

ORBEA

**BLUE
PAPERS**

RALLON
TECHNICAL MANUAL

CONTENT

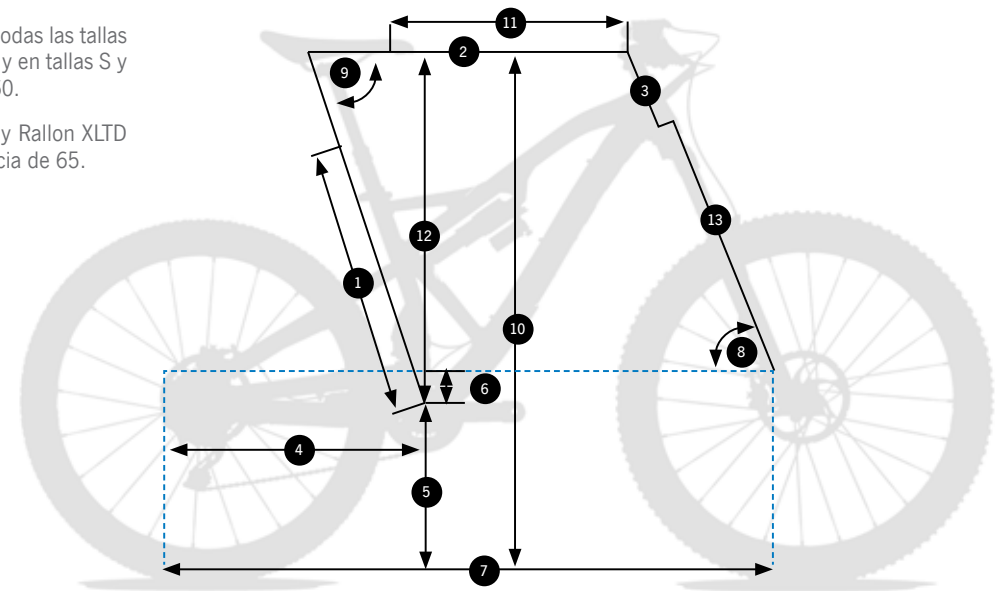
GEOMETRY AND SPECIFICATIONS	3
FRAME MATERIAL AND CARE	4
PARTS AND HARDWARE	5
TORQUE SPECIFICATIONS	9
BOS KIRK SUSPENSION SET-UP	11
ORBEA WARRANTY	13
ADDITIONAL INFORMATION	14

GEOMETRY AND SPECIFICATIONS

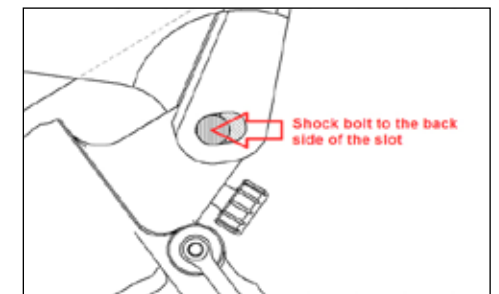
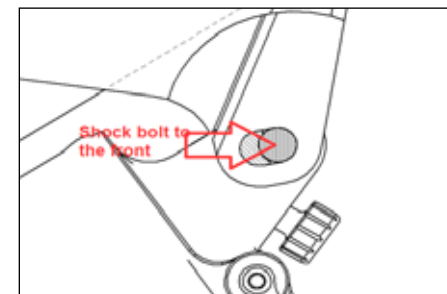
SIZES (mm)	16,5	18	19,5
1) Seat tube	420	455	495
2) Top tube (EFF)	582	606	635
3) Head tube	115	120	135
4)Chain stay		420	
5) BB offset		-7/-14 (geometry change)	
6) BB height		345/338	
7) Wheelbase	1148	1172	1204
8) Head angle		66,5°/66° (geometry change)	
9)Seat angle		75°/74,5° (geometry change)	
10)Standover	750	770	790
11) Reach	419	442	467
12) Stack	606	611	624
13) Fork length		554,4	

*Rallon X30 en todas las tallas Manillar de 750 y en tallas S y M Potencia de 60.

**Rallon XTeam y Rallon XLTD en talla L Potencia de 65.



*geometry change



SIZE (mm)	16,5	18	19,5
Crank	170	170	170
Stem	50*	50*	70**
Handlebar	760**	760**	760**

HEIGHT (cm)	SIZES
S	16
M	18
L	19,5

FRAME AND MATERIAL

Orbea frames are carefully designed to be durable, efficient, and easy to maintain. Rallon tubes are stiff and light, giving excellent steering precision and pedaling efficiency. Rallon carbon frame is extremely resistant to corrosion, making it perfect for road. With only a minimum amount of maintenance, it's easy to keep your Rallon in top condition.

1) Keep your mountain bike clean

Washing your bike with mild soap and water will keep you looking stylish and allow you to check the condition of the frame and components. Don't use high water pressure and avoid spraying water into bearings or frame tubes. Citrus degreasers are biodegradable and do a great job of removing dirty grease from gears and chain.

2) Keep your mountain bike lubed

Once your bike is clean, it's a good time to put fresh lube on the chain. Use only enough to get inside the links and wipe off any excess because it will attract dirt. Headset and pivot bearings should be inspected every few months for smoothness and to ensure that the seals are intact and lube is clean.

3) Inspect your mountain bike before you ride

Do a quick check before every ride to make sure your bike is in excellent condition. It is very common to discover small issues at home that can become big problems on the trail. **CHAIN** Is the chain dirty, noisy or dry? Clean and lube your chain before riding. **BRAKES** Check your brakes to make sure they are working correctly. Check for missing/loose caliper and rotor bolts. **TIRES** Look for damage to the sidewalls of your tires. Check and adjust tire pressure. **WHEELS** Spin the wheels and look for wobbles, check for loose or broken spokes. Check quick release levers to make sure they are functioning properly. **FRONT END** Stand over the saddle, pull on the brakes and rock the bike back and forth. Feel for any play or knocking that might indicate a loose headset, loose brake rotors or calipers, or worn fork bushings. **TEST RIDE** Take a quick ride up and down the street to make sure your bike is shifting and braking properly. Listen for unusual noises.

AFTER A CRASH OR IMPACT

Falling is part of riding and it's impossible to avoid minor accidents. If you crash your Rallon, please make sure you are okay and seek medical attention if necessary. If you are not injured, you should check your bike before continuing:

1) Inspect your frame and components for damage. Do not ride your bike if any problems are detected.

WHAT TO LOOK FOR

Inspect Frame and fork for evidence of cracking or bending. If cracks are discovered, discontinue use immediately.

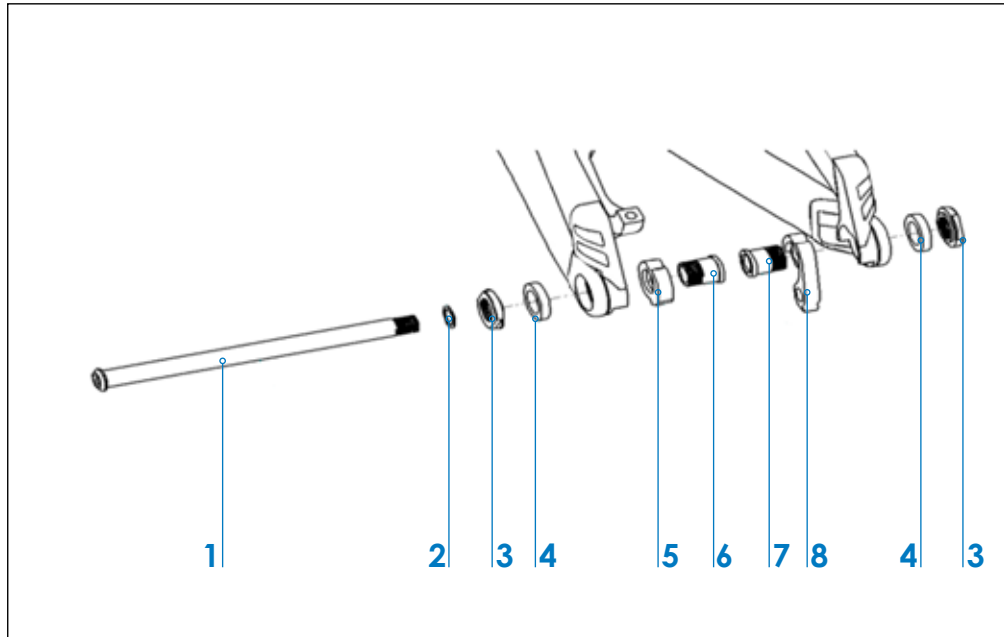
Check the drivetrain and spin the wheels to make sure components are operating correctly. If you discover damage to your components, discontinue use immediately.

Even if you don't find any damage, pay careful attention to the sound of your bike when you continue riding. Unusual noises can be caused by cracks or other problems. A well-maintained bike will be quiet and free of creaks or squeaks. Investigate and locate the source of any new noises.

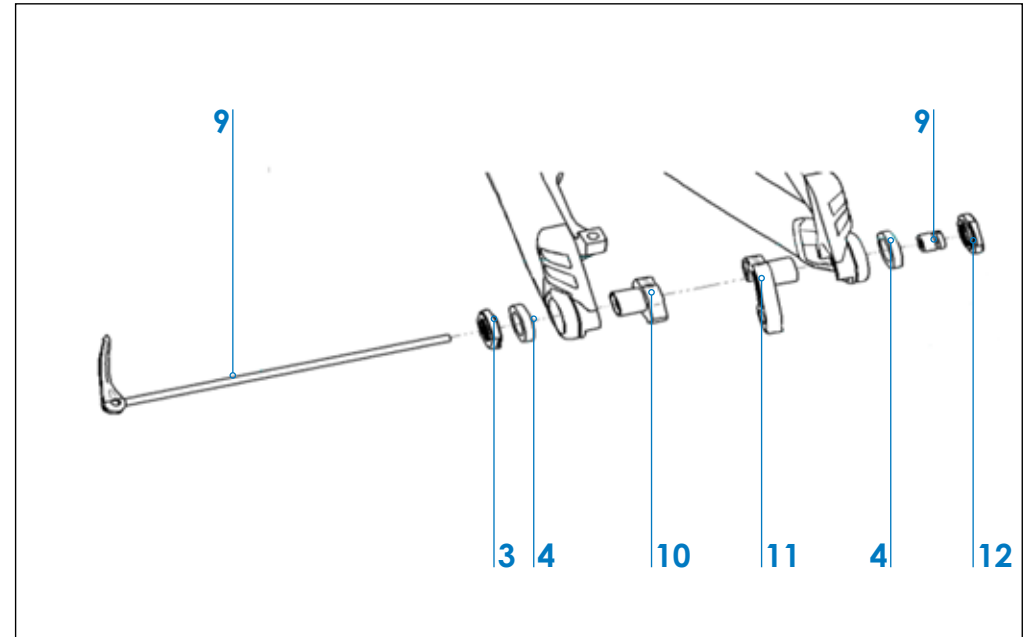
2) Bring your bike to your Orbea dealer for professional inspection. Some damage can only be detected by disassembling the bike to check for cracks or other signs of stress.

A crash or impact can put extraordinary stress on your bike and components, causing them to fail or to fatigue prematurely. Failure can happen suddenly with no warning, causing loss of control, serious injury or death.

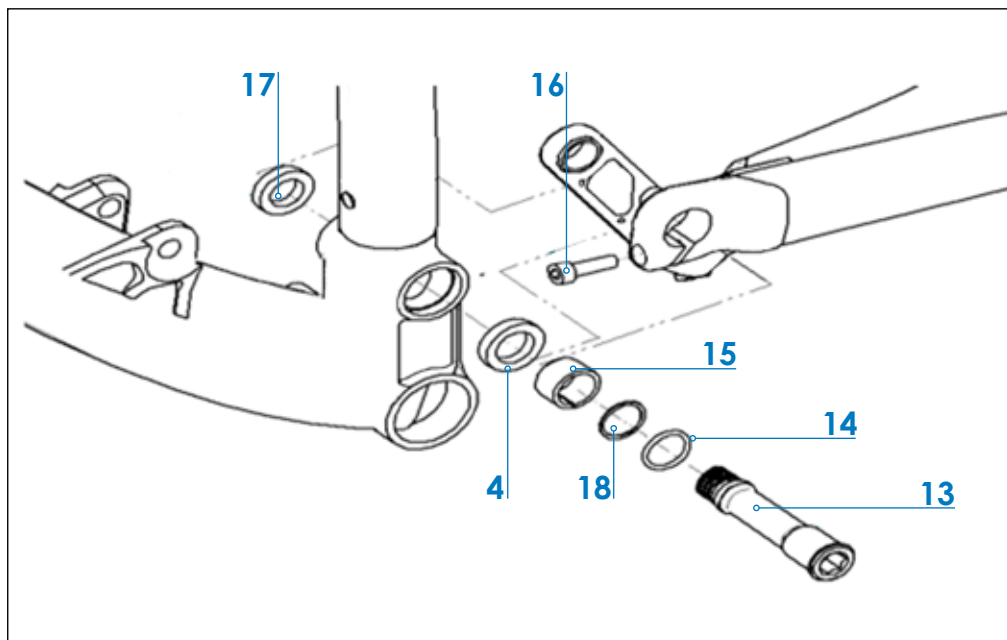
PARTS & HARDWARE



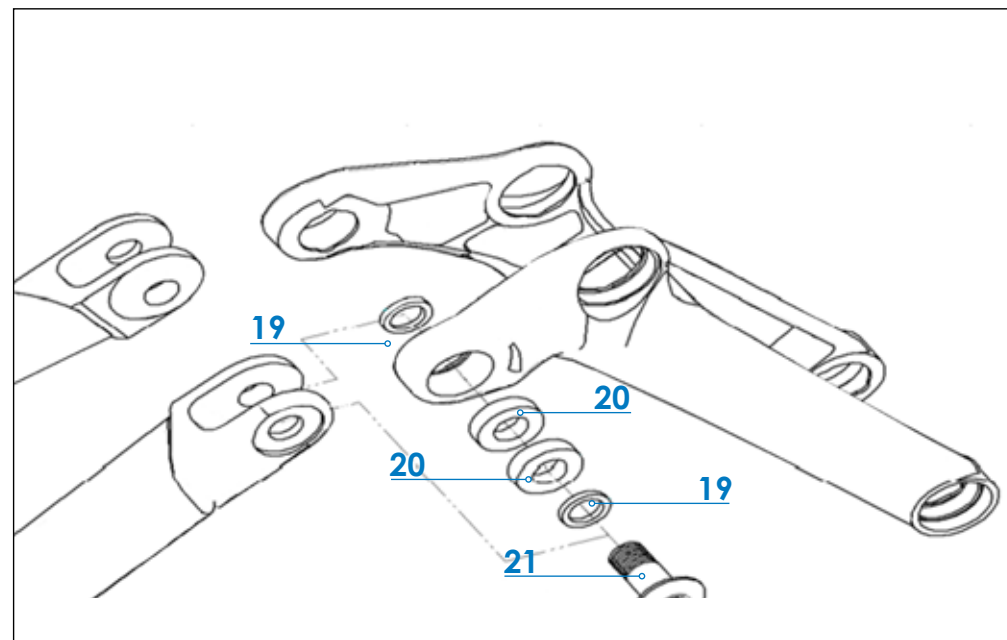
Number	Name/Description
1	12 MM THRU AXLE
2	12 MM AXLE WASHER
3	OCP NUT
4	BEARING 26X17X5
5	LEFT DROPOUT
6	LEFT DROPOUT INSERT
7	RIGHT DROPOUT INSERT
8	HANGER



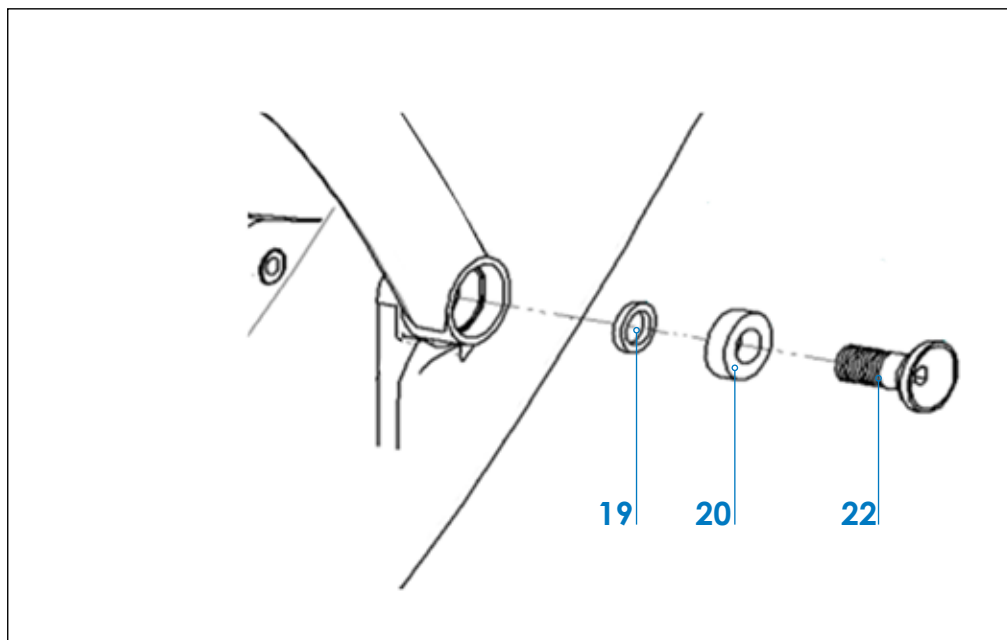
Number	Name/Description
3	OCP NUT
4	BEARING 26X17X5
9	9 MM THRU AXLE
10	LEFT DROPOUT 9 MM
11	RIGHT DROPOUT 9 MM
12	OCP RIGHT NUT 9 MM



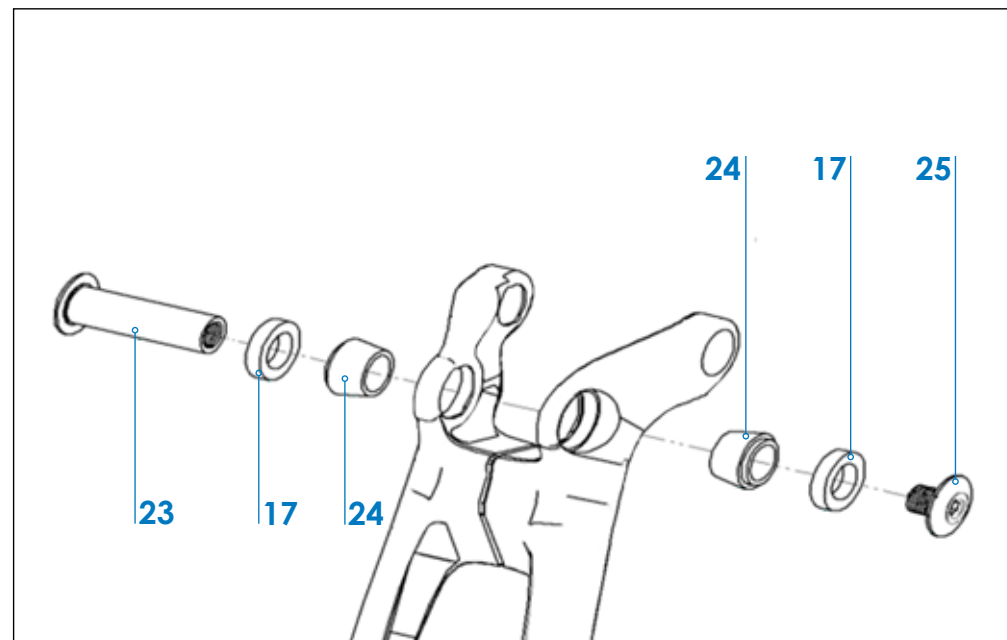
Number	Name/Description
4	BEARING 26X17X5
13	MAIN PIVOT AXLE
14	MAIN PIVOT O-RING
15	MAIN PIVOT SPACER
16	M6X20
17	BEARING 24X15X5
18	MAIN PIVOT WASHER



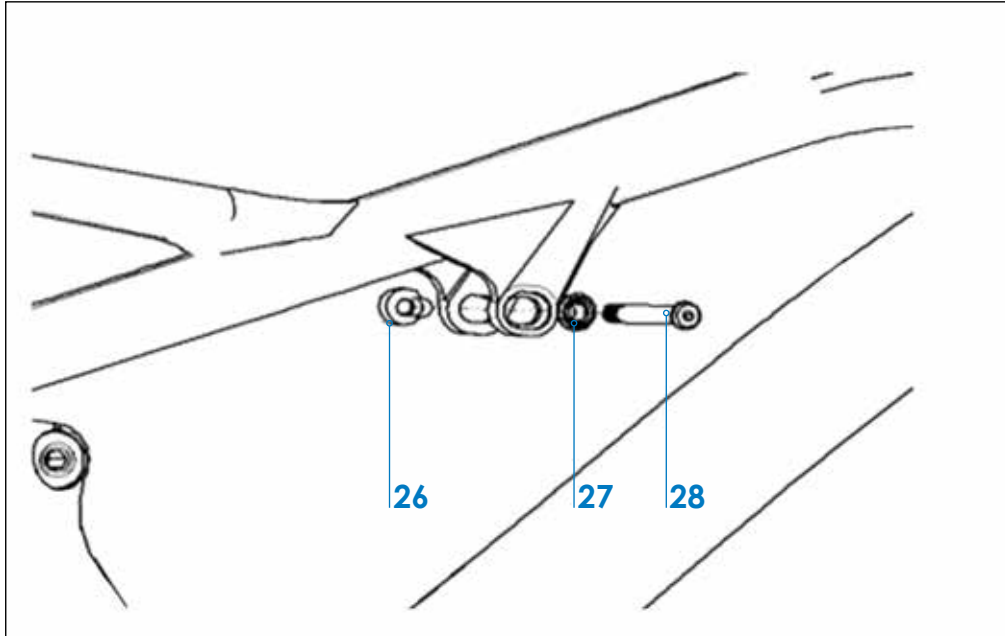
Number	Name/Description
19	SEATSTAY/LINK SPACER
20	BEARING 19X10X5
21	SEATSTAY/LINK BOLT



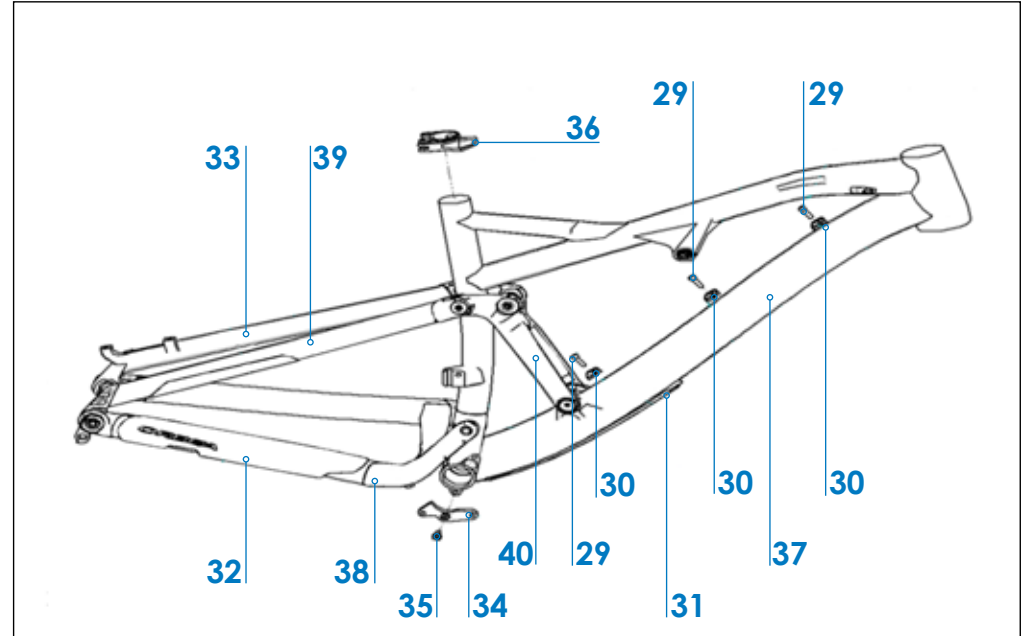
Number	Name/Description
19	SEATSTAY/LINK SPACER
20	BEARING 19X10X5
22	LINK/FRONT TRIANGLE BOLT



Number	Name/Description
17	BEARING 24X15X5
24	STANDARD SHOCK SPACER
24	BOS KIRK SHOCK SPACER
25	LINK/SHOCK BOLT

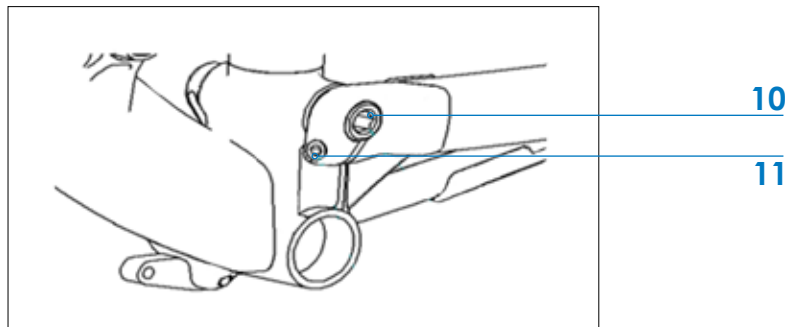
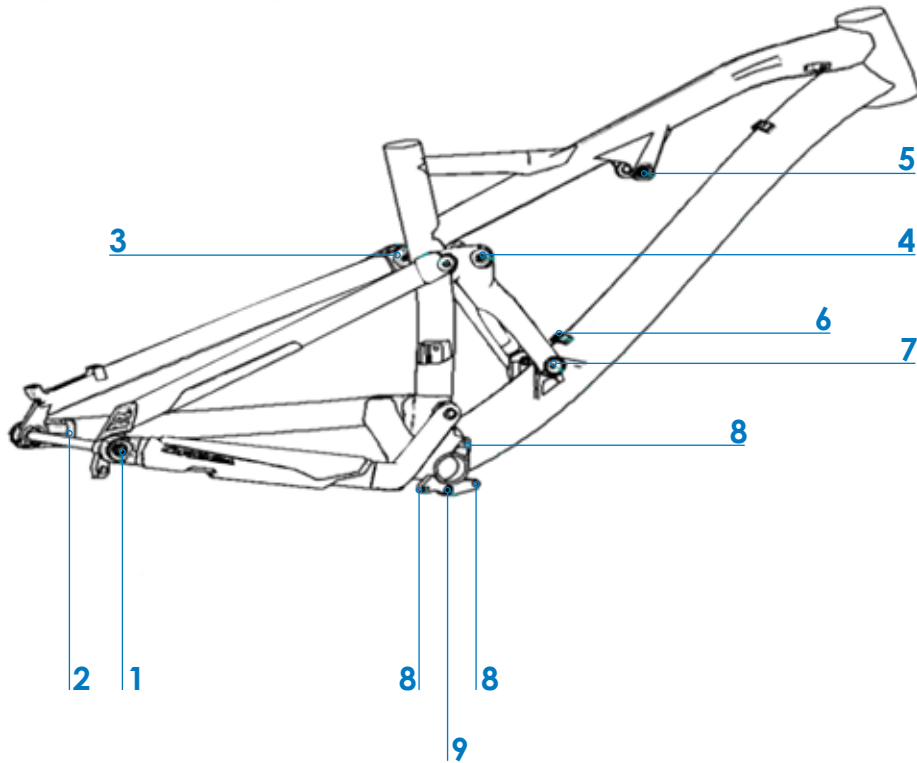


Number	Name/Description
26	SHOCK/FRONT TRIANGLE NUT
27	SHOCK/FRONT TRIANGLE WASHER
28	SHOCK/FRONT TRIANGLE BOLT



Number	Name/Description
29	M5X15
30	DOWNTUBE CABLE GUIDE
31	DOWNTUBE PROTECTOR
32	CHAINSTAY PROTECTOR
33	SEATSTAY PROTECTOR
34	ISCG05 ADAPTER
35	ISCG ADAPTER BOLT (M6X15)
36	SEAT POST CLAMP
37 (S)	FRONT TRIANGLE (16,5")
37 (M)	FRONT TRIANGLE (18")
37 (L)	FRONT TRIANGLE (19,5")
38	CHAINSTAY
39	SEATSTAYS
40	LINK

TORQUE SPECS



RALLON TORQUE SPECIFICATIONS			
Fastener	Required tools	Torque	Note
1	Dropout nut	22 mm spanner	15 Nm
2	12 mm axle	6 mm allen	20 Nm
3	Seatstay/link bolt	5 mm allen	15 Nm
4	Shock/link bolt	8 mm + 5 mm allen	15 Nm
5	Shock/front triangle bolt	4 mm allen	6 Nm
6	Cable guide	4 mm allen	4 Nm
7	Link/front triangle bolt	5 mm allen	15 Nm
8	ISCG bolts	-	10 Nm
9	ISCG adapter bolt	5 mm allen	10 Nm
10	Main pivot axle	10 mm allen	20 Nm
11	Main pivot pinch bolt	5 mm allen	10 Nm



CHECKING AND ADJUSTING TORQUE

Orbea suggest using a TORQUE WRENCH to avoid overtightening and damaging fasteners or hardware. Check torque frequently and keep all threads clean and properly greased to ensure accurate torque measurement...

Aluminium Orbea frames are carefully designed to be durable, efficient and easy to care for. The over-sized, hydroformed tubes are stiff and light, giving excellent steering precision and pedaling efficiency. Aluminium is extremely resistant to corrosion, making it perfect for riding off road. With only a minimum amount of maintenance, it's easy to keep your Rallon in top condition.

1) Keep your Rallon clean

Washing your bike with mild soap and water will keep you looking stylish and allow you to check the condition of the frame and components. Don't use high water pressure and avoid spraying water into bearings or frame tubes. Citrus degreasers are biodegradable and do a great job of removing dirty grease from gears and chain.

2) Keep your Rallon lubed

Once your bike is clean, it's a good time to put fresh lube on the chain. Use only enough to get inside the links and wipe off any excess because it will attract dirt. Headset and pivot bearings should be inspected every few months for smoothness and to ensure that the seals are intact and lube is clean.

3) Inspect your Rallon before you ride

Do a quick check before every ride to make sure your bike is in excellent condition. It is very common to discover small issues at home that can become big problems on the trail. **CHAIN** Is the chain dirty, noisy or dry? Clean and lube your chain before riding. **BRAKES** Check your brakes to make sure they are working correctly. Check for missing/loose caliper and rotor bolts. **TIRES** Look for damage to the sidewalls of your tires. Check and adjust tire pressure. **WHEELS** Spin the wheels and look for wobbles, check for loose or broken spokes. Check quick release levers to make sure they are functioning properly. **FRONT END** Stand over the saddle, pull on the brakes and rock the bike back and forth. Feel for any play or knocking that might indicate a loose headset, loose brake rotors or calipers, or worn fork bushings. **TEST RIDE** Take a quick ride up and down the street to make sure your bike is shifting and braking properly. Listen for unusual noises.



PRESSURE AND REBOUND CLICKS: The values provided in the chart are just a starting point, in order to achieve maximum performance the shock setup should be suited to the rider and terrain.
COMPRESSION ADJUSTMENT FOR KIRK SHOCK: 12 clicks counted from completely open is the recommended starting point both for low speed and high speed compression damping.

Rider weight (kg)	FOX FLOAT		BOS KIRK	
	Pressure (psi)	Rebound clicks (counting from completely open)	Pressure (psi)	Rebound clicks (counting from completely open)
60	100	0	135	0
65	115	2	145	3
70	130	4	160	6
75	150	5	175	8
80	170	6	190	10
85	180	7	200	12
90	185	8	210	15
95	195	9	220	17
100	205	10	230	21
105	215	11	240	25

BOS KIRK SUSPENSION SET-UP



AIR SPRING VALVE
REBOUND
PEDAL EFFICIENCY LEVER

HIGH SPEED COMPRESSION (HSC)
LOW SPEED COMPRESSION (LSC)

* Refer to suggested damper settings on previous page.

BOS KIRK SUSPENSION SET-UP

SETTING SAG BY ADJUSTING THE AIR SPRING

Sag is the measurement of how much the suspension compresses (or sags) under body weight. Orbea recommends between 27-33% (17-21MM) for the Rallon R4. Less sag will give a firmer ride that climbs and pedals more efficiently, more sag will make the suspension softer and more bump-sensitive, giving more control at high speeds in rough terrain.

You will need a shock pump to adjust sag via the air spring valve. Make sure the Pedal Efficiency Lever is OFF. Ensure that the o-ring on the shock shaft is pushed all the way up against the shock body and mount your bike with your riding gear on (to mimic riding weight). It might be handy to lean the handlebar against a wall for balance, or have a friend help you hold the bike. Without bouncing, sit on the saddle and lift your feet off the ground so the shock compresses. If you feel like you've bounced and pushed the ring too far, put the o-ring back against the shock body and try again. Gently get off your bike. The distance the o-ring traveled from the shock body is the sag measurement. With your shock pump, either increase or decrease pressure in the air spring to reach the desired measurement. Remove the shock pump from the shock each time before re-checking sag.



SETTING HIGH-SPEED COMPRESSION (HSC)

High-speed compression damping (red knob) controls how your suspension compresses under quick, high impact forces such as square edge hits and harsh landings. Impacts that cause your suspension to compress deeply and rapidly will generally be controlled with the HSC setting.

Start at the midpoint (12 clicks) and adjust HSC to achieve a balance between effectively using travel and bottoming out.



SETTING REBOUND

The opposite of compression damping, rebound damping (black knob) controls how quickly the shock extends to stabilize the bike and manage traction. Too much rebound damping will make the rear end feel stiff and cause the rear tire to skip over chatter. Too little will cause the suspension to bounce back too rapidly and compromise control.

Start at the midpoint (12 clicks) and adjust rebound to achieve a balance between quick, plush recovery and stability after larger impacts.



SETTING LOW-SPEED COMPRESSION (LSC)

Low-speed compression (grey knob) controls shock sensitivity - cornering traction and bike stabilization under braking forces or weight shifts. Brake dive and pedal "bob" are tuned out by adding more LSC at the expense of losing plushness and traction.

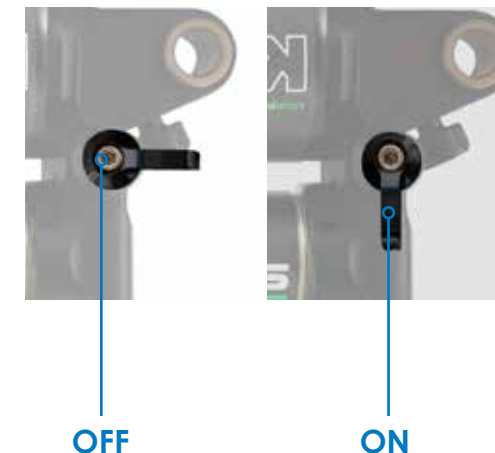
Start at the midpoint (12 clicks) and adjust LSC to achieve a balance between sensitivity over small bumps and a bike that remains stable under braking forces or weight shifts.



USING THE PEDAL EFFICIENCY LEVER

Low-speed compression (grey knob) controls shock sensitivity - cornering traction and bike stabilization under braking forces or weight shifts. Brake dive and pedal "bob" are tuned out by adding more LSC at the expense of losing plushness and traction.

Start at the midpoint (12 clicks) and adjust LSC to achieve a balance between sensitivity over small bumps and a bike that remains stable under braking forces or weight shifts.



ORBEA WARRANTY



HOW DO I ACTIVATE MY LIFETIME WARRANTY?

Orbea provides a lifetime warranty on all its frames. Only a brand that knows the materials, masters the technologies and has the skills can guarantee that your frame is totally invincible. Only Orbea takes you a step beyond.

Orbea's lifetime warranty is activated using the registration number you will find on all frames from the 2009 range onwards. When you have activated it at your dealer or at www.orbea.com, your bike will automatically receive its lifetime warranty. The registration number is a unique, non-transferable code that you will find on the underside of your bike's downtube. Activate your frame's warranty using this number at your dealer's or at www.orbea.com.

WHAT ARE THE ADVANTAGES?

Lifetime guarantee of your frame against breakage.

Two-year guarantee on all components.

Identification of your bicycle and all its characteristics to our Technical Assistance Service so that we can provide our best response to any problems. Access to special offers, events and prize drawings.

ORBEA WARRANTY

The ongoing efforts we make at Orbea to design high-end bicycles enable us to provide customers with the following warranty:

1) We back each frame and rigid fork in our bicycles with a lifetime warranty against materials and manufacturing defects. Frames with travel longer than 170 mm are covered by a 2-year warranty. We warrant each frame and fork in our bikes against paint or varnish defects and corrosion for 3 years. This warranty covers the original purchaser only and is non-transferable. For the lifetime warranty to be valid, customers must fill in the online warranty form within one month of purchase, and proof of purchase in the form of cash register receipt or sales ticket is required.

2) Warranty claims are subject to the decision made by our technical staff about the nature of the defect after thorough inspection of the faulty part.

3) All the parts assembled in our bicycles are protected against assembly or manufacturing defects for 2 years, and repairs qualifying under this warranty will be performed by authorized dealers in each country.

4) This warranty does not cover parts that naturally wear over time, such as tires, brake pads, handlebar grips, cranksets, bearings, etc.

5) This warranty does not cover damages or defects caused by negligence, improper use, assembly of parts or accessories that are not original, or defective repair or maintenance work. of the bicycle, nonoriginal accessories being fitted to it, or unsuitable maintenance operations or handling.

6) This warranty includes only replacement or repair coverage of the parts under it and in no case shall it cover personal damages directly or indirectly caused by the failure of said parts during use.

7) All claims must be reported to an authorized dealer. In case there is no such a dealer near the buyer's location, please contact Orbea so that we can decide how to solve the problem.

8) In case of crashes, the Orbea warranty shall be considered null and void.

ADDITIONAL INFORMATION

Orbea participates actively on facebook and Twitter with our fantastic global community of riders. Looking to find spots to ride or plan a vacation? Someone will have the answers:

FACEBOOK

www.facebook.com/OrbeaBicycles

TWITTER

<https://twitter.com/Orbea/>

TECH VIDEOS

Visit our Orbea Channel on YouTube for a variety of helpful setup and tech videos:

<http://www.youtube.com/user/OrbeaBicycles/>

INSTAGRAM

instagram.com/orbeabicycles

ORBEA CONTENT

View and download photos, videos and documents.

<http://content.orbea.com/>

YOUR ORBEA DEALER

Our dealers are experts and should be able to assist you with setting up and maintaining your Orbea bicycle. A complete listing of Orbea dealers and distributors can be located on our website:

<http://www.orbea.com/int-en/dealers/?country=INT/>

AFTER SALES SERVICE

Our service technicians are trained to handle any questions you might have about your Orbea bicycle.

<mailto:Orbea@Orbea.com>

ORBEA

**BLUE
PAPERS**

RALLON
TECHNICAL MANUAL
