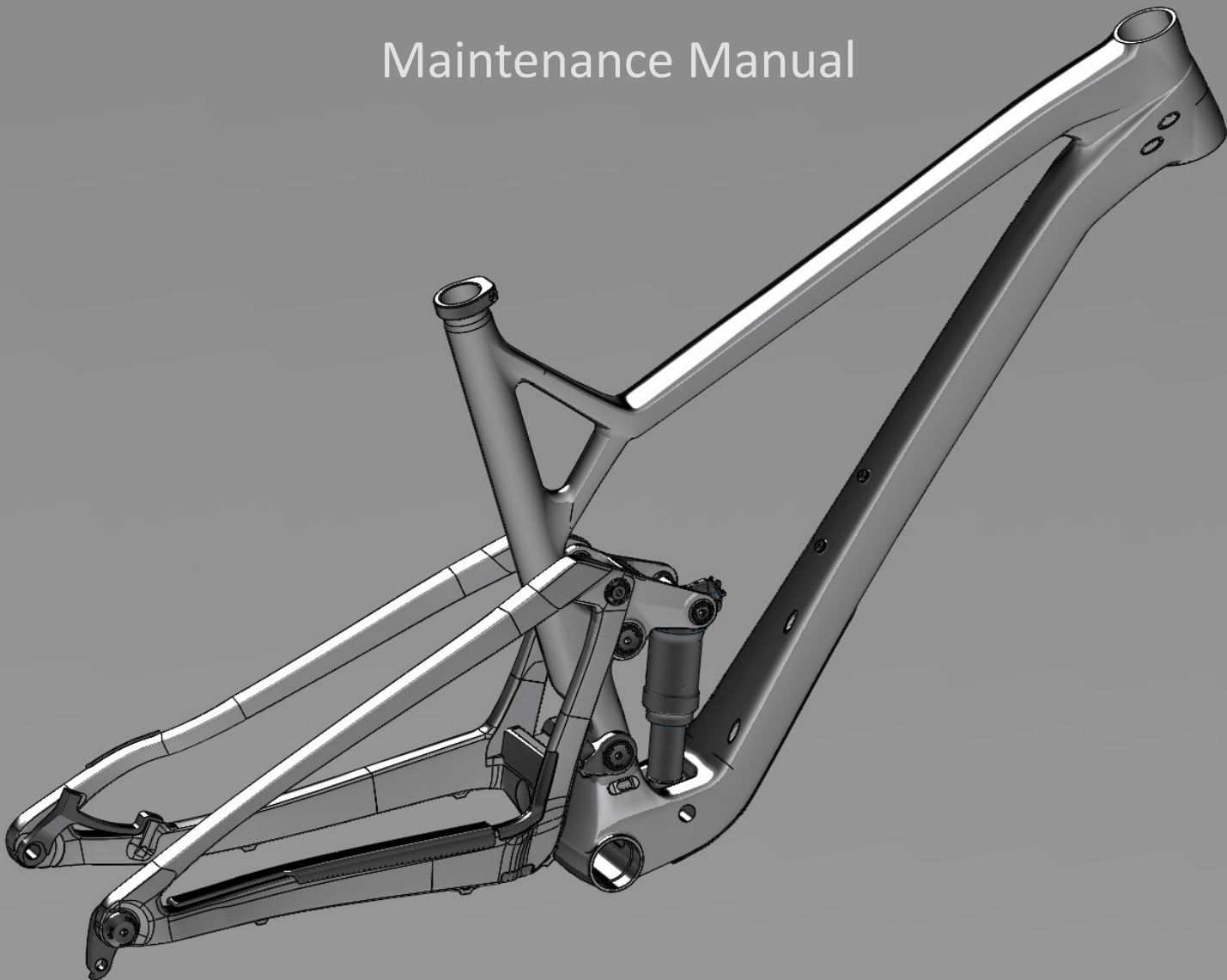


Ryve 100 and Ryve 115 Frames
Suspension Setup, Assembly Instructions
and
Maintenance Manual



SPOT

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Warning

Like any sport, bicycling involves risk of injury and damage. By choosing to ride a bicycle, you assume the responsibility for that risk, so you need to know—and to practice—the rules of safe and responsible riding and of proper use and maintenance. Proper use and maintenance of your bicycle reduces the risk of injury or death.

All bicycles should be assembled and maintained by an authorized bicycle mechanic. If you are not qualified to assemble, inspect, and maintain your bicycle, please visit your favorite local bike shop or contact Spot Brand for a referral to a qualified bicycle technician in your area.

This guide covers the details specific to tuning your Living Link™ suspension frame. It does not address complete bicycle assembly, fitting, inspection, maintenance, or riding techniques. Please refer to the Spot Brand Bicycle Owner’s Manual for further details.

Under no circumstances shall Spot Brand LLC be held liable for direct, incidental, or consequential damages, including, without limitation, damages for personal injury property damage, or economic losses, whether based on contract, warranty, negligence, product liability, or and other theory.

A Note on Intended Use

The American Society for Testing and Materials (ASTM) has established a classification standard for bicycle use, outlined in document ASTM F2043. It is important to use any bicycle within it’s intended use classification to ensure rider safety, equipment longevity, and warranty coverage. The Spot Brand Ryve 100 and 115 mountain bikes are classified within Level 3 of this standard:

1	This is a set of conditions for the operation of a bicycle on a regular paved surface where the tires are intended to maintain ground contact.
2	This is a set of conditions for the operation of a bicycle that includes Condition 1 as well as unpaved and gravel roads and trails with moderate grades. In this set of conditions, contact with irregular terrain and loss of tire contact with the ground may occur. Drops are intended to be limited to 15cm (6") or less.
3	This is a set of conditions for operation of a bicycle that includes Condition 1 and Condition 2 as well as rough trails, rough unpaved roads, and rough terrain and unimproved trails that require technical skills. Jumps and drops are intended to be less than 61cm (24").
4	This is a set of conditions for operation of a bicycle that includes Conditions 1, 2, and 3, or downhill grades on rough trails at speeds less than 40 km/h (25 mph), or both. Jumps are intended to be less than 122cm (48").
5	This is a set of conditions for operation of a bicycle that includes Conditions 1, 2, 3, and 4; extreme jumping; or downhill grades on rough trails at speeds in excess of 40 km/h (25 mph); or a combination thereof.

Setting Shock Air Pressure

Sag should be set to 25 – 30% of total shock travel

To achieve the best performance from your FOX suspension, adjust the air pressure to attain your proper sag setting. Sag is the amount your suspension compresses under your weight with all your riding gear. Sag range should be set to 25–30% of total shock travel.

Watch the sag setup video at ridefox.com/sagsetup

Your shock has a 4 digit ID code on the shock body. Use this number on the Help page at www.ridefox.com to find out more information about your shock, including shock travel.

Turn the 3-position lever to the OPEN mode.

1. Start by setting the shock air pressure (psi):

Ryve 100: 100% of Riding Weight (including shoes, helmet, pack, water, etc.)

Ryve 115: 100% of Riding Weight (including shoes, helmet, pack, water, etc.)

With the air pump attached to the shock valve, slowly cycle your shock through 25% of its travel 10 times after you reach your desired pressure. This will equalize the positive and negative air chambers and will change the pressure on the pump gauge. Refill the air pressure to match the corresponding percentage of riding weight. **Do not exceed 300 psi (20.7 bar), the maximum FLOAT air pressure!**

2. Sit still on the bike in your normal riding position, using a wall or a tree for support.

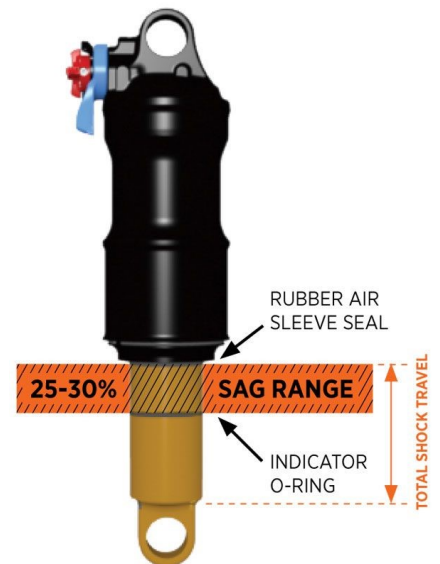
3. Pull the sag indicator o-ring up against the rubber air sleeve seal.

4. Carefully dismount the bike without bouncing.

5. Measure the distance between the sag indicator o-ring and the rubber air sleeve seal. Compare your measurement to the 'Suggested Sag Measurements' table.

6. Add or remove air pressure until you reach your desired sag measurement.

7. You can fine tune the shock pressure slightly to match your riding style and preferences— less air will lower ride height and feel softer, more air will raise ride height and feel firmer. **Spot does not recommend using air pressure values less than 90% of riding weight as the air spring may not offer adequate support to resist hard bottom outs. Hard bottoming will shorten frame life, component life, and potentially cause loss of control. For more shock air tuning options, visit www.spotbrand.com.**



Recommended Air Pressure for Setting Sag—Fox Float DPS Evo		
Riding Weight (lbs)	Riding Weight (kgs)	Pressure (psi)
120	55	120
130	59	130
140	64	140
150	68	150
160	73	160
170	77	170
180	82	180
190	86	190
200	91	200
210	95	210
220	100	220
230	105	230
240	109	240

Ryve 100 Suggested Sag Measurements		
Shock Stroke	25% Sag (Firm)	30% Sag (Plush)
40mm (1.57in)	10mm (.39in)	12mm (.47in)

Ryve 115 Suggested Sag Measurements		
Shock Stroke	25% Sag (Firm)	30% Sag (Plush)
45mm (1.77in)	11mm (.44in)	13.5mm (.53in)

Setting Shock Rebound Damping

Rebound controls how fast the shock extends after compressing

The rebound adjustment is dependent on the air pressure setting. For example, higher air pressures require more rebound damping. Use your air pressure to help find your rebound setting.

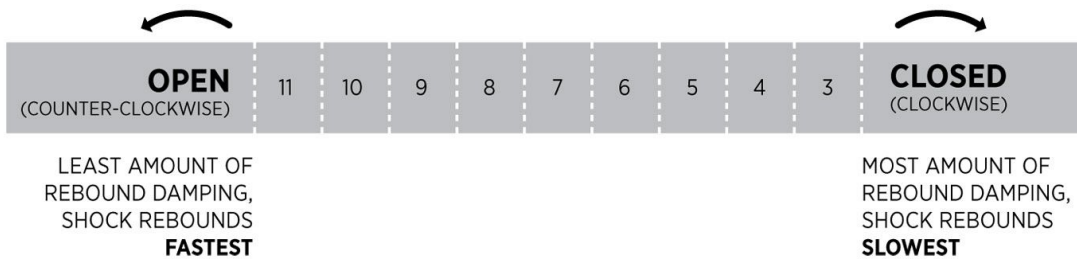
Turn your rebound knob to the closed position (full clockwise) until it stops. Then back it out (counter-clockwise) to the number of clicks shown in the table below.

REBOUND



Rebound controls the rate of speed at which the shock extends after compressing.

Suggested Starting Points for	
Pressure (psi)	Rebound Setting (clicks)
<100	10
100-120	9
120-140	8
140-160	7
160-180	6
180-200	5
200-220	4
220-240	3
240-260	2
260-280	Closed

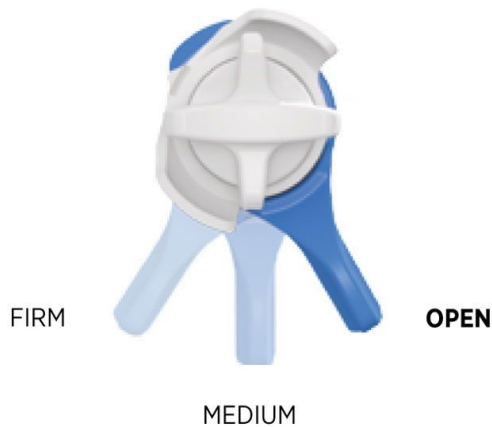


Adjusting Compression Damping

Easy on-the-fly adjustments for unprecedented control and performance

3-Position Lever: The 3-position lever is useful to make on-the-fly adjustments to control shock performance under significant changes in terrain, and is intended to be adjusted throughout the ride. You can use the OPEN mode during rough descending, the MEDIUM mode for undulating terrain, and the FIRM mode for smooth climbing.

Spot recommends using the OPEN mode for the majority of off-road riding. The Living Link suspension system is very efficient. No pedal platforms or lockouts are necessary to get the most out of the system!



Open Mode Adjust: Open mode adjust is useful to control shock performance during rider weight shifts, G-outs, and slow inputs. Open mode adjust provides 3 additional fine tuning adjustments for the OPEN mode. Lift the open mode adjuster, rotate it to the 1, 2, or 3 position, and press it in to lock the position. Setting 1 will have a more plush feel and setting 3 will have a firmer feel.

Spot Recommends beginning with the open mode adjust set to 1, heavier or more aggressive riders may appreciate the increased support from modes 2 or 3.



Setting Fork Pressure

Sag should be set to 15 – 20% of total fork travel

To achieve the best performance from your suspension fork, adjust the air pressure to attain your proper sag setting. Sag is the amount your suspension compresses under your weight and riding gear. Sag range should be set to 15–20% of total fork travel.

Watch the sag setup video at ridefox.com/sagsetup

1. Unscrew the black air cap on top of the left fork leg counter-clockwise to expose the Schrader valve.
2. Attach a shock pump to the Schrader valve.
3. Pump your fork to the appropriate pressure as listed in the suggested air pressure table.
4. Using your fork's sag setting o-ring on the left upper tube (or temporarily install a zip tie to the upper tube), slide the o-ring (or zip tie) down against the fork dust wiper.

Rotate the large 3-Position knob to the full open position.

- Dressed to ride (including a filled hydration pack, if you use one), position your bike next to a wall or table to support yourself. Mount your bicycle. Assume your riding position for at least 10 seconds, allowing the suspension to fully settle. Make sure you distribute your weight evenly between the saddle, handlebars and pedals.
- While in your riding position, slide the o-ring (or zip tie) down against the fork dust wiper.
- Dismount your bike without bouncing, to avoid further moving of the o-ring or zip tie. Measure the distance between the dust wiper and the o-ring or zip tie. This is your sag measurement. Suggested sag measurements are listed in the table below.
- Add or remove air pressure until your sag measurement is between 15-20% of your fork's total travel.
- Repeat steps 2-8 and recheck sag measurement.
- When sag measurement is correct, screw the air cap on clockwise until snug.

Ryve 100 Suggested Starting Points for Setting Sag		
Fork Travel	15% Sag (firm)	20% Sag (plush)
100mm/ 3.9 in	15mm/0.59 in	20mm/0.76in

Ryve 115 Suggested Starting Points for Setting Sag		
Fork Travel	15% Sag (firm)	20% Sag (plush)
120mm/ 4.7 in	18.mm/0.71 in	24mm/0.95in

Recommended Air Pressure for Setting Sag Fox 32SC		
Riding Weight (lbs)	Riding Weight (kgs)	Pressure (psi)
<140	<64	63
140-160	64-73	67
160-180	73-82	76
180-200	82-91	85
200-220	91-100	94
>220	>100	100

Recommended Air Pressure for Setting Sag Fox 34SC		
Riding Weight (lbs)	Riding Weight (kgs)	Pressure (psi)
<140	<64	56
140-160	64-73	60
160-180	73-82	68
180-200	82-91	76
200-220	91-100	84
>220	>100	88



Setting Fork Rebound Damping

Rebound damping controls how fast the fork extends after compressing

The rebound adjustment is dependent on the air pressure setting. For example, higher air pressures require more rebound damping. The rebound damping is controlled by the red knob on the bottom of the right side fork leg.

Use your air pressure to find your rebound setting. Turn your rebound knob to the closed position (full clockwise) until it stops. Then back it out (counter-clockwise) to the number of clicks shown in the table below.

Rebound settings can vary based on rider preference. If the fork feels too bouncy—like it springs like a pogo stick on big bumps, increase the rebound damping to slow the return. If the fork feels harsh, and rides lower and lower through successive bumps, reducing the rebound damping will increase the return speed and allow the fork to recover for the next bump.

Suggested Starting Points for Setting Rebound Damping—Fox Forks	
Pressure (psi)	Rebound Setting (clicks from full slow)
45	14
55	12
65	10
75	8
85	6
95	4
105	2

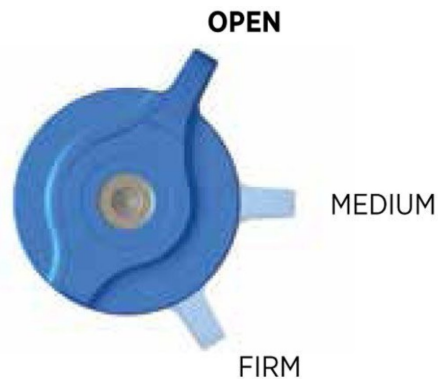


Setting Fork Compression Damping

Fox 32 and 34 Factory Series—FIT4 damper

Easy on-the-fly adjustments for unprecedented control and performance

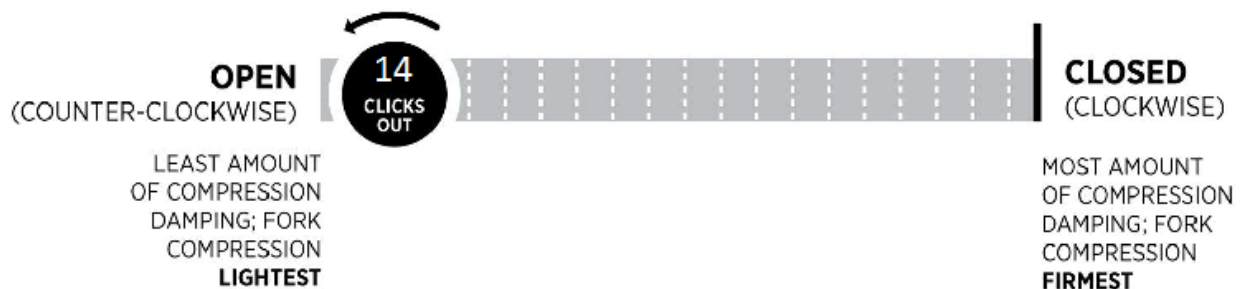
3-Position Lever: The 3-position lever is useful to make on-the-fly adjustments to control fork performance under significant changes in terrain, and is intended to be adjusted throughout the ride. You can use the OPEN mode during rough descending, the PEDAL mode for undulating terrain, and the LOCKOUT mode for smooth climbing.



Spot recommends using the OPEN mode for the majority of off-road riding.

Low Speed Compression Adjust: Low speed compression adjust is useful to control fork performance under rider weight shifts, G-outs, and slow inputs. Low speed compression adjust provides 14 additional fine tuning adjustments for the OPEN mode. Setting 14 will have a more plush feel and setting 1 will have a firmer feel.

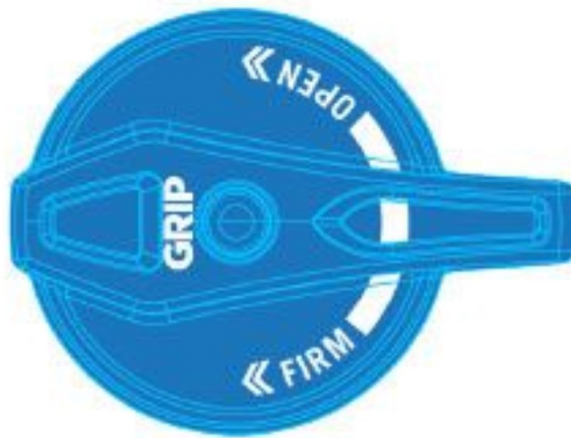
Spot recommends beginning with the low speed compression adjust set to 14 clicks out (counter-clockwise) from fully closed (clockwise). Add more low speed compression damping by turning clockwise one click at a time. If the fork becomes too firm, back the low speed compression adjust off to retain comfort.



Setting Fork Compression Damping

Fox 34 Performance Series—GRIP damper

3-Position Micro Adjust: The 3-position lever is useful to make on-the-fly adjustments to control fork performance under significant changes in terrain, and is intended to be adjusted throughout the ride. Turning the lever to the full counter-clockwise position sets the fork in the Open mode. Turning the lever to the middle detent position sets the fork in the Medium mode. Turning the lever to the full clockwise position sets the fork in Firm mode. The positions between the Open, Medium, and Firm modes can be utilized to fine tune your compression damping.



Spot recommends beginning with the 3-position lever fully open, and fine tuning between fully open and the middle position.

Suspension Tuning

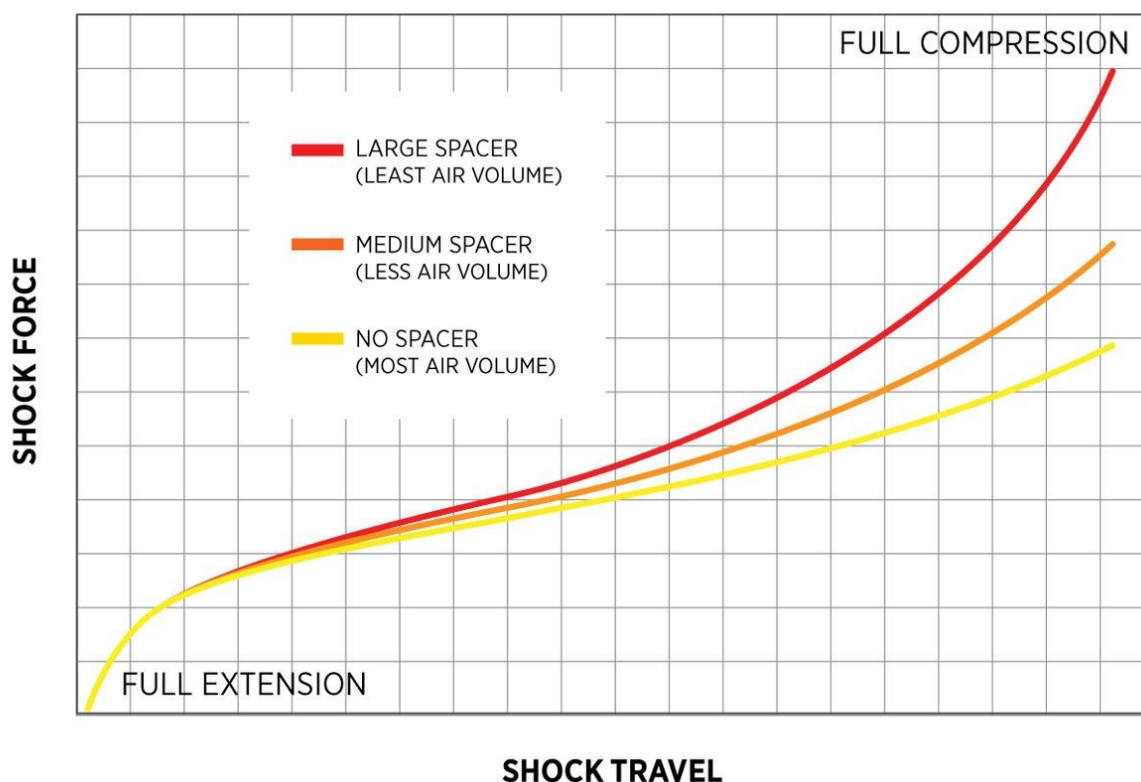
Modern high performance mountain bikes are designed to be ridden by riders of all abilities over a wide variety of terrain. Two riders that weigh the same may require vastly different suspension tuning. Settings that work well for an aggressive rider in rough terrain will produce a harsh ride for a smoother rider on moderate terrain. Here are some guidelines to make sure you're getting the best possible ride quality out of your Spot Living Link bike:

- Set your fork and shock pressures according to the guidelines on pages 4 and 7. These are starting points! Monitor your travel indicator o-rings on your first ride or two in terrain you'll typically ride.
- If you find that you're easily using all the travel and reaching a hard "bottom out", try increasing your air pressure 5psi at a time until you no longer, or very seldom reach full travel. The goal should be to use almost all of the travel on the roughest sections or jumps and drops. Bottoming out should be the exception, not the rule.
- If, conversely, you find that you're using much less than full travel, try decreasing your air pressure 5psi at a time until you're using almost full travel frequently.
- Set your fork and shock rebound damping according to the guidelines on pages 5 and 8. These are also starting points! Monitor the rebound reaction fork and shock over the first few rides.
- If the suspension feels "bouncy" and uncontrolled, this may be due to a lack of rebound damping. This can also be felt the handlebars coming back too fast, or a lack of traction in bumpy corners. Try increasing the rebound damping by turning the adjusters clockwise one click at a time until the bouncy feeling goes away.
- If the suspension feels harsh over successive bumps and extended rough sections, this may be a result of too much rebound damping. If the suspension cannot return fast enough before the next bump, there won't be enough suspension travel left to adequately absorb successive impacts. This is called "packing up". This can also be felt as the handlebars feeling too low in rough sections or the bike feeling sluggish or slow to react to inputs. Try decreasing the rebound damping by turning the adjusters counter-clockwise one click at a time until the ride quality is improved over successive bumps.
- Compression adjustment should be addressed after air pressure and rebound damping are set to your ride preferences. Start with your fork and shock compression adjustments wide open— turned fully counter-clockwise. If you feel like there is excessive motion in the fork or the shock during bumps, hard corners, or g-outs (big dips that compress the suspension), you may benefit from adding compression damping. Try increasing compression damping one click at a time by turning the adjusters clockwise. Increased compression damping will typically increase the speed that the bike can tackle rough terrain, but it's up to the rider to absorb more of the energy of each impact. This is a personal preference! Strong, heavier riders charging rough terrain at high speeds can likely go faster with the increased control that compression damping provides. Conversely, lighter riders in more moderate terrain will find a more comfortable ride with less compression damping.

In addition to the external adjustments described above, there is one simple internal adjustment that can be made to complete the tuning of your suspension. Air springs derive their spring force from pressurizing air in a closed chamber. A large chamber will have a very linear spring response, a smaller chamber will be more progressive– the force will ramp up much higher as you compress it farther. By changing the volume of the chamber, you can change the progression of the air spring force at a given pressure setting. Your fork and shock both use air volume spacers as a tuning parameter. They are easy to change by following the simple instructions linked below.

- If you find that you have to increase your air pressure well above the recommended levels to avoid bottoming out, you should install a larger air volume spacer (or additional spacers in the case of the fork). This will also potentially increase ride comfort and improve small bump compliance if you find that the increased bottom out support allows you to lower your air pressure setting.
- If you find that you have to decrease your air pressure well below the recommended levels to use full travel, you should remove or reduce the size of your air volume spacer. This will increase control and ride comfort by making the suspension travel easier to access.

TYPICAL AIR SPRING CURVES



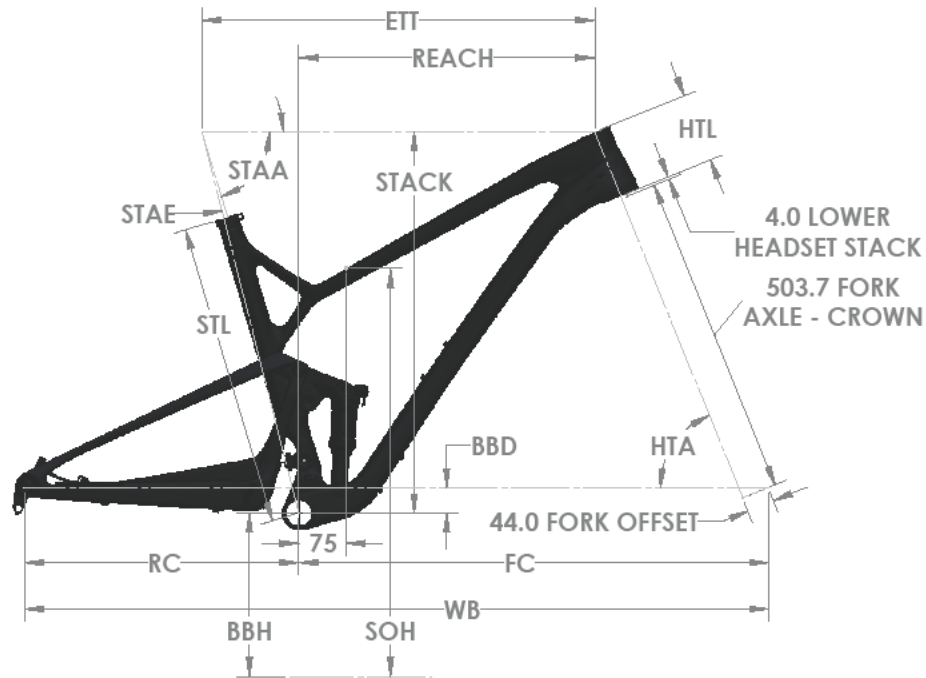
You Spot bike is delivered with our recommended size and quantity of volume spacers in the fork and rear shock. Additional volume spacers can be sourced online or from your local bike shop. Use these FOX part numbers to find the correct spacers:

- Fox 32 Fork volume spacer, FOX PN: 234-04-811
- Fox 34 Fork volume spacer, FOX PN: 234-04-953
- FLOAT DPS (9mm shaft) Air Spring Volume Tuning Kit is available from FOX: PN 803-00-802
- Changing volume spacers is a **simple procedure** that can be performed by the end user. In the case of Spot suspension frames, the shock doesn't even need to be removed from the bike. For instructions on this procedure, please visit the Fox website:

<http://www.ridefox.com/help.php?m=bike&id=555#tuningwithairvolumespacers>

Ryve 100 Frame Geometry

Ryve 100 and Ryve 115 models use identical frames with different shocks. The suspension travel difference is achieved by using different rear shock stroke lengths. Ryve 100 models use a 165 X 40mm shock, Ryve 115 models use a 165 X 45mm shock.



MEASUREMENT KEY

STL: SEAT TUBE LENGTH
 ETT: EFFECTIVE TOP TUBE LENGTH
 HTL: HEAD TUBE LENGTH
 HTA: HEAD TUBE ANGLE
 STAE: EFFECTIVE SEAT TUBE ANGLE
 STAA: ACTUAL SEAT TUBE ANGLE
 WB: WHEEL BASE

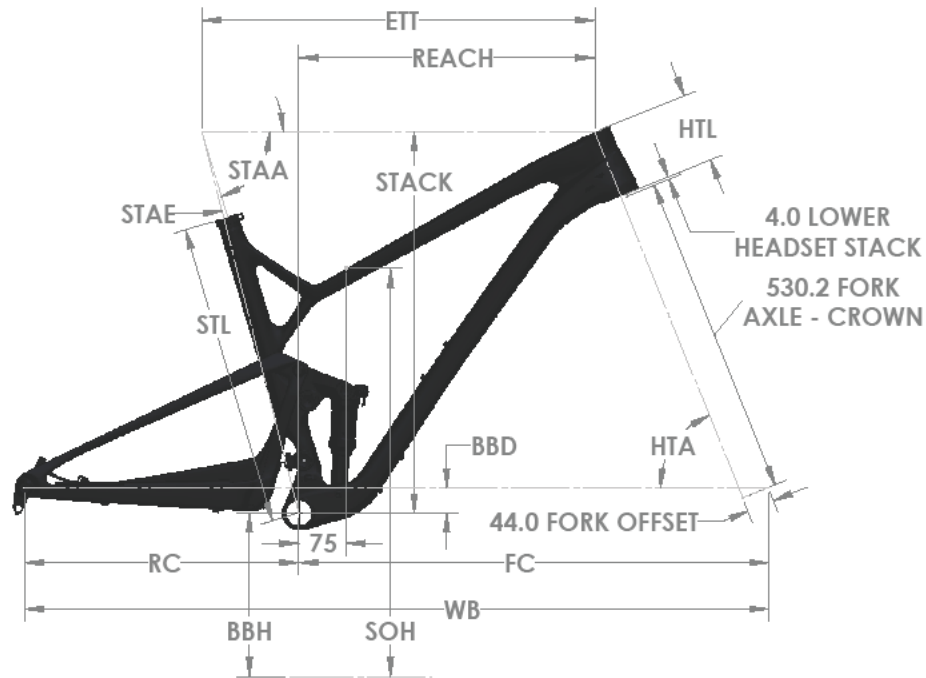
SOH: STAND OVER HEIGHT
 BBD: BOTTOM BRACKET DROP
 BBH: BOTTOM BRACKET HEIGHT (2.25 TIRE)
 RC: REAR CENTER LENGTH
 FC: FRONT CENTER LENGTH
 REACH: HORIZONTAL FROM BB TO HEAD TUBE TOP
 STACK: VERTICAL FROM BB TO HEAD TUBE TOP

SIZE	STL (mm)	STL (in)	ETT (mm)	ETT (in)	HTA	HTL (mm)	HTL (in)	STAE	STAA	WB (mm)	WB (in)	SOH (mm)	SOH (in)
XS	356	14.0	547	21.5	68.4	80	3.1	75.7	73.3	1100	43.3	690	27.2
S	381	15.0	575	22.6	68.4	90	3.5	75.7	73.3	1129	44.4	694	27.3
M	431	17.0	603	23.7	68.4	100	3.9	75.7	73.3	1157	45.6	705	27.8
L	483	19.0	622	24.5	68.4	110	4.3	75.7	73.3	1178	46.4	716	28.2
XL	533	21.0	640	25.2	68.4	120	4.7	76.7	74.6	1206	47.5	728	28.7

SIZE	BBD (mm)	BBD (in)	BBH (mm)	BBH (in)	RC (mm)	RC (in)	FC (mm)	FC (in)	REACH (mm)	REACH (in)	STACK (mm)	STACK (in)
XS	43	1.7	327	12.9	435	17.1	665	26.2	403	15.9	575	22.6
S	43	1.7	327	12.9	435	17.1	694	27.3	428	16.9	584	23.0
M	43	1.7	327	12.9	435	17.1	722	28.4	453	17.8	593	23.3
L	43	1.7	327	12.9	435	17.1	743	29.3	478	18.8	601	23.7
XL	43	1.7	327	12.9	435	17.1	771	30.4	502	19.8	611	24.1

Ryve 115 Frame Geometry

Ryve 100 and Ryve 115 models use identical frames with different shocks. The suspension travel difference is achieved by using different rear shock stroke lengths. Ryve 100 models use a 165 X 40mm shock, Ryve 115 models use a 165 X 45mm shock.



MEASUREMENT KEY

STL: SEAT TUBE LENGTH
 ETT: EFFECTIVE TOP TUBE LENGTH
 HTL: HEAD TUBE LENGTH
 HTA: HEAD TUBE ANGLE
 STAE: EFFECTIVE SEAT TUBE ANGLE
 STAA: ACTUAL SEAT TUBE ANGLE
 WB: WHEEL BASE

SOH: STAND OVER HEIGHT
 BBD: BOTTOM BRACKET DROP
 BBH: BOTTOM BRACKET HEIGHT (2.25 TIRE)
 RC: REAR CENTER LENGTH
 FC: FRONT CENTER LENGTH
 REACH: HORIZONTAL FROM BB TO HEAD TUBE TOP
 STACK: VERTICAL FROM BB TO HEAD TUBE TOP

SIZE	STL (mm)	STL (in)	ETT (mm)	ETT (in)	HTA	HTL (mm)	HTL (in)	STAE	STAA	WB (mm)	WB (in)	SOH (mm)	SOH (in)
XS	356	14.0	551	21.7	67.4	80	3.1	75.0	72.6	1109	43.7	700	27.6
S	381	15.0	578	22.8	67.4	90	3.5	75.0	72.6	1138	44.8	704	27.7
M	431	17.0	607	23.9	67.4	100	3.9	75.0	72.6	1167	45.9	715	28.1
L	483	19.0	626	24.6	67.4	110	4.3	75.0	72.6	1188	46.8	726	28.6
XL	533	21.0	644	25.4	67.4	120	4.7	76.0	73.9	1216	47.9	738	29.1

SIZE	BBD (mm)	BBD (in)	BBH (mm)	BBH (in)	RC (mm)	RC (in)	FC (mm)	FC (in)	REACH (mm)	REACH (in)	STACK (mm)	STACK (in)
XS	34	1.3	336	13.2	435	17.1	674	26.5	395	15.6	584	23.0
S	34	1.3	336	13.2	435	17.1	703	27.7	420	16.5	593	23.3
M	34	1.3	336	13.2	435	17.1	732	28.8	445	17.5	602	23.7
L	34	1.3	336	13.2	435	17.1	753	29.6	470	18.5	611	24.1
XL	34	1.3	336	13.2	435	17.1	781	30.7	495	19.5	621	24.4

Ryve Frame Component Compatibility

Your Ryve frame was designed to work with the following components. Other components may be compatible, but fitment is not guaranteed. For questions regarding component compatibility of parts not listed below please contact Spot.

COMPONENT	FIT, STANDARD
HEADSET	UPPER: ZS44, LOWER: ZS56
BOTTOM BRACKET	PRESS FIT BB92 - 41mm PRESS FIT
SEATPOST	31.6, INTERNAL DROPPER ROUTING
CHAINRING	>51mm CHAINLINE, 30-36t RING
REAR HUB	12 X 148, 182mm SRAM MAXLE INCLUDED
REAR BRAKE	160mm STANDARD POST MOUNT, 180mm MAX ROTOR DIAMETER
REAR TIRE	29 X 2.3" / 58mm MAX WIDTH. ACTUAL TIRE WIDTHS CAN VARY FROM PRINTED SIZES
REAR SHOCK	RYVE 100: 165 X 40mm, RYVE 115: 165 X 45mm, TRUNNION UPPER, 8X25 LOWER EYELET
REAR SHOCK REMOTE	CABLE ONLY, CABLE STOP MUST FACE DOWNWARD
FORK TRAVEL	100-130mm
WATER BOTTLE	2X BOTTLE MOUNTS, ONE ABOVE AND ONE BELOW DOWNTUBE
SEATPOST COLLAR	35.0mm INNER DIAMETER

Ryve Frame Assembly

Tools Required (May Vary by Component Selection):

- Allen wrenches / bits: 5mm, 6mm
- Torx wrenches / bits: T25, T30
- Torque wrench, 4Nm (35in-lb) to 14Nm (124in-lb) range
- Headset Press
- Bottom Bracket Installation Tools—may vary by BB brand and model
- High-Lubricity Waterproof Grease—we recommend Slick Honey®
- Isopropyl or denatured alcohol—90% or higher concentration
- Strong, thin adhesive tape—electrical tape, packaging tape, etc.

Internal Dropper Seatpost Routing

IMPORTANT:

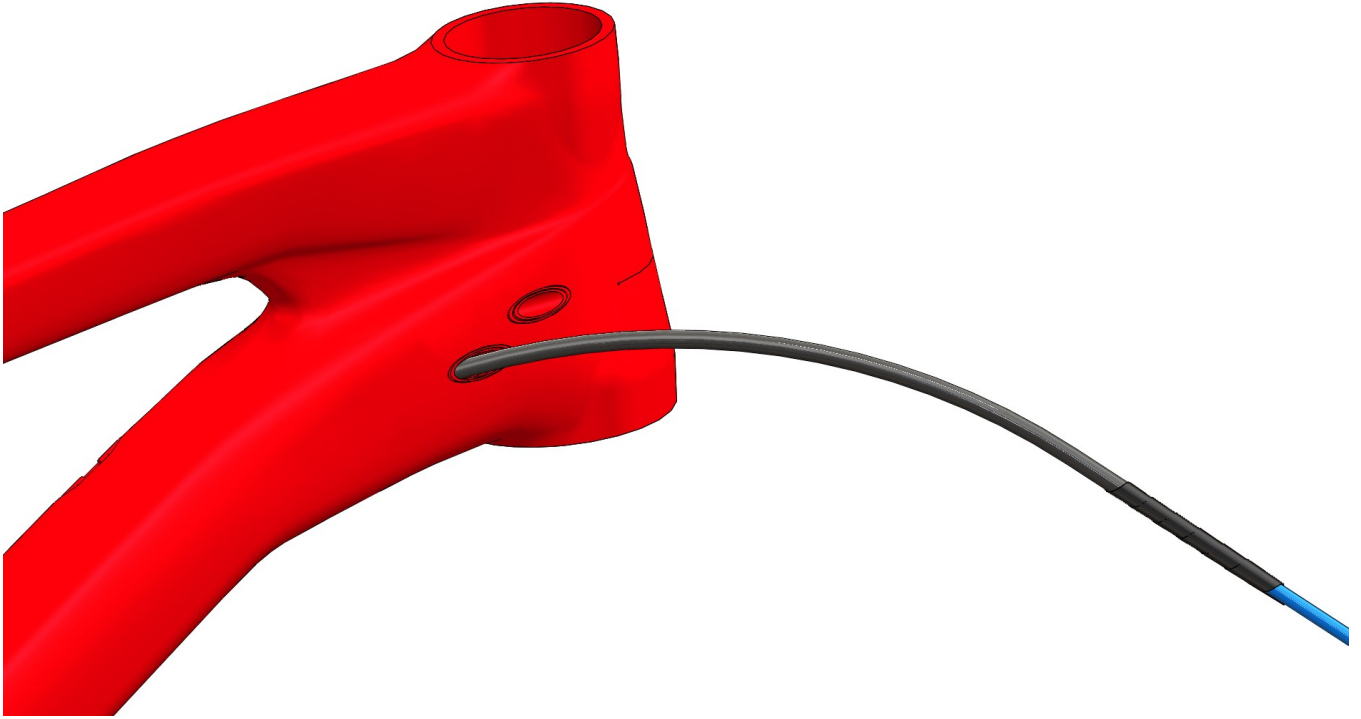
Install your internal dropper seatpost cable housing/hydraulic hose before installing the bottom bracket assembly.

Your Ryve frame is supplied with a lead tube installed in place of the dropper seatpost cable to ease installation. Please do not remove the lead tube until the dropper seatpost cable is installed.



1. Make sure your seatpost collar is installed on the frame. The seatpost cable housing is easiest to install by feeding from the seat tube to the head tube, but can be fed starting at the head tube if necessary. Tape the seatpost cable housing to the lead tube at the seat tube end. Make sure to clean the end of the cable housing and the lead tube with alcohol before taping. Tape the two together in line, and wrap the tape several times around the junction for sufficient contact.
2. While feeding the seatpost cable housing into the seat tube, gently pull the lead tube out of the port near the head tube. If excessive resistance is met, the tape joint may be too bulky and should be reduced. The cable housing must curve around a relatively small radius between the seat tube and the down tube. It is recommended to help the seatpost cable housing around this curve with a finger or two through the access port in the BB shell.

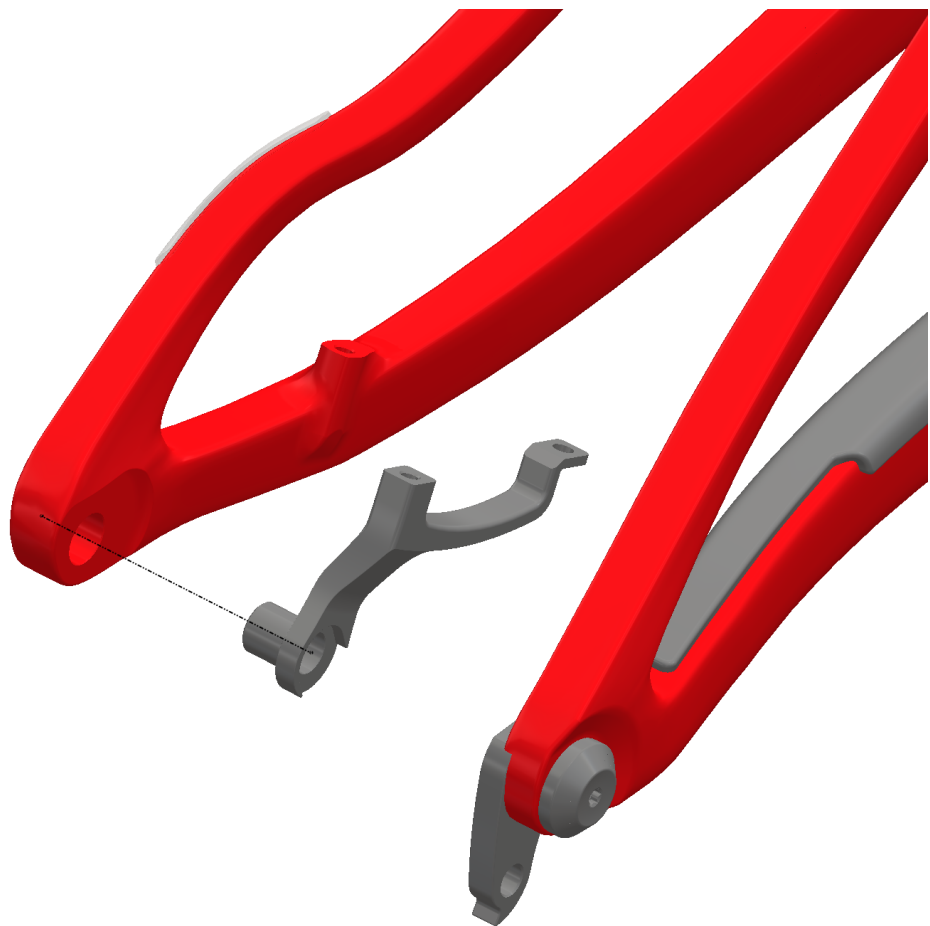
3. Continue to feed the seatpost cable housing while gently pulling the lead tube from the port near the head tube. When the seatpost cable housing emerges from the port, remove the tape and store the lead tube in a safe place.



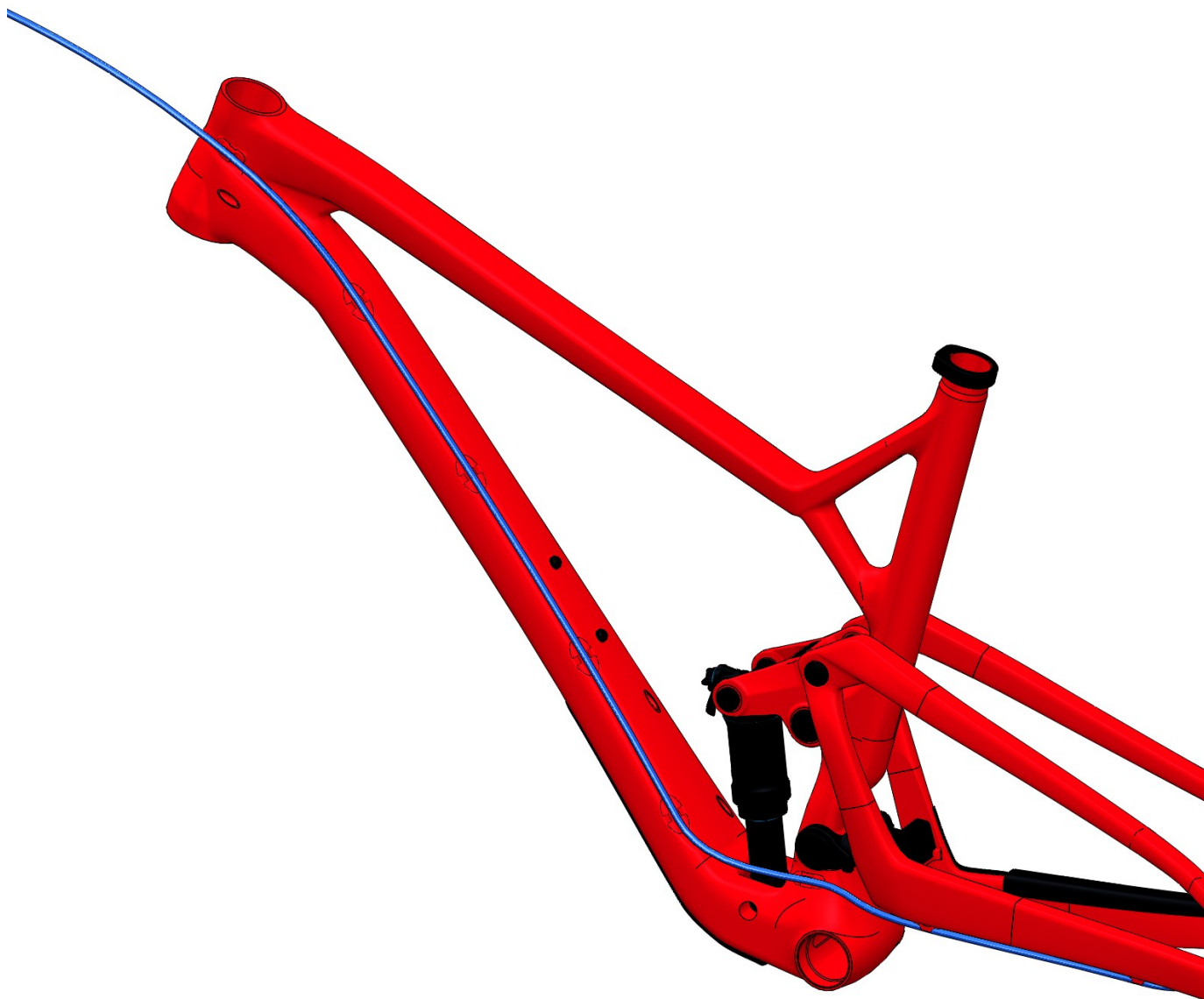
4. Proceed to install your dropper seatpost per the seatpost manufacturer's instructions. *You may wish to install other components on the frame before completing the dropper post installation.*

Rear Brake Hose Routing

1. Begin by installing the rear brake caliper bracket, caliper and any applicable adapter if using a rotor larger than 160mm. Please note the Ryve frame is not compatible with rotors larger than 180mm. The brake caliper bracket slides into the axle bore and is secured by installing the forward caliper mounting screw.
2. Route the rear brake line starting from the caliper, attaching it to the rear triangle using the supplied zip ties on the cable saddles.

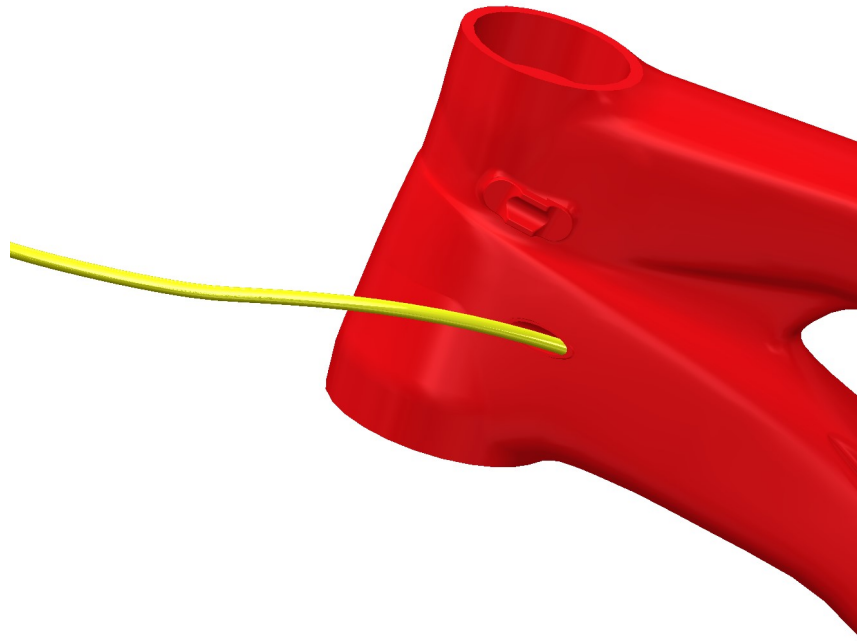


3. Leaving a small amount of slack between the front and rear triangle, continue to route the line up the down tube along the groove using the supplied zip ties.
4. Make any changes to brake line length according to the brake manufacturer's instructions.

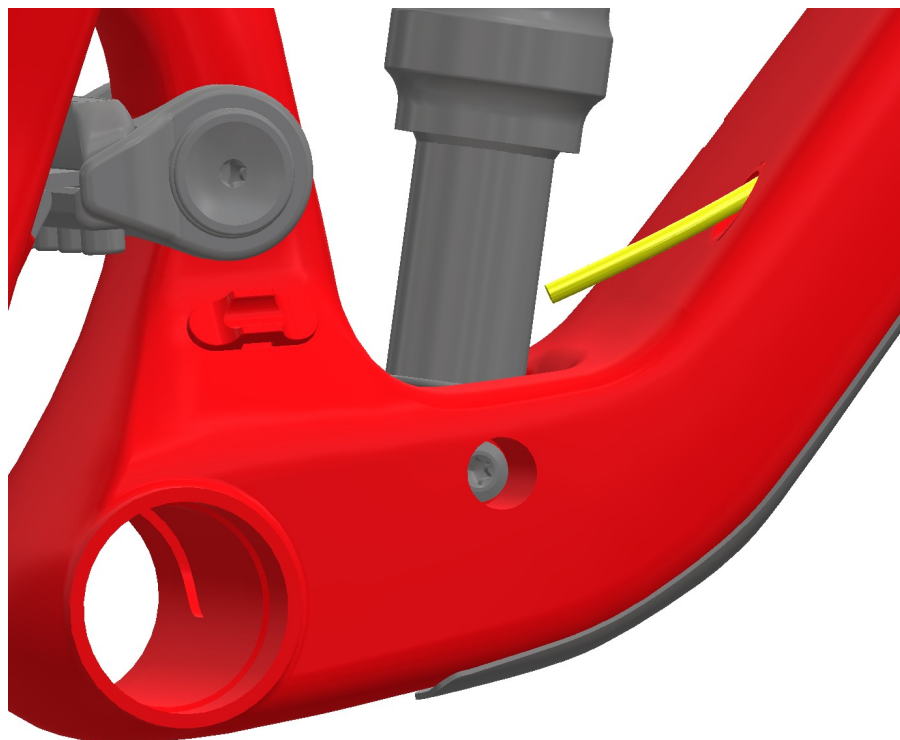


Rear Derailleur Cable Routing

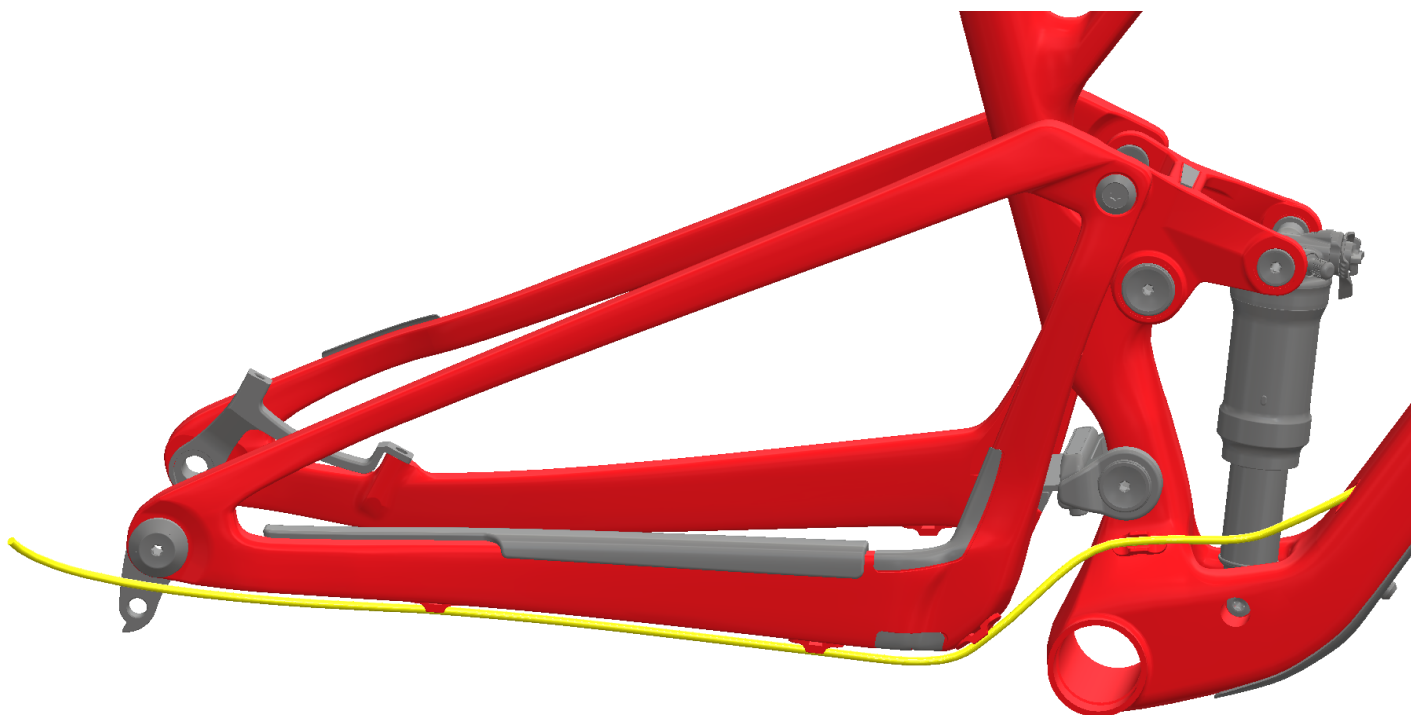
1. Begin by feeding the rear derailleur cable housing into the port at the head tube as shown:



2. The housing will emerge from the corresponding port atop the down tube above the bottom bracket area:



2. Continue routing the cable, affixing it to the guides with zip ties. Begin with the first one just below the main pivot, then proceed along the lower edge of the drive side chain stay:



Bottom Bracket Installation

IMPORTANT:

If using an internal dropper seatpost cable/hose, install the seatpost cable/hose before installing the bottom bracket assembly

1. Observe the bottom bracket manufacturer's requirements for cup position and take care to observe the left/right orientation of each cup.
2. Apply light grease to the bottom bracket shell bores.
3. Using a headset press or other recommended press fit bottom bracket installation tool, press each cup into its respective side one at a time.
4. Wipe away any excess grease displaced by the installation process.

Maintenance

Tools Required For Rear Triangle Removal/Replacement:

- Torx wrenches / bits, sizes: At least two T30 tools including one L-wrench
- Torque wrench with T30 Torx bit, 4Nm (35in-lb) to 14Nm (124in-lb) range
- Round pin punch, flat tip, 8-10mm diameter
- Hammer
- Isopropyl or denatured alcohol—90% or higher concentration
- Medium strength (blue) thread locking compound, such as Loctite 243 (blue)

Tools Required For Pivot Bearing Replacement:

(In addition to the tools listed above)

- PVC, or other plastic tubes:
 - 27-30mm inner diameter, 45-55mm long
 - 23-25mm inner diameter, 25-30mm long
- An assortment of sockets and extensions for bearing removal, 20-22mm outer diameter for main pivot bearings, 13-14mm outer diameter for upper pivot bearings
- Several spacers to support the main pivot clevis and rocker link for bearing removal and installation. These can be made from any hard material, wood, plastic, PVC pipe etc. The only requirements are that they fit into the required openings, are sturdy enough to support the parts, and are the following widths:
 - Main Pivot: 52mm (2.05in)
 - Rocker Link Main Pivot and SS Pivot: 43mm (1.7in)
 - Rocker Link Shock Trunnion Pivot: 61mm (2.4in)See sections I and J for illustrations of these spacers' function.
- Arbor press or bench vise for bearing installation

For individual parts and a complete exploded assembly diagram, please see the last page of this manual.

Leaf Spring Related Precautions

The Living Link leaf spring, and its associated hardware, which include the 8 T30 Torx fasteners, main pivot clevis, and cap hardware are to be treated as integral to the rear triangle of the frame.

Do not attempt to remove or modify the leaf spring!

Doing so is likely to damage the leaf spring, hardware, and possibly the rear triangle itself. Any questions or concerns regarding the leaf spring should be directed to Spot:

www.spotbrand.com

customerservice@spotbikes.com

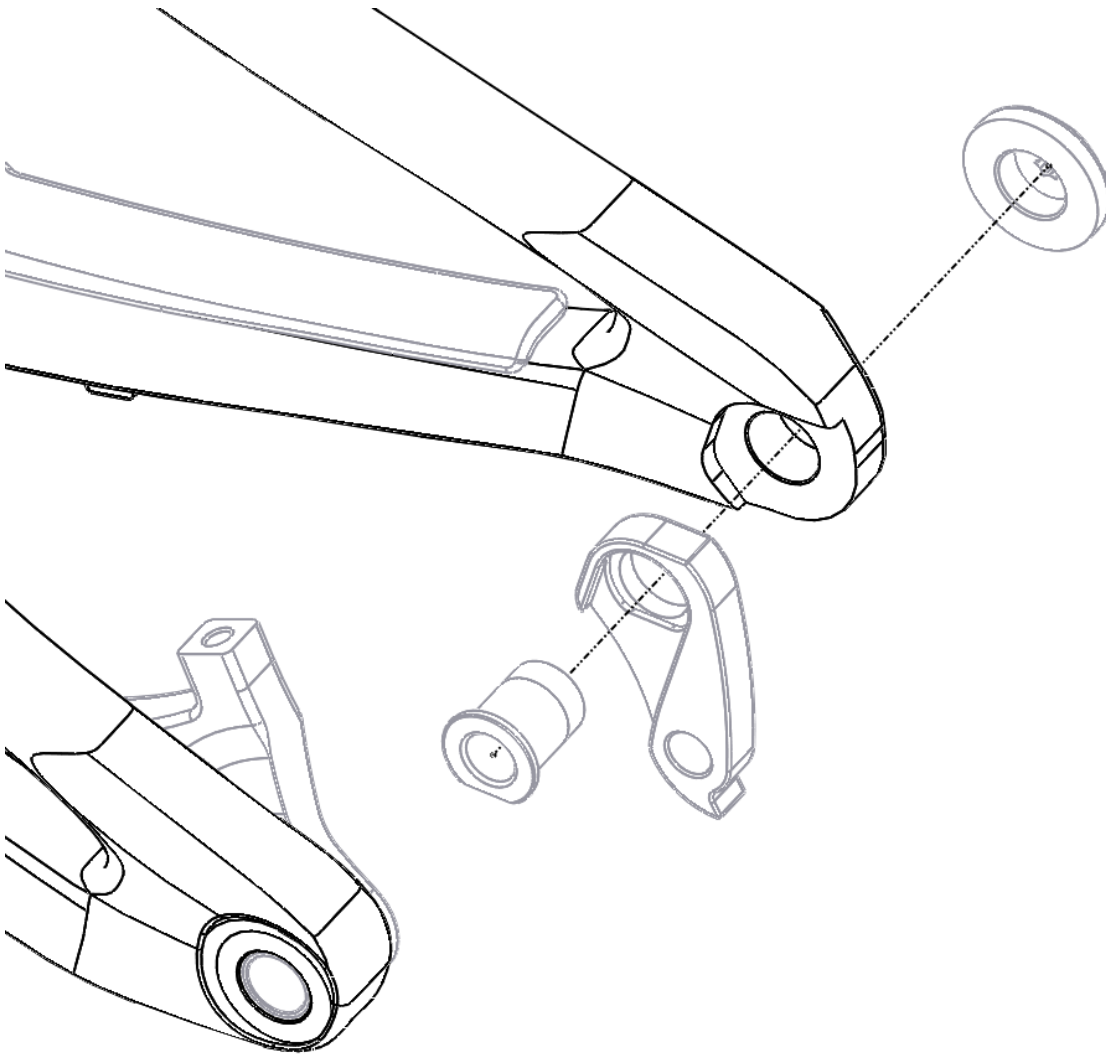
303-278-3955

It is recommended to periodically check the torque on the 8 leaf spring mounting fasteners. This should be done approximately every 100 hours of ride time, or once per year, depending on which occurs sooner.

1. Fit your torque wrench with a T30 Torx bit and the shortest extension required to reach the fasteners.
2. Clamp the bicycle securely in a work stand and remove the rear wheel and shock.
3. Remove the lower shock pivot screw and pin, and swing the shock upwards while very carefully compressing the rear suspension at the rear dropout area. The leaf spring will initially resist compression, but once past mid travel, it will tend to pull the rear swingarm upward. Let the suspension come to rest in the upward position to gain access to the leaf spring mounting screws. **Do not over-compress the suspension causing a back-bend in the leaf spring. This could damage the leaf spring and lead to failure.**
4. Turning the torque wrench clockwise (as seen looking at the head of the fastener) and verify that all 8 fasteners are at or above 12N-m (106in-lb).

Rear Derailleur Hanger Removal/Replacement

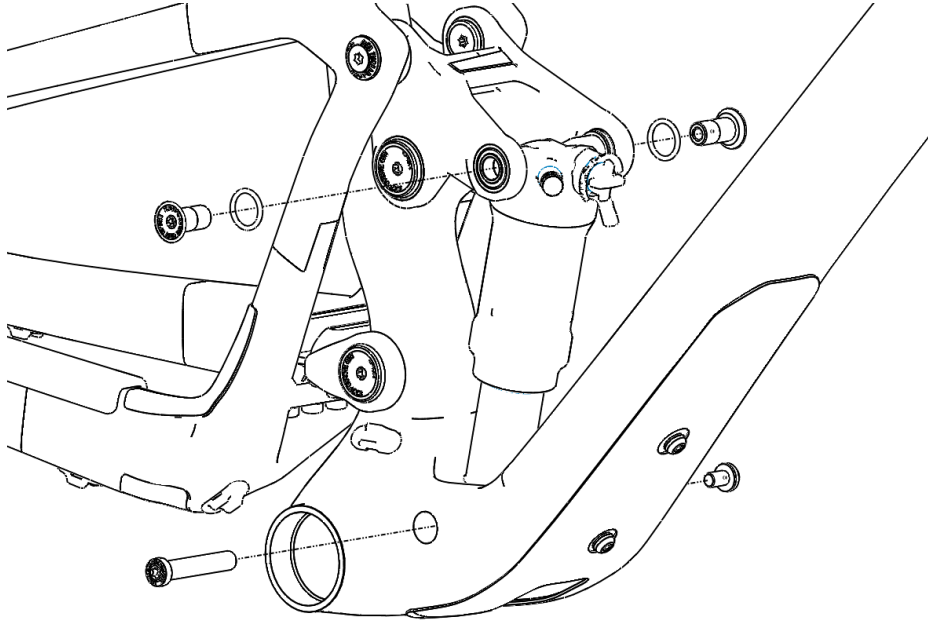
1. Remove the rear wheel and the rear derailleur from the frame. It should not be necessary to remove the chain or cable/housing from the derailleur:



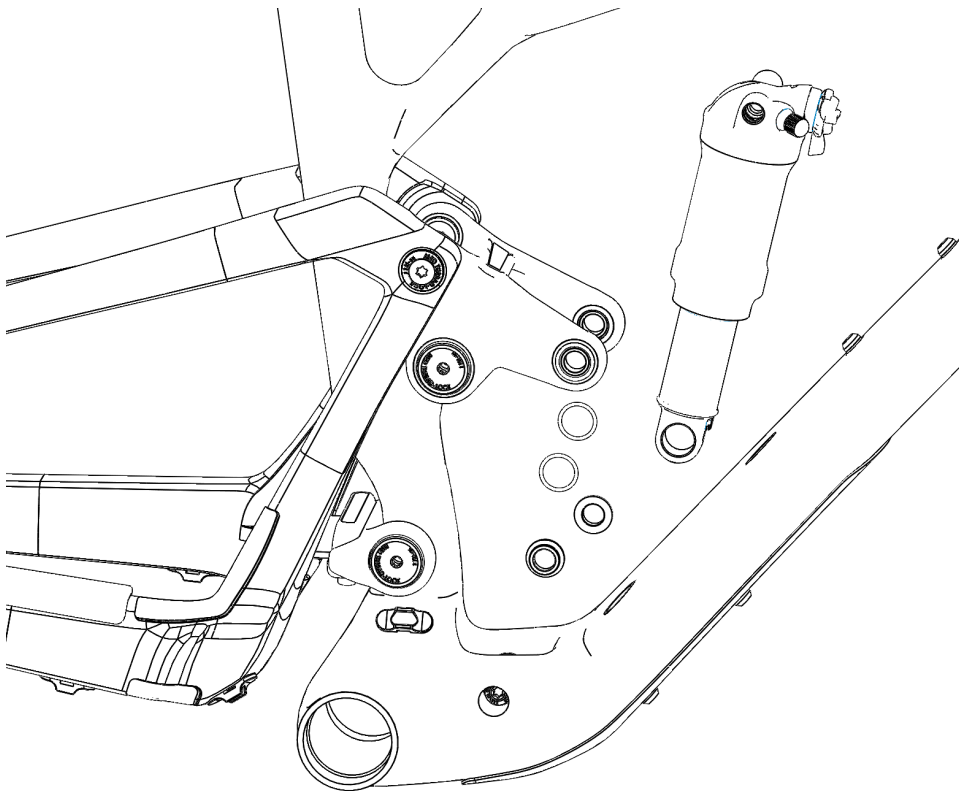
2. The derailleur hanger is removed using a 8mm hex tool on the outboard cap. Turn the cap counter-clockwise to unscrew, then remove the axle sleeve and hanger from the inboard side. When replacing the derailleur hanger, be sure to orient the flat section of the axle sleeve flange downward to match the opening in the hanger. Apply medium strength (blue) thread locking compound to the cap. Torque: 8.0Nm (71in-lb)

Rear Shock Removal/Replacement

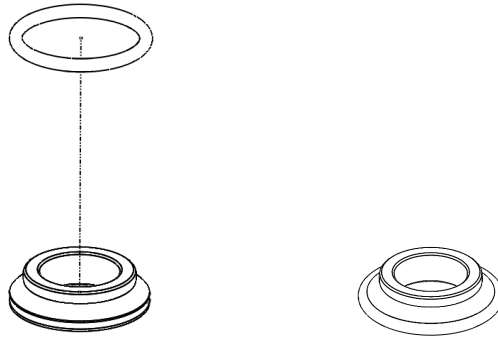
1. Using T30 Torx tools on both sides, remove the lower shock pivot pin and screw.
2. Using a T30 Torx tool remove both upper trunnion mounting screws and o-rings:



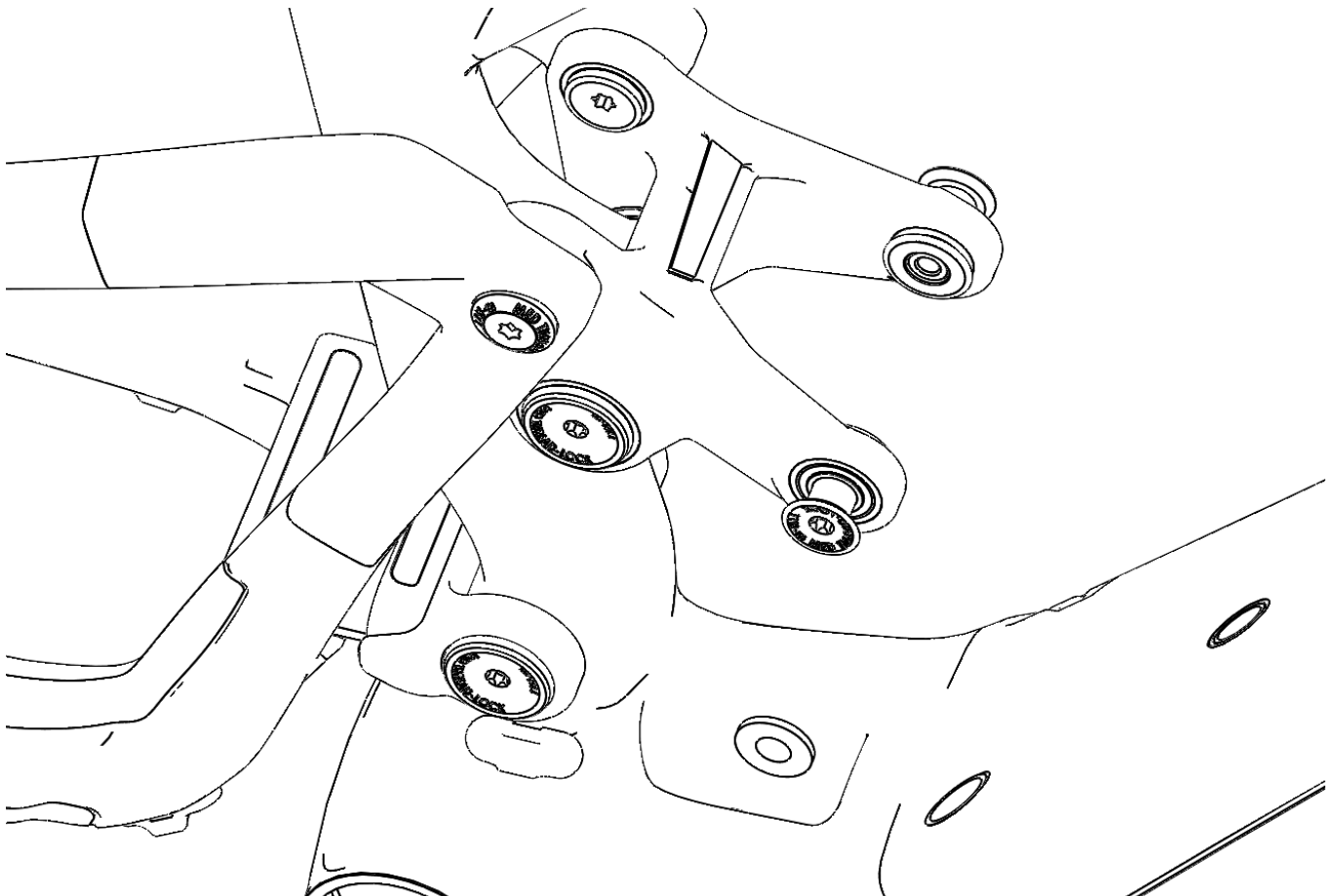
3. Slide the shock upward and forward to remove
4. Keep a hand under the trunnion pivot area of the link to catch the washers and o-rings:



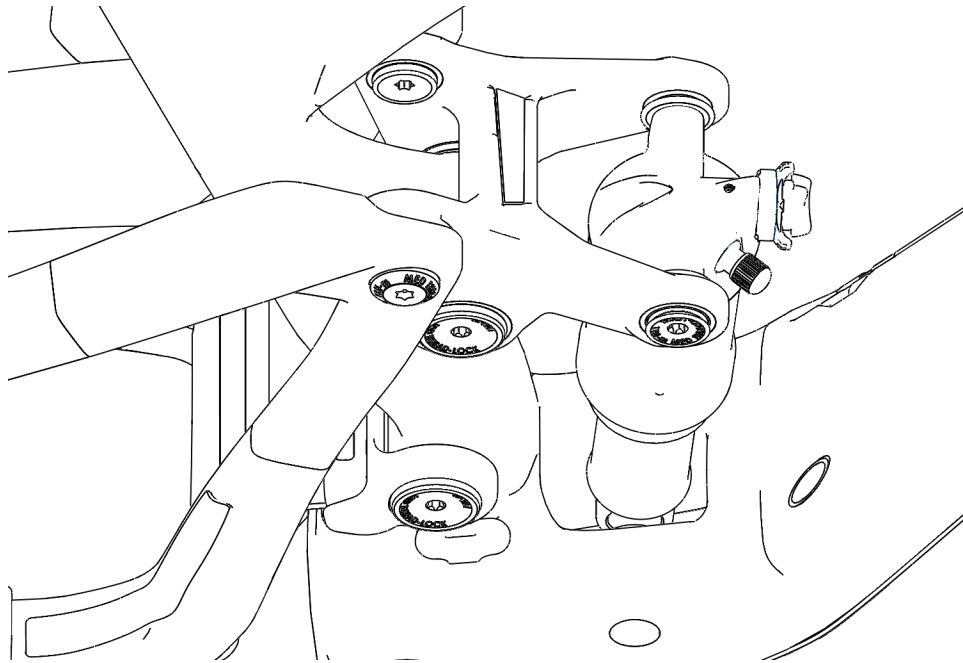
5. To replace the rear shock, begin by fitting new 1.5 X 13 inner diameter EPDM o-rings onto the washers as shown. The easiest way to do this is to lay the washer on a flat surface with the flat side down. Then push the o-ring down from the top until it sits in the installation groove:



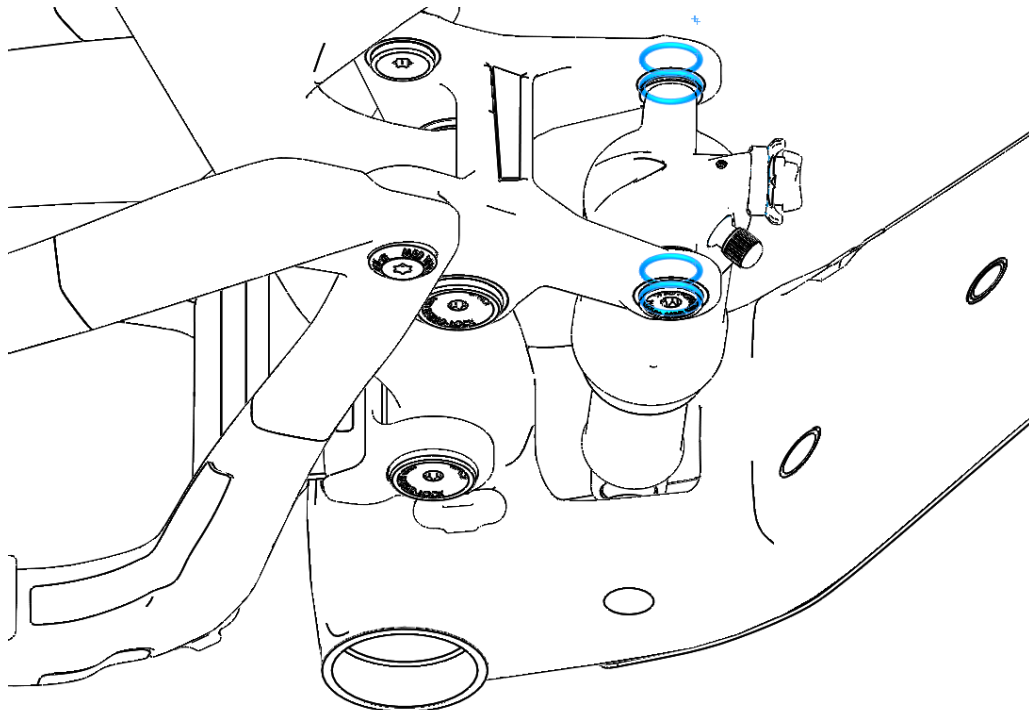
6. Apply medium strength thread locker to the trunnion screws and insert them into the link so that they slightly protrude to the inboard side. Slide the washers, with o-rings, onto the ends of the screws from the inboard side:



6. Insert the rear shock into the frame and tighten the upper trunnion screws and lower pivot pin hardware to 11N-m (97in-lb) using T30 Torx tools:

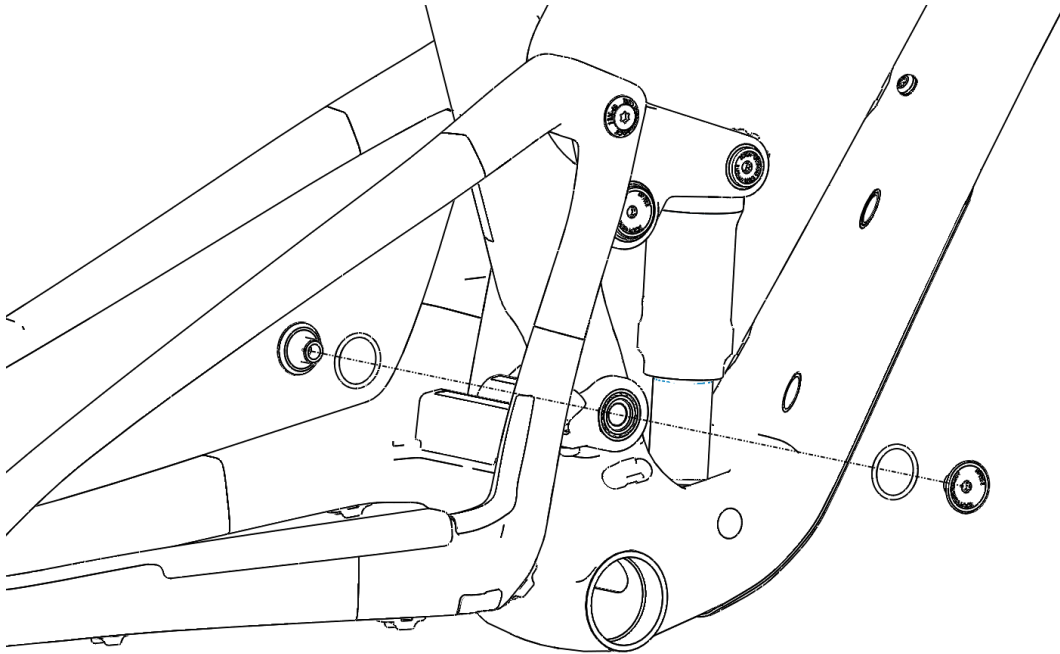


7. Using a pick tool or fingernail, push the inboard o-rings from the installation groove to the taper so they rest against the inboard sides of the link. Install the outboard 1.5 X 13 inner diameter o-rings over the heads of the trunnion screws as shown:

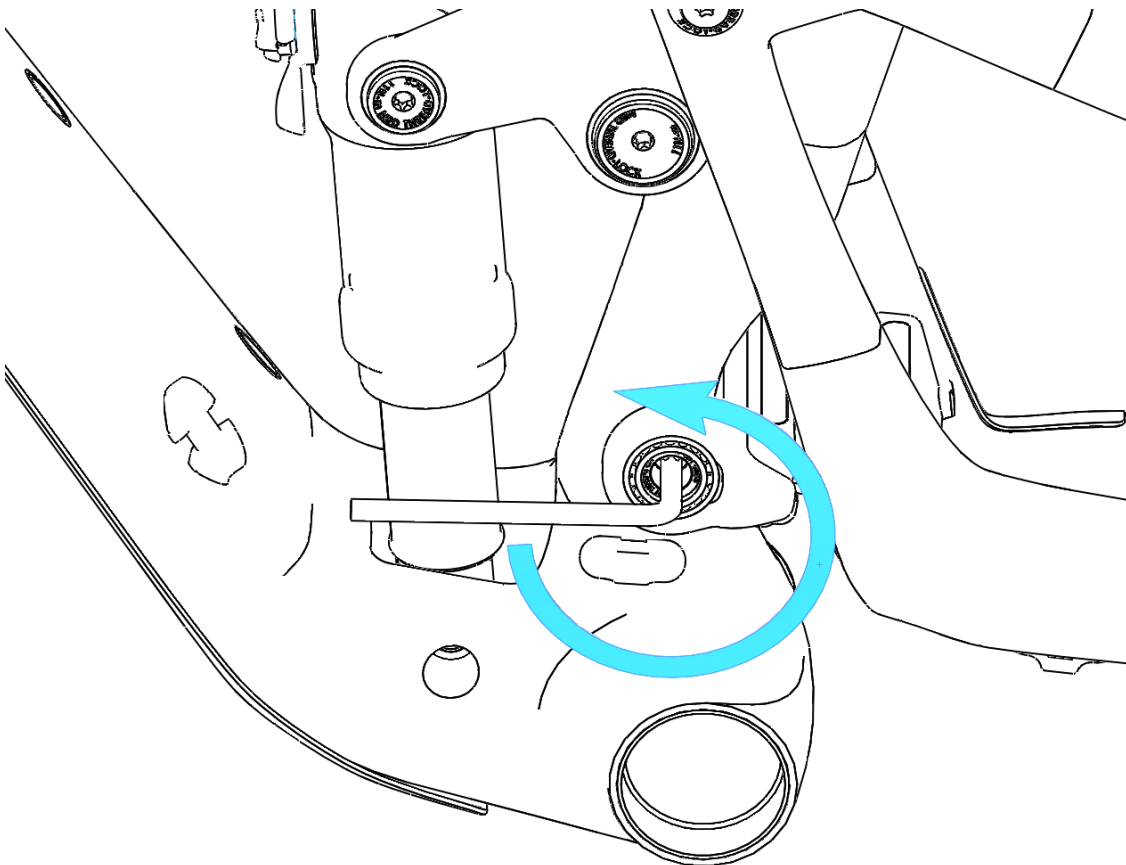


Rear Triangle Removal

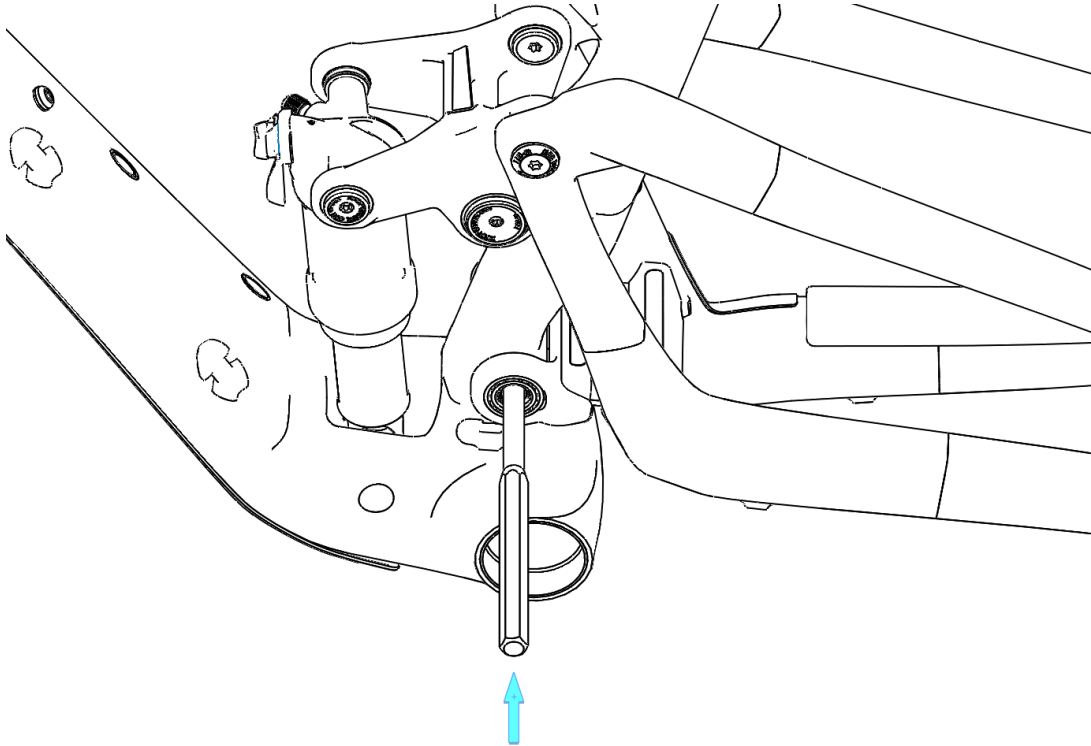
1. Using a T30 Torx tool, remove the main pivot caps and o-rings:



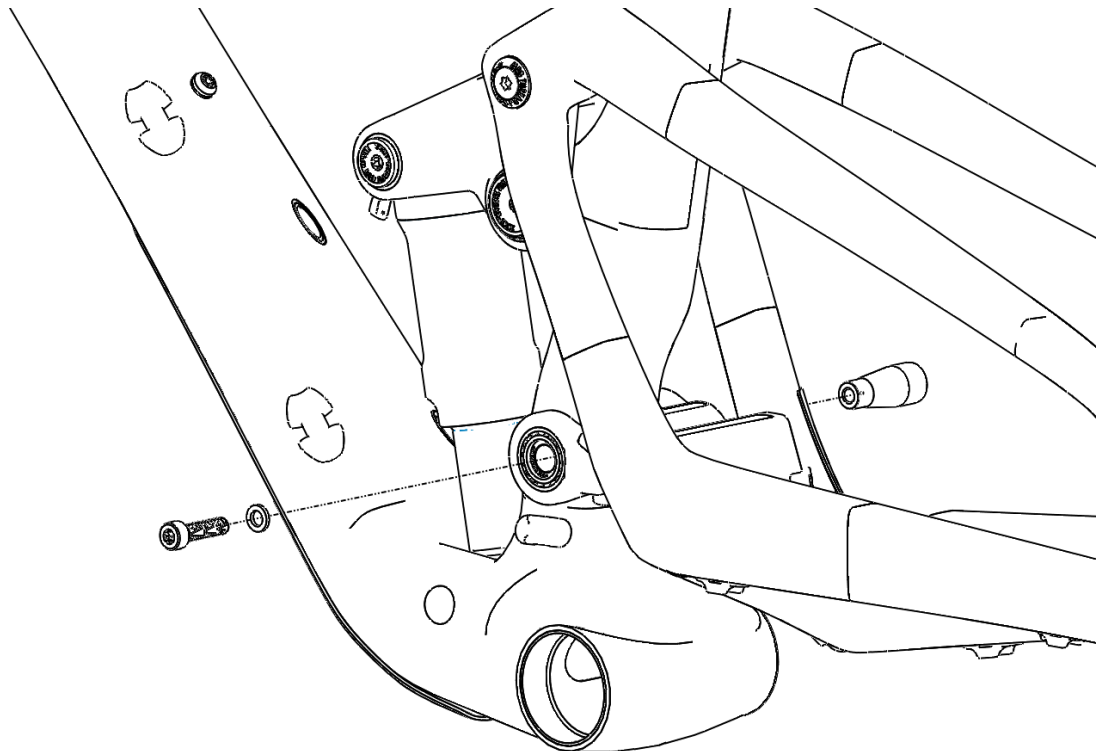
2. Using a T30 Torx tool, loosen the preload screw from the pivot axle 5-6 full turns:



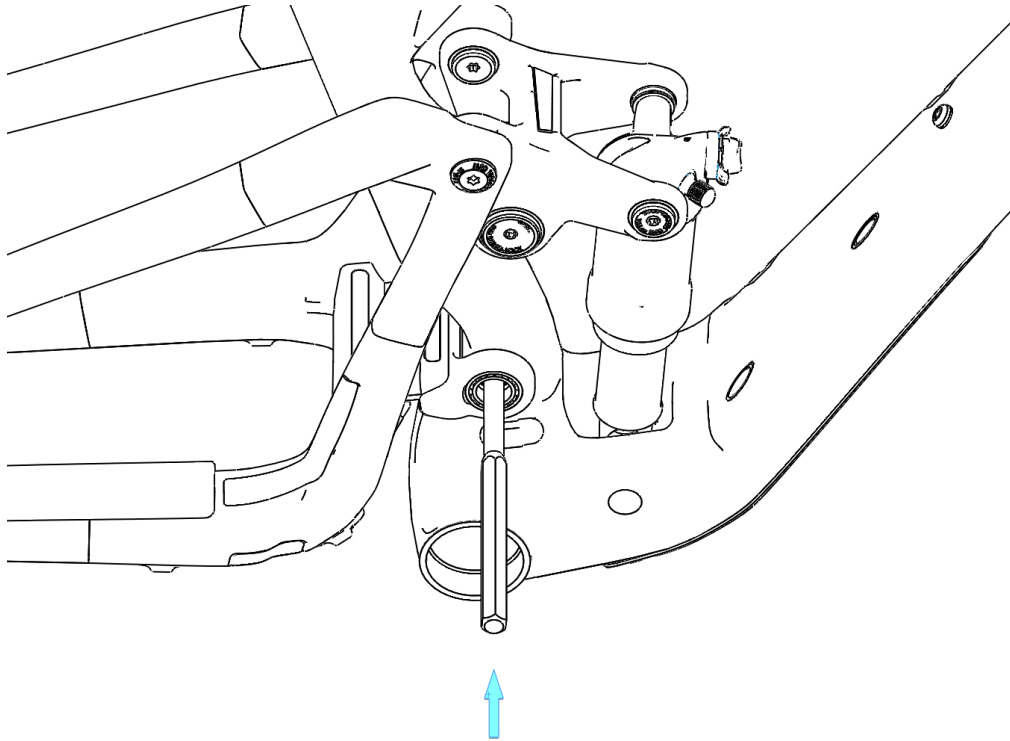
3. Position a the pin punch tool against the head of the preload screw, and sharply strike the punch tool with a hammer to unseat the pivot axle on the drive side of the frame:



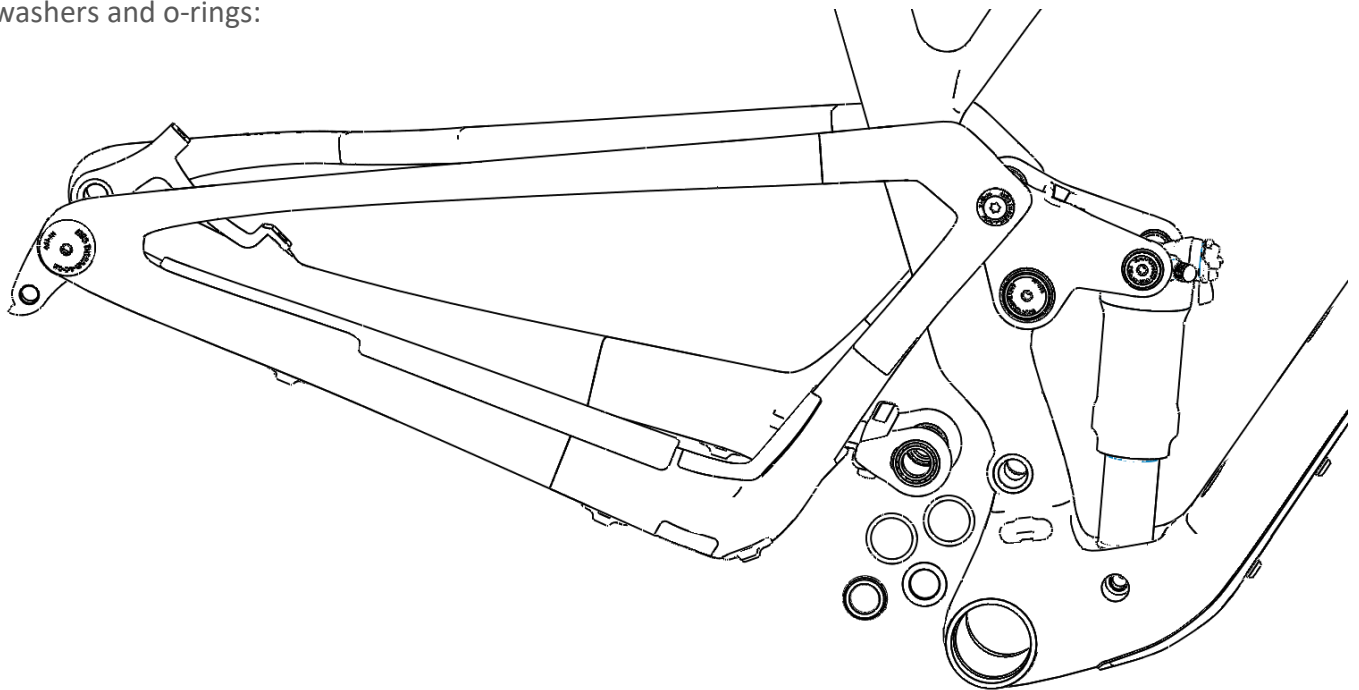
4. Unscrew the preload screw from the drive side pivot axle and remove the screw, washer and axle from the frame:



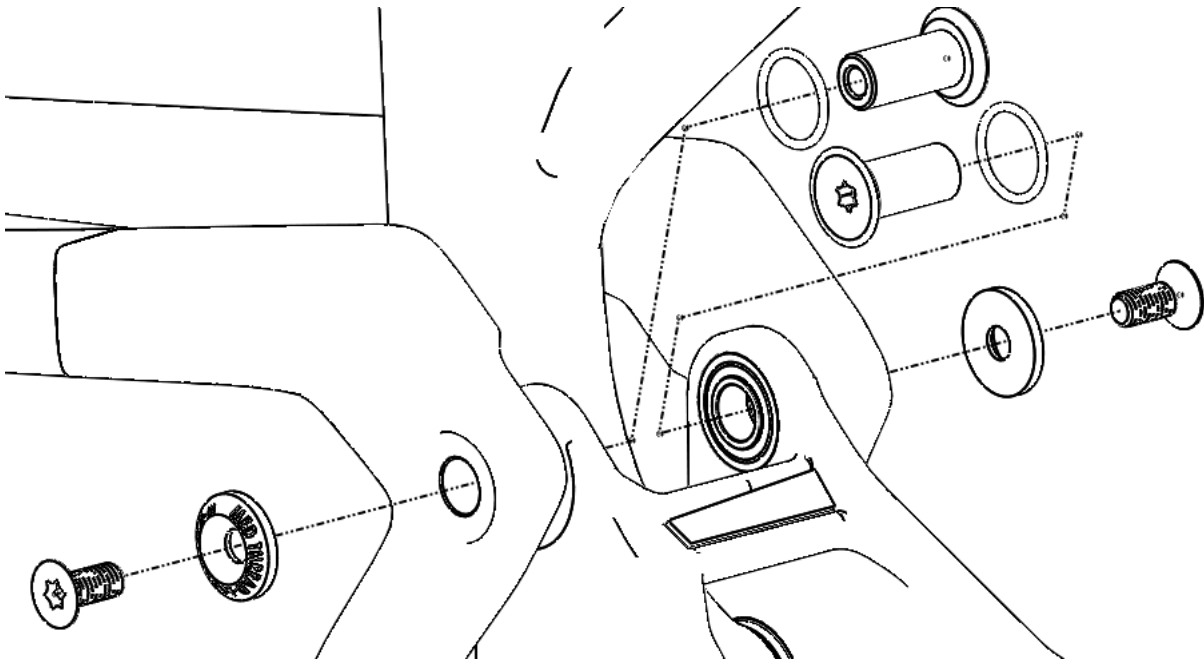
5. Insert the punch tool into the main pivot bore from where the drive side pivot axle was removed. Ensure firm, even contact with the inner face of the non-drive side pivot axle. Strike the punch sharply with a hammer to unseat the non-drive side pivot axle and remove:



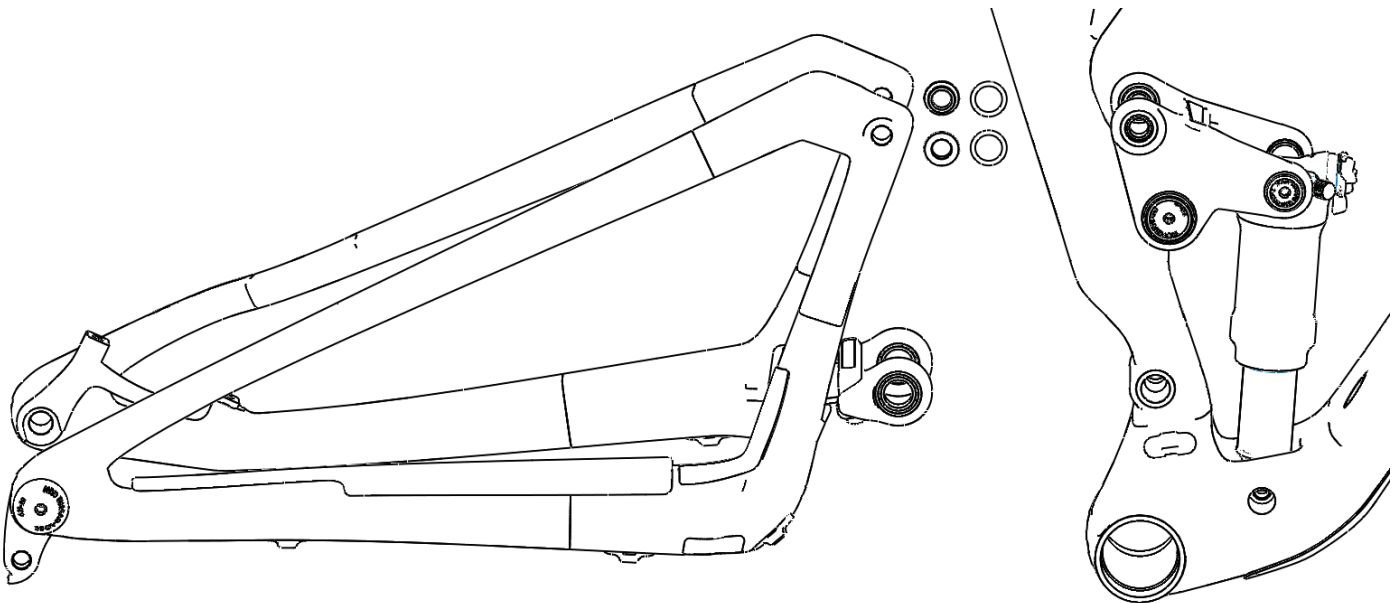
6. The rear triangle is now able to swing upward away from the front triangle. Place a hand under the main pivot yoke while slowly swinging the rear triangle up and rearward to catch the inner pivot washers and o-rings:



7. Remove the upper pivot hardware from the seat stay / rocker link pivot using T30 Torx tools. The inboard o-rings will come off with the upper pivot bolts:

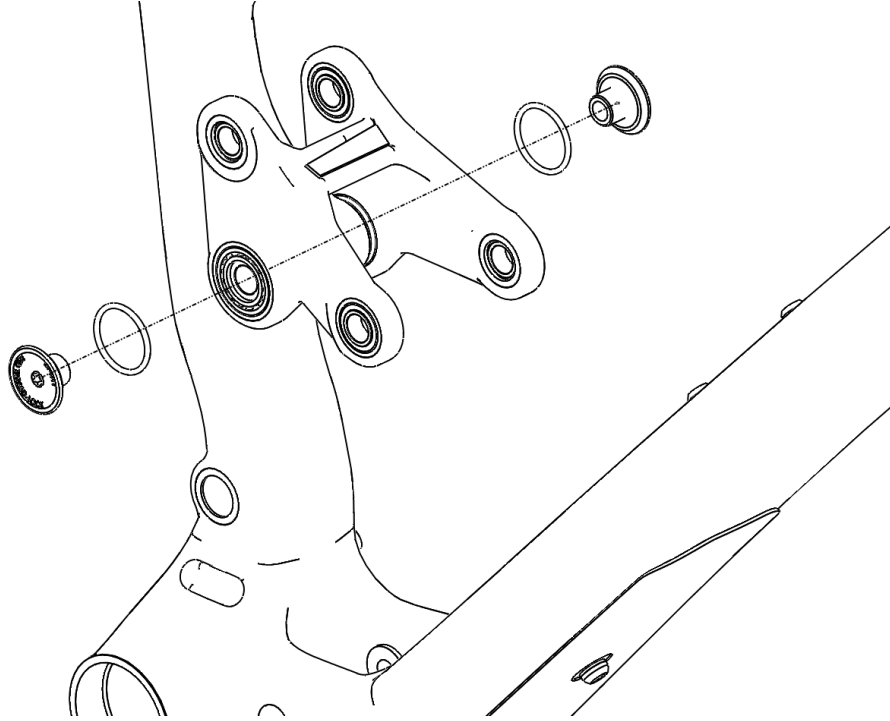


8. Once the upper pivot bolts are removed, the rear triangle assembly can be separated from the frame. Place a hand under the upper link while pulling the rear triangle rearward to catch the inner washers and o-rings from the upper link:

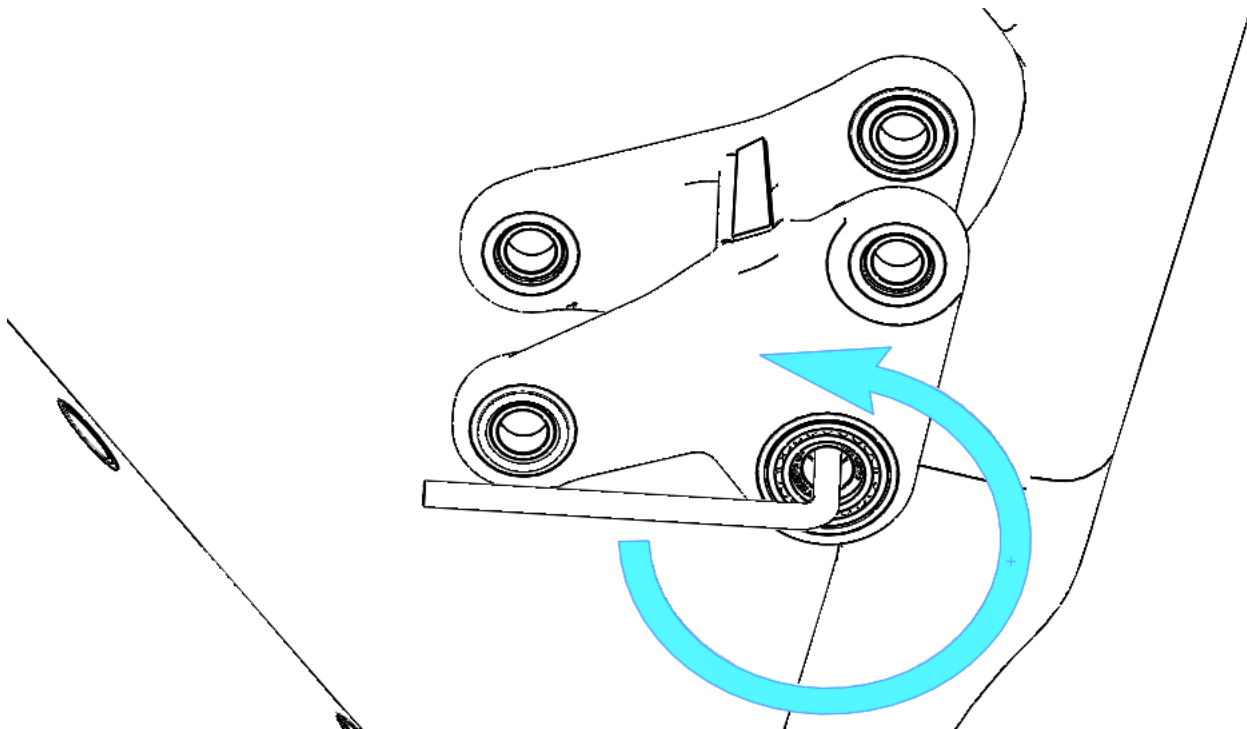


Rocker Link Removal

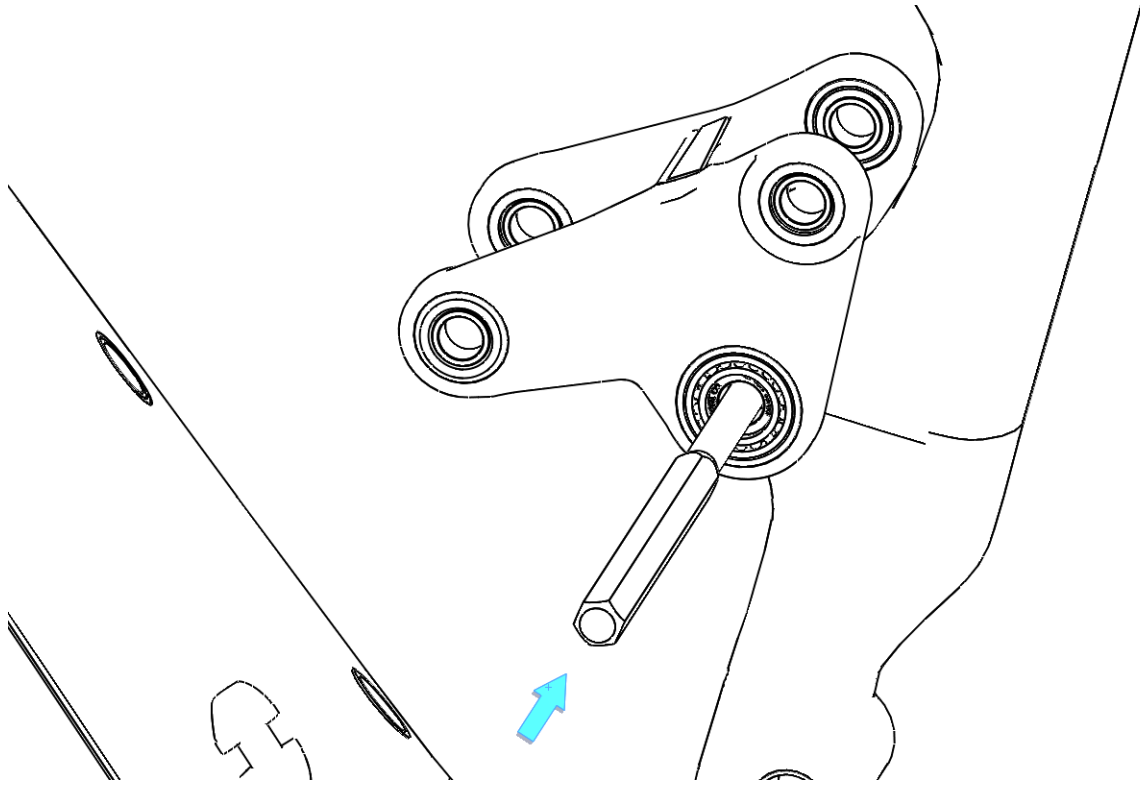
1. Remove the shock as directed in section F of this manual. Using a T30 Torx tool, remove the pivot caps and o-rings from the link pivot as shown:



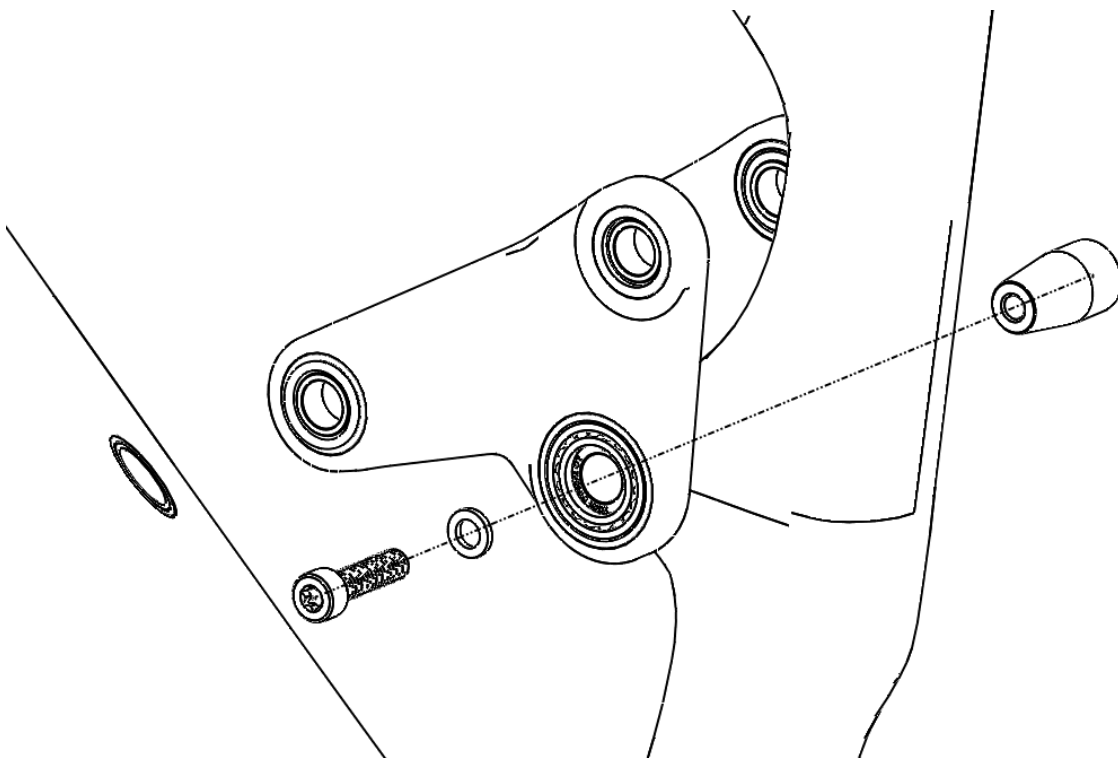
2. Using a T30 Torx tool, loosen the preload screw from the pivot axle 5-6 full turns:



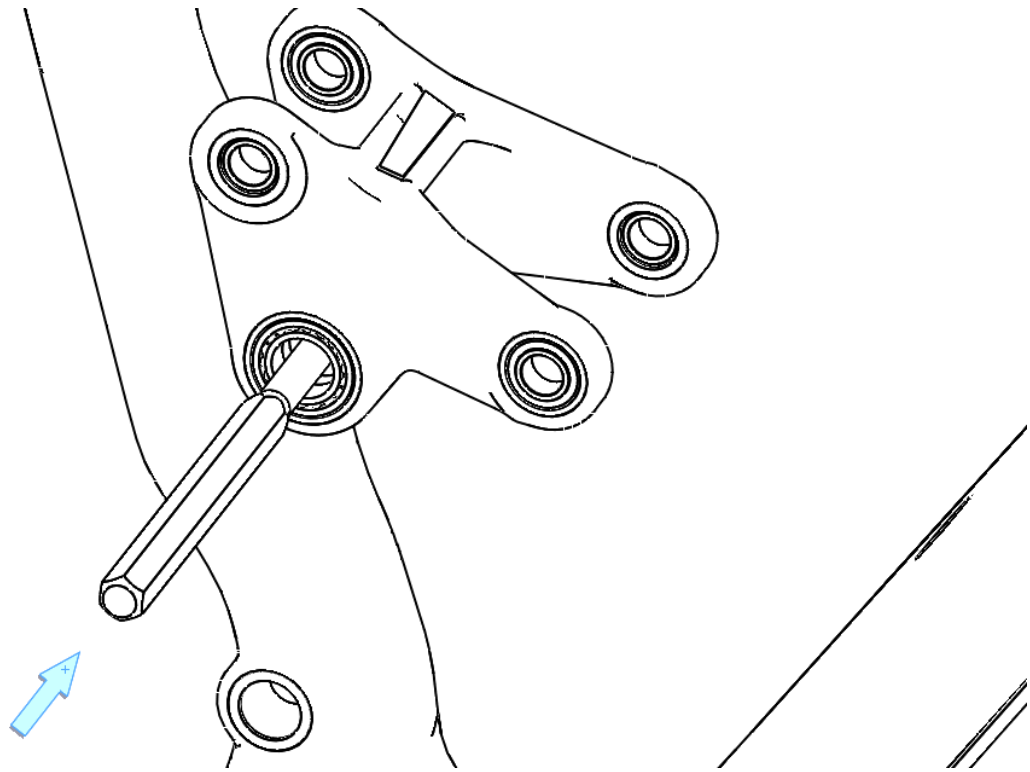
3. Position the pin punch tool against the head of the preload screw, and sharply strike the punch tool with a hammer to unseat the pivot axle on the drive side of the frame:



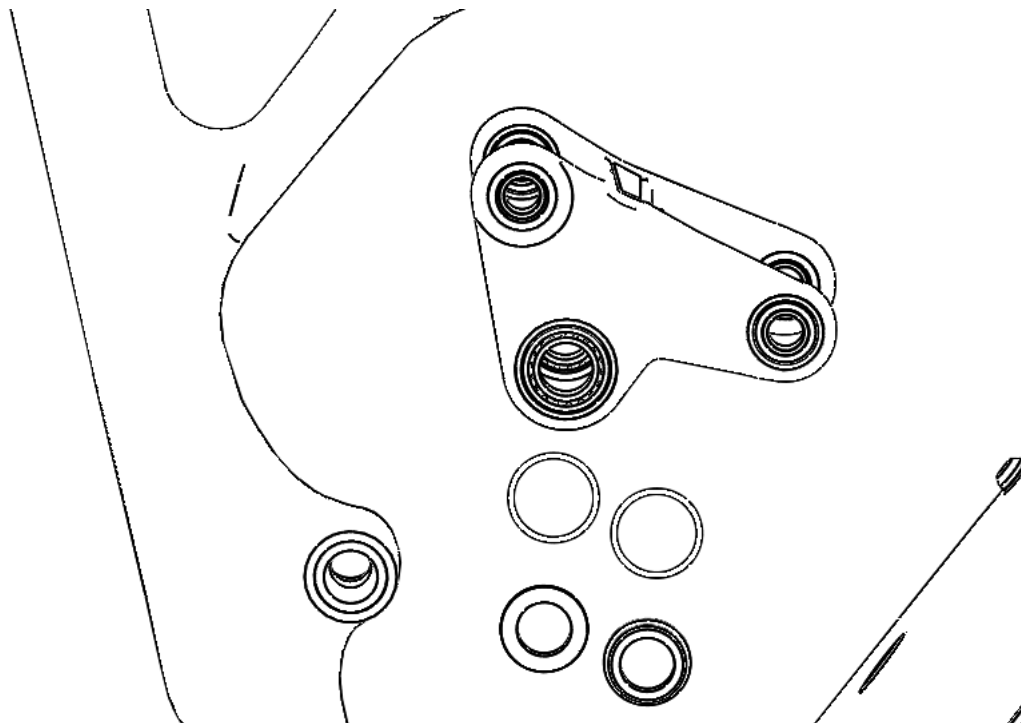
4. Unscrew the preload screw from the drive side pivot axle and remove the screw, washer and axle from the frame:



5. Insert the punch tool into the seat tube pivot bore from where the drive side pivot axle was removed. Ensure firm, even contact with the inner face of the non-drive side pivot axle. Strike the drift punch sharply with a hammer to unseat the non-drive side pivot axle and remove:

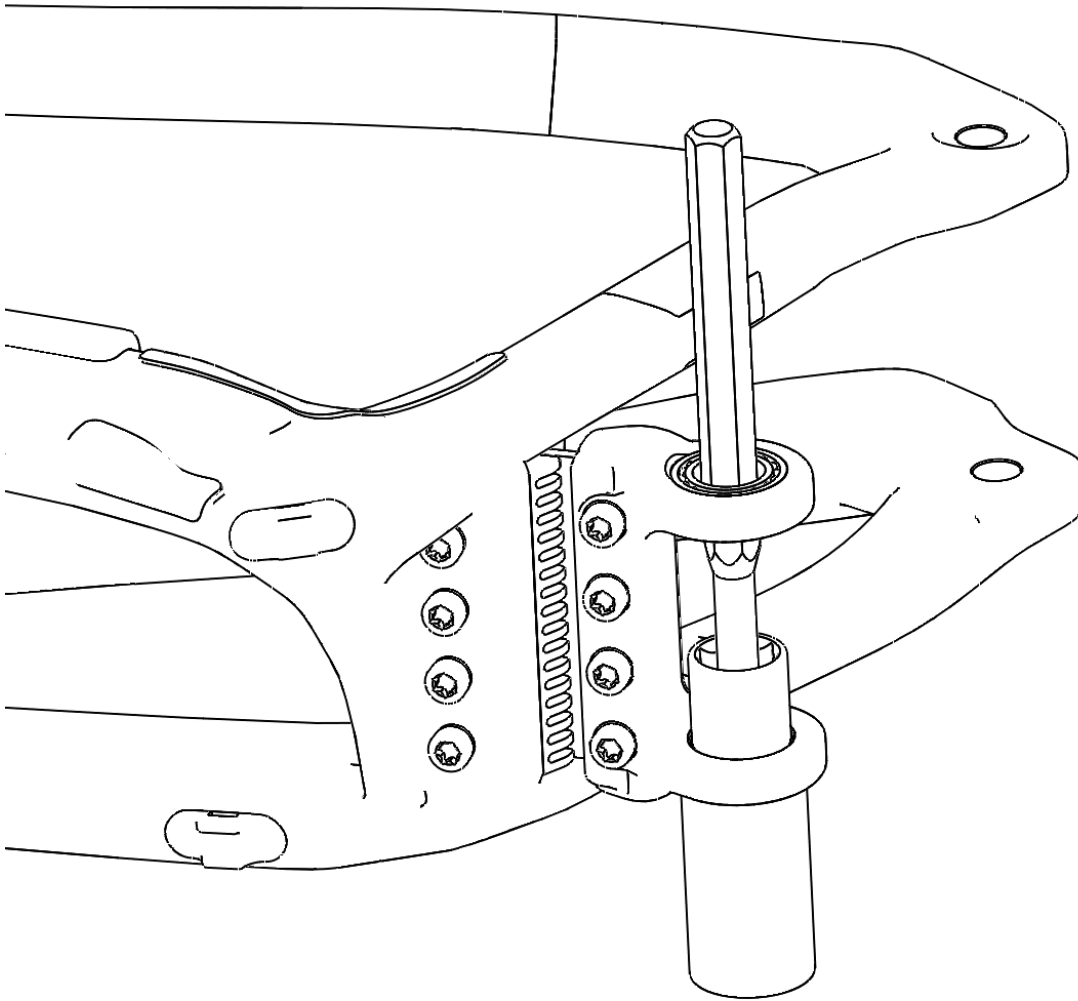


6. The rocker link is now free to slide forward and away from the front triangle. Place a hand under the seat tube pivot to catch the inner pivot washers and o-rings:



Main Pivot Bearing Replacement

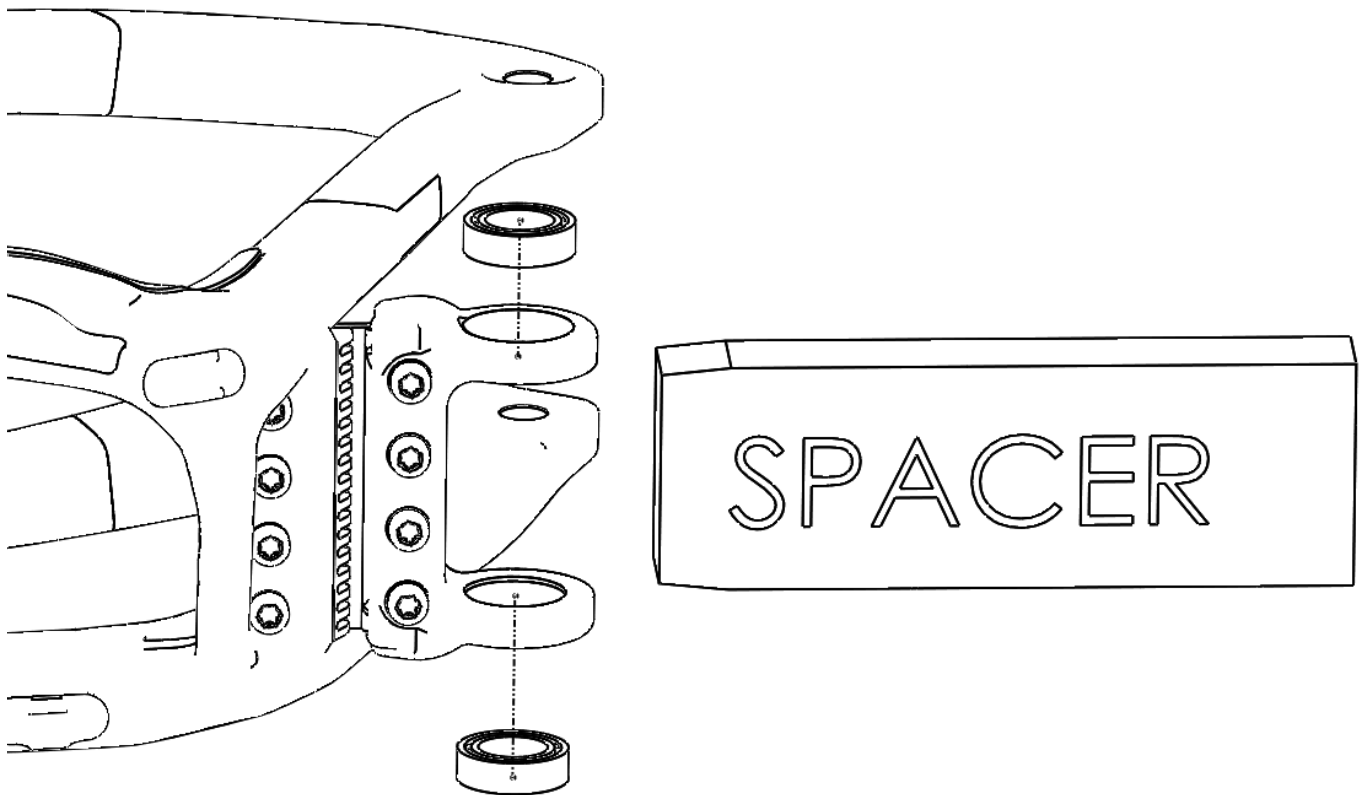
1. Set the rear triangle assembly on one side, on a work bench with a protective cloth to prevent scratching the frame finish. Support the pivot yoke as shown by your 27-30mm ID plastic tube. Combine your 20-22mm outer diameter socket with an extension, punch, or other implement as shown. Begin gently tapping with the hammer to push the bearing out of the frame and into the tube:



2. Remove the remaining main pivot bearing by flipping the rear triangle over and repeating.

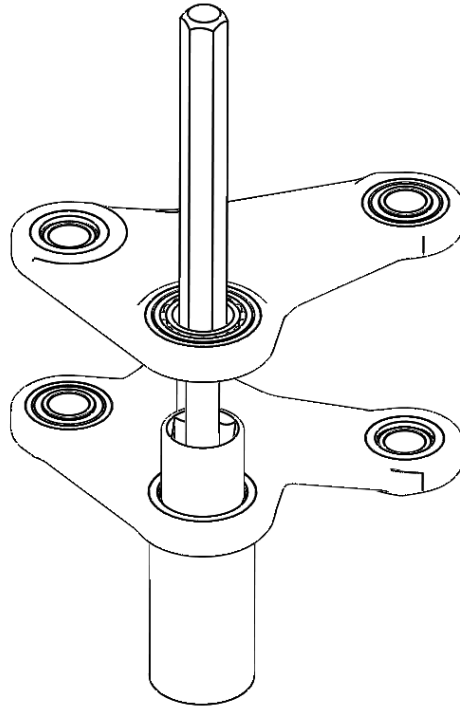
3. Once the old bearings are removed, thoroughly clean the bearing bores in the pivot yoke with isopropyl alcohol. As with removal, there are a few different techniques that can be used to install the bearings. We recommend using an arbor press, but a bench vise, or even a piece of threaded rod with nuts and washers on either end will do the job. If using a press or a vise, It is ***absolutely necessary*** to support the yoke between the bearing hoops with a spacer. This can be another plastic tube, block of wood, or any non-marring solid piece that will support the hoops and keep them from bending as the bearings are pressed in. Press the bearings until they are flush with the outer surface of the yoke, taking care not to mar the finish of the yoke or frame.

IMPORTANT: NEVER INSTALL BEARINGS USING A HAMMER OR ANY OTHER MEANS OF IMPACT!



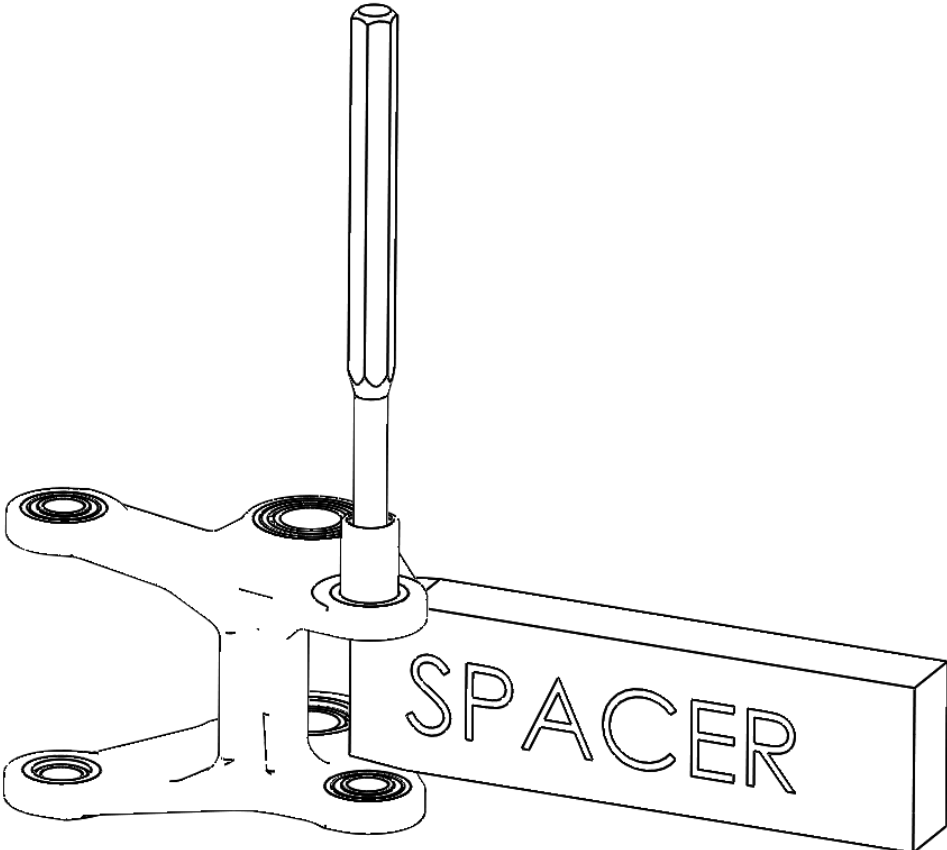
Rocker Link Bearing Replacement

1. The main bearings in the rocker link are removed by pressing them outboard, away from the centerline of the frame. Support the pivot yoke as shown by your 27-30mm ID plastic tube. Combine your 20-22mm outer diameter socket with an extension, punch, or other implement as shown. Begin gently tapping with the hammer to push the bearing out of the frame and into the tube:



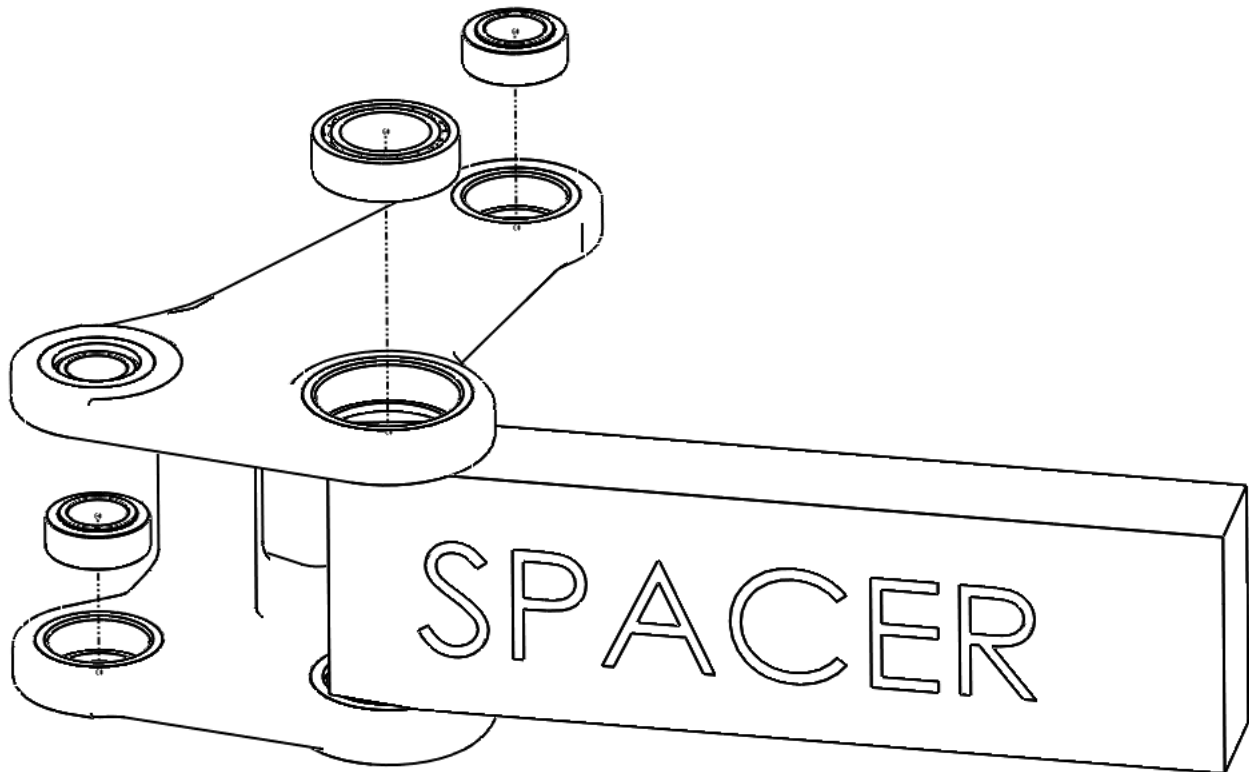
2. The shock bearings in the link are removed in the same manner, but require smaller 13-14mm socket and 23-25mm ID tube.

3. The seat stay bearings in the link are removed towards the centerline of the frame. Use a spacer block of some kind to support the link while tapping out the bearings.



4. Once the old bearings are removed, thoroughly clean the bearing bores in the rocker link with isopropyl alcohol. Similar to the main pivot bearings, there are a few different techniques that can be used for installation. We recommend using an arbor press, but a bench vise, or even a piece of threaded rod with nuts and washers on either end will do the job. Press the bearings until they reach the bottom of their bores, taking care not to mar the finish of the link:

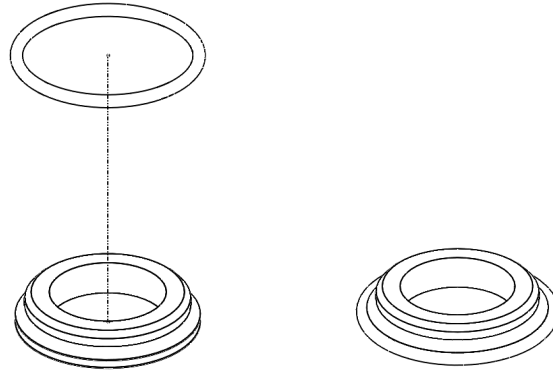
IMPORTANT: NEVER INSTALL BEARINGS USING A HAMMER OR ANY OTHER MEANS OF IMPACT!



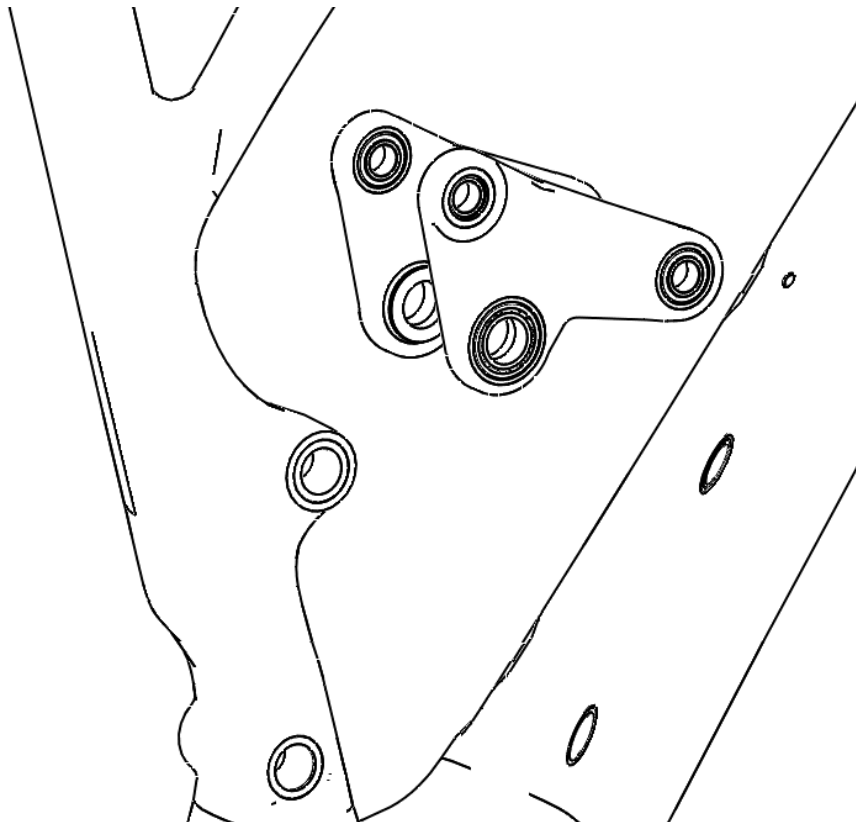
When pressing in bearings from the outboard side of the link, be sure to support the link with some kind of spacer block to prevent link damage.

Rocker Link Reinstallation

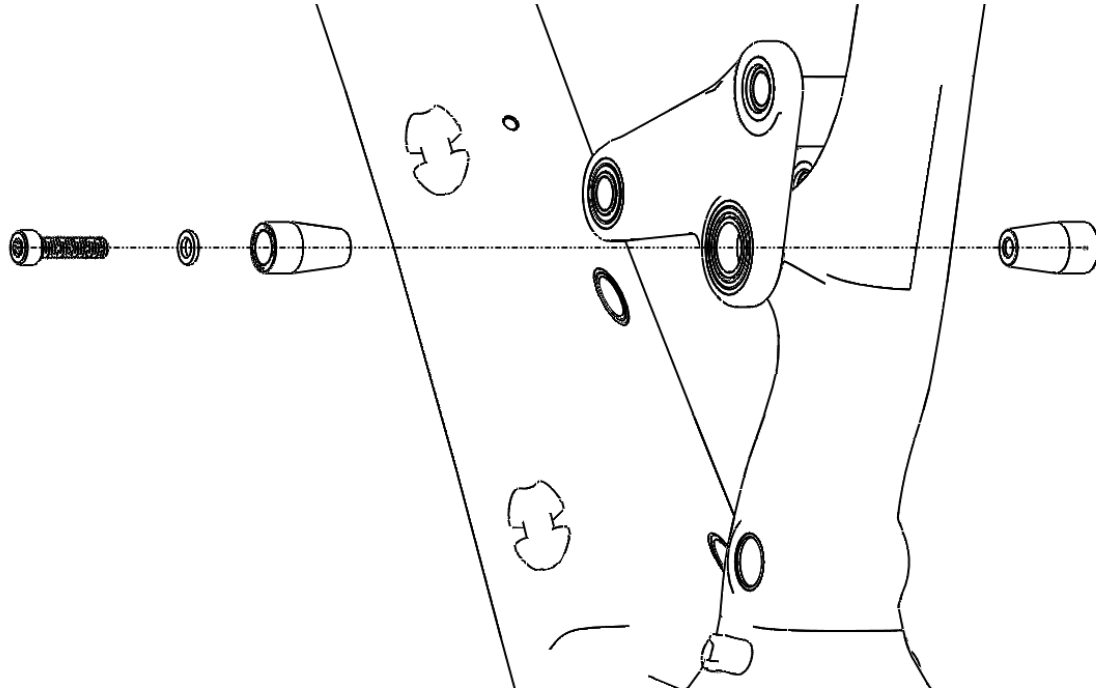
1. Prepare to reinstall the upper link by fitting new 1.5 X 19mm inner diameter o-rings to the washers to be installed between the link and the seat tube. The easiest way to do this is to lay the washer on a flat surface with the flat side down. Then push the o-ring down from the top until it sits in the installation groove:



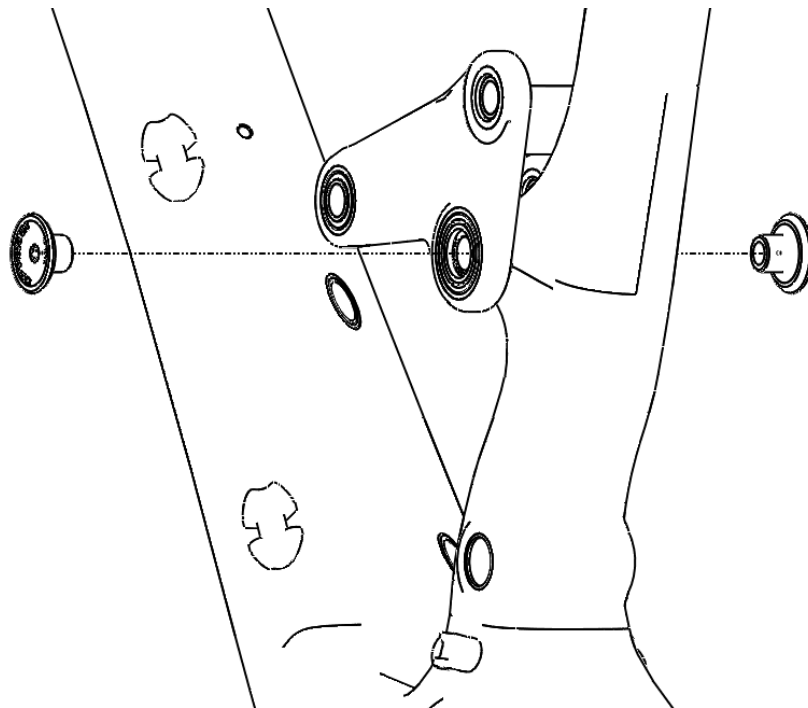
2. Insert the washers, with o-rings positioned in the installation grooves, into the inboard lower bearing recesses on the link assembly. A small application of grease can help to keep them in place for link installation. Being careful not to drop the washers/o-rings, and carefully slide the link assembly rearward onto the seat tube at the pivot boss::



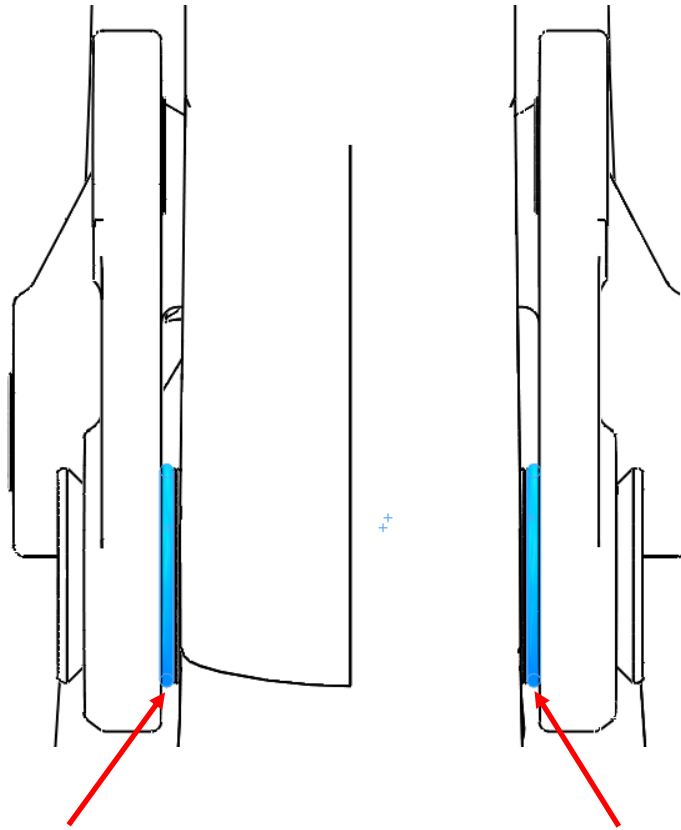
3. Insert the pivot axles, washer and preload screw into the seat tube pivot as shown. Note that the drive side pivot axle is shorter than it's corresponding part used in the main pivot. Do not apply thread locker to the preload screw, do not grease the conical axles. Torque to 10N-m (88in-lb) using a T30 Torx tool:



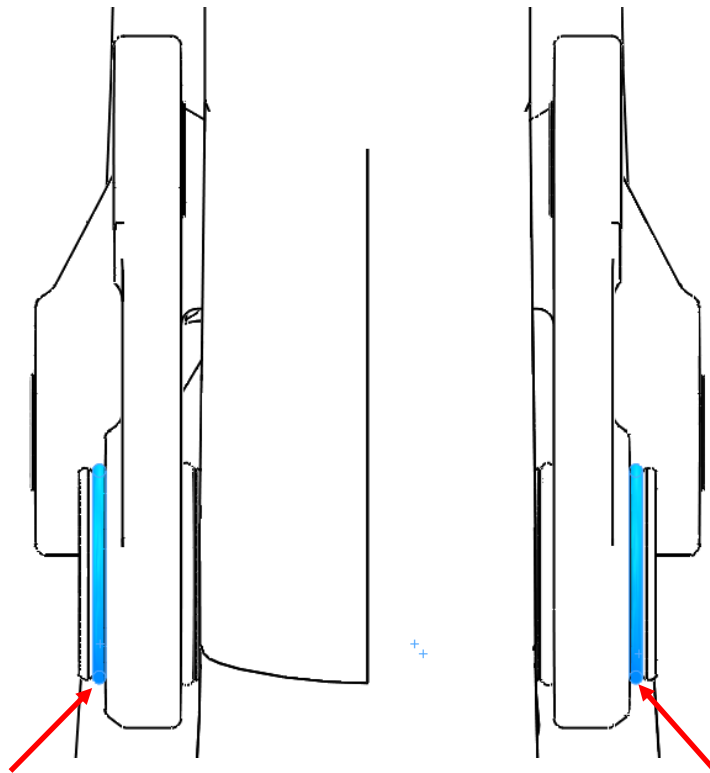
4. Install the two outer pivot caps as shown. Apply medium thread locker and torque to 11N-m (97in-lb) using a T30 Torx tool:



5. Using a pick, small screwdriver, or even a fingernail, move the inner o-rings from the installation groove outward into the sealing position against the link as shown here:

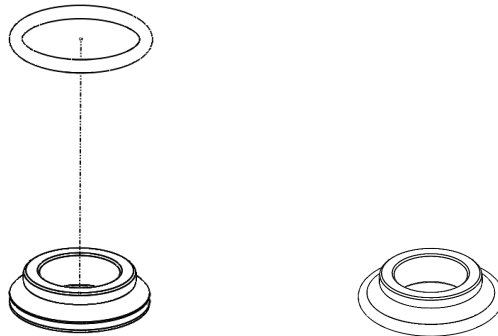


6. Install the outer pair of o-rings (1.5 X 19mm inner diameter):

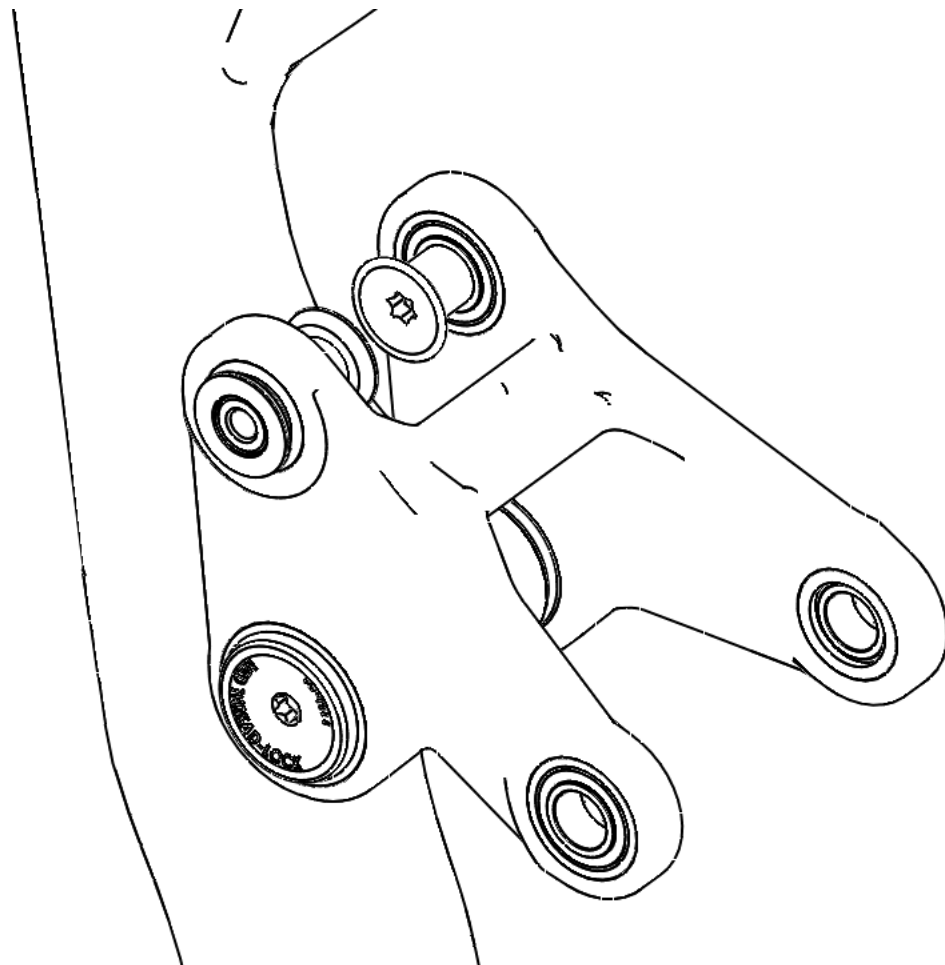


Rear Triangle Reinstallation

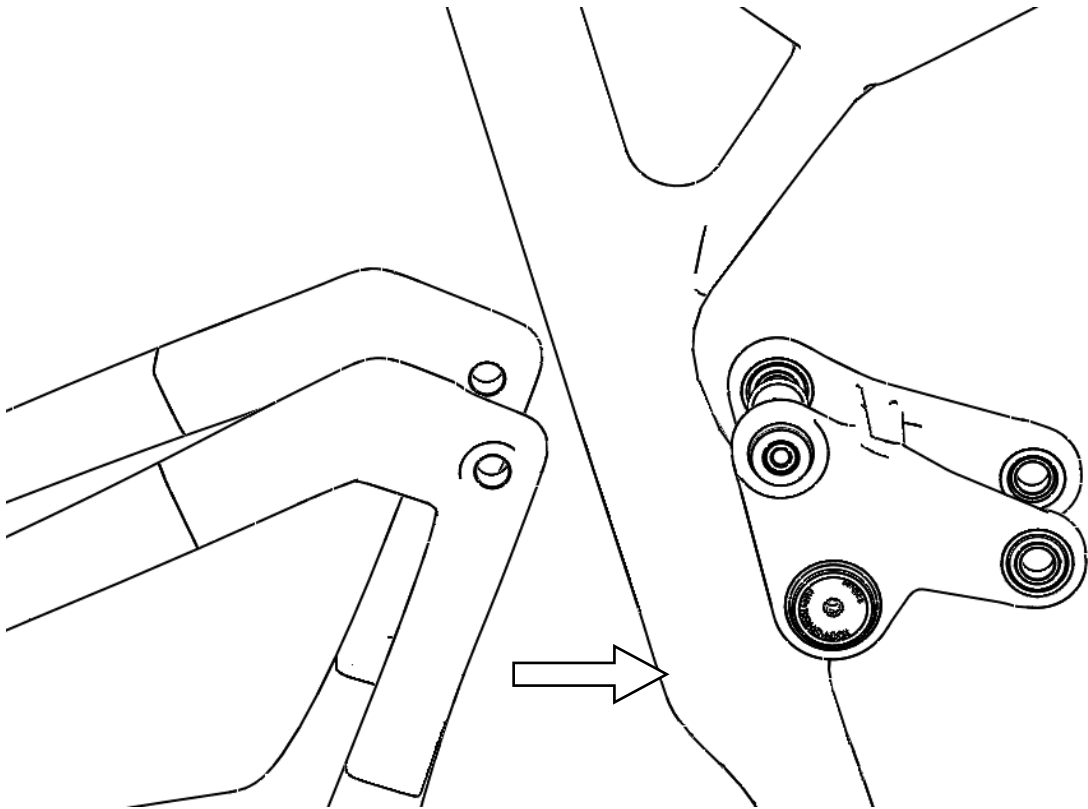
1. To replace the rear triangle, begin by fitting new 1.5 X 13mm inner diameter EPDM o-rings onto the washers as shown. The easiest way to do this is to lay the washer on a flat surface with the flat side down. Then push the o-ring down from the top until it sits in the installation groove:



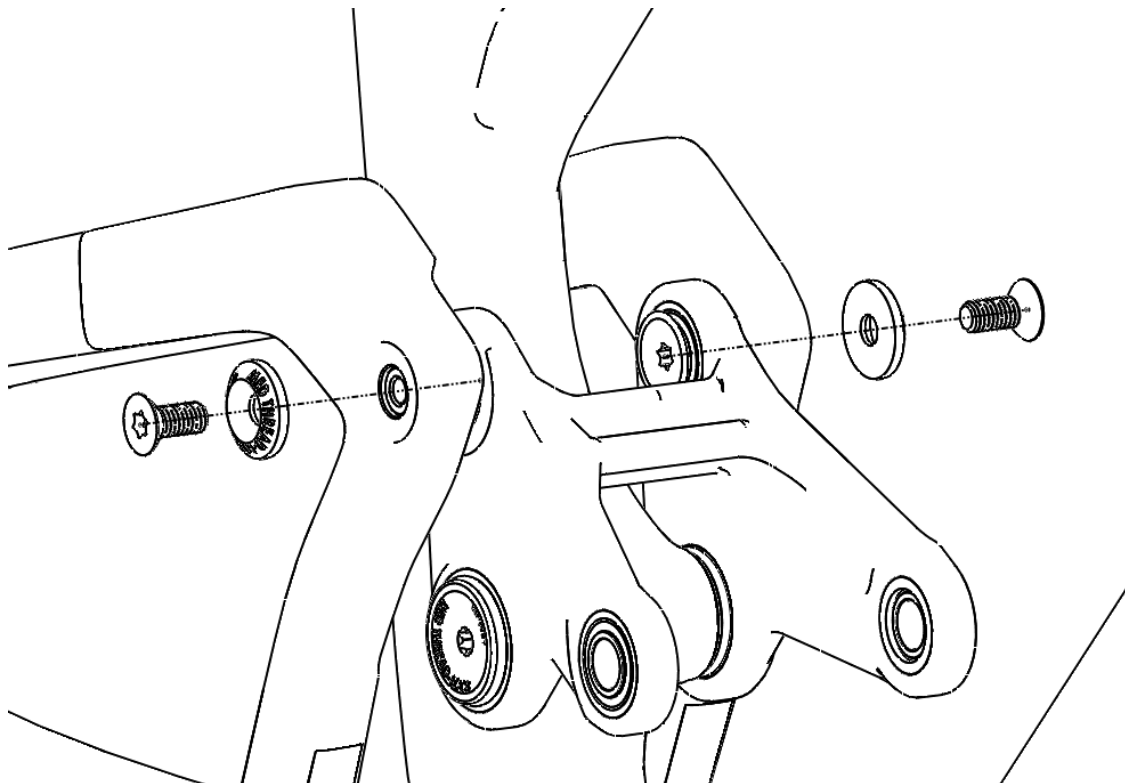
2. Insert the upper pivot axles into the link from the inboard side so that they slightly protrude to the outboard side. Slide the washers, with o-rings, onto the ends of the axles from the outboard side:



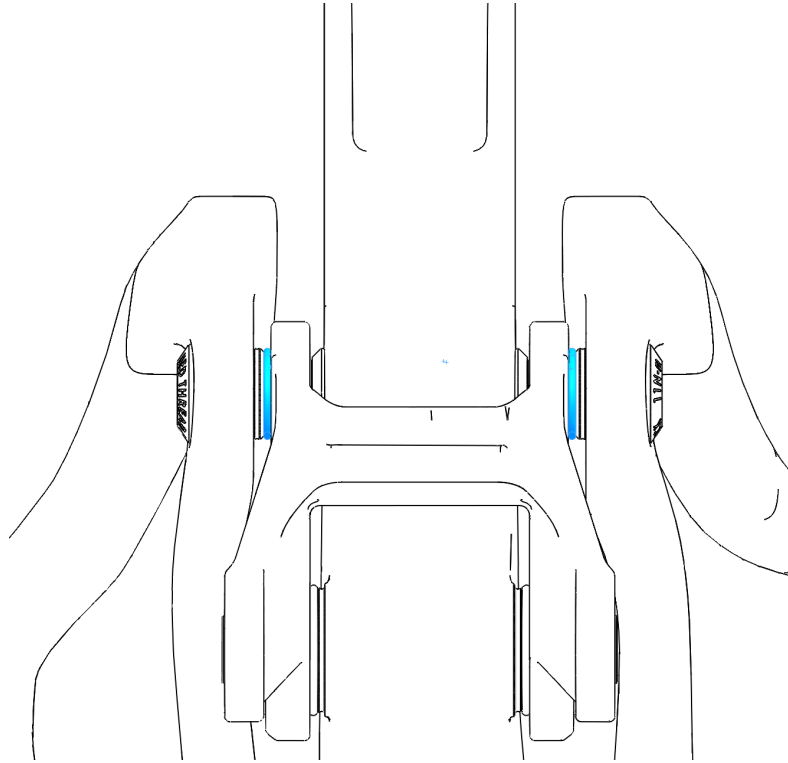
3. Slide the rear triangle assembly onto the upper pivot of the link:



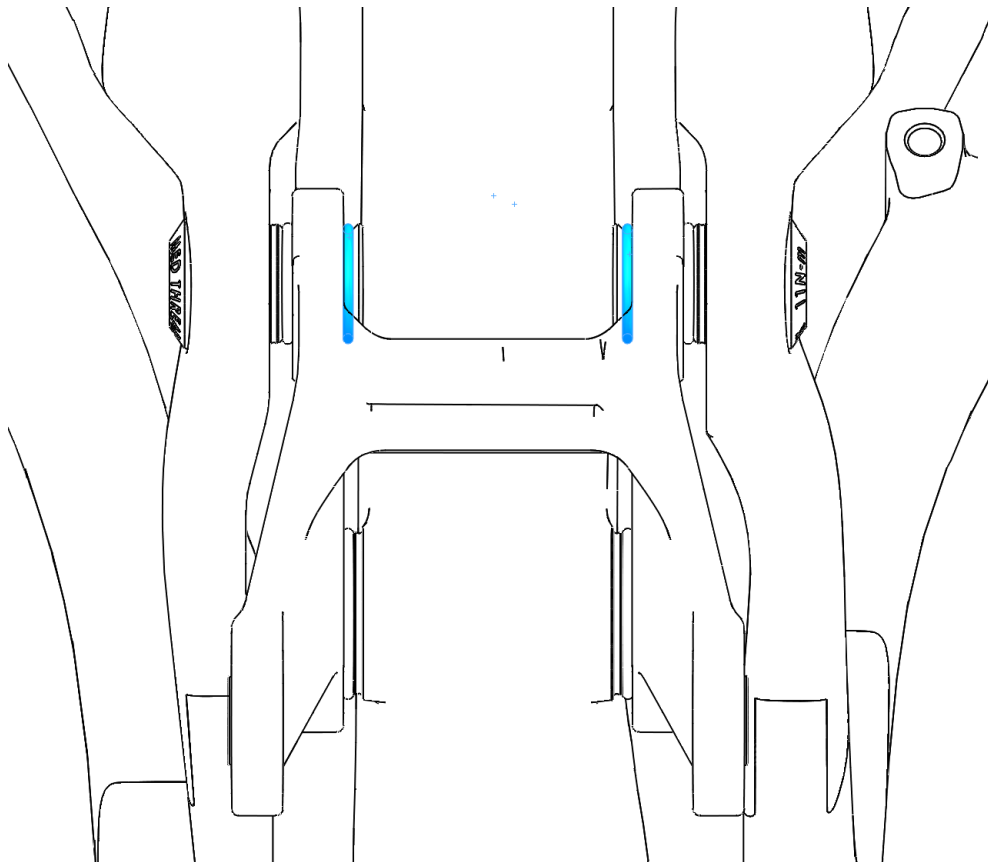
4. Install the upper pivot screws and washers with medium strength thread locker. Torque to 11N-m (97 in-lb) using T30 Torx tools:



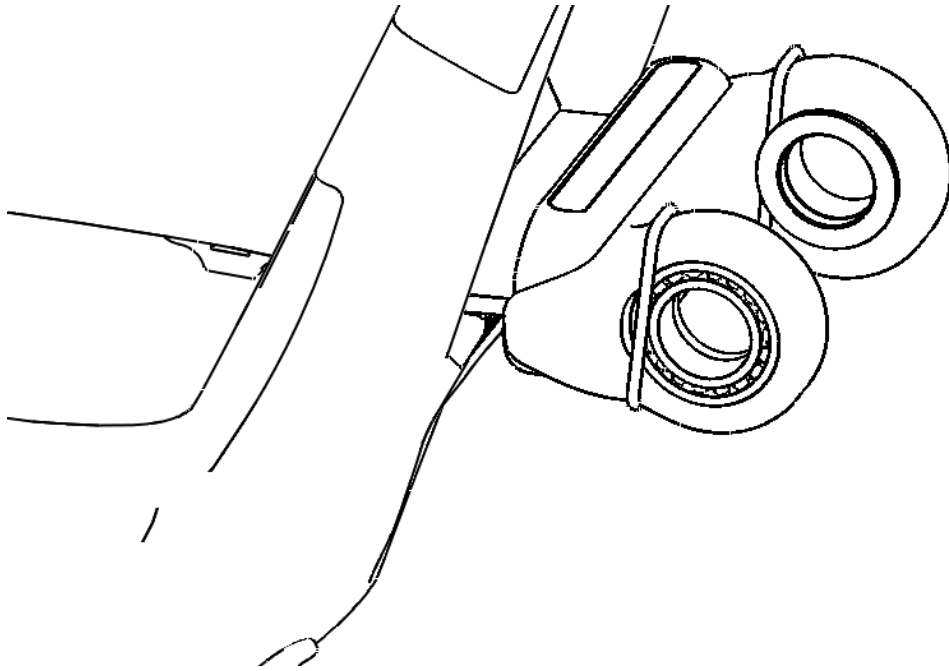
5. Using a pick, small screwdriver, or even a fingernail, move the o-rings from the installation groove inward into the sealing position against the sides of the link as shown here:



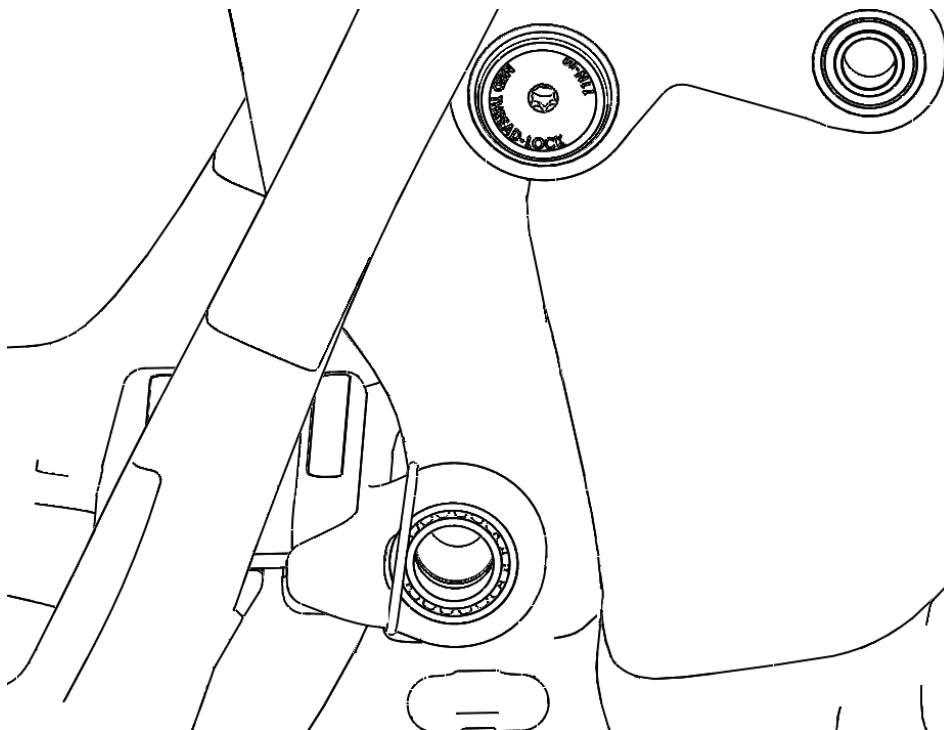
6. Install the inboard 1.5 X 13mm inner diameter o-rings over the pivot bolts:



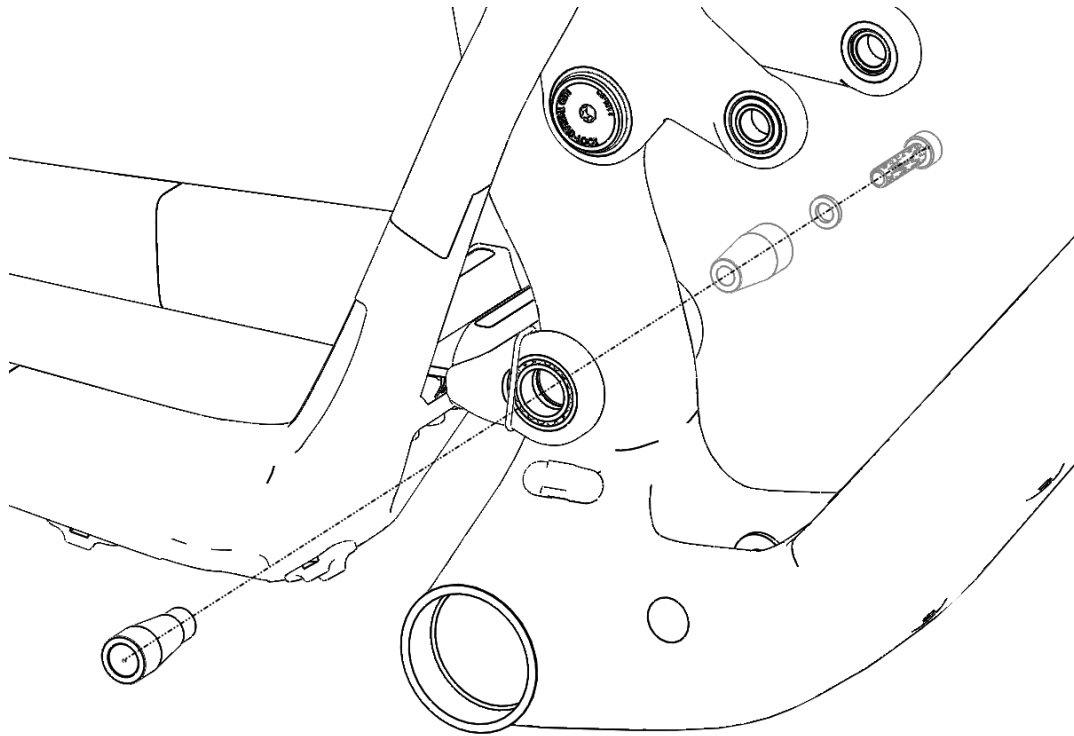
- Stretch two 1.5 X 19mm inner diameter o-rings over the hoops of the main pivot bearings to prepare for installation. Install the inner washers, with the conical faces outboard– flat faces inboard, into the inboard bearing recesses in the main pivot clevis. The o-rings will help hold the washers in position and vice versa. A small dab of grease on each washer can help it stay in place for installation.



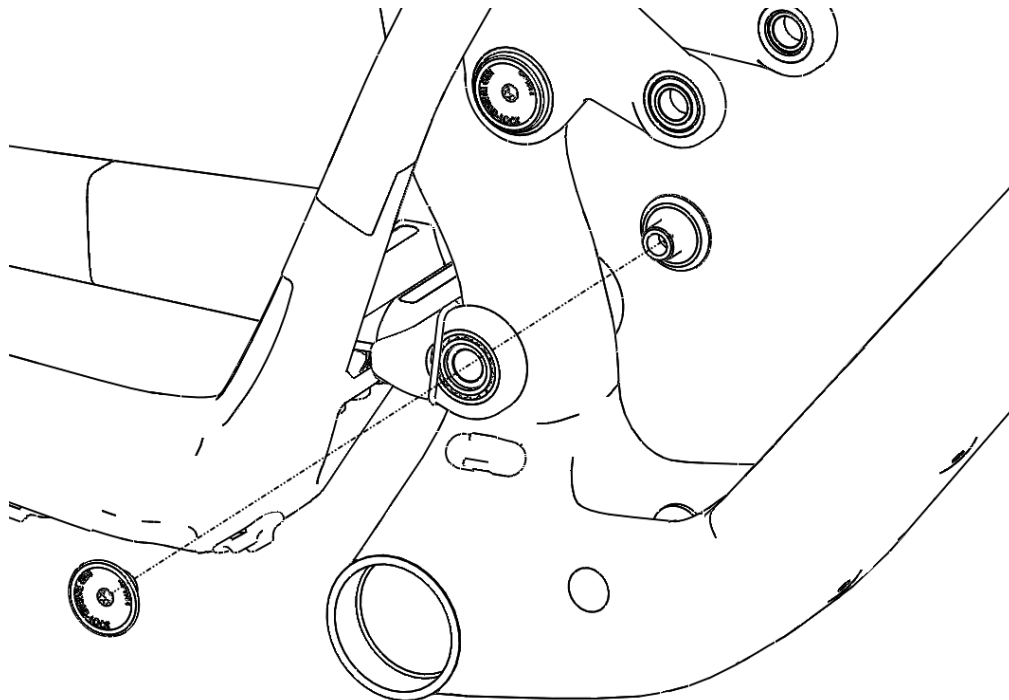
- Swing the rear triangle into place aligning the clevis to the main pivot:



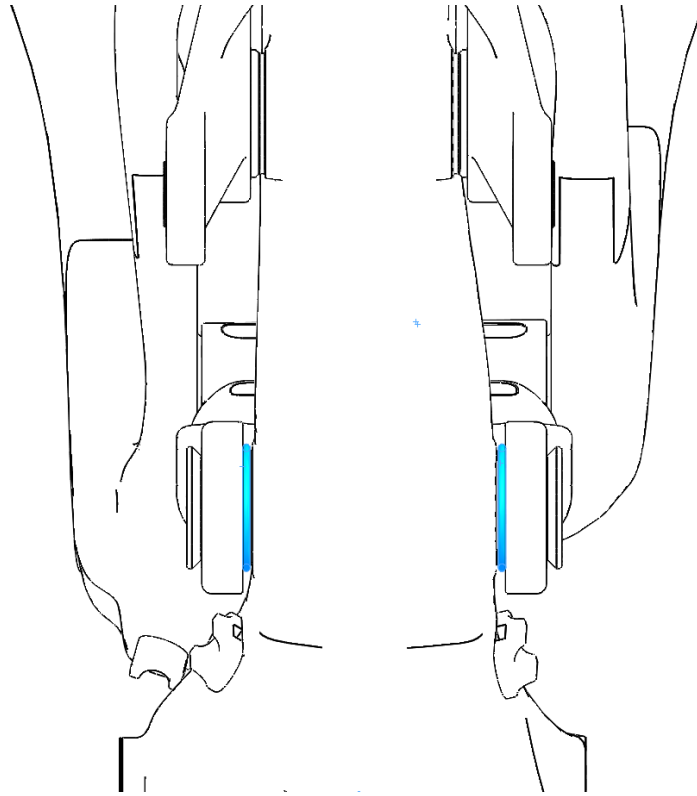
9. Insert the pivot axles, washer and preload screw into the main pivot as shown. Note that the drive side pivot axle is longer than it's corresponding part used in the seat tube pivot. Do not apply thread locker to the preload screw, do not grease the conical axles. Torque to 10N-m (88in-lb) using a T30 Torx tool:



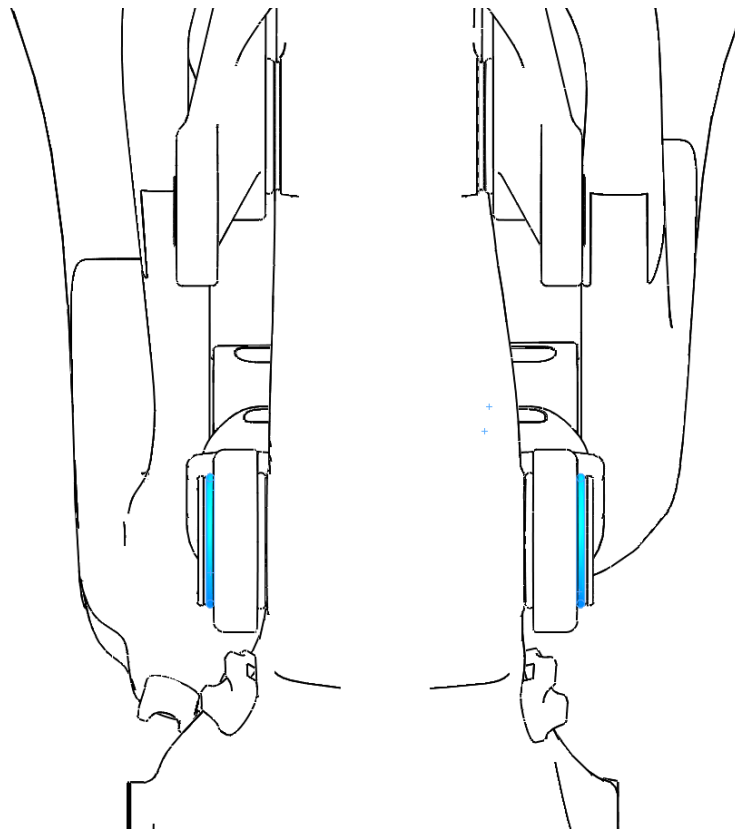
10. Install the two outer pivot caps as shown. Apply medium thread locker and torque to 11N-m (97in-lb) using a T30 Torx tool:



10. Pull the inboard o-rings into place between the pivot clevis and the frame:

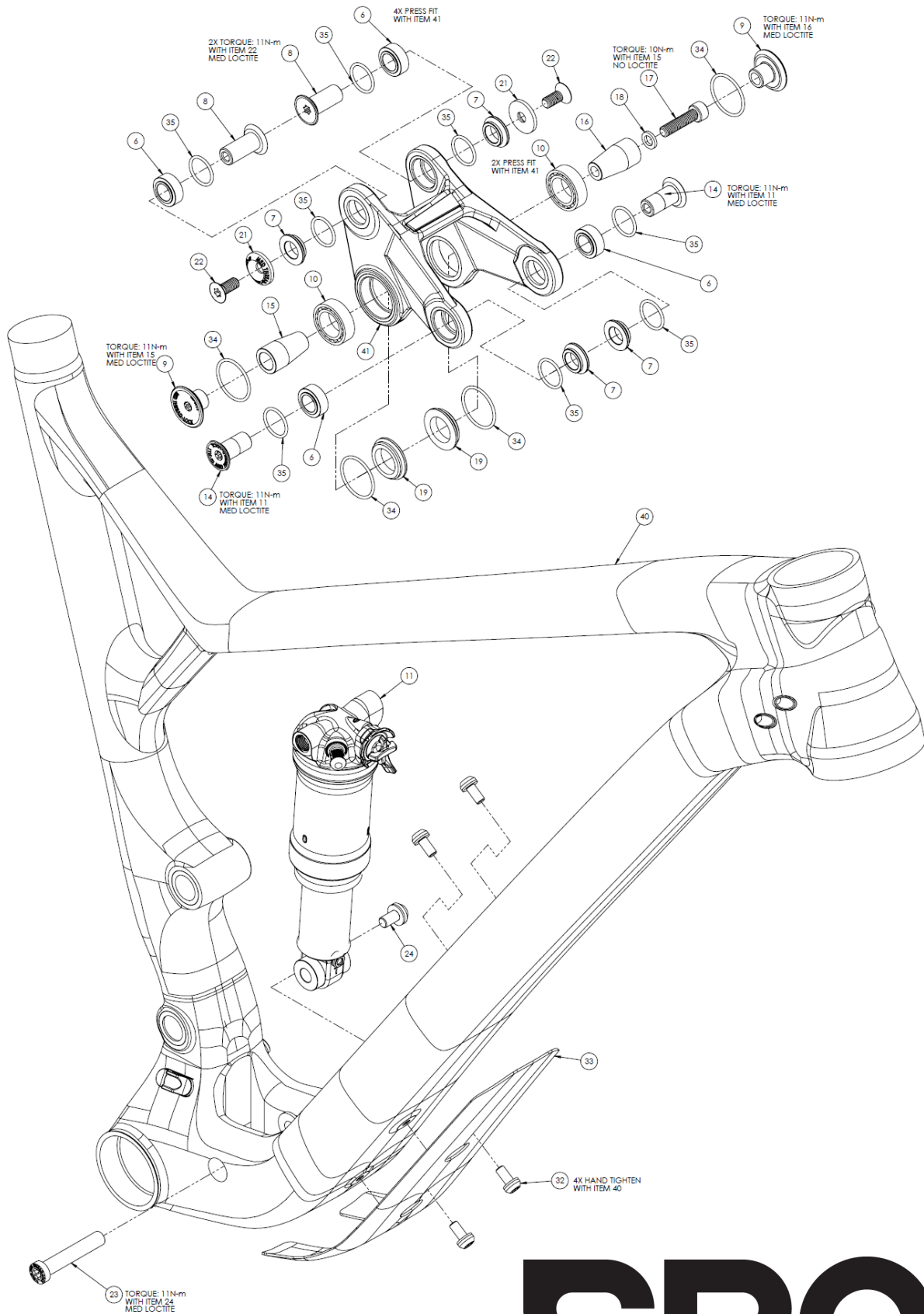


11. Install the outer 1.5 X 19mm inner diameter o-rings over the pivot caps as shown:



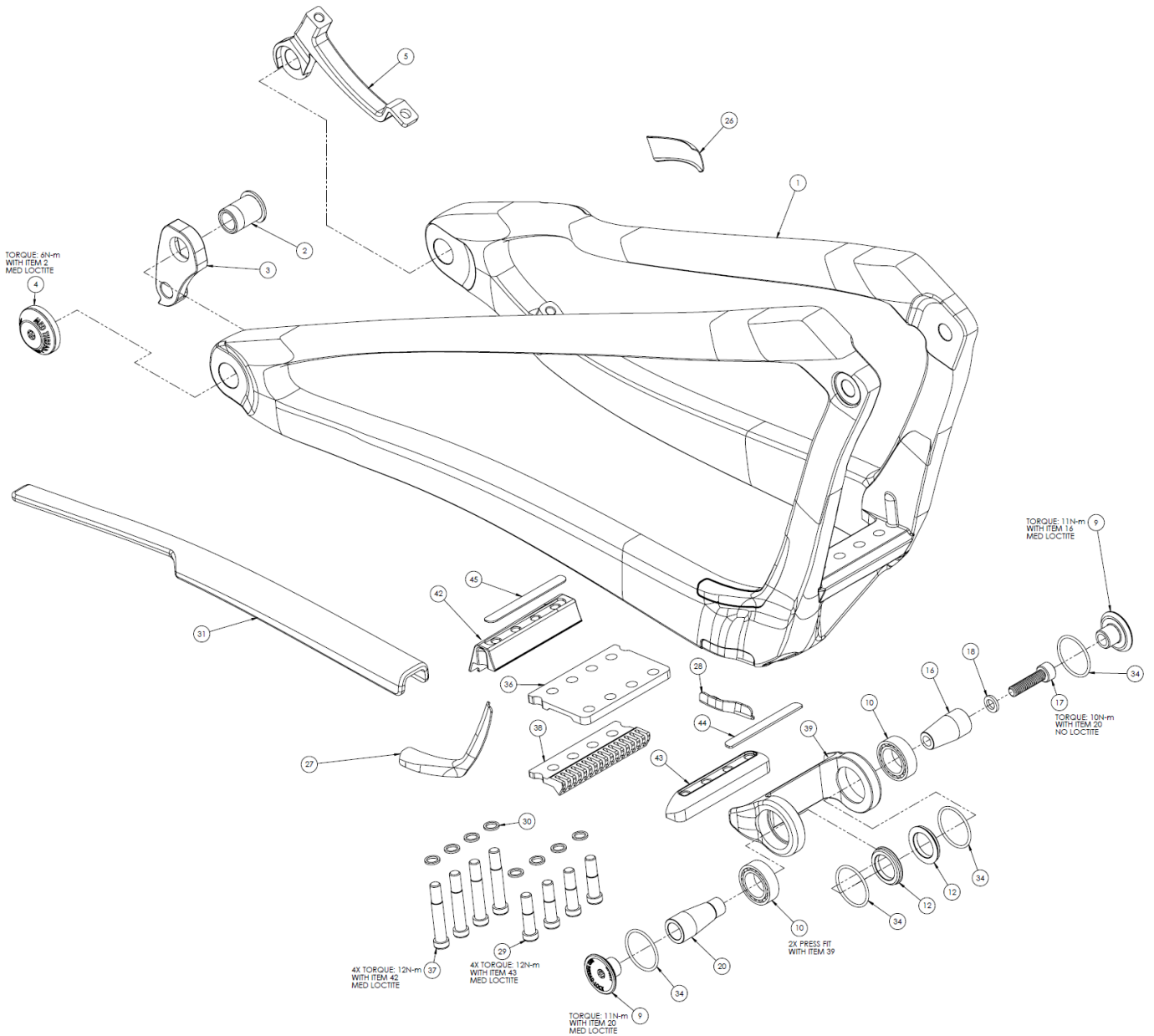
12. The final step is to re-install the rear shock as directed in the shock removal/replacement section starting on page 27 of this manual.

Ryve 100/115 Frame Parts Reference



SPOT

Ryve 100/115 Frame Parts Reference



SPOT

Ryve 100/115 Frame Parts Reference

ITEM NO.	PARTNO	DESCRIPTION	QTY.
1	FS90095	RYVE REAR TRIANGLE	1
2	FS90081	RYVE AXLE SLEEVE	1
3	FS90080	RYVE RD HANGER	1
4	FS90082	AXLE CAP, RYVE	1
5	FS90083	RYVE BRAKE MOUNT	1
6	FS80002	BEARING, ENDURO 1017 2RS MAX	4
7	FS90015	WASHER, PIVOT ST	4
8	FS90092	PIVOT AXLE, UPPER LINK, RYVE	2
9	FS90091	PIVOT CAP, 15mm, RYVE	4
10	FS80005	BEARING, ENDURO 3802	4
11	N/A	REAR SHOCK ASSEMBLY	1
12	FS90025	MAIN PIVOT WASHER	2
14	FS90092	PIVOT AXLE, SHOCK, RYVE	2
15	FS90090	PIVOT AXLE CONE, DS UPPER, RYVE	1
16	FS90093	PIVOT AXLE CONE, NDS	2
17	FS90089	M6 X 24 TORX CAP SCREW	2
18	FS80012	WASHER, M6 HIGH COLLAR	2
19	FS90088	WASHER, 15mm RYVE	2
20	FS90102	PIVOT AXLE CONE, DS LOWER	1
21	FS90087	SEAT STAY PIVOT CAP, RYVE	2
22	FS80004	M6 X 14 FH TORX SCREW	2
23	FS90084	SHOCK PIVOT PIN, RYVE	1
24	FS80003	CASTELLO RH6 M6 X 11 TORX	1
26	FS90103	SS PROTECTOR, RYVE	1
27	FS90104	STRUT PROTECTOR, RYVE	1
28	FS90105	CHAINSUCK PROTECTOR, RYVE	1
29	FS90051	LEAF SPRING SCREW 24.0	4
30	FS90059	LEAF SPRING WASHER V2	8
31	FS90110	CHAINSTAY PROTECTOR, RYVE	1
32	FS80006	M5 X 13 TORX CASTELLO	4
33	FS90111	DOWNTUBE PROTECTOR, RYVE	1
34	FS80017	O-RING 1.5 X 19	8
35	FS80010	O-RING 1.5 X 12	8
36	FS90101	LEAF SPRING, RYVE	1
37	FS90115	LEAF SPRING SCREW 35.5	4
38	FS90112	LEAF SPRING SPOOLER, RYVE	1
39	FS90085	PIVOT YOKE RYVE	1
40	FS90099	RYVE FRONT TRIANGLE, L	1
41	FS90094	RYVE ROCKER LINK	1
42	FS90114	RYVE LEAF SPRING CAP, R	1
43	FS90056	LEAF SPRING CAP, F	1
44	FS90109	SCREW COVER, RYVE	1
45	FS90117	SCREW COVER, REAR, RYVE	1
46	FS90138, FS90139	RYVE MODEL BADGE	1
47	FS90085	RYVE PIVOT YOKE	1