

The Pivot Mach 4 – The bike that started it all.

It's the perfect XC and marathon race bike that is at home on everything from the most demanding World Cup XC race course to your favorite trail. With a 24 hour Endurance World Championship under its belt, and multiple MTBR.com "Best XC Full Suspension Bike" awards, it's easy to see why the Mach 4 has garnered such an incredible reputation. For starters, the Mach 4 is a highly optimized frame design with a stiffness to weight ratio that puts all other XC bikes to shame. Featuring 4" (100mm) of the most controlled dw-link® suspension travel in the sport, the Mach 4 can out-climb, out-sprint, and out-descend any bike in its class.

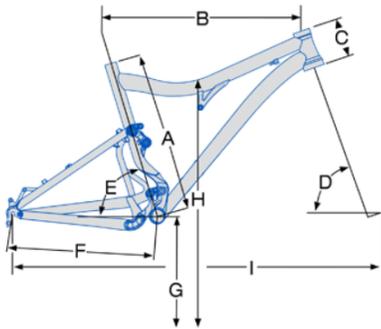
With superior suspension and pedaling performance, traction and unrivaled frame stiffness, the Mach 4 is designed to take you to the top step of the podium or simply make your ride that much more fun. In either case, you will be doing everything faster aboard the Mach 4.

Mach 4 Alloy Features

- Dw-link® suspension design with position-sensitive anti-squat makes for the most efficient pedaling and best performing race bike on the market. With a true 4" (100mm) of travel, incredible square edge bump performance and unrivaled climbing traction, the Mach 4 is the most well rounded race bike as well.
- Pivot-specific, custom tuned Fox Float CTD shock technology: increased performance and adjustment range allows riders to quickly and easily adjust for changing course or ride conditions.
- Double row bearing carbon/alloy dw-link®, and high modulus carbon rocker with Enduro cartridge bearings add to the Mach 4's superior frames stiffness and incredible long-term durability.



Geometry Chart



Mach 4 Alloy 120mm Travel Fork

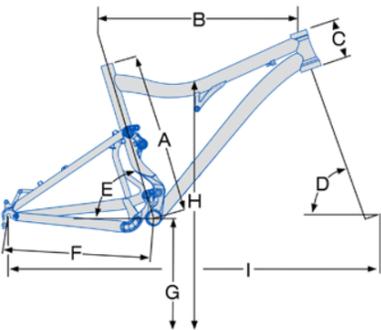
	XS	S	M	L	XL
A Seat Tube Length (C-T)	15.75	17.22	18.50	20.00	21.50
B Top Tube Length	22.25	22.75	23.25	24.00	24.60
C Head Tube Length	4.00	4.25	4.50	5.50	6.10
D Head Tube Angle	68.70°	69.20°	69.20°	69.70°	69.70°
E Seat Tube Angle	72.20°	71.70°	71.70°	71.70°	71.10°
F Chain Stay Length	16.75	16.75	16.75	16.75	16.75
G Bottom Bracket Height	13.17	13.17	13.17	13.17	13.17
H Standover Height	26.90	28.90	29.15	29.15	29.90
I Wheelbase	42.33	42.43	42.94	43.74	44.36
Stack	21.23	21.57	21.81	22.76	23.33
Reach	15.59	15.78	16.21	16.66	17.08

Values in inches

CM



Geometry Chart



Mach 4 Alloy 120mm Travel Fork

	XS	S	M	L	XL
A Seat Tube Length (C-T)	40.01	43.74	46.99	50.80	54.61
B Top Tube Length	56.52	57.79	59.05	60.96	62.48
C Head Tube Length	10.16	10.79	11.43	13.97	15.49
D Head Tube Angle	68.70°	69.20°	69.20°	69.70°	69.70°
E Seat Tube Angle	72.20°	71.70°	71.70°	71.70°	71.10°
F Chain Stay Length	42.55	42.55	42.55	42.55	42.55
G Bottom Bracket Height	33.45	33.45	33.45	33.45	33.45
H Standover Height	68.33	73.41	74.04	74.04	75.95
I Wheelbase	107.52	107.77	109.07	111.10	112.67
Stack	53.92	54.79	55.40	57.81	59.26
Reach	39.60	40.08	41.17	42.32	43.38

Values in centimeters

IN



Frequently Asked Questions

Which size bike should I purchase?

To ensure the best sizing, we recommend that you visit your local Pivot dealer to get a professional fit and refer to our geometry chart to check your measurements. However, we can provide a rough guideline:

XX-Small: 4'10" – 5'2"

X-Small: 5'2" – 5'5"

Small: 5'4.5" – 5'9"

Medium: 5'9" – 6'

Large: 5'11" – 6'2"

X-Large: 6'2" +

What bottom bracket is used on the Mach 4 Alloy and which cranks are compatible?

Pivot is the first frame manufacturer to feature the 92mm wide bottom bracket shell standard, originally developed in conjunction with Shimano XTR. With the press fit 92 system, there are no external washers or threads in the shell. The bearings are housed in light composite resin cups with a full sealed sleeve to keep out the elements. This design allows for easy crank installation, with no frame facing or special spacers required. Chain line is perfectly optimized and as an added advantage, the bearings are extremely easy to replace. Another bonus is that the XTR version includes a 3 year warranty from Shimano. The system works with Shimano, FSA and Race Face cranks (all compatible with the Shimano cup design) as well as the SRAM GXP system for which SRAM offers both standard and ceramic versions. In addition, Enduro and several other aftermarket companies offer both replacement bottom brackets and bearings to support every major crank brand.

Are there any other bottom brackets that will work with the Mach 4 Alloy? Can you upgrade to ceramic bearings?

We use a Press Fit 92 BB (sometimes called PF92 or BB92) design. Almost every crank and BB manufacturer offers a bottom bracket that is compatible with the Press Fit 92 system.

What is the narrowest Q factor crank that the Mach 4 Alloy will accept?

The Mach 4 Alloy will accept cranks with a Q factor measurement as low as 156mm (Such as the narrower option in the SRAM XX1 or the new XTR Race crank). Of course, anything greater than 156mm will work as well. Most standard MTB Q factor measurements are at 163mm.

What hub/wheel spacing does the 4 Alloy use?

The Mach 4 Alloy uses the 142mm X 12mm hub/wheel spacing. Our custom 12mm DT Swiss axle is included with the frame. The axle is based off of Shimano's 12mm through axle specifications for length and thread pitch so if you were ever to lose your axle, a Shimano or Shimano compatible axle will work properly as well.

What size seatpost does the Mach 4 Alloy use?

The Mach 4 Alloy frame uses a 30.9mm seatpost.

What size seat clamp does the Mach 4 Alloy use?

The Mach 4 Alloy frame uses a 34.9mm or 35mm (as some manufacturers call it) seatpost clamp.

Can I use a dropper post with this frame?

Yes. Any dropper post with external routing will work on this frame.

What front derailleur does the Mach 4 Alloy use?

The Mach 4 Alloy uses a uses the e-type top pull Shimano front derailleur. We simply unbolt the derailleur from the plate and mount them directly to the precision machined tabs on our frame. This gives all Pivot frames the perfect derailleur height, angle, and location, and a super rigid mounting surface for the most precise and positive front shifting possible. You will need to look at Shimano's technical specifications in order to source the correct Shimano top pull DM front derailleur for the front chainring combination you are using.

What headset do I need for the Mach 4 Alloy?

The Mach 4 Alloy uses a ZS (zero stack) 44mm top and (zero stack) 56mm bottom, or a Chris King Inset 2.

How wide of a tire can I run on the Mach 4 Alloy?

We use the Maxxis Ardent Race 2.2 in our complete bike builds. However, the Mach 4 Alloy is designed to accept many 2.35 tires in the market. For tires other than what's specified in our complete bike models, we suggest you check the fit with your chosen rim and tire combination to make sure it has proper clearance. We have found that rim width, tire manufacture sizing call outs and/or tire size inconsistency can result in huge difference among both tire brands and individual tires.

How large of a rotor will fit on the Mach 4 Alloy?

The Mach 4 Alloy will clear either a 160mm or 180mm rotor.

What type of rear brake adapter do I need?

No brake adapter is needed for a 160mm rotor. However, many manufacturers make adapters for larger rotor sizes, in which case you would need a 160mm direct mount/ post to post adapter.

What travel fork can I use on my Mach 4 Alloy?

The Mach 4 was designed for either a 100mm or 120mm fork. We use a 120mm fork in all our complete bike builds. The maximum travel length that can be used on the Mach 4 is 120mm travel.

What is the eye-to-eye shock length and stroke length on the Mach 4?

On the Small frame size, the eye-to-eye shock length is 7.25 inches and the stroke length is 1.75 inches. On the Medium, Large, and XL frames sizes, the eye-to-eye shock length is 7.5 inches and the stroke length is 2.0 inches. For the XXS and XS frame sizes, the eye-to-eye shock length is 6.5 inches and the stroke length is 1.5 inches.

If I want to run a different brand of shock on my Mach 4 Alloy, what else do I need to know?

The Mach 4 shock uses M8 through bolt hardware on both the front and rear. Shock spacer dimensions are 22mm wide front and 36mm wide rear. The frame is designed around a standard size air can volume and we typically run light valving on the compression side (depending on rider weight) and light rebound damping.

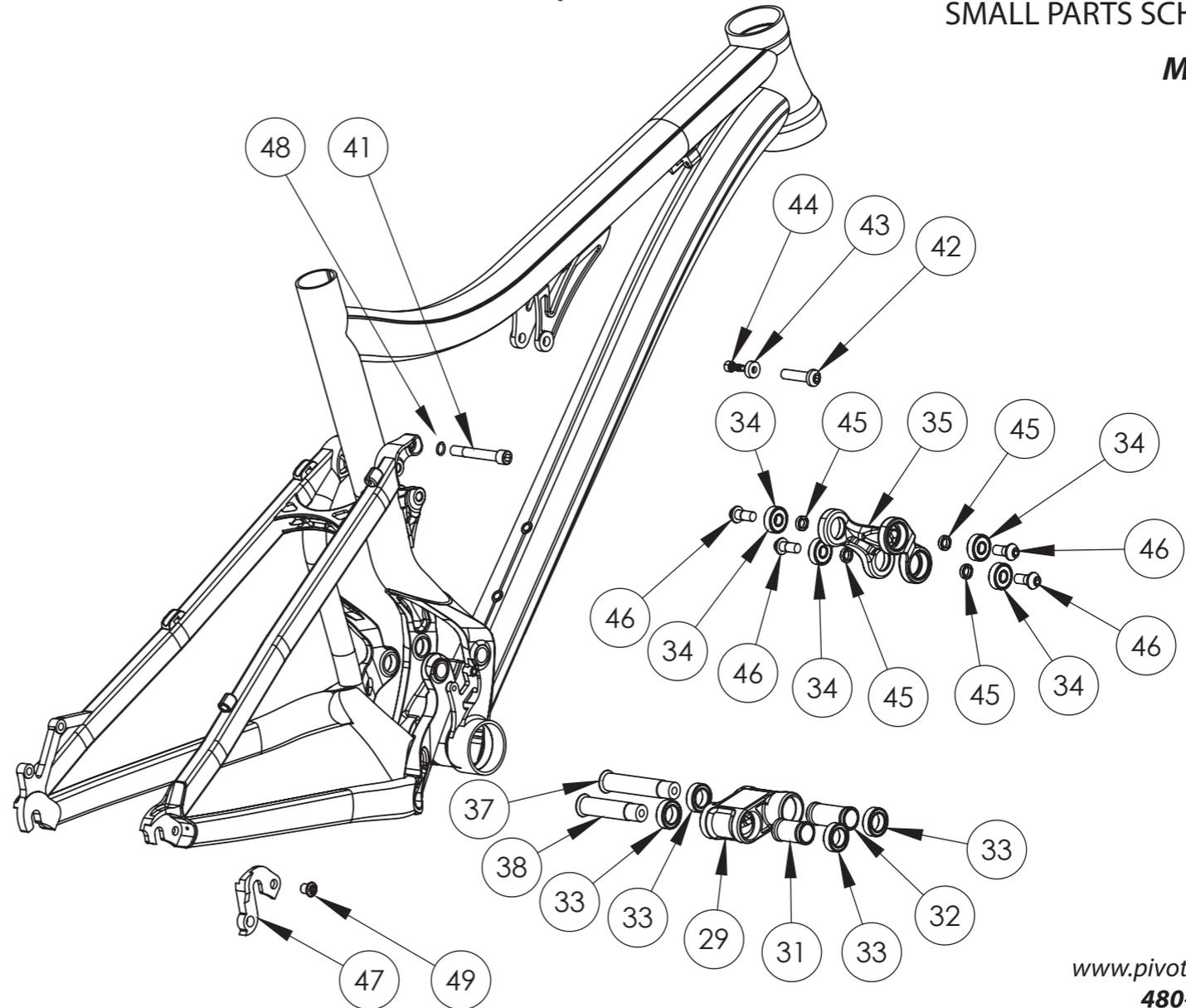
What are the torque specs?

A detailed PDF of the torque specs can be found under the "Tech Specs" tab.

NUMBER	PART NAME	Torque	*
29	FP-LNK-LL-RED-V1-R2		
31	FP-SLV-LL-31MM		
32	FP-SLV-LL-42MM		
33	FP-BRG-3802-LLBMAXSP		
34	FP-BRG-608-LLBMAX		
35	FP-LNK-UL-50MM-V1		
37	FP-BLT-M14*76-RED	35 Nm (27 lb-ft)	●
38	FP-BLT-M14*65-RED	35 Nm (27 lb-ft)	●
41	FP-BLT-M8*55-RED	13 Nm (10 lb-ft)	●
42	FP-PIN-SHK-M5*80-RED		●
43	FP-WSH-5I*140*5W-RED		
44	FP-SCW-SCK-M5*12	7 Nm (5 lb-ft)	□
45	FP-WSH-UL-3MM-BLK		
46	FP-BLT-M8*20-RED	13 Nm (10 lb-ft)	□
47	FP-RDH-QR-9MM-RED-V1		
48	FP-WSH-8I*120*1W		
49	FP-SCW-RND-M8*8	7 Nm (5 lb-ft)	○

SMALL PARTS SCHEMATIC

MACH 4 A



* ○ = grease ● = anti-seize ● = anti-seize or grease □ = loctite 243

SUSPENSION SETUP GUIDE

Setting Rebound and Propedal on FOX CTD Rear Shocks with Boost Valve: In general, rebound should be turned all the way out and dialed back in 1-5 clicks depending on rider weight. A sub 145lb rider is full out (fastest setting). Average is 1 click in on a Mach 4, 2 clicks in on a Mach 5.7, and 4 clicks in on a Mach 6/Firebird. We generally recommend starting your ride with the CTD open (descend mode) for all bikes other than the Mach 5.7, Mach 6, and Firebird. With these models, the Trail 1 setting provides the best all around general starting set up and you can tune from there.

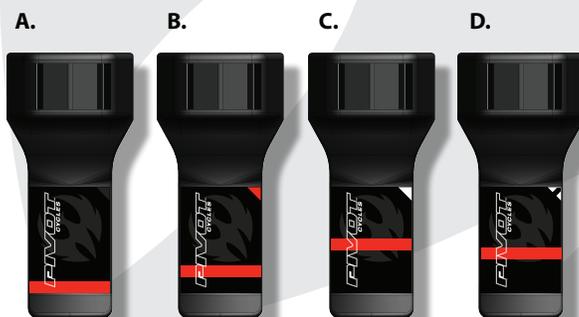
Setting Rebound, Bottom Out, and Boost Valve on DHX Air Shocks: In general, a good starting rebound setting is 7 clicks in from full open for a rider weight of 170lbs. We recommend setting the bottom-out with two lines showing on the reservoir. A good starting Boost Valve pressure is 170psi. We do not recommend going below 150psi on the Firebird.

Setting Rebound, Bottom Out, Boost Valve, High Speed Compression and Low Speed Compression damping adjustments on RC4 Coil Shocks for Phoenix DH: In general, for a rider between 160-180lbs, we recommend the following baseline settings:

- Rebound: 5 clicks out from all the way in
- High Speed Compression: 7 clicks out from all the way in
- Low Speed Compression: 10 clicks out from all the way in
- Bottom Out: Two turns in on the reservoir.
- Boost Valve: A good starting Boost Valve pressure is 160psi. We do not recommend going below 130psi on the Phoenix DH.

Setting rear shock sag on mountain bikes: Always set sag with the CTD lever turned to the open position (Descend Mode), which means the lever is turned toward the non-drive side of the bike. (In the case of the Float X CTD this means that the lever will be flipped towards the remote reservoir). Have the rider sit on the bike (preferably with their hydration pack on) and have them sit down hard into the saddle to achieve accurate sag settings. The rider does not need to bounce up and down nor should they sit down gently. If they sit down hard once, the suspension will cycle well into the stroke and return to the natural sag setting with the rider in the saddle. With the rider in the saddle (not moving), slide the O-ring up into position against the air can. Once the O-ring is set in place, have the rider slowly step off the bike so as not to move the O-ring. The O-ring needs to line up with the red line on the sag indicator. Add or remove air as required to get the O-ring to line up with the red line. If there is no sag indicator on the shock, set the sag to the recommended setting shown below. (Different models and sizes of Pivot bikes use different length shocks and therefore require different sag settings.

- Mach 4 (all years) XX-Small and X-small: Sag = .49" or 12.4mm (Sag indicator C)
- 2010 and older Mach 4 Small, Medium, Large, X-large, Mach 5 X-Small and Small, and all 429 Alloy's : Sag = .65" or 16.5mm (Sag indicator B)
- 2011-2014 Mach 4 Small, Medium, Large, X-large as well as All years for Mach 429 Carbon: Sag = .55" or 14mm (Sag indicator D)
- Mach 5.7/Mach 5.7 Carbon X-Small, Small, Medium, Large, X-large and Mach 5 Medium, Large and X-large: Sag = .74" or 18.8mm (Sag indicator A)
- Mach 6, Firebird and Firebird 27.5": Sag = .8" or 20.3mm. We use Sag indicator A on these models where the red line is .74" or 18.8mm and the end of the indicator is .98" or 24.9mm. If you set sag just past the red line, towards the end of the indicator, this will give you the proper sag setting on these models.
- Phoenix DH: Sag = .99" or 25mm



Spring Weight recommendations for RC4 Coil Shocks on the Phoenix DH:

- Rider Weight: 130-160lbs Spring Weight: 300lb coil
- Rider Weight: 160-190lbs Spring Weight: 350lb coil
- Rider Weight: 190-220lbs Spring Weight: 400lb coil
- Rider Weight: 220-250lbs Spring Weight: 450lb coil

Setting Rebound, Low Speed Compression damping, and Lockout threshold on all Fox 32 RLC forks with Fit Damper:

- Rebound: Make sure the lock out is fully open (not locked out), and that the rebound is not set too fast or too slow. Rebound adjust-ment is highly dependent on rider weight and air pressure. You will need to cycle the fork several times after making a change to the rebound.
- Low Speed Compression: The LSC (low speed compression) is the blue large serrated outer knob on the top of the right fork leg. Start with the knob turned about 5 clicks from full open. Full open is all the way to the left (counter clockwise) and then turn 5 clicks to the right.
- Lockout Threshold: There is a blue lever on the top of the fork that turns the lockout on or off. There is a black knob in the center of the adjusters that determines how locked out the fork is and how easily the lockout will “blow off” on an impact when the lockout is in the locked position. Unless racing, we recommend running the threshold all the way open or close to all the way open (counter clockwise) for maximum oil flow.

Setting Rebound, High Speed Compression and Low Speed Compression damping adjustments on Fox 36 RC2 Fit damper forks for Firebird 26”: In general, for a rider between 160-180lbs, we recommend the following baseline settings:

- Rebound: 10 clicks out from all the way in
- High Speed Compression: 15 clicks out from all the way in
- Low Speed Compression: 17 clicks out from all the way in

Setting Rebound, High Speed Compression and Low Speed Compression damping adjustments on Fox 40 Dual Crown forks for Phoenix DH: In general, for a rider between 160-180lbs, we recommend the following baseline settings:

- Rebound: 8 clicks out from all the way in
- High Speed Compression: 15 clicks out from all the way in
- Low Speed Compression: 18 clicks out from all the way in

Setting Fork Pressures on Fox CTD Air forks: We start with the manufacturers recommended air pressure charts for rider weight. We have found that these charts tend to run on the high side of the range (too much air) so we will typically go one pressure setting below the setting shown for the recommended rider weight as per the charts below:

Mach 6 and Firebird

2014 34 FLOAT 27.5”

Rider Weight	150mm	160mm
≤125 (lbs)	45psi	45psi
125 - 135	50psi	50psi
135 - 145	55psi	55psi
145 - 155	65psi	65psi
155 - 170	70psi	70psi
170 - 185	75psi	75psi
185 - 200	80psi	80psi
200 - 215	90psi	90psi
215 - 230	100psi	100psi
230 - ≥250	110psi	110psi

Mach 4

2014 32 FLOAT 26”

Rider Weight	120mm
≤125 (lbs)	50psi
125 - 135	50psi
135 - 145	55psi
145 - 155	65psi
155 - 170	75psi
170 - 185	80psi
185 - 200	85psi
200 - 215	95psi
215 - 230	100psi
230 - ≥250	110psi

Mach 5.7

2014 34 FLOAT 26”

Rider Weight	150mm
≤125 (lbs)	45psi
125 - 135	50psi
135 - 145	55psi
145 - 155	65psi
155 - 170	70psi
170 - 185	75psi
185 - 200	80psi
200 - 215	90psi
215 - 230	100psi
230 - ≥250	110psi

Mach 429 and Les

2014 32 FLOAT 29”

Rider Weight	100mm	120mm
≤125 (lbs)	55psi	50psi
125 - 135	55psi	50psi
135 - 145	60psi	55psi
145 - 155	70psi	65psi
155 - 170	80psi	75psi
170 - 185	85psi	80psi
185 - 200	90psi	85psi
200 - 215	95psi	95psi
215 - 230	100psi	100psi
230 - ≥250	110psi	110psi

Les 27.5

2014 32 FLOAT 27.5”

Rider Weight	100mm
≤125 (lbs)	55psi
125 - 135	55psi
135 - 145	60psi
145 - 155	70psi
155 - 170	80psi
170 - 185	85psi
185 - 200	90psi
200 - 215	95psi
215 - 230	100psi
230 - ≥250	110psi

Spring Weight recommendations for Fox 40 Coil Forks on the Phoenix DH:

- Rider Weight: 120-150lbs Spring Weight: *Optional Light*
- Rider Weight: 150-185lbs Spring Weight: *Stock Medium*
- Rider Weight: 185lbs + Spring Weight: *Optional Heavy*

Direct Mount Rear Derailleur Hanger



Pivot drop out type V1



Pivot drop out type V2

The Shimano Direct mount rear derailleur hanger was designed to be used with the drop out style V2.

If you have the drop out style V1 and would like to use the Shimano direct mount hanger a small modification to the drop out must be done.

You must remove the lower edge of the drop out flange.
(see photos below)



dw-link bearing removal

Tools Required for Removing Bearings From the dw-link



- 10mm socket w/ extension
- Plastic hammer



- Rubber coated jaws
- Bicycle repair stand

dw-link bearing removal

Steps to Remove Bearings



1. Using the socket with extension, lightly tap on three sides of the inner bearing wall to remove evenly.
2. Use socket to move inner bearing support sleeve side to side.
3. Bearing taps need to be light and rotate in a clockwise or counter clockwise direction.



dw-link bearing removal

Same Procedure for Firebird Link (follow steps on previous page)



dw-link bearing removal

Bearing Removal Procedure for SL Link



We suggest holding the SL link differently than the standard link to avoid damaging the carbon plate.



Then follow the same methods of bearing removal as noted on page 2.

dw-link bearing removal

Installation of Bearings



- Always apply grease to bearing pocket.



- Use a bench vise with a towel to protect link
- Make sure bearings press in flat and even
- Install bearings one at a time
- Line up second bearing with first bearing and press evenly

dw-link bearing removal

Installation of Bearings



Standard dw-link

25mm bearing support sleeve
36mm bearing support sleeve

8 bearings (Enduro Max #6802 1lb)

Mach 4 (2007-2009)
Mach 5 (2007-2010)
Mach 5.7 (2011)
Mach 429 (2008-2011)

Firebird dw-link

25mm bearing support sleeve
36mm bearing support sleeve

8 bearings (Enduro Max #6802 1lb)

Firebird (2009-2011)

SL dw-link

31mm bearing support sleeve
42mm bearing support sleeve

4 bearings (Enduro 3802 2RS-P)

Mach 4 (2010-2011)

dw-link bearing removal

Installation of Bearings



- Use the 10mm socket to align bearing support sleeve.



- Check the alignment with the link pin before installing on bike.

Washing & Maintenance Tips for Mach 4, Mach 5, Mach 5.7 and Mach 429

Cleaning and Washing : If the bike gets past the point of basic wipe down or it is a really muddy day, then a true washing is acceptable. The preferred method is a warm bucket of water sponges and Palmolive and a light hose rinse (**NO POWER WASHER!**). Towel dry and use compressed air to get the water out of the tight spots. Lube chain and derailleurs after washing. Avoid pressurized water on bearing seals.

Maintenance: Replace cables and housing and lube with Slick Honey any time shifting becomes less than perfect. Check brake pads regularly for wear. Replace as needed. For disc brakes, check lever for spongy feel and bleed brakes if needed. Make sure brakes are not dragging and adjust as required. Check bar, stem, seat post head and rear derailleur mounting bolts and grease bolts regularly. Lube compression sleeve in headset to avoid creaking. Apply grease to shock mounts to avoid squeaks



Install long shock bolt using anti-seize and torque to (10lb. ft, 120lb. in, 13Nm.)

Install short shock bolt. Use blue loctite on the M5 bolt. Torque M5 bolt to (5lb.ft, 60lb.in, 7Nm.)

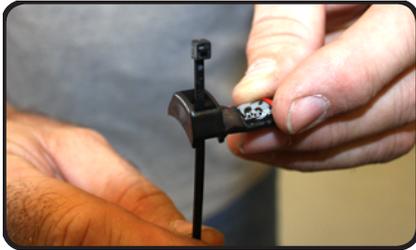


Install rocker bolts using grease or anti-seize. Torque to (10 lb.ft, 120 lb.in, 13 Nm.)



Use anti-seize and torque link pins to (27lb ft, 35 Nm.)

Setting Up Your Sag Indicator (Meet Your New Travel Companion)



1

- Insert the supplied zip tie into your Sag Indicator, making sure the head of the zip tie is facing outward.



2

- Place the Sag Indicator above the bottom collar of the shock body.
- Tightly pull zip tie tail until indicator is tightly secured to shock before cutting excess.
- Cut excess zip tie.



3

- The Sag Indicator will rotate around the shock body if it is properly installed. Use your Suspension Set Up Guide (provided separately) to ensure proper sag.



4

- You will know you've achieved proper sag when the rubber gasket aligns perfectly with the red line on the Sag Indicator (A).



You **MUST** rotate the Sag Indicator to the bottom of the shock body before riding! (B) Otherwise you risk breaking and losing the Sag Indicator.

