

# **COMPULSION TECHNICAL MANUAL**



# » INTRODUCTION

## COMPULSION

Congratulations on purchasing a Felt Compulsion. As with all of our bikes and components, our aim is to provide the rider with the best product and riding experience. Read this manual supplement thoroughly, as it's to help you set your bike up correctly, and care for it.

For further information, visit:  
**FELTBICYCLES.COM**

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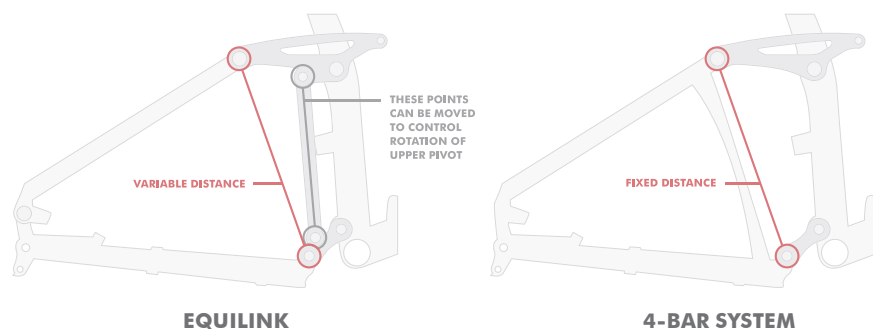
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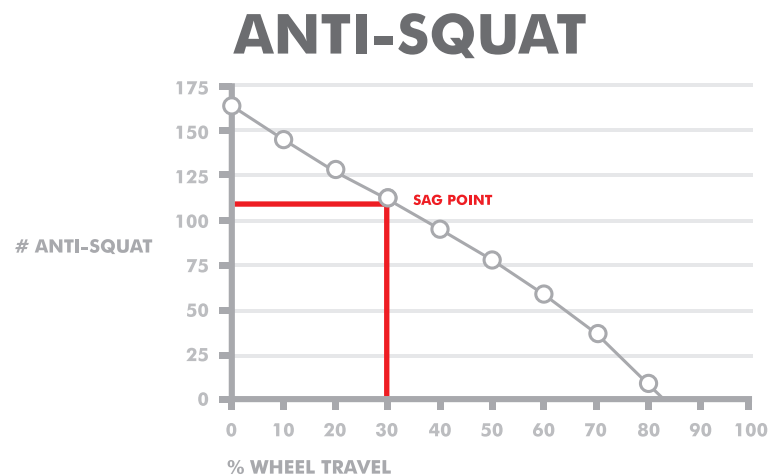


## » EQUILINK EXPLAINED

The Equilink is a member in a 6-bar system that connects the upper and lower links. By doing this, it allows for the rotation of the upper and lower links with respect to each other to be controlled more easily. This adds another level of tunability in the development stage when compared to other 4-bar systems making it possible to achieve an ideal combination of suspension properties. Like most suspension bikes, the goal for this design was to have an efficient pedaling bike which maintains excellent small-bump compliance while still having support for large impacts. The bike was designed with the following suspension properties in order to meet these goals:

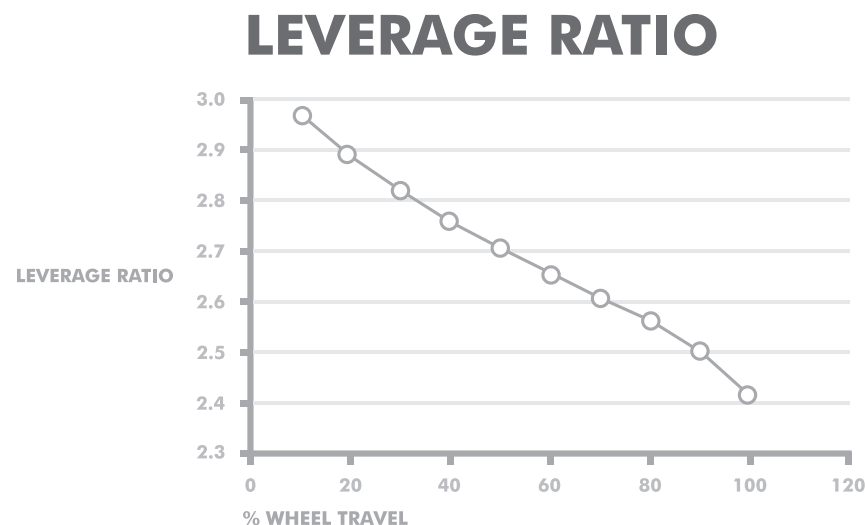


**Efficient Pedaling** // To accomplish efficient pedaling, the suspension is designed with an ideal amount of anti-squat. A key benefit of the Equilink is that it allows for a downward sloping anti-squat curve which falls off more rapidly around 60% travel. This translates to a bike that pedals well and is able to absorb bumps at the same time.



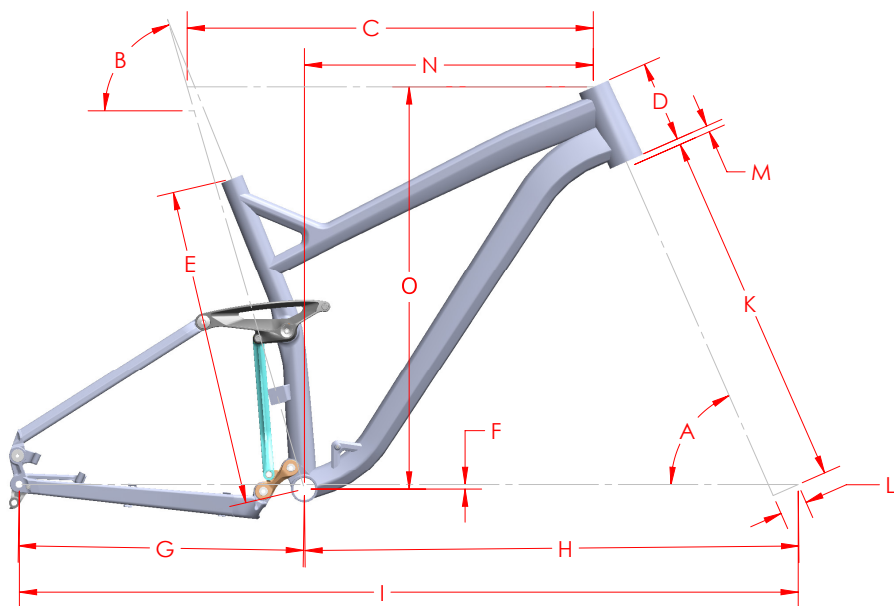
## » EQUILINK EXPLAINED CONT.

**Large Impacts** // To provide support on large impacts, the bike has a progressive leverage ratio. This means that the suspension gets progressively harder to compress as it moves through its travel.



**Small-Bump Sensitivity** // For small-bump sensitivity, the shock is tuned with very little compression damping. Because the linkage is providing the pedaling efficiency and large impact support, the shock can remain active and absorb bumps when needed. The added benefit of doing this is the shock is not compensating for any shortcomings of the linkage design, therefore it is not working as hard which leads to less heat buildup and more consistent performance.

## » GEOMETRY



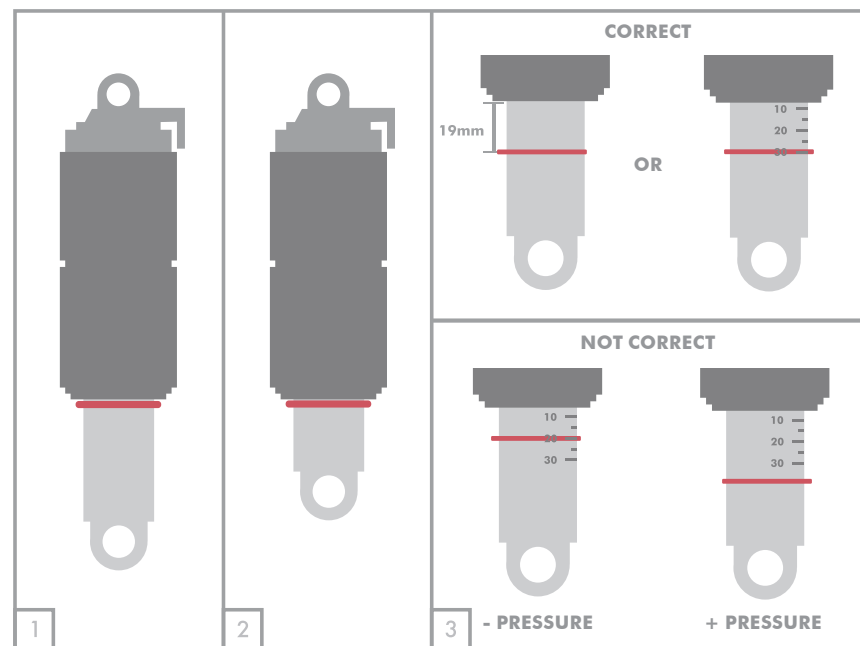
	S (16")	M (18")	L (20")	XL (22")	Size
A	66	66	66	66	Head Tube Angle
B	73.7	73.7	73.7	73.7	Seat Tube Angle
C	558	588	618	648	Top Tube Horizontal
D	90	105	125	145	Head Tube
E	406	430	485	540	Seat Tube
F	7	7	7	7	BB Drop
G	436	436	436	436	Chainstay
H	689	721	754	787	Front Center
I	1125	1157	1190	1223	Wheelbase
J	686	732	781	829	Standover
K	552	552	552	552	Fork Length
L	42	42	42	42	Rake
M	12	12	12	12	Lower HS Stack
N	387	413	437	462	Reach
O	585	599	617	636	Stack

## » SHOCK SETUP

It is very important to have the correct amount of sag so that the suspension can be in the part of its travel that is most efficient and compliant. Felt recommends starting at 30% and adding/subtracting up to 5-10% to fine tune to your personal preference.

### To measure sag, follow these 4 steps:

1. Push the o-ring to the top of the shock shaft.
2. Sit on the bike with the seat at full ride height to compress the shock. Bounce a few times, then push the o-ring back to the top of the shaft.
3. Gently get off the bike, taking care not to change the position of the o-ring. On some shock models, the sag gradients will be printed on the shaft. In this case, simply read your sag percentage as it is printed on the shock shaft. If there are no sag gradients, measure the distance of the o-ring from the top of the shaft. To achieve 30% sag, the o-ring should be 19mm from the top of the shaft. If there is too much sag (>30%) add air pressure, if there is not enough sag (<30%), reduce air pressure.
4. Repeat process until desired sag is achieved.

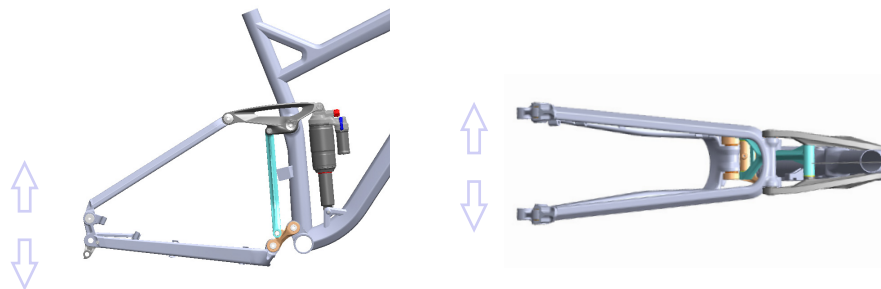


## » EVALUATION

In order to achieve optimum suspension performance, Felt recommends performing a simple pivot checking procedure after every 100 hours of riding or annually, whichever comes first. If any issues are discovered, please refer to the bearing removal/installation section or take your bike to the nearest Felt dealer.

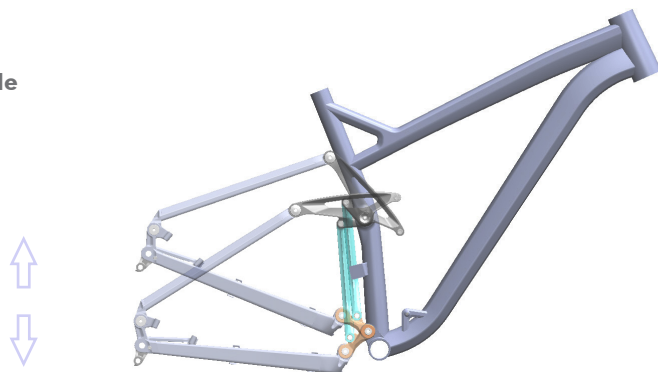
### Pivot Checking Procedure

1. Check torque on all pivot bolts. If bolts are loose, remove, clean and apply Loctite 242, then tighten to correct torque (see technical section for torque values).
2. With the shock installed, apply pressure vertically and horizontally to feel for any play in the pivots. If play is discovered, please refer to the technical section for more information and instructions for bearing removal/installation.



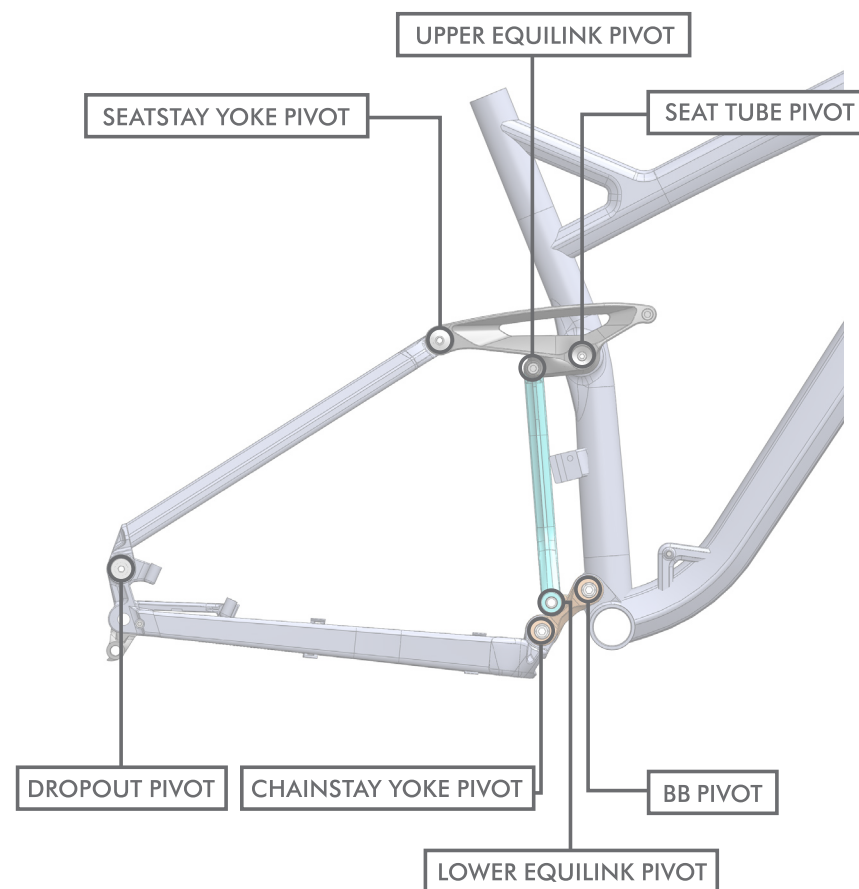
3. With the shock removed, move the suspension through its travel. There should be little to no resistance. If there is any resistance, please refer to the technical section for more information and instructions for bearing removal/installation.

### Move Rear Triangle through travel.



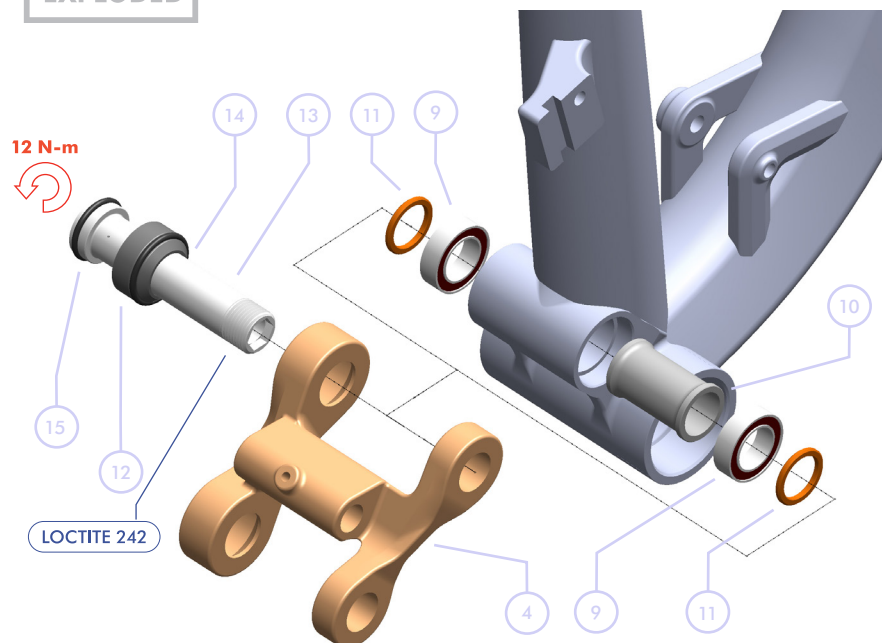
## » PIVOT LOCATION

BB Pivot	12N-m
Chainstay Yoke Pivot	12N-m
Dropout Pivot	10 N-m
Seat Stay Yoke Pivot	10 N-m
Seat Tube Pivot	12 N-m
Upper Equilink Pivot	8 N-m
Lower Equilink Pivot (set screw)	3 N-m



## » BB PIVOT

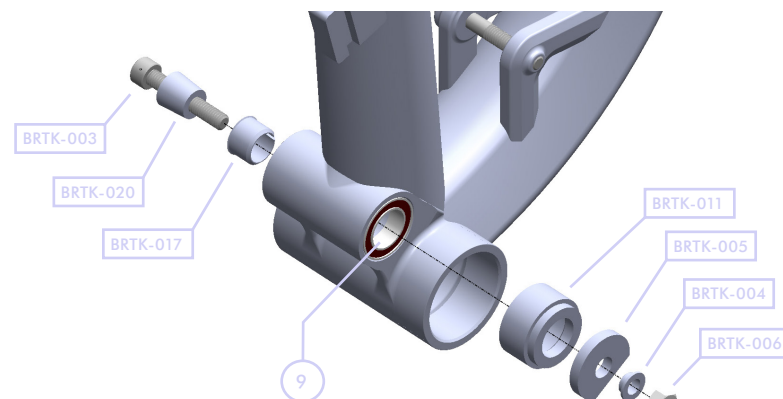
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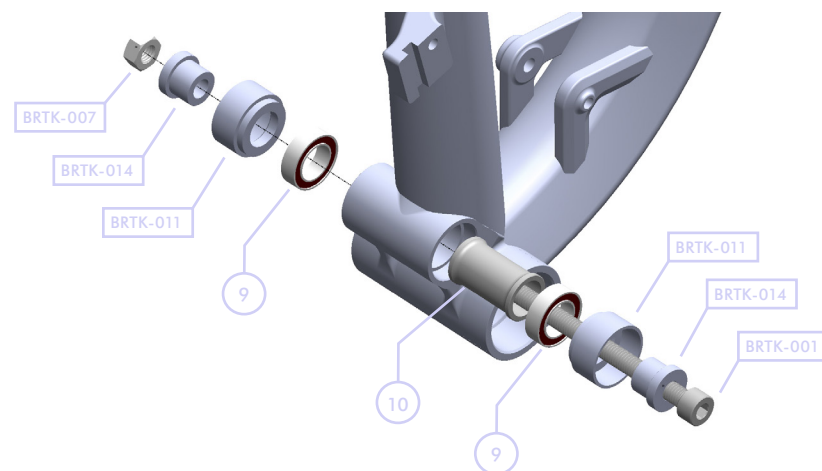
item no.	description	qty.
4	Lower Link - 2015 Compulsion	1
9	3802 15x24x7 Bearing	2
10	Main Pivot Spacer (ID15 x 33mm)	1
11	15mm Spacer	2
12	Collet Cone	1
13	Collet Bolt - 68mm	1
14	O-Ring - 23mm	1
15	O-Ring - 20mm	1

## » BB PIVOT<sup>CONT.</sup>

### REMOVAL

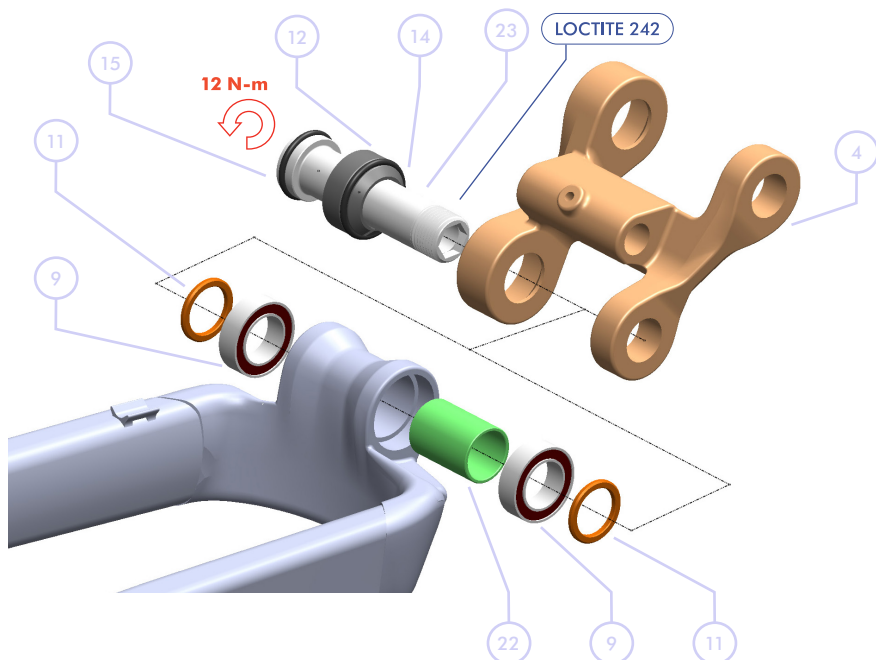


### INSTALLATION



## » CHAINSTAY YOKE PIVOT

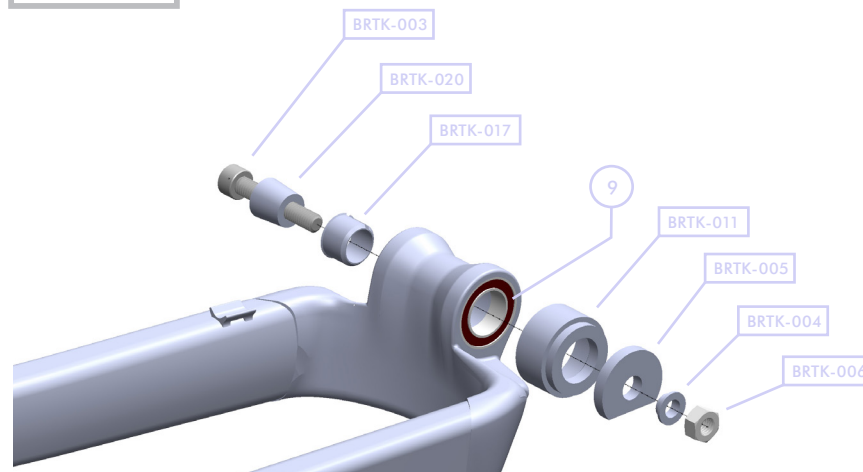
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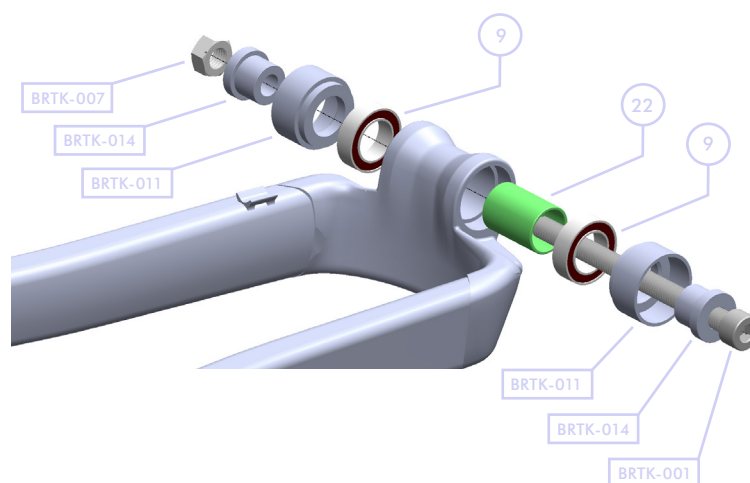
item no.	description	qty.
4	Lower Link - 2015 Compulsion	1
9	3802 15x24x7 Bearing	2
11	15mm Spacer	2
12	Collet Cone	1
14	O-Ring - 23mm	1
15	O-Ring - 20mm	1
22	Main Pivot Spacer (25mm Long)	1
23	Collet Bolt - 60mm	1

## » CHAINSTAY YOKE PIVOT CONT.

### REMOVAL

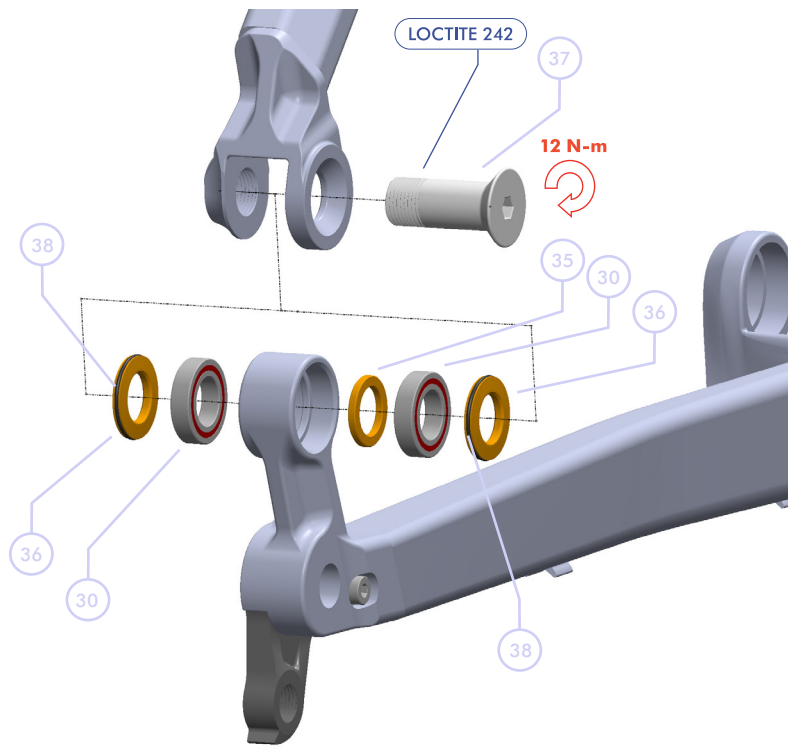


### INSTALLATION



» DROPOUT PIVOT

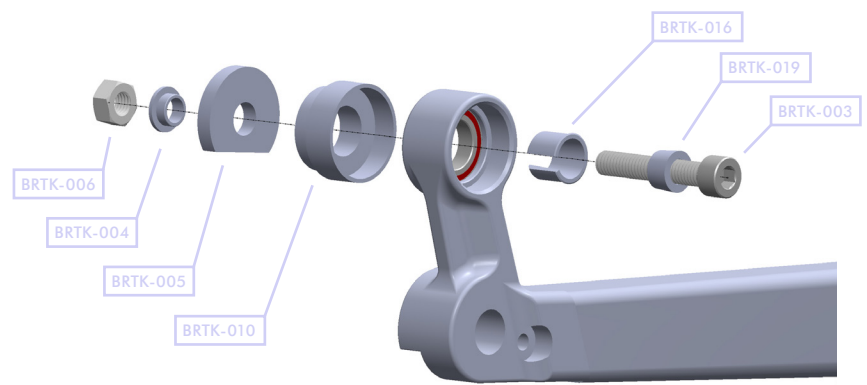
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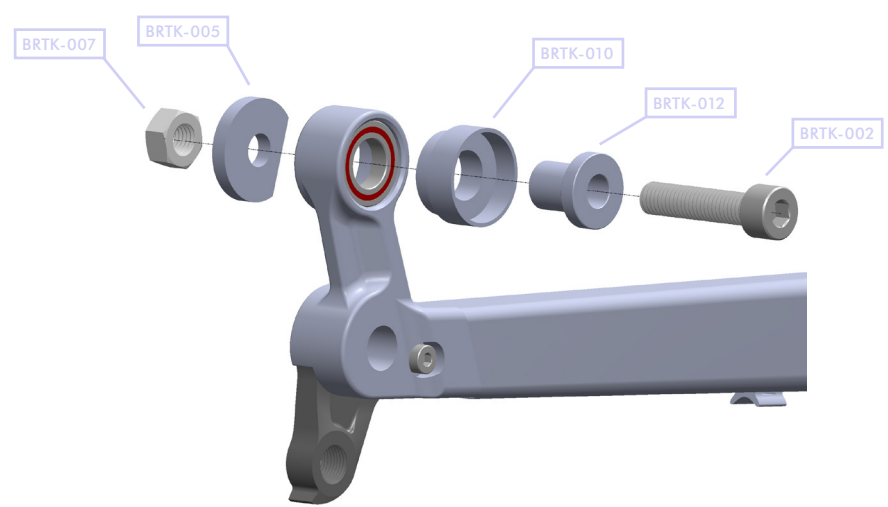
item no.	description	qty.
30	6801 12x21x5 Bearing	4
35	Seat Stay Pivot Internal Spacer	2
36	Seat Stay Pivot Spacer	4
37	Dropout Pivot Screw	2
38	O-Ring - 19mm	4

» DROPOUT PIVOT CONT.

REMOVAL



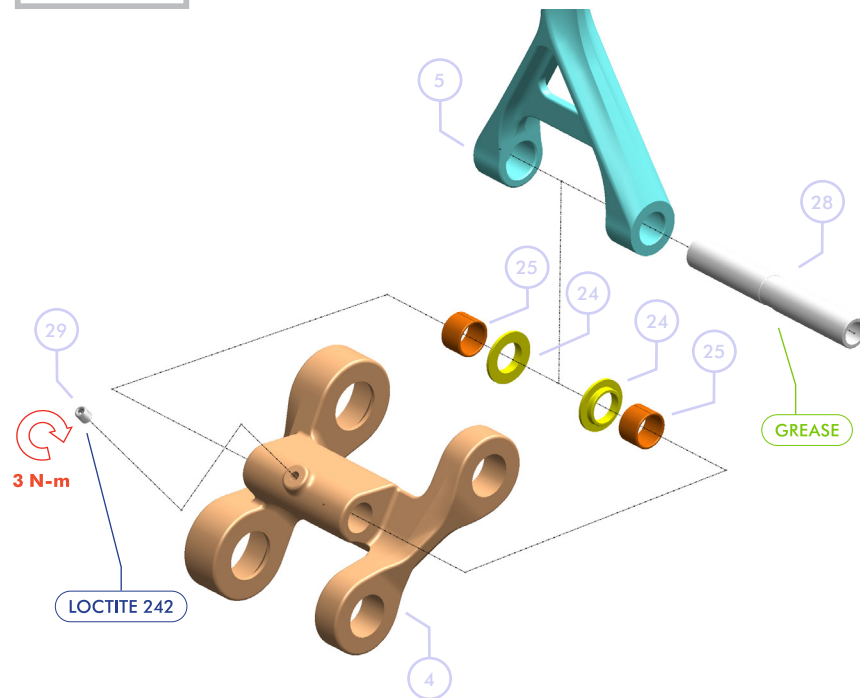
INSTALLATION





## » LOWER EQUILINK PIVOT

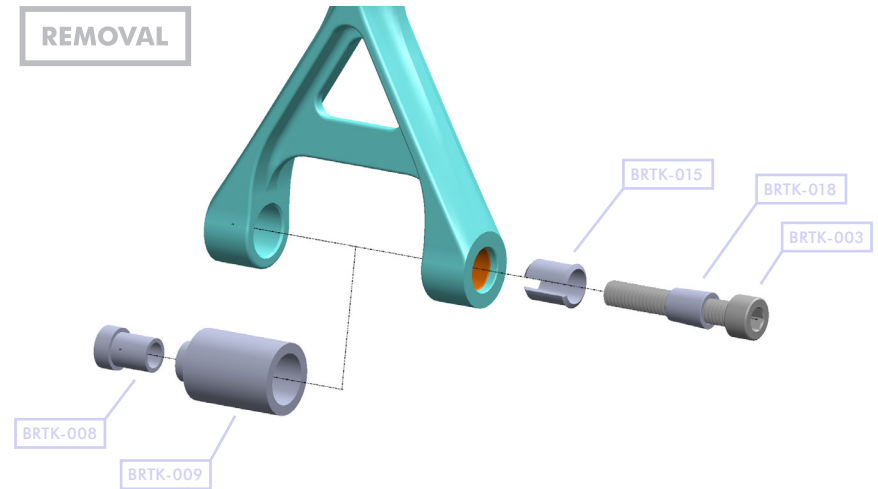
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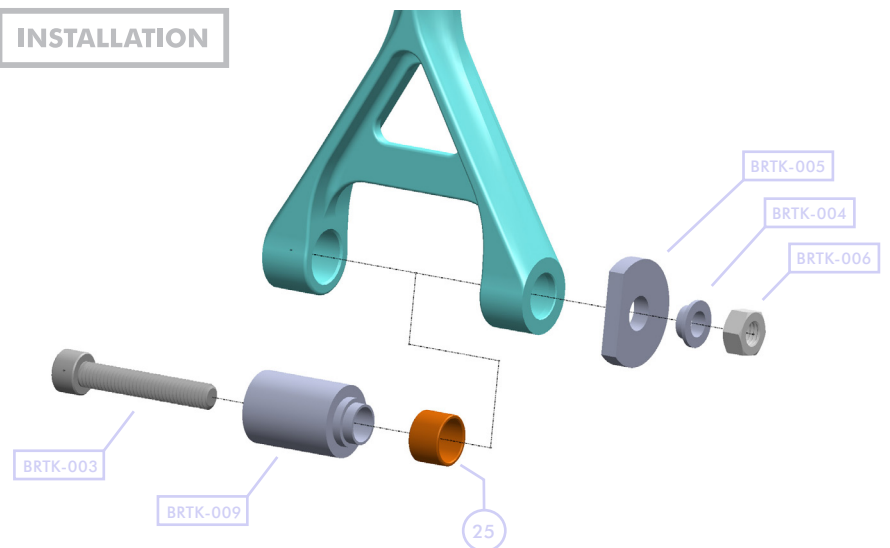
item no.	description	qty.
4	Lower Link - 2015 Compulsion	1
5	2015 Compulsion Equilink	1
24	Equilink Thrust Washer (10mm ID)	4
25	DU Bushing (10mm ID x 8mm Long)	4
28	Equilink Axle - 71mm	1
29	M4x0.7, 5mm Long Set Screw	1

## » LOWER EQUILINK PIVOT CONT.

### REMOVAL

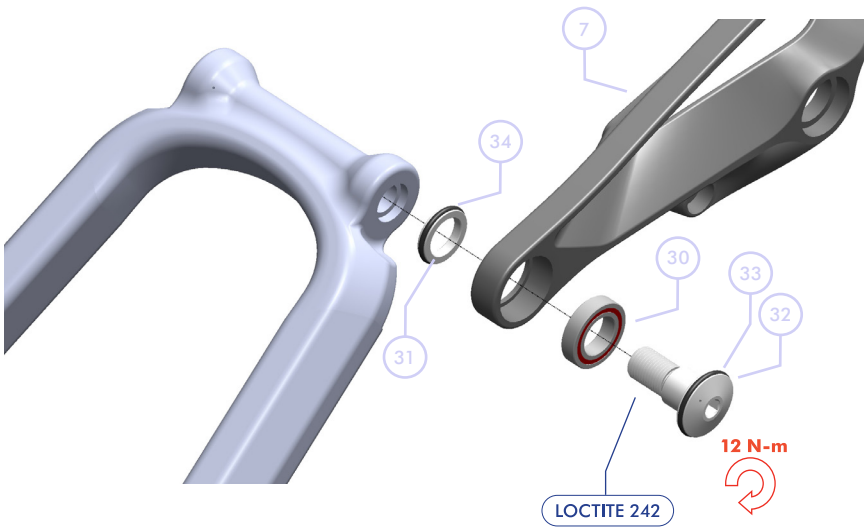


### INSTALLATION



» SEATSTAY YOKE PIVOT

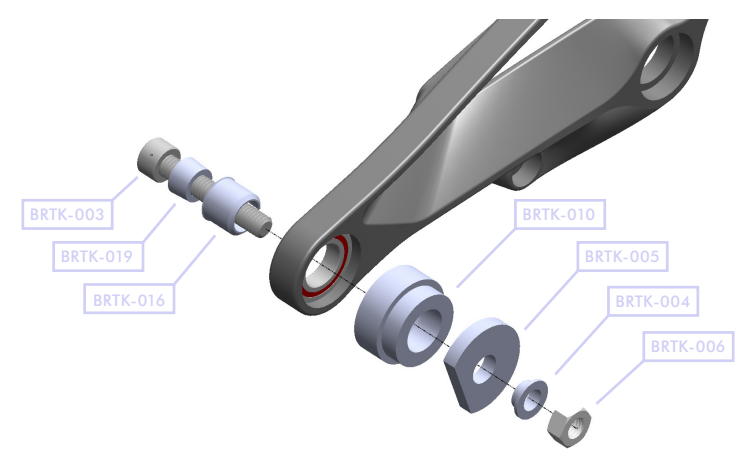
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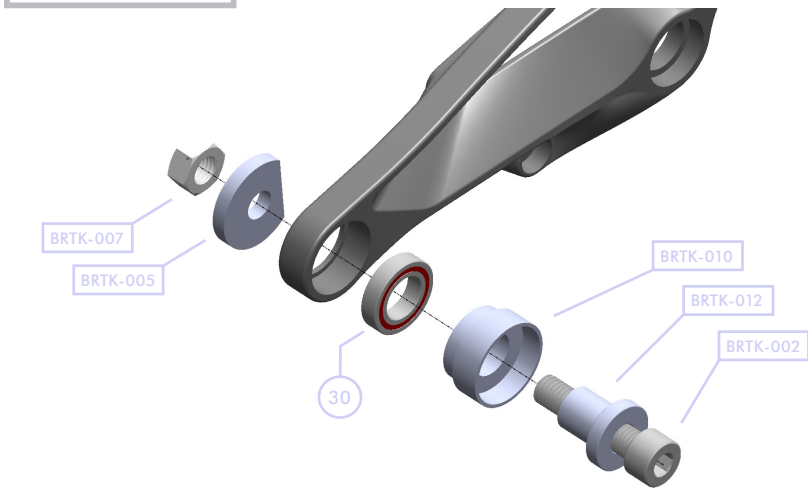
item no.	description	qty.
7	2015 Compulsion 7 Shock Link	2
30	6801 12x21x5 Bearing	2
31	Seat Stay Yoke Spacer	2
32	Seat Stay Yoke Screw	2
33	O-Ring - 18mm	2
34	O-Ring - 15mm	2

» SEATSTAY YOKE PIVOT CONT.

REMOVAL

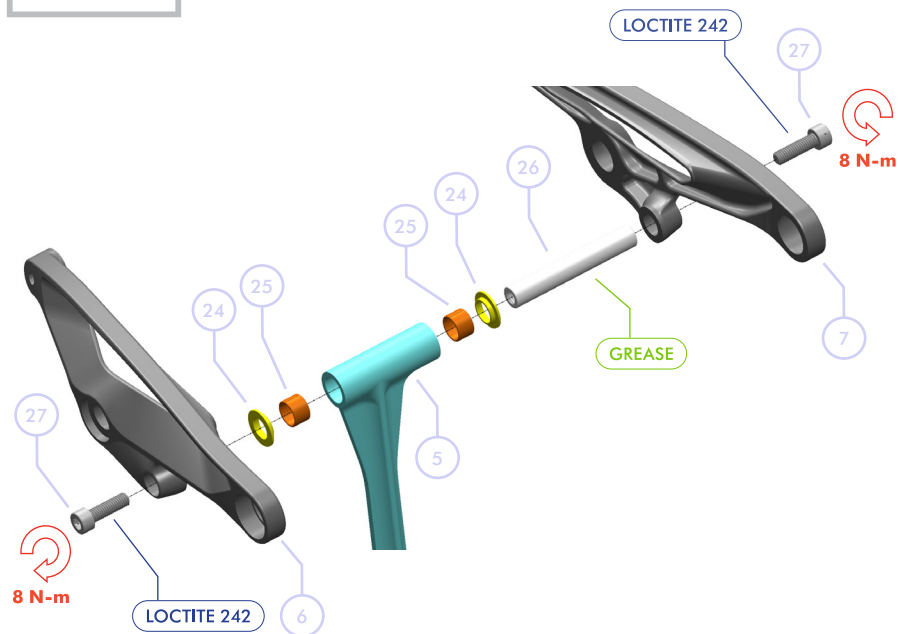


INSTALLATION



## » UPPER EQUILINK PIVOT

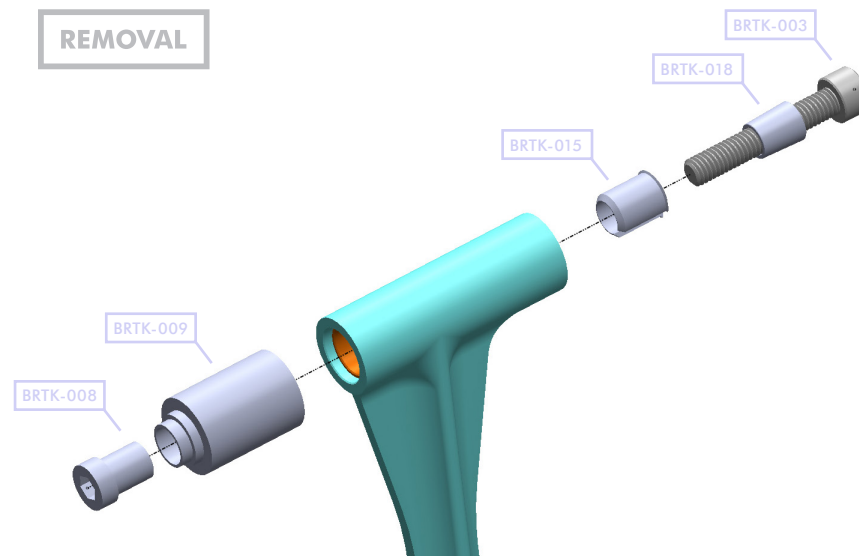
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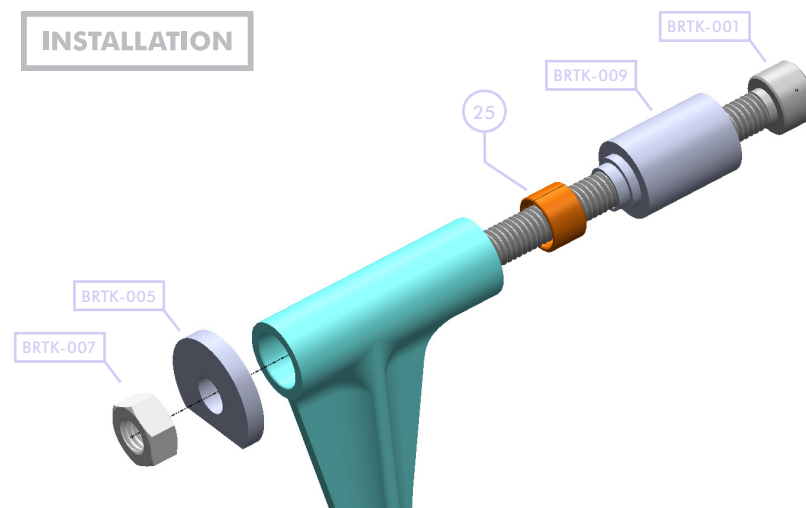
item no.	description	qty.
5	2015 Compulsion 7 Equilink	1
6	2015 Compulsion 7 Shock Link - Left	1
7	2015 Compulsion 7 Shock Link - Right	1
24	Equilink Thrust Washer (10mm ID)	4
25	DU Bushing (10mm ID x 8mm Long)	4
26	Equilink Axle - 63mm (Internally Threaded)	1
27	M6x1, 20mm Long Bolt	2

## » UPPER EQUILINK PIVOT CONT.

### REMOVAL

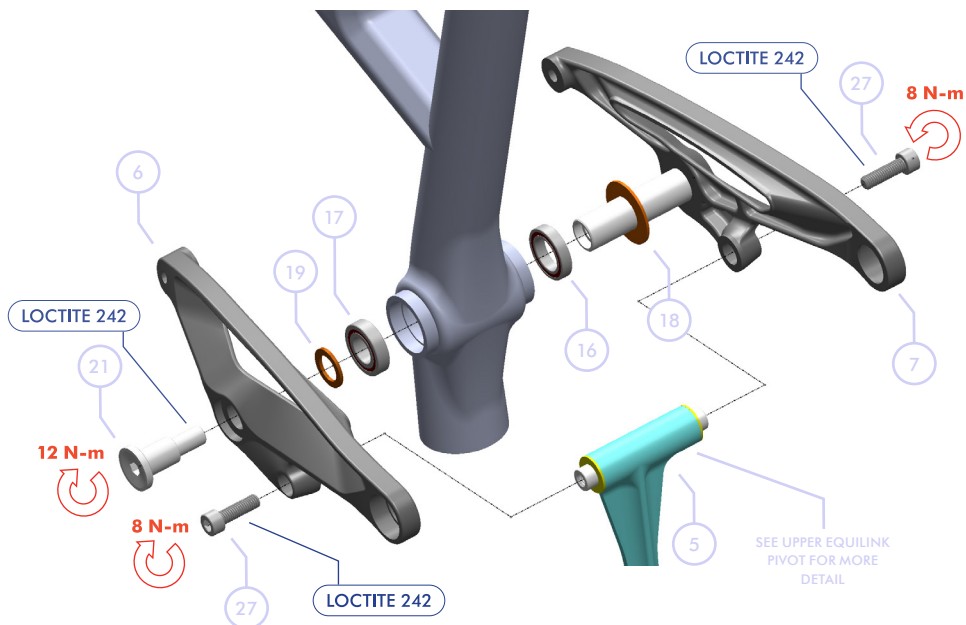


### INSTALLATION



## » SEAT TUBE PIVOT

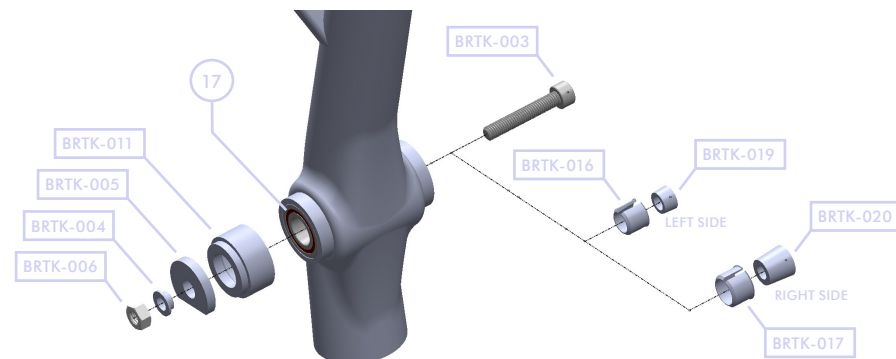
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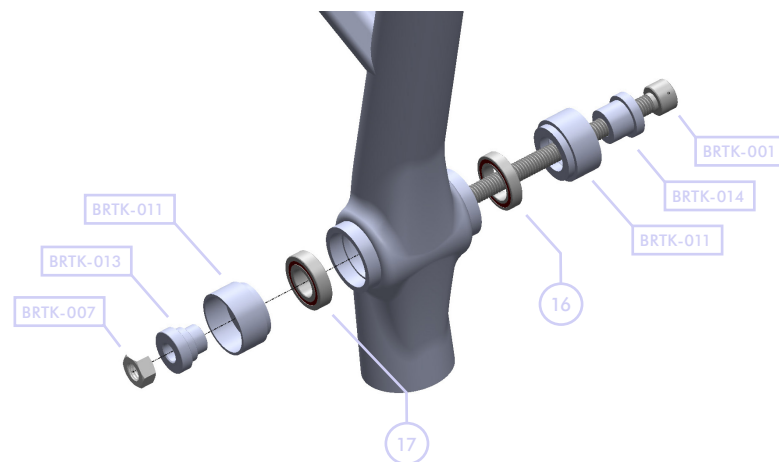
item no.	description	qty.
5	2015 Compulsion Equilink	1
6	2015 Compulsion 7 Shock Link - Left	1
7	2015 Compulsion 7 Shock Link - Right	1
16	6802 15x24x5 Bearing	1
17	6901 12x24x6 Bearing	1
18	Seat Tube Pivot Spacer - Right	1
19	Seat Tube Pivot Spacer - Left	1
21	Seat Tube Pivot Bolt	1
27	M6x1, 20mm Long Bolt	2

## » SEAT TUBE PIVOT<sup>CONT.</sup>

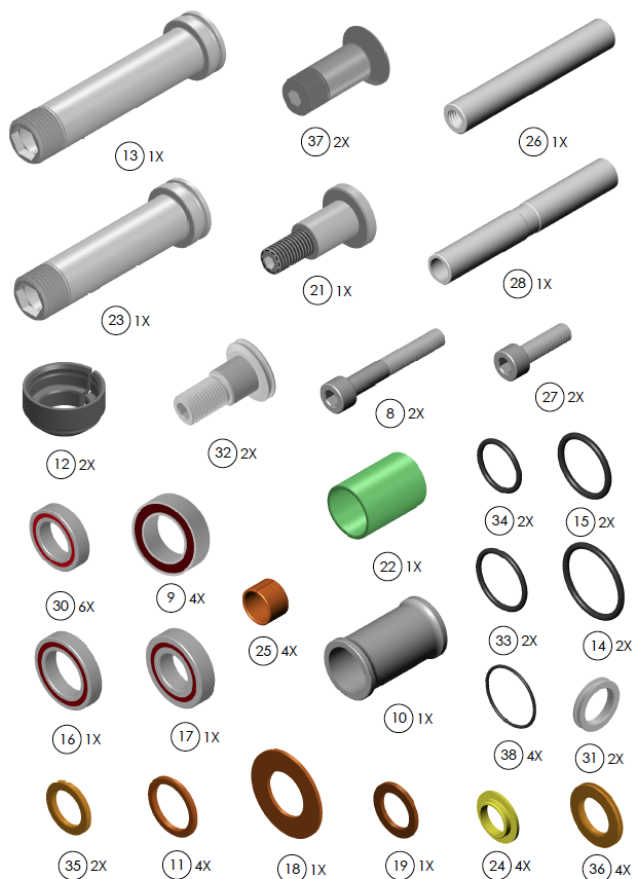
### REMOVAL



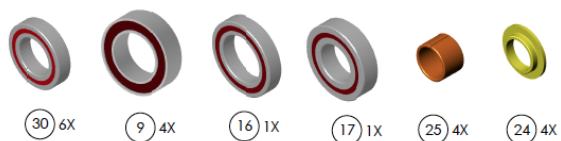
### INSTALLATION



## » HARDWARE REBUILD KIT



## » BEARING REBUILD KIT



## » TOOLKIT



**\*\*Felt offers a bearing rebuild kit as well as a complete hardware rebuild kit. There is also a tool kit for proper removal and installation of the bearings. The contents of each are displayed below. Individual parts may also be ordered. Contact your local dealer for more information.**

## MASTER PARTS LIST: 2015 COMPULSION

item no.	description	qty.
1	2015 Compulsion 7 - Front Triangle	1
2	2015 Compulsion 7 - CS Assembly	1
3	2015 Compulsion 7 - SS Assembly	1
4	2015 Compulsion 7 - Lower Link	1
5	2015 Compulsion 7 - Equilink	1
6	2015 Compulsion 7 Shock Link - Left	1
7	2015 Compulsion 7 Shock Link - Right	1
8	M6x1, 40mm Long	2
9	3802 15x24x7 Bearing	4
10	Main Pivot Spacer (ID15 x 33mm)	1
11	15mm Spacer	4
12	Collet Cone	2
13	Collet Bolt - 68mm	1
14	O-Ring - 23mm	2
15	O-Ring - 20mm	2
16	6802 15x24x5 Bearing	1
17	6901 12x24x6 Bearing	1
18	Seat Tube Pivot Spacer - Right	1
19	Seat Tube Pivot Spacer - Left	1
20	Seat Tube Pivot Axle	1
21	Seat Tube Pivot Bolt	1
22	Main Pivot Spacer (25mm Long)	1
23	Collet Bolt - 60mm	1
24	Equilink Thrust Washer (10mm ID)	4
25	DU Bushing (10mm ID x 8mm Long)	4
26	Equilink Axle - 63mm (Internally Threaded)	1
27	M6x1, 20mm Long Bolt	2
28	Equilink Axle - 71mm	1
29	M4x0.7, 5mm Long Set Screw	1
30	6801 12x21x5 Bearing	6
31	Seat Stay Yoke Spacer	2
32	Seat Stay Yoke Screw	2
33	O-Ring - 18mm	2
34	O-Ring - 15mm	2
35	Seat Stay Pivot Internal Spacer	2
36	Seat Stay Pivot Spacer	4
37	Dropout Pivot Screw	2
38	O-Ring - 19mm	4
39	142x12 Hanger	1
40	M4x0.7, 12mm Long	1

## » CONTACT INFORMATION

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