TRAVEL ADJUST MANUAL
FOR AFTERMARKET FORKS

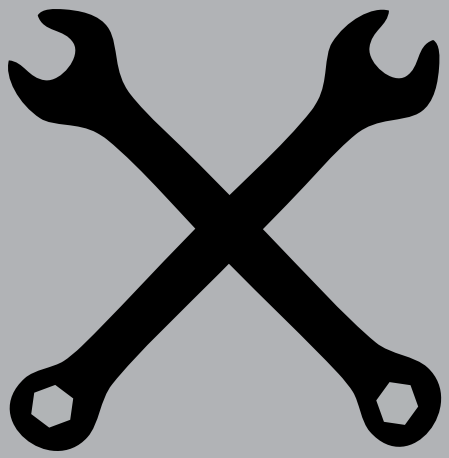


Table of Contents

Section	Page Number
Introduction & Required Tools	3
Travel Change Information and Reference Chart	4
Section 1 - Casting Removal	5
Section 2 - MRD Casting Removal	6
Section 3 - Coil Travel Conversion	7-8
Section 4 - ACT Air Travel Conversion	9-10
Section 5 - TS Air Travel Conversion	11
Section 6 - ISO Travel Conversion	12
Section 7 - Casting Installation	13
Section 8 - MRD Casting Installation	14

Hayes Components USA
5800 W. Donges Bay Rd.
Mequon, WI 53092

Tel: 888.686-3472
Email: techsupport@hayesbicycle.com
Web: www.hayescomponents.com

Hayes Components Europe
Dirnismaning 20 a
85748 Garching (b. Munich)
Germany
Email: techsupportEU@hayesbicycle.com
Web: www.hayescomponents.com

INTRODUCTION

This manual is intended to guide the user through the steps necessary to internally adjust the travel of our aftermarket forks. As it is necessary to remove the lower legs and also disassemble the spring side of the fork we highly recommend that this service be performed by a certified bicycle mechanic.

WARNING Suspension forks by design can contain preloaded springs, gases and fluids under extreme pressures. Follow instructions closely to reduce risk of injury while servicing the suspension fork. Warnings contained in this manual must be observed to avoid damage to fork, serious injury or even 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

TRAVEL CHANGE INFORMATION

This manual covers the travel conversion procedures for coil, TS Air, ACT Air and ISO spring systems in our aftermarket forks. The chart below list the fork models, what air systems they utilize and what sections of the manual you need to follow to adjust the travel of your fork.

NOTE: *If your fork was installed OEM on a complete bike these instructions may or may not work depending on fork build. Please contact Manitou Customer Support for more information.*

Marvel Pro Spring System - ISO Air Section 1 - Casting Removal Section 6 - ISO Air Travel Conversion Section 7 - Casting Install	**R7 Pro** Spring System - TS Air Section 1 - Casting Removal Section 5 - TS Air Travel Conversion Section 7 - Casting Install
Marvel Expert Spring System - ISO Air Section 1 - Casting Removal Section 6 - ISO Air Travel Conversion Section 7 - Casting Install	**Match/Circus Comp** Spring System - Coil Section 1 - Casting Removal Section 3 - Coil Travel Conversion Section 7 - Casting Install
Marvel Comp Spring System - TS Air Section 1 - Casting Removal Section 5 - TS Air Travel Conversion Section 7 - Casting Install	**Circus Expert** Spring System - ACT Air Section 1 - Casting Removal Section 4 - ACT Air Travel Conversion Section 7 - Casting Install
R7 MRD Spring System - TS Air Section 2 - MRD Casting Removal Section 5 - TS Air Travel Conversion Section 8 - MRD Casting Install	**Minute Expert** Spring System - TS Air Section 1 - Casting Removal Section 5 - TS Air Travel Conversion Section 7 - Casting Install

SECTION 1 - CASTING REMOVAL

1. From the left leg dropout (Left when sitting on the bike), use a 11mm wrench for R7 forks or 12mm wrench for all 32mm forks to remove the compression rod screw. **(Fig. 1)**



FIG. 1

2. From the right leg dropout, if the fork has adjustable rebound, the knob will need to be removed. Screw the rebound all the way in (clockwise) remove the 2mm hex screw inside the knob by turning it counter clockwise. Remove the knob by pulling gently away from the fork. **(Fig. 2)**

3. Use an 8mm hex wrench to turn the damper **clockwise** until it can be pushed into the casting. **(Fig. 3)**



FIG. 2

4. Remove crown/steer/inner leg assembly from the outer leg casting by pulling firmly on the casting. Our forks use the Semi bath Lubrication system, use caution as the oil that is in the casting will be released when the casting is removed, it is best to do this over some type of catch pan.



FIG. 3

SECTION 2 - MRD CASTING REMOVAL

1. From the left leg dropout (Left when sitting on the bike), use a 10 or 11mm wrench to remove the compression rod screw. **(Fig. 1)**



FIG. 1

2. Remove the blue rebound knob on the bottom of the right leg with a 1.5mm Allen wrench. Be cautious of the detent balls and springs under the knob as they are very small and easily lost. **(Fig. 2)**

3. Remove the detent balls and springs from the Detent Housing. **(Fig. 3)**



FIG. 2

4. Remove the Detent housing by unscrewing it counter-clockwise using a green Park Tool pin spanner (or similar tool) inserted into the holes that the springs and detent balls sit in. **(Fig. 4)**

5. Using a 7mm or 8mm Allen wrench, turn the rebound assembly **clockwise** until it can be pushed into the casting. **(Fig. 5)**

6. Remove crown/steer/inner leg assembly from the outer leg casting by pulling firmly on the casting. The fork uses the Semi bath Lubrication system, use caution as the oil that is in the casting will be released when the casting is removed, it is best to do this over some type of catch pan.



FIG. 3



FIG. 5



FIG. 4

SECTION 3 - COIL SPRING TRAVEL CONVERSION

NOTE: *Only the 80 and 100mm coil forks (Match/ Circus Comp are adjustable in travel. The 130mm is fixed and cannot be adjusted.*

The casting needs to be removed prior to servicing the coil spring. Refer to the Casting Removal Instructions first.

WARNING Failure to relieve preload on spring before removing top cap could result in serious injury or possible death.

1. Turn the preload knob counter-clockwise until it stops to relieve the preload on the spring. Using a 2mm Allen wrench, remove the knob from the preload adjuster. **(Fig. 1)**

2. Remove the preload adjuster from the fork using a 20mm socket. **(Fig. 2)**

3. Pull the coil spring out of the stanchion leg.

4. Remove travel spacer and bottom out bumper from the end of the compression rod assembly. **(Fig. 3)**

5. Remove the compression rod assembly from the stanchion leg. The compression rod comes out from the top of the stanchion leg. Turn the fork sideways or upside down to get the compression rod out of the leg. **(Fig. 4)**



FIG 1



FIG 2



FIG 3



FIG 4

SECTION 3 - COIL SPRING TRAVEL CONVERSION

6. The travel of the fork is determined by a plastic spacer. The spacer being on top of the flange on the compression rod will cause the fork to have 100mm of travel. The spacer being on the bottom on the flange will cause the fork to have 80mm of travel. **(Fig. 5)**

7. Set travel to desired position.

8. Install compression rod assembly into the stanchion leg. Insert through the top of the stanchion leg and maneuver the rod until it drops through the hole at the bottom of the stanchion leg.

9. Lightly grease the spring and install into stanchion leg.

10. Install the preload adjuster into the fork leg. Tighten down using a 20mm socket to 5,1- 6,2 NM (45-55 in. lbs).

11. Using a 2mm Allen wrench, install the preload knob onto the adjuster. Tighten knob down to 0,5-0,7 NM (4-6 in. lbs).

12. Install bottom-out bumper and then the travel spacer onto the end of the compression rod.

Install casting back onto fork. Refer to the Casting Installation Section appropriate to your fork.

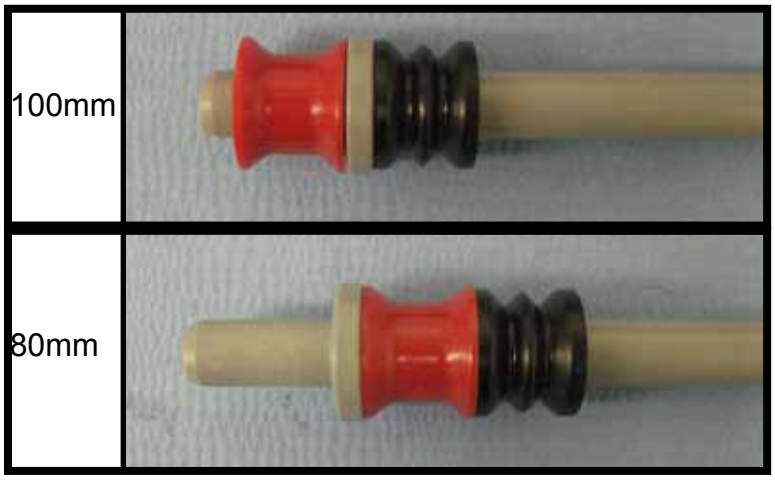


FIG 5

SECTION 4 - ACT AIR TRAVEL CONVERSION

WARNING This fork uses compressed air to provide spring resistance and must be relieved of pressure prior to servicing. Failure to relieve pressure could result in serious injury or possible death.

1. The casting needs to be removed prior to servicing the ACT Air system. Refer to the Casting Removal section for instructions on how to do this.

2. Release all air from the system by depressing the valve core on the Schrader valve.

3. Using a 20mm socket or wrench remove the top air cap assembly from the fork. **(Fig. 1)**

4. Remove the spring from the fork. **(Fig. 2)**

5. Using a 22mm box end wrench, unthread the compression rod assembly end cap and remove the assembly from the fork uppers. **(Fig. 3)**

6. The travel of the fork is determined by a plastic spacer. The spacer being on the bottom of the air piston will cause the fork to have 80mm of travel. The spacer being on top of the piston will cause the fork to have 100mm of travel. **(Fig. 4 - PAGE 10)**
If your fork is a 130mm Circus it can be lowered to 120mm with the spacer included in the box. This spacer would need to be installed under the air piston similar to the 80mm travel conversion shown in **Fig. 4 - PAGE 10**.



FIG. 1



FIG. 2



FIG. 3

SECTION 4 - ACT AIR TRAVEL CONVERSION

7. Set travel to desired position.

8. Apply a small amount of grease to the o-ring and insert compression rod assembly back into the fork uppers. Tighten the end cap down to 9.0-11.3 NM (80-100 in. lbs)

9. Grease the spring and place it into the fork uppers from the top.

10. Install air cap. Tighten down to 6.8-9.0 NM (60-80 in. lbs)

11. Install casting onto fork following instructions in appropriate Casting Installation section.

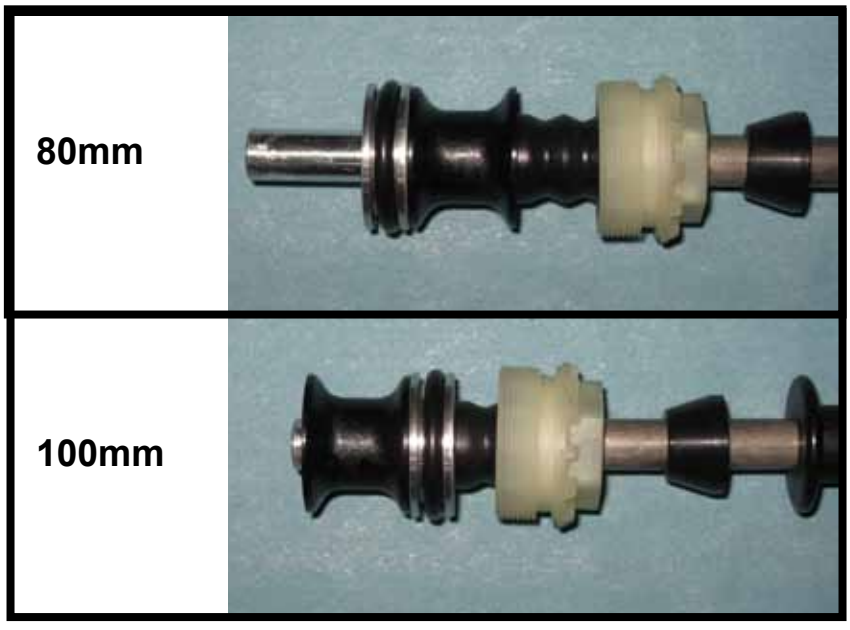


FIG. 4

SECTION 5 - TS AIR TRAVEL CONVERSION

WARNING This fork uses compressed air to provide spring resistance and must be relieved of pressure prior to servicing. Failure to relieve pressure could result in serious injury or possible death.

1. Before servicing the TS Air system you will need to remove the lower casting. Refer to the Casting Removal or MRD Casting removal instructions depending on which fork model you have.

2. Release all air from the system by depressing the valve core on the Schrader valve.

3. Remove compression rod assembly from the bottom of the stanchion using a 22mm wrench. **(Fig. 1 & 2)**

4. Travel is set by adding or removing spacers on the compression rod. Aftermarket forks using TS Air are built in the longest travel configuration and 10mm or 20mm spacers are added to reduce travel. **Example:** A Minute Expert TS Air fork will be built with a 140mm compression rod and have two 10mm spacers to reduce to 120mm **(Fig. 3)**. Removing these spacers you can change the travel to 130mm by removing one **(Fig. 4)** and 140mm by removing both spacers. **(Fig. 5)**
A Marvel Comp 120mm fork will be adjustable to 100mm, a Marvel Comp 100mm fork will be adjustable to 80mm. R7 100mm forks are adjustable to 80mm.

5. Set spacers to desired travel and re-assemble compression rod. Install compression rod assembly into the bottom of the stanchion and tighten down the end cap using a 22mm wrench. Tighten to 9,0–11,3 NM [80-100 lbf*in]

6. Install casting following the Casting Installation Section appropriate to your fork model.

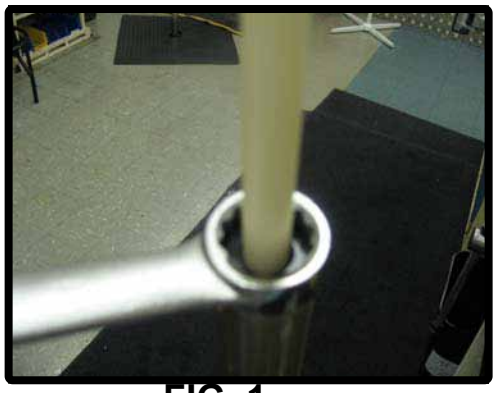


FIG. 1



FIG. 2

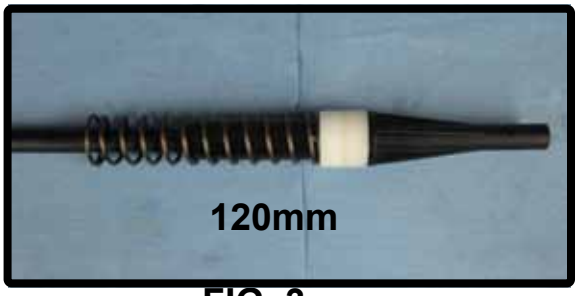


FIG. 3

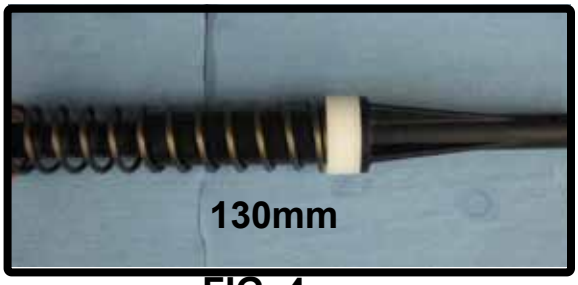


FIG. 4

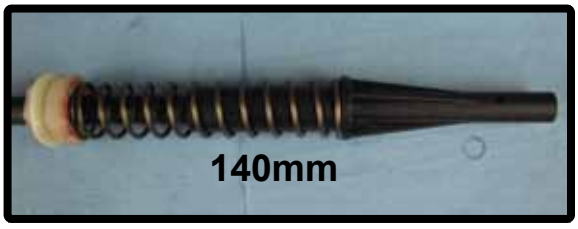


FIG. 5

SECTION 6 - ISO AIR TRAVEL CONVERSION

WARNING This fork uses compressed air to provide spring resistance and must be relieved of pressure prior to servicing. Failure to relieve pressure could result in serious injury or possible death.



FIG. 1

1. Before servicing the ISO Air System you will need to remove the lower casting. Refer to the Casting Removal or MRD Casting removal instructions depending on which fork model you have.

2. Release the air from the fork by depressing the valve core on the Schrader valve.

4. Unthread the compression rod assembly from the bottom of the stanchion using a 22mm wrench and remove from fork. **(Fig. 1 & 2)**



FIG. 2

5. Travel is set by adding or removing spacers on the compression rod. Aftermarket forks using ISO Air are built in the longer travel configuration and 10mm or 20mm spacers are added to reduce travel. **Example:** A Marvel Pro 100mm fork will be built with a 120mm compression rod and spaced out to 100mm using two 10mm spacers. **(Fig. 3)** You can increase the travel to 120mm by removing both spacers. **(Fig. 4)** You can also remove one spacer to increase travel to 110mm.

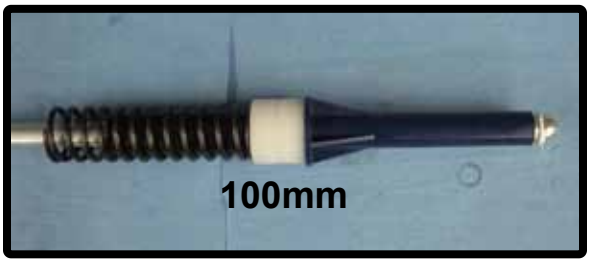


FIG. 3

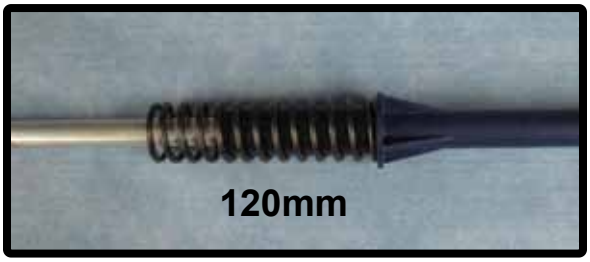


FIG. 4

6. Set spacers to desired travel and re-assemble compression rod. Install compression rod assembly into the bottom of the stanchion and tighten down the end cap using a 22mm wrench. Tighten to 9,0–11,3 NM [80-100 lbf*in]

7. Install casting following the Casting Installation Section appropriate to your fork model.

SECTION 7 - CASTING INSTALLATION

1. Slide the lower casting onto the upper stanchions. You want to slide them on only about halfway at this point.

2. Inject 16cc's of semi-bath oil into the lower legs using a syringe or similar tool. Angle the syringe towards the forks casting to ensure oil does not go into ther end of the rebound rod or compression rod. **(Fig. 1)**

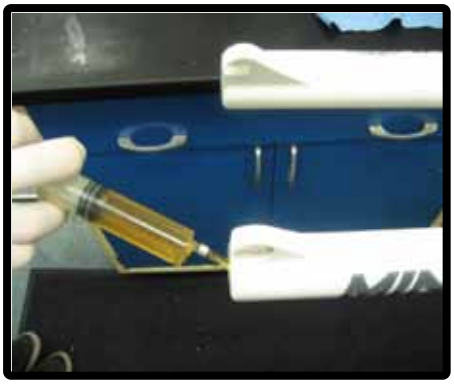


FIG. 1

3. Slide the casting all the way onto the upper stanchions.

4. Insert the compression rod bolt into the compression rod and tighten down using either a 11 or 12mm wrench depending on fork model. Tighten 5,1-6,2 NM [45-55 lbf*in]. **(Fig. 2)**



FIG. 2

5. Using an 8mm Allen wrench, thread the rebound damper assembly into the casting by turning it counter-clockwise. Tighten to 3,4-4,5 NM [30-40 lbf*in]. **(Fig. 3)**



FIG. 3

6. Install rebound knob onto the rebound shaft using a 2mm Allen wrench. **(Fig. 4)**



FIG. 4

SECTION 7 - MRD CASTING INSTALLATION

1. Slide the lower casting onto the upper stanchions. You want to slide them on only about halfway at this point.

2. Inject 16cc's of semi-bath oil into the lower legs using a syringe or similar tool. using a syringe or similar tool. Angle the syringe towards the forks casting to ensure oil does not go into ther end of the rebound rod or compression rod. **(Fig. 1)**

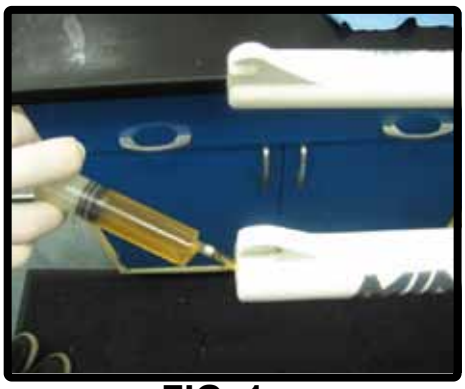


FIG. 1

3. Slide the casting all the way onto the upper stanchions.

4. Insert the compression rod bolt into the compression rod and tighten down using either a 11 or 12mm wrench depending on fork model. Tighten to the torque specified in the back of the manual. **(Fig. 2)**



FIG. 2

5. Using an 8mm Allen wrench, thread the rebound damper assembly into the casting by turning it counter-clockwise. Tighten to 3,4-4,5 NM [30-40 lbf*in]. **(Fig. 3)**

6. Thread the detent housing on the rebound damper assembly threads using a green Park Tool pin spanner or similar tool. **(Fig. 4)**

7. Place springs and detent ball bearings into the detent housing. **(Fig. 5)**

8. Install rebound knob onto the rebound shaft using a 1.5mm Allen wrench. **(Fig. 6)**



FIG. 3



FIG. 6



FIG. 5



FIG. 4