for wear/damage and replace if necessary. Liberally grease the piston quad seal and outer surface with Slickoleum™ grease.



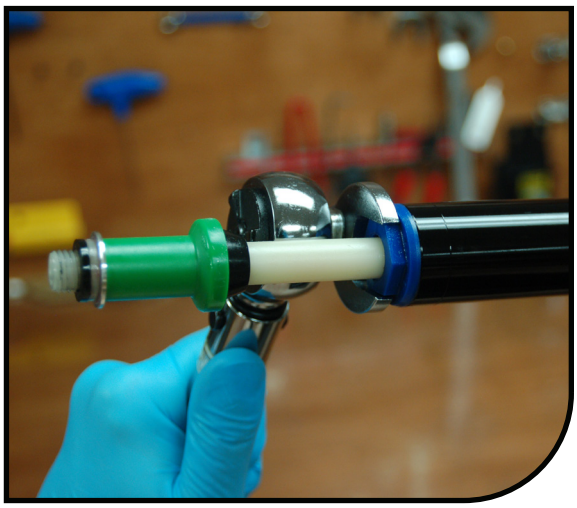
7 Add Slickoleum grease to upper stanchion threads before inserting the air piston. Spread grease across entire thread surface. Install air piston by pushing it past the upper stanchion threads. Piston height will be set automatically when air pressure is added in a later step.

8 Add 3cc's of Slickoleum™ grease to the top of the air piston.

AIR SPRING SERVICE

9 Install air cap into stanchion. Rotating clockwise, start the threads by hand to prevent cross-threading. Using Manitou 24mm Flat Ground Socket and torque wrench, torque to 60-80 in lbs [6.8-9.0 N m].

10 Install air spring assembly into stanchion. Rotating clockwise, start the end cap threads by hand to prevent cross-threading. Using a 22mm crow's foot and torque wrench, torque to 80-100 in lbs [9.0-11.3 N m].



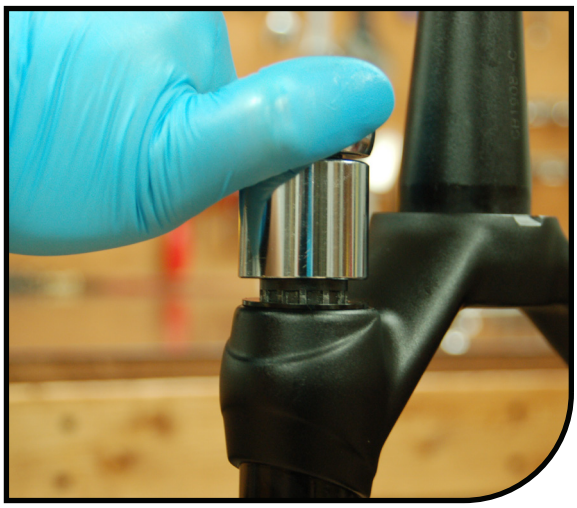
DAMPER SERVICE

1 Rotate adjuster knob counter-clockwise to its end stop. Holding the knob steady, insert 2mm hex wrench into adjuster knob screw and rotate wrench counter-clockwise until threads completely disengage. Remove knob and screw.

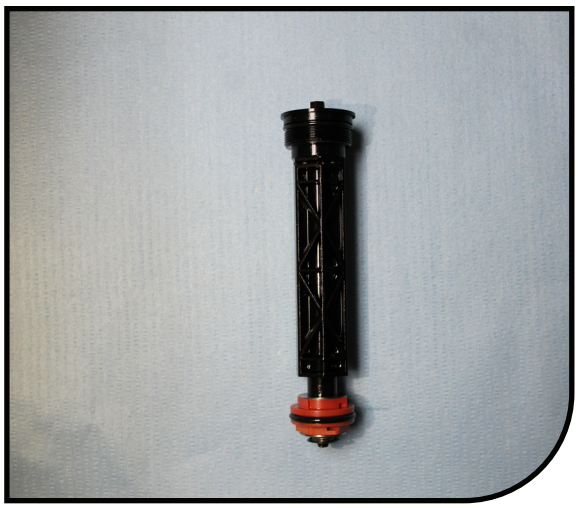
2 Use a standard cassette lockring tool, such as Park Tool FR-5.2, with the appropriate socket to rotate compression damper top cap counter-clockwise until threads completely disengage from the stanchion.

NOTICE

Make sure to apply top down force on tool to prevent slipping

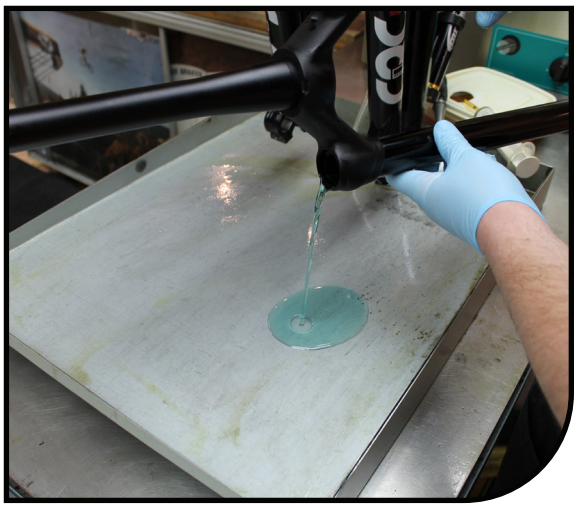


3 Remove Kwik Toggle compression damper assembly from the stanchion.



DAMPER SERVICE

4 Pour damper oil into a catch pan.

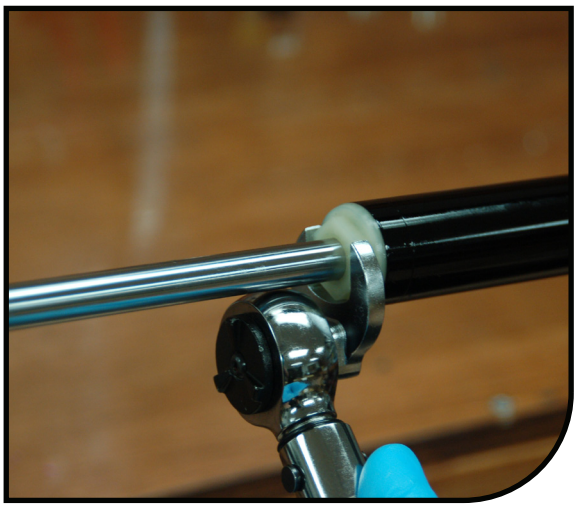


5 Using a 22mm box end wrench, unthread the rebound damper assembly from the fork stanchion.

6 Invert the fork. Using a 22mm wrench, rotate the rebound damper end cap counter-clockwise until threads completely disengage from stanchion. Remove rebound damper from the fork. 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 wear/damage and replace if necessary.

DAMPER SERVICE

7 Install rebound damper into stanchion. Rotating clockwise, start the end cap threads by hand to prevent cross-threading. Using a 22mm crow's foot and torque wrench, torque to 80-100in lbs [9.0-11.3 N m].



CASTING INSTALL

1 Apply a thin layer of either Slickoleum grease or semi-bath oil to the inside surface of the fork seal.

2 Tightly assemble shock pump fitting to air top cap. Inflate the air spring to 40-50 PSI.

NOTICE

As pressure increases, the air spring will extend and a small click may be heard when the piston makes contact with the top of the comp rod.

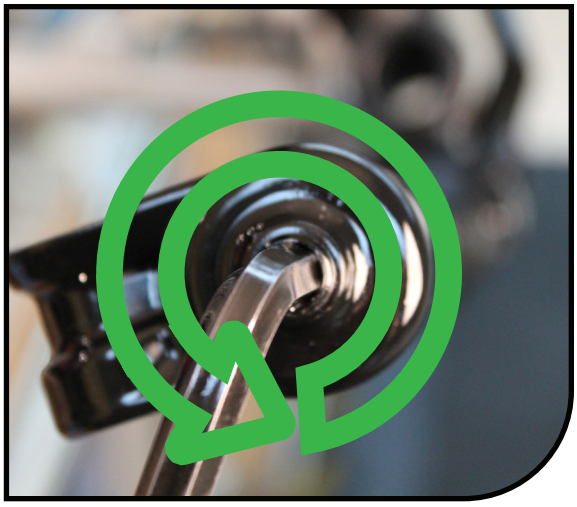
3 Fully extend the rebound damper rod.

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 fold over upon installation

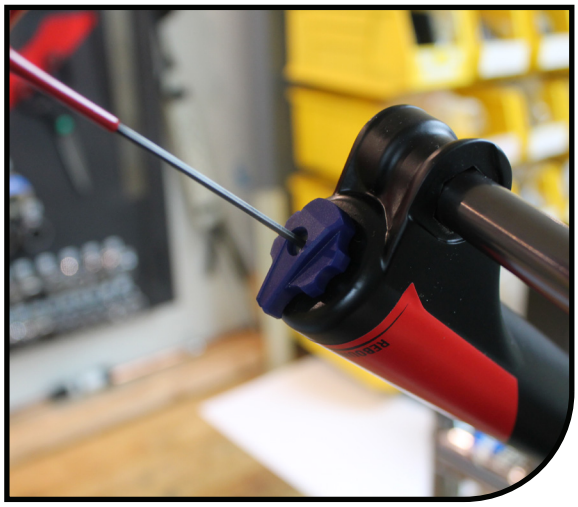
5 Insert 7cc's (7ml) of semi-bath into each casting leg. Once the semi-bath is in the legs, slide the casting the rest of the way onto the stanchion assembly.

6 Using an 8mm hex wrench and torque wrench, tighten the rebound damper rod to 35–40 in lb [3.95–4.5 N m] by turning them **counter-clockwise.** Do not overtighten, doing so can damage the end of the rods.



CASTING INSTALL

7 Install rebound knob. Holding the knob steady, use a 2mm hex wrench to assemble the rebound knob screw (rotating clockwise) and torque to 0.5-0.7 in lbs [4-6 N m].



8 Using a 6mm hex wrench and torque wrench, tighten the compression rod to 35-40 in lbs [3.95-4.5 N m] by rotating counter-clockwise.
Do not overtighten; doing so can damage the end of the rod.

COMPRESSION DAMPER INSTALL

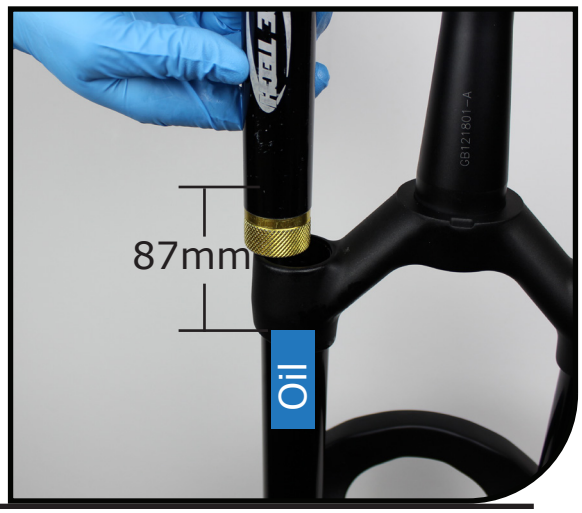
1 Fill the damper leg approximately 3/4 full with Maxima 5wt fork oil.

2 Install the axle into the fork without a hub or wheel. Cover the damper leg opening with a lint-free towel. Using a wood block or similar raised support underneath the axle, compress the fork 10-15 times.

NOTICE

The raised support should be wide enough and long enough to safely support the axle as well as tall enough to eliminate contact between the floor and the comp rod end fitting or rebound knob. Do not overtighten

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 set at the proper level of **87mm**. An oil height setting tool used for motorcycle forks similar to the one pictured makes this job easier.



COMPRESSION DAMPER INSTALL

4 Rotate the adjuster hex on the compression damper counter-clockwise to the unlocked/open position. Install the damper into the fork.

5 Rotating clockwise, use a torque wrench and a standard cassette lockring tool, such as Park Tool's FR-5.2, with the appropriate socket to torque the compression damper assembly to 45-55 in lbs [5.1-6.2 N m]

NOTICE

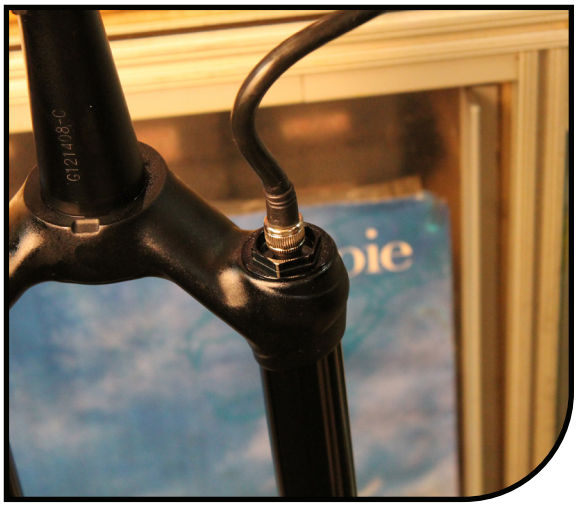
Non-standard spanners may damage the damper's splined interface. Only use a standard cassette lockring tool and apply a top-down force while loosening to prevent slipping.

6 Install the adjuster knob. Holding the knob steady, use a 2mm hex wrench to assemble the adjuster knob screw (rotating clockwise) and torque to 0.5-0.7 in-lbs [4-6 Nm].

COMPRESSION DAMPER INSTALL

7

Tightly thread shock pump to air spring top cap and fill to desired air spring pressure. Recommended starting pressures are shown in the charts on the next page. Remove the shock pump and clean the fork with isopropyl alcohol.



RECOMMENDED STARTING PRESSURE

TS AIR 80MM TRAVEL

Rider Weight		Air Pressure	
LBS	KGS	PSI	[BAR]
>220	>100	75-95	[5.2-6.6]
200	91	72-87	[5.0-6.0]
170	77	68-80	[4.7-5.5]
140	64	64-75	[4.4-5.2]
120	55	55-72	[3.8-5.0]
! WARNING !			
MAX PRESSURE NOT TO EXCEED 110 PSI [7.58 BAR]			

TS AIR 100MM TRAVEL

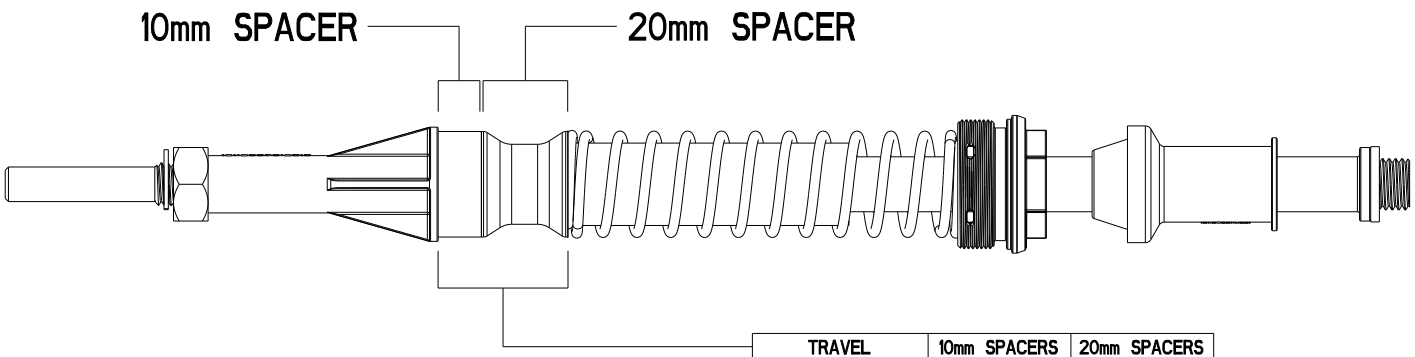
Rider Weight		Air Pressure	
LBS	KGS	PSI	[BAR]
>220	>100	75-95	[5.2-6.6]
200	91	72-87	[5.0-6.0]
170	77	68-80	[4.7-5.5]
140	64	64-75	[4.4-5.2]
120	55	55-72	[3.8-5.0]
! WARNING !			
MAX PRESSURE NOT TO EXCEED 110 PSI 7.58 BAR]			

TS AIR 120MM TRAVEL

Rider Weight		Air Pressure	
LBS	KGS	PSI	[BAR]
>220	>100	75-95	[5.2-6.6]
200	91	72-87	[5.0-6.0]
170	77	68-80	[4.7-5.5]
140	64	64-75	[4.4-5.2]
120	55	55-72	[3.8-5.0]
! WARNING !			
MAX PRESSURE NOT TO EXCEED 110 PSI [7.58 BAR]			

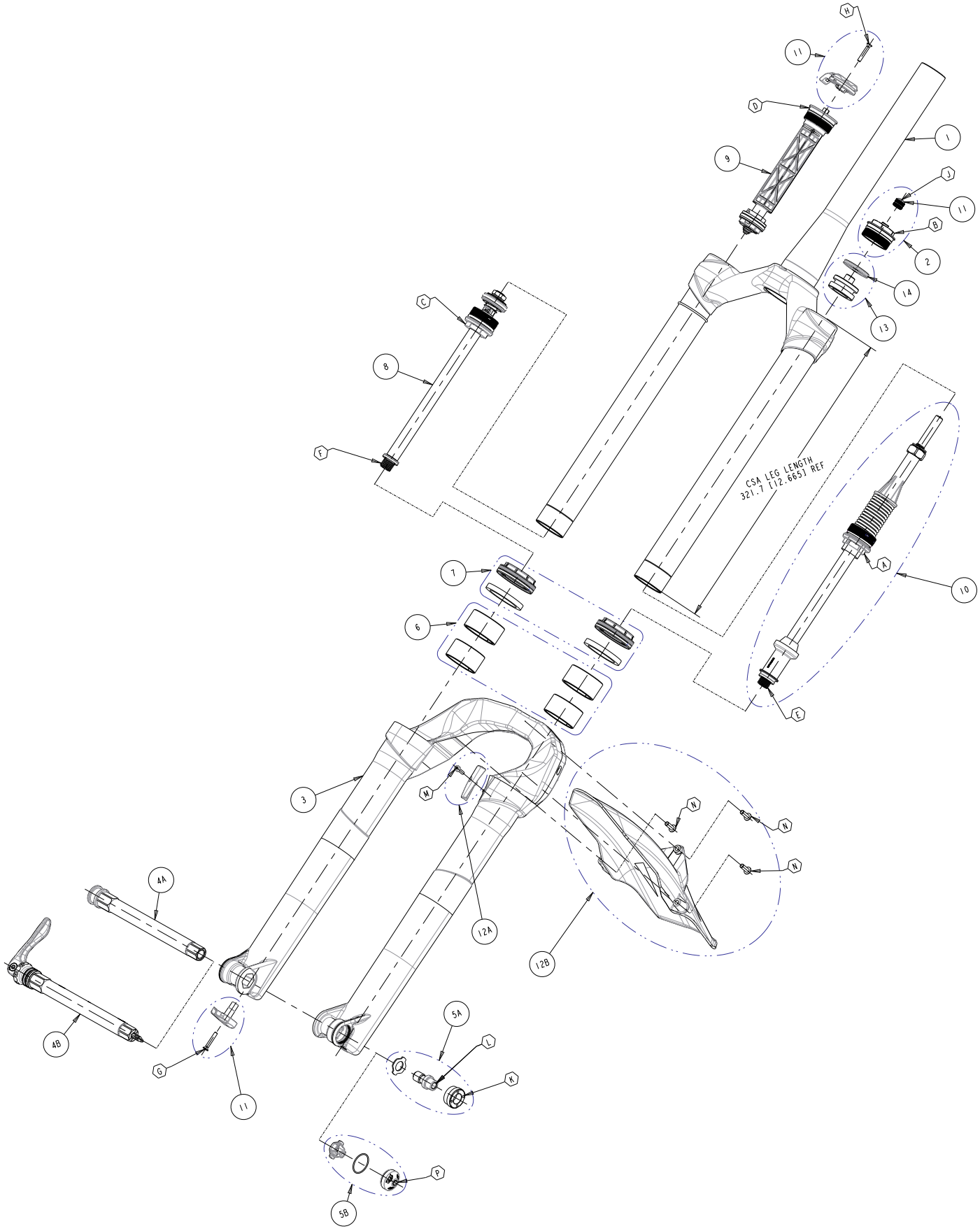
MACHETE COMP TRAVEL CHANGE

In order to change the travel of your Machete Comp, first remove the compression rod assembly. For instructions on how to do this, refer to page 9. Once the rod is removed, arrange the travel spacers into the desired amount of travel using the following chart. The drawing shows the 90mm travel configuration.



TRAVEL	10mm SPACERS	20mm SPACERS
120mm	0	0
110mm	1	0
100mm	0	1
90mm (SHOWN)	1	1
80mm	0	2

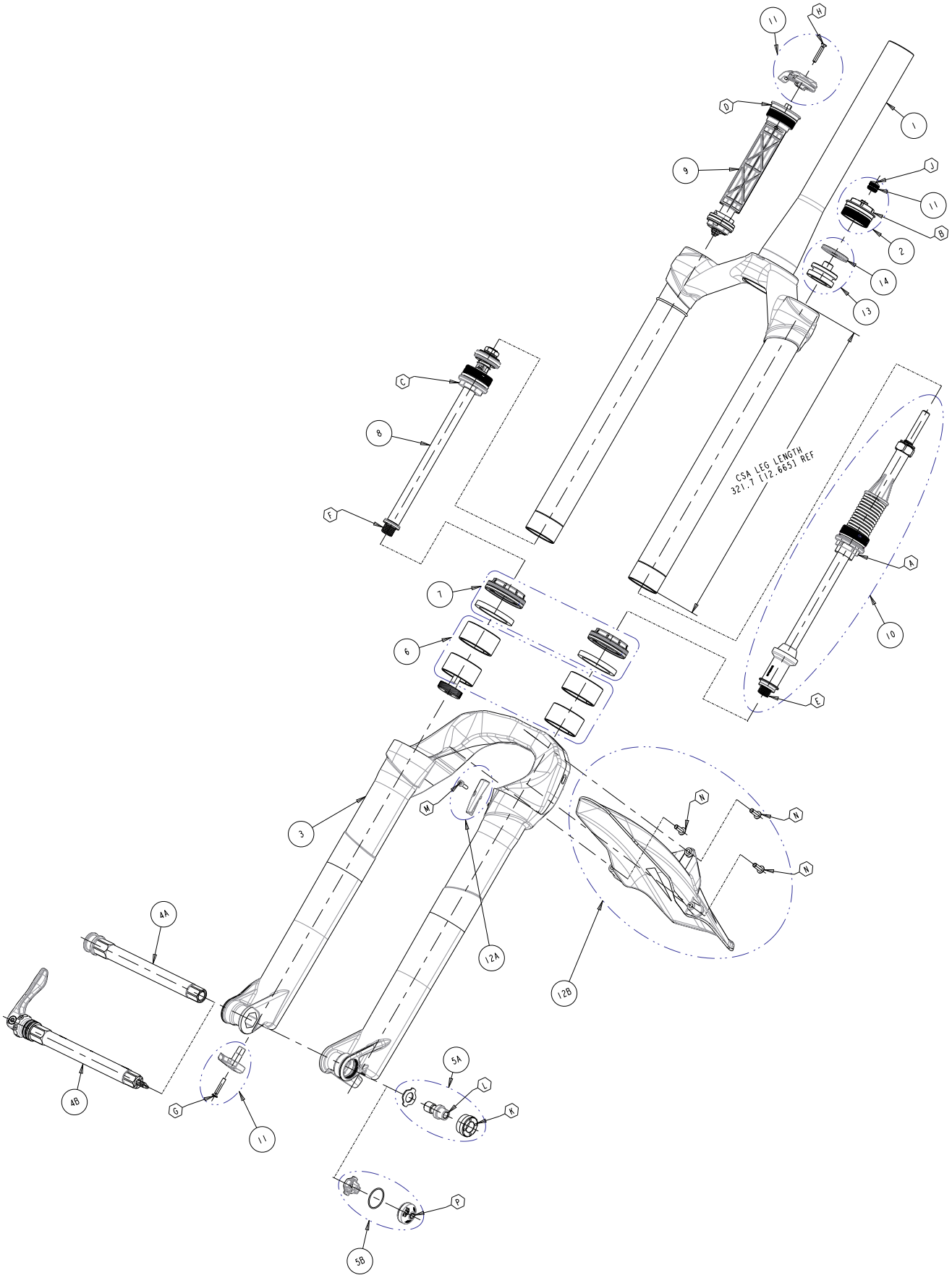
MACHETE COMP 27.5" EXPLODED VIEW



MACHETE COMP 27.5" EXPLODED VIEW

ITEM	PART DESCRIPTION	KIT NUMBER
1	KIT, CSA 32MM 80/120, 19.25MM OS, MBLK, BLK LEG (STANDARD OFFSET)	141-38117-K001
	KIT, CSA 32MM 80/120, 12.25MM OS, MBLK, BLK LEG (SHORT OFFSET)	141-38117-K004
2	KIT, AIR CAP, TS 32MM	141-38117-K010
3	KIT, CASTING, 32MM 27.5" MBLK (INCL. BUSHINGS AND SEALS)	141-38117-K007
4A	KIT, AXLE, HEXLOCK (INCL. HARDWARE)	141-33147-K002
4B	KIT, AXLE, QR15 BOOST (OPTION, REPLACES 5A, INCL. HARDWARE)	141-28131-K028
5A	KIT, HARDWARE, HEXLOCK AXLE	141-33147-K003
5B	KIT, HARDWARE, QR15 AXLE	141-28131-K024
6	KIT, BUSHING 32MM	141-38117-K017
7	KIT, SEAL 32MM	141-38117-K016
8	KIT, REBOUND DAMPER, 27.5/29" 80/120	141-36683-K008
9	KIT, COMPRESSION DAMPER, KWIK TOGGLE	141-33385-K005
10	KIT, TS AIR, 32MM 27.5/29” 80/120	141-38117-K009
11	KIT, 32MM KNOB, KWIK TOGGLE & ADJ. REBOUND	141-33386-K001
12A	KIT, HOSE CLAMP, MY20 MEZZER & KIDS FORK	141-36103-K003
12B	KIT, FENDER, MY20 MEZZER & KIDS FORK (INCL. 12A)	141-36103-K001
13	KIT, AIR PISTON W/ SEAL, 32mm TS	141-27988-K012
14	KIT, AIR PISTON SEAL, 32mm TS	141-28131-K025
	KIT, ASSY, MILO AL W/CABLE & HOUSING	141-33538
	KIT, ASSY, MILO REMOTE LOCKOUT, LEVER & CABLE	141-31975-K003
	KIT, DECAL, MY21 R7	141-38117-K020
	KIT, REBUILD 32MM	141-28528-K010

MACHETE COMP 27.5+/29" EXPLODED VIEW



MACHETE COMP 27.5+/29" EXPLODED VIEW

ITEM	PART DESCRIPTION	KIT NUMBER
1	KIT, CSA 32MM 80/120, 19.25MM OS, MBLK, BLK LEG (STANDARD OFFSET)	141-38117-K001
	KIT, CSA 32MM 80/120, 12.25MM OS, MBLK, BLK LEG (SHORT OFFSET)	141-38117-K004
2	KIT, AIR CAP, TS 32MM	141-38117-K010
3	KIT, CASTING, 32MM 27.5+/29" MBLK (INCL. BUSHINGS AND SEALS)	141-38117-K008
4A	KIT, AXLE, HEXLOCK (INCL. HARDWARE)	141-33147-K002
4B	KIT, AXLE, QR15 BOOST (OPTION, REPLACES 4A, INCL. HARDWARE)	141-28131-K028
5A	KIT, HARDWARE, HEXLOCK AXLE	141-33147-K003
5B	KIT, HARDWARE, QR15 AXLE	141-28131-K024
6	KIT, BUSHING 32MM	141-38117-K017
7	KIT, SEAL 32MM	141-38117-K016
8	KIT, REBOUND DAMPER, 27.5/29" 80/120	141-36683-K008
9	KIT, COMPRESSION DAMPER, KWIK TOGGLE	141-33385-K005
10	KIT, TS AIR, 32MM 27.5/29” 80/120	141-38117-K009
11	KIT, 32MM KNOB, KWIK TOGGLE & ADJ. REBOUND	141-33386-K001
12A	KIT, HOSE CLAMP, MY20 MEZZER & KIDS FORK	141-36103-K003
12B	KIT, FENDER, MY20 MEZZER & KIDS FORK (INCL. 12A)	141-36103-K001
13	KIT, AIR PISTON W/ SEAL, 32mm TS	141-27988-K012
14	KIT, AIR PISTON SEAL, 32mm TS	141-28131-K025
	KIT, ASSY, MILO AL W/CABLE & HOUSING	141-33538
	KIT, ASSY, MILO REMOTE LOCKOUT, LEVER & CABLE	141-31975-K003
	KIT, DECAL, MY21 R7	141-38117-K020
	KIT, REBUILD 32MM	141-28528-K010

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

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