

### **Innovation's big brother.**

The Mach 429 sits atop a very elite group of bikes. It has won "Best Of" awards from both MTBR.com and Outside Magazine as well as being picked as riders #1 plan to buy in 2012's Mountain Bike Action reader survey beating all other manufacturers and brands of 29" bikes. That puts the 429 at the top of a very elite group and for good reason. The Mach 429 has that special "something" that few, if any other bikes can match. The combination of dw-link® suspension and Pivot engineering results in a bike that makes the ground beneath you nearly disappear and delivers acceleration, stiffness, traction and precision that can't be matched.

It's light, nimble, and stable, inspiring confidence whether you are racing or just riding your favorite trail. The Mach 429 is a bike that will inspire you to push harder, ride faster and enjoy a wider range of riding experiences than you ever thought possible.

# **MACH429**

**ALLOY**

### **Mach 429 Alloy Features**

- 4" (100mm) dw-link® suspension design with position-sensitive anti-squat makes for the most efficient pedaling and best performing 29er race/trail bike made. You pedal and it goes!
- 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 trail conditions.
- 142mm rear spacing with 12mm through axle and 160mm post mount dropouts for maximum frame stiffness.
- Double row bearing carbon/alloy dw-link®, and high modulus carbon rocker with Enduro cartridge bearings add to the Mach 429's superior frames stiffness and incredible long-term durability.

## 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:

Small: 5'5" – 5'9"

Medium: 5'9" – 6'0"

Large: 6'0" – 6'3"

X-Large 6'2" +

### **What bottom bracket is used on the Mach 429 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 429 Alloy?**

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 429 Alloy will accept?**

The Mach 429 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 429 Alloy use?**

The Mach 429 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 429 Alloy use?**

The Mach 429 Alloy frame uses a 30.9mm seatpost.

### **What size seat clamp does the Mach 429 Alloy use?**

The Mach 429 Alloy 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 derallieur does the Mach 429 Alloy use?

The Mach 429 Alloy uses a uses the e-type top pull Shimano front derallieur. We simply unbolt the derallieur from the plate and mount them directly to the precision machined tabs on our frame. This gives all Pivot frames the perfect derallieur 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 derallieur for the front chainring combination you are using.

### What headset do I need for the Mach 429 Alloy?

The Mach 429 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 429 Alloy?

We use the Maxxis Ardent Race 2.2 in our complete bike builds. However, the Mach 429 Alloy is designed to easily accept some 2.3 or wider tires in the market. For 2.35 tires in the market, some may fit, but rim width and tire manufacture sizing call outs and tire inconsistency can result in huge difference among both tire brands and individual tires. For anything beyond a 2.3, we suggest you check the fit with your chosen rim and tire combination to make sure it has proper clearance before riding.

### How large of a rotor will fit on the Mach 429 Alloy?

The Mach 429 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 is the eye-to-eye shock length and stroke length on the Mach 429 Alloy?

The eye-to-eye shock length is 7.5 inches and the stroke length is 2 inches.

### If I want to run a different brand of shock on my Mach 429 Alloy, what else do I need to know?

The Mach 429 Alloy 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 to medium valving on the compression side (depending on rider weight) and light rebound damping.

### What travel fork can I use on my Mach 429 Alloy?

The Mach 429 Alloy was designed for either a 100mm or 120mm fork. We use a 120mm fork in all our complete bike builds (although for special orders you can request a 100mm). The maximum travel length that can be used on the Mach 429 Alloy is 130mm travel.

### What is the fork offset on the Mach 429 Alloy?

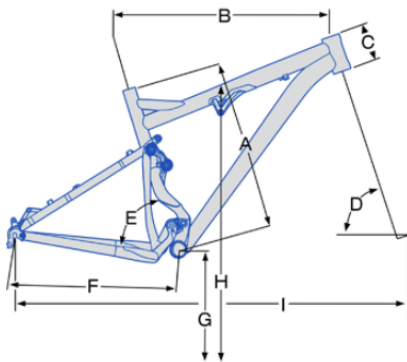
We use a Fox 120mm, 32 forks with a 44mm offset in all our complete bike builds. The 100mm travel special order option also features 44mm offset.

### What are the torque specs?

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

## MACH429 ALLOY

## Geometry Chart



### Mach 429 Alloy 120mm Travel Fork

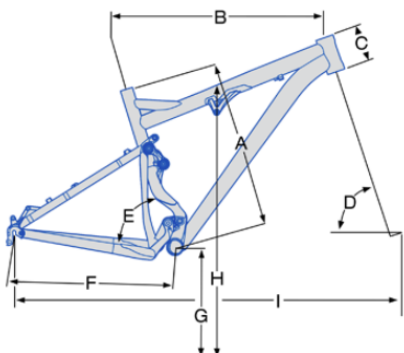
|                          | S      | M      | L      | XL     |
|--------------------------|--------|--------|--------|--------|
| A Seat Tube Length (C-T) | 17.00  | 18.50  | 20.00  | 22.00  |
| B Top Tube Length        | 23.00  | 24.00  | 24.75  | 25.75  |
| C Head Tube Length       | 3.85   | 4.00   | 4.75   | 6.00   |
| D Head Tube Angle        | 69.00° | 69.20° | 69.60° | 69.90° |
| E Seat Tube Angle        | 71.80° | 71.80° | 71.80° | 71.80° |
| F Chain Stay Length      | 17.95  | 17.95  | 17.95  | 17.95  |
| G Bottom Bracket Height  | 13.10  | 13.10  | 13.10  | 13.10  |
| H Standover Height       | 29.55  | 29.80  | 30.55  | 31.30  |
| I Wheelbase              | 43.78  | 44.70  | 45.31  | 46.21  |
| Stack                    | 23.66  | 23.85  | 24.63  | 25.86  |
| Reach                    | 15.35  | 16.30  | 16.80  | 17.41  |

Values in inches

CM

# MACH429 ALLOY

## Geometry Chart



### Mach 429 Alloy 120mm Travel Fork

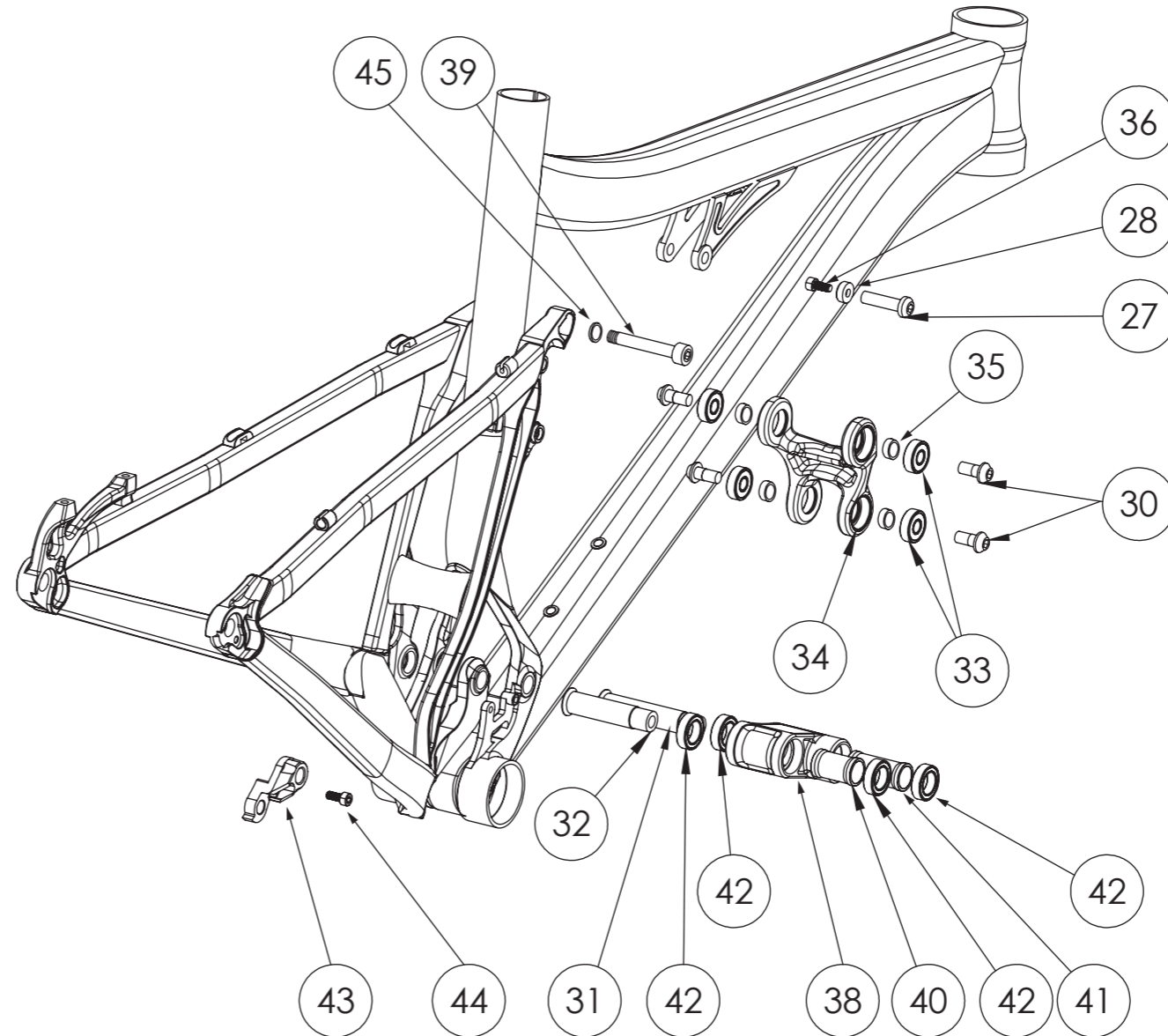
|                                 | S      | M      | L      | XL     |
|---------------------------------|--------|--------|--------|--------|
| <b>A</b> Seat Tube Length (C-T) | 43.18  | 46.99  | 50.80  | 55.88  |
| <b>B</b> Top Tube Length        | 58.42  | 60.96  | 62.87  | 65.41  |
| <b>C</b> Head Tube Length       | 9.78   | 10.16  | 12.06  | 15.24  |
| <b>D</b> Head Tube Angle        | 69.00° | 69.20° | 69.60° | 69.90° |
| <b>E</b> Seat Tube Angle        | 71.80° | 71.80° | 71.80° | 71.80° |
| <b>F</b> Chain Stay Length      | 45.59  | 45.59  | 45.59  | 45.59  |
| <b>G</b> Bottom Bracket Height  | 33.27  | 33.27  | 33.27  | 33.27  |
| <b>H</b> Standover Height       | 75.06  | 75.69  | 77.60  | 79.50  |
| <b>I</b> Wheelbase              | 111.20 | 113.54 | 115.09 | 117.37 |
| Stack                           | 60.10  | 60.58  | 62.56  | 65.68  |
| Reach                           | 38.99  | 41.40  | 42.67  | 44.22  |

Values in centimeters

| NUMBER | PART NAME             | Torque           | * |
|--------|-----------------------|------------------|---|
| 27     | FP-PIN-SHK-M5*80-RED  |                  | ● |
| 28     | FP-WSH-51*140*5W-RED  |                  |   |
| 30     | FP-BLT-M8*20-RED      | 13 Nm (10 lb-ft) | □ |
| 31     | FP-BLT-M14*76-RED     | 35 Nm (27 lb-ft) | ● |
| 32     | FP-BLT-M14*65-RED     | 35 Nm (27 lb-ft) | ● |
| 33     | FP-BRG-608-LLBMAX     |                  |   |
| 34     | FP-LNK-UL-60MM-V2     |                  |   |
| 35     | FP-WSH-UL-3MM-BLK     |                  |   |
| 36     | FP-SCW-SCK-M5*12      | 7 Nm (5 lb-ft)   | □ |
| 38     | FP-LNK-LL-RED-V1-R2   |                  |   |
| 39     | FP-BLT-M8*55-RED      | 13 Nm (10 lb-ft) | □ |
| 40     | FP-SLV-LL-31MM        |                  |   |
| 41     | FP-SLV-LL-42MM        |                  |   |
| 42     | FP-BRG-3802-LLBMAXSP  |                  |   |
| 43     | FP-RDH-TA-12MM-BLK-V1 |                  |   |
| 44     | FP-SCW-SCK-M5*10      | 7 Nm (5 lb-ft)   | □ |
| 45     | FP-WSH-81*120*1W      |                  |   |

SMALL PARTS SCHEMATIC

MACH 429 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.

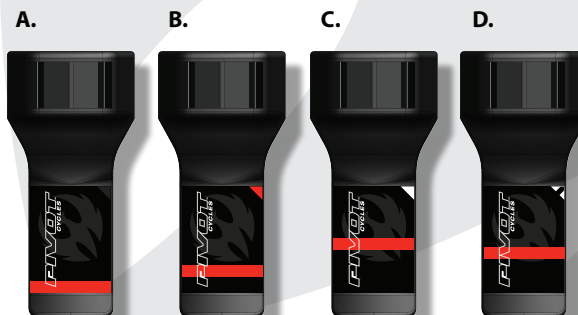
**Setting Rebound, Bottom Out, and Boost Valve on DHX Air Shocks:** In general, a good starting rebound setting is 7 clicks in from full open for a rider weight of 170lbs. We recommend setting the bottom-out with two lines showing on the reservoir. A good starting Boost Valve pressure is 170psi. We do 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*

## Installation Instructions for XX Front Cable Guide

### Installation Instructions for XX Front Cable Guide

#### Step 1

Confirm that your XX front derailleur cable guide kit includes each of the three items listed below.

1. Main Guide Arm Assembly.
2. Main Pivot Pin
3. Snap Ring

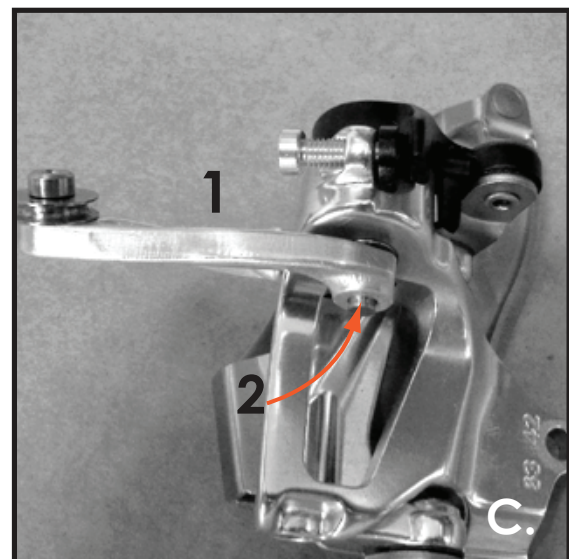
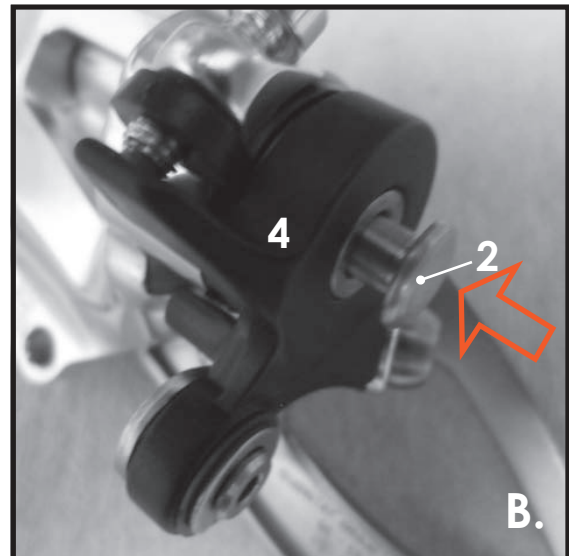
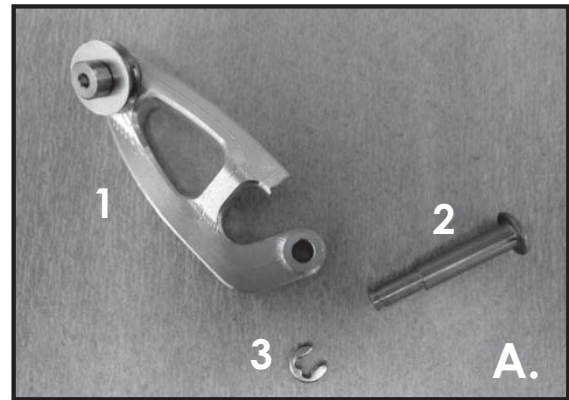
Item number 4 is your Sram S3 (top pull) series XX front derailleur (shown below in image B). Prior to installation, confirm compatibility of you S3 top pull derailleur with the crank style and chain ring set to be installed.

#### Step 2

Insert the Main Pivot pin (2) into the Front derailleur as shown. Completely insert the pin so that the head of the pin sits firmly against the body of the front derailleur as shown in image B.

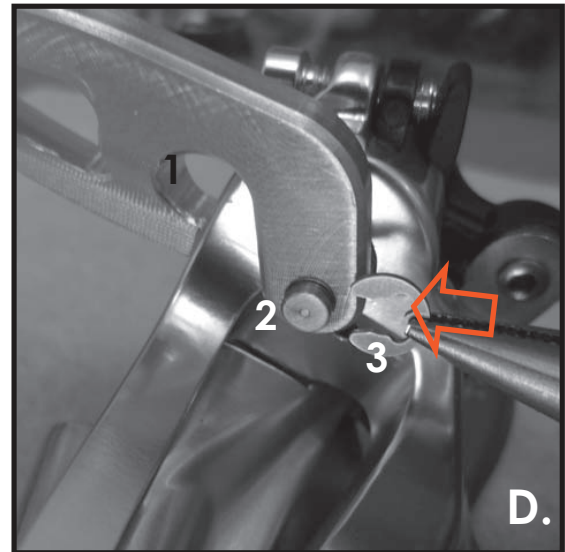
#### Step 3

Slide the Main Guide Arm Assembly (1) onto the end of the main Pivot Pin (2) as shown in image C.



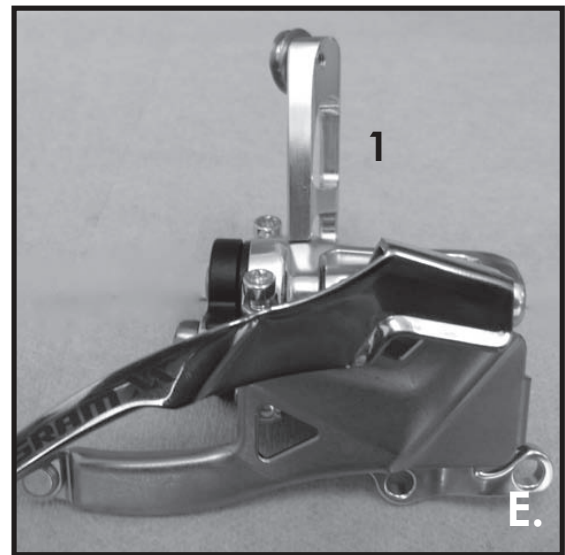
#### Step 4

Install the snap ring onto the corresponding snap ring groove located on the very end of the main pivot pin shown in image D. It is recommended that a pair of needle nose pliers be used to install the snap ring.



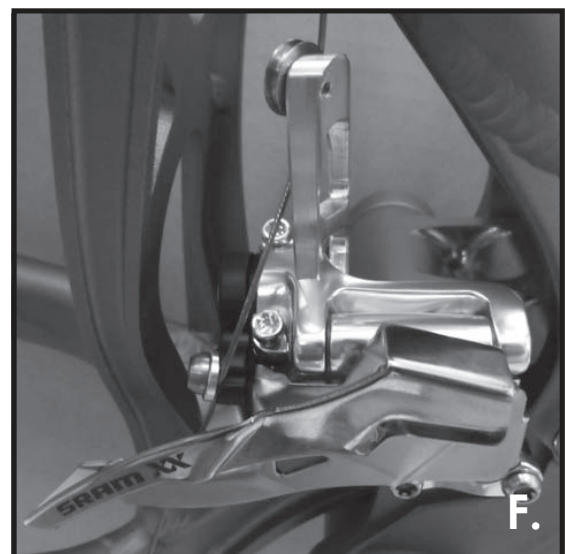
#### Step 5

Once the Main Guide Arm Assembly, Main Pivot Pin and Snap Ring have been correctly assembled to the XX front derailleur the assembly should look like image E.



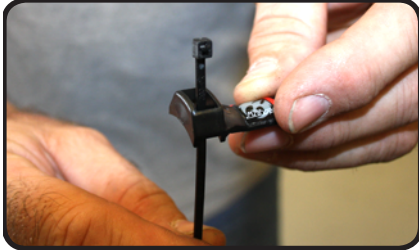
#### Step 6

When the front derailleur has been correctly mounted to the frame, route the cable around the guide wheel as shown in image F. Then fasten the end of the cable to the XX front derailleur as shown in the Sram instruction manual.



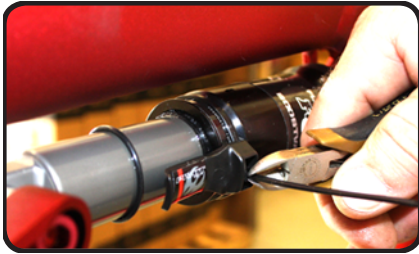


## Setting Up Your Sag Indicator (Meet Your New Travel Companion)



1

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



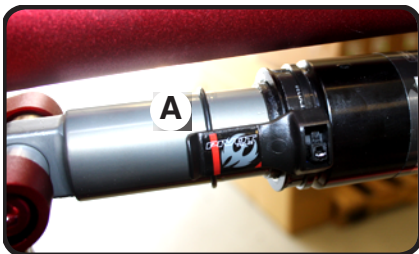
2

- 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.



## 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

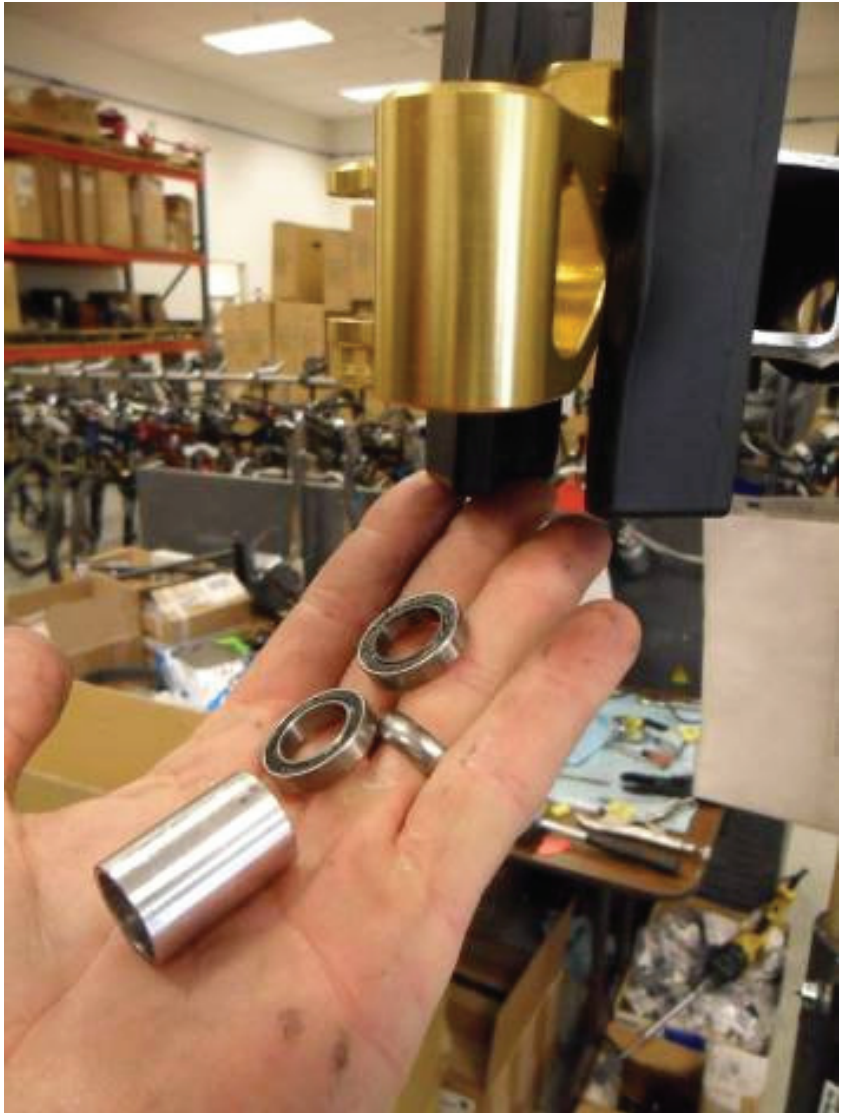


1. Using the socket with extension, lightly tap on three sides of the inner bearing wall to remove evenly.
2. Use socket to move inner bearing support sleeve side to side.
3. Bearing taps need to be light and rotate in a clockwise or counter clockwise direction.



## 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. )

# MACH 429



The Mach 429 is another feather in the cap for Pivot in its growing line up of award winning designs. The Mach 429 has garnered awards and high praise from Outside Magazine, Dirt Rag, MTBR and MBA. Like its smaller wheeled siblings, the Mach 429 sets the standard for 29er suspension, ride quality and all out performance.



**MACH429**



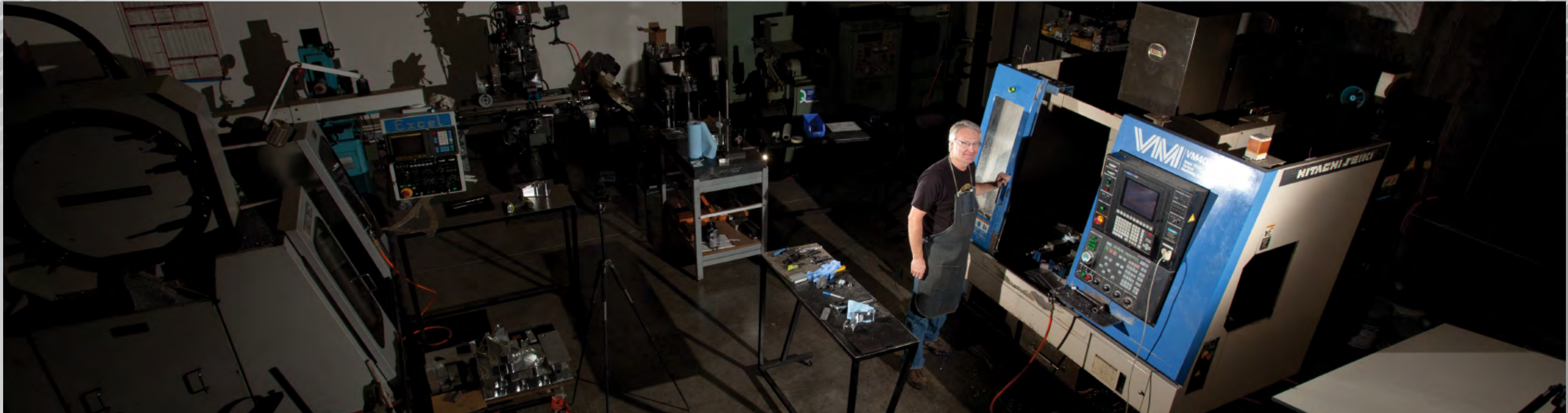
## ALUMINUM TECHNOLOGY



## In the Beginning

When we launched Pivot Cycles in 2007, we set out to develop the best mountain bikes in the world (regardless of material) and what developed was a line of aluminum bikes that set new benchmarks performance, weight and stiffness. Now nearly 6 years in, we've continued to develop, refine and re-define our line of aluminum full-suspension bikes so that these models would continue to be the best performing bikes in the world.

We go about things in a very different manner here at Pivot. You could definitely say we take the high road to building the best aluminum bikes in the world.



## Proto-typing

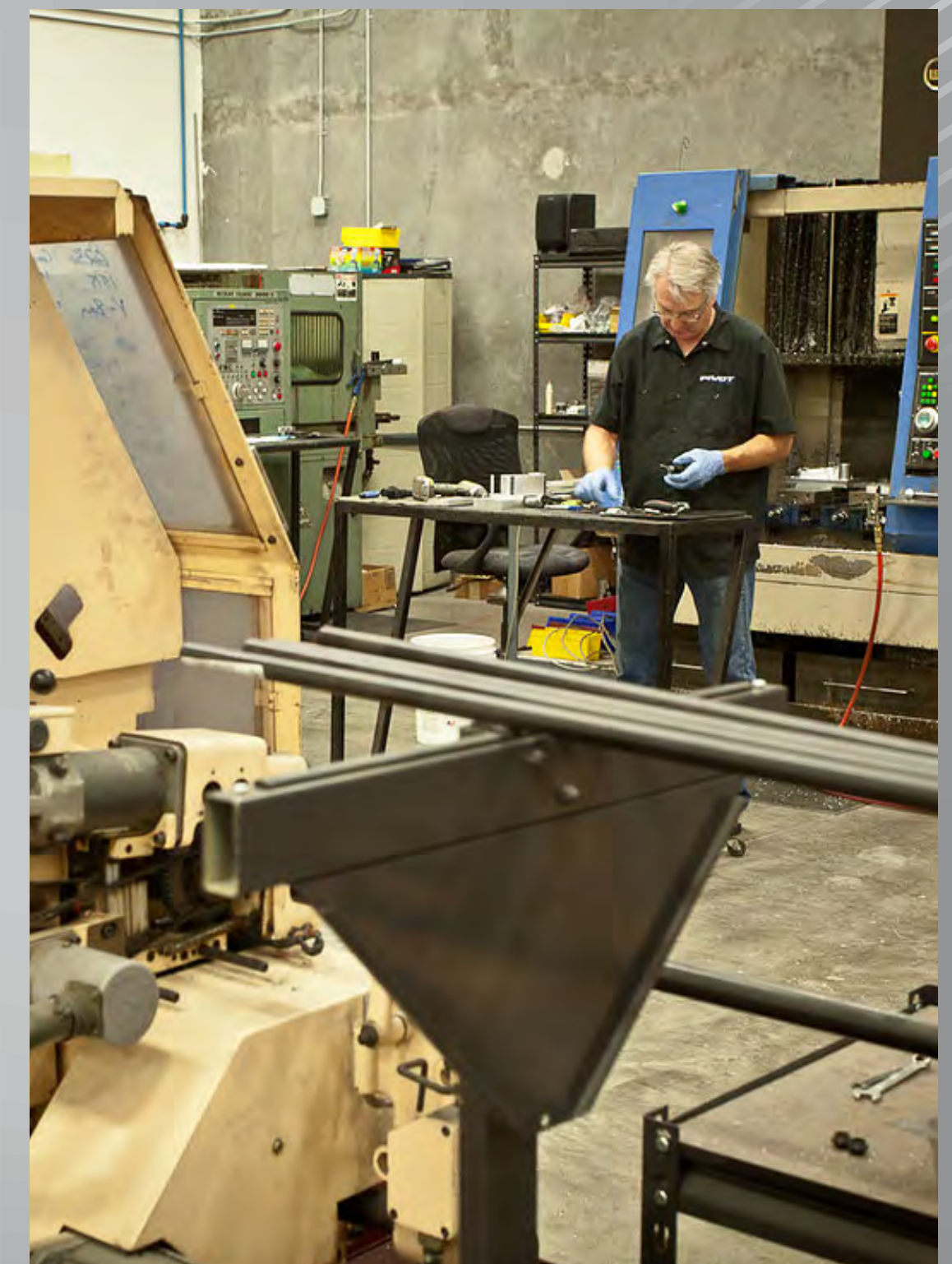
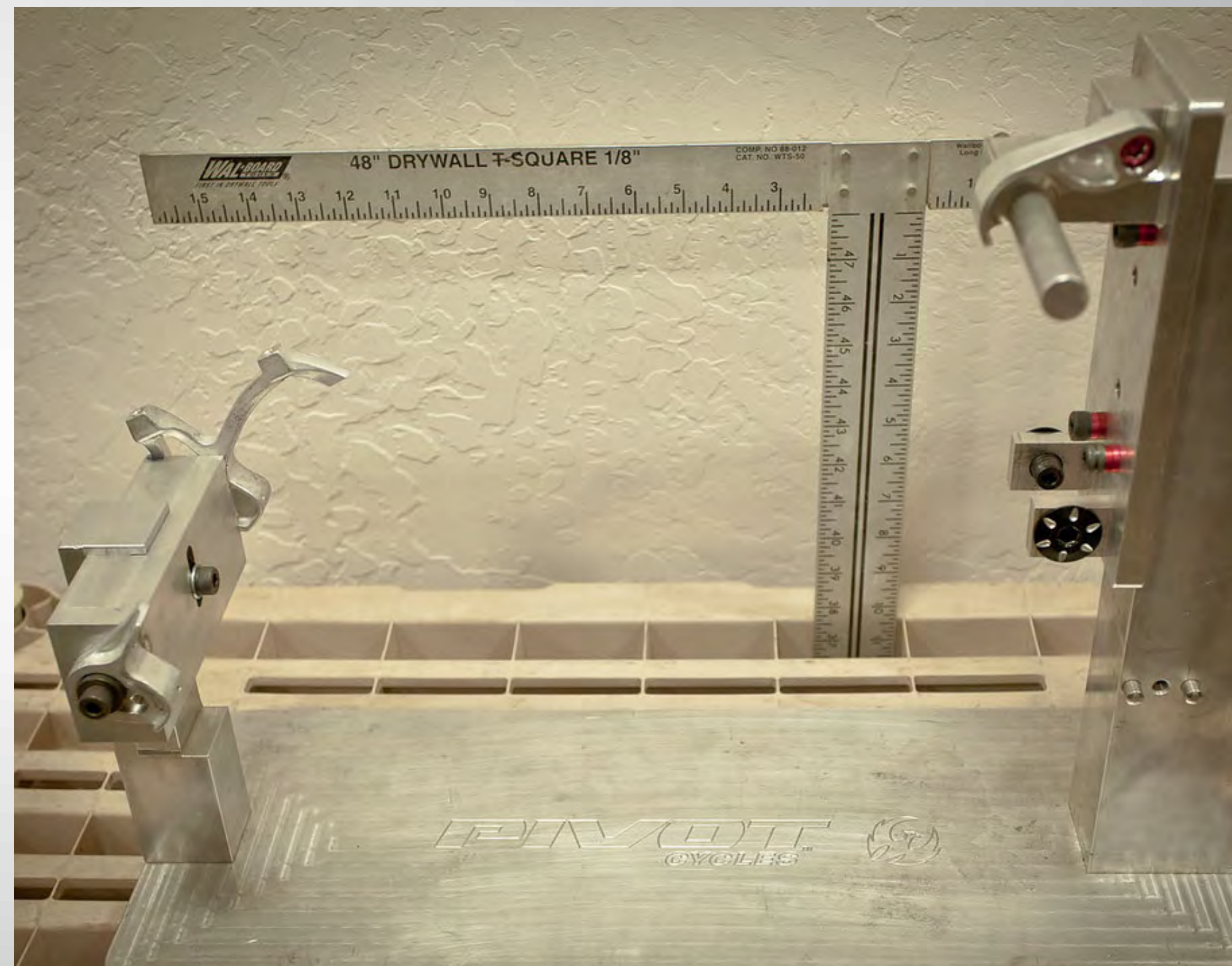
First and Foremost, we have full manufacturing and proto-typing capabilities within our factory in Tempe, Arizona. Every Pivot alloy frame begins on the drawing board, but quickly moves to proto-typing within our own building. We have 4 CNC machining centers, mills, lathes, frame jigs, tube forming, welding, and testing capabilities in house.

It is common for a new model to have been though as many as 6 different proto-type variations and been in development for 2 years before it ever enters into production. Having these capabilities at Pivot gives us an advantage that few of our competitors have.

## Proto-typing Continued

When we develop a new model, the tooling to produce that model is made in house. We develop everything needed to move the bike to production in the manner in which we want it made. We control every detail from how the tubes and parts are loaded into the fixture, how the frame is tacked and the order in which it is welded, checked, aligned and final machined.

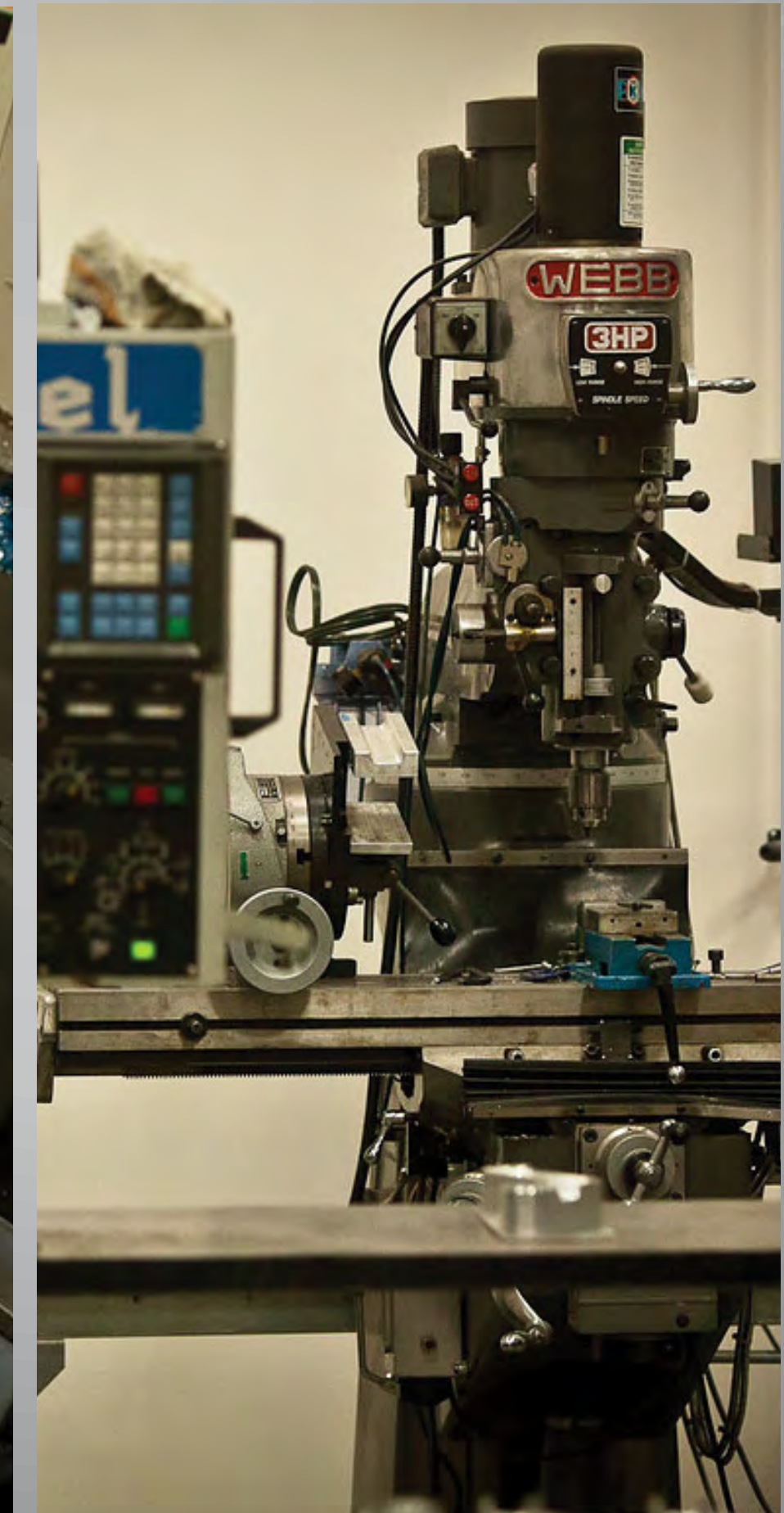
Often times for a new model, the first 50 -75 bikes are made in house before we bring the bikes to production.



## So why don't we just build the bikes in house?

Our goal is to manufacture the best bikes in the world and to do that we need to employ the best manufacturing capabilities in the world. In this case, Taiwan is the place. [We wanted the best tube forming, forging, heat treating, and finishing capabilities for building bicycles and it is no secret that Taiwan is the world leader for bicycle production.](#) The key is to have a manufacturing partner that can harness these capabilities and manufacture a Pivot to our high standards.

Fortunately, we have a close partner in Taiwan that Chris has known for over 10 years. They are a relatively small, family owned company that has been producing high end road frames for a small number of the most elite companies in the world (many of the names might surprise you). They have a penchant for high quality and a pride in their work that matches our own. With our partnership, we developed the process for building Pivot frames. We have our own production and assembly line as well as warehousing within their factory. Their family is like our family. The same people have been welding and assembling Pivot frames since the day we began.





**But, there is still more to the story....**



It's not enough that we proto-type in house, develop the manufacturing process, and train our partners to build our bikes. There's so much more to it than that. For many things, we continue to manufacture in house, supply from the US, or look outside of the bicycle industry to push the boundaries of what is possible.

Some of the higher tolerance hardware and machined parts used in our Alloy frames are manufactured at Pivot and sent over to be welded and/or assembled into our frames. We also use a proprietary weld rod that is US made, and results in a stronger, better looking weld. It is about 5 times as expensive but produces a better frame so we send it from the US to Taiwan so that we know we are producing only the best products in the world.

## One of the areas where we have really pushed the limits in our frame designs is in forging technology.

Look at the bottom bracket area of any Pivot alloy frame and you can see that we really have something truly unique going with designs that focus on frame stiffness, high tolerances and light weight. The bottom bracket area (and several other forged parts) on our frames are made using a 3D forging process that is not common to the cycling world. To achieve our design goals on these parts we went outside the industry to a company that produces the A-arm forgings for BMW's M and Audi's R series vehicles. This is just another example of how we are redefining what is possible by pushing the boundaries of technology and manufacturing in order to produce the best bikes in the world.





## Quality Control

Every Pivot frame is assembled and then checked by a Pivot employee. We go through 28 detailed steps to make sure your Pivot frame is absolutely perfect.

No detail is left to the imagination and our ultimate goal is to deliver a bike that exceeds your every expectation. We like to think of our frames as a functional piece of engineering art where everything has a purpose, every detail has a function and ultimately what you experience is a bike where the technology is seamless and the ride is perfection.

## We are Technology Redefined!

A Pivot frame is much more than the sum of its parts. The passion, detail and level of caring that goes into each and every Pivot frame sets us apart.



### Lightweight frames and builds

Ultra-lightweight, with a stiffness to weight ratio that puts all other premium XC frames to shame. Race team bikes are being built as light as 20lbs (9kg)-Jason English's World Championship winning Mach 4 and we offer a 21.8 lbs (9.8kg) XX1 equipped Mach 4 as well.



### Tapered 1.5' Headtube

Wider head tube allows us to take full advantage of oversized tubes to create amazing stiffness to weight ratios while keeping the ride quality at what you expect from a Pivot.



### 160mm Direct Mount Rear Brake Posts

160mm post mount bosses mount calipers directly to rear triangle resulting in higher levels of stiffness and lower overall system weight.

### 142 X 12mm through axle design

142 X 12mm through axle is designed with a forged 7075-T6 derailleur hanger and an integrated axle nut adds even more stiffness to the one piece rear triangle



## Press Fit 92 BB

PF92 bottom bracket 92mm shell developed by Pivot with Shimano allows for wider pivots and better bearing support for increased frame strength and stiffness while maintaining better control over the bike's chain-line for optimal shifting performance and accuracy.



## DW-Link with Carbon Top Plate

Hollowed from the inside out for maximum weight reduction and capped with a carbon top plate for incredible stiffness. Pivot alloy frames feature a dw-link with a unique double row bearing design bringing an even higher level of bearing durability and frame stiffness to all our aluminum frame designs.



## Forged Alloy Derailleur Hanger

Forged 7075-T6 derailleur hanger with integrated axle nut.



## Direct Mount Front Derailleur

Pivot alloy frames feature a direct mount e-type front derailleur design developed to be stiffer, lighter and offer more precise. The design allows for ease of set up and perfect front shifting.



## Oversized Bearings

Oversized bearings all around and dual row Enduro Max bearings in the lower link for increased stiffness and durability.



## Under Top Tube Cable Routing

Provides clean and effective cable management.



100mm rear travel

Pivot ISCG 05 adaptor plate compatibility for use with single front chain ring.

100mm or 120mm fork compatibility.

**Color Options**



Anodized blue or black, or  
Painted white with blue decals

**MACH429**