



# USER MANUAL

TRAIL F4







Welding of the chainstay mounting bosses

## DEAR CUSTOMER

*We want to congratulate you on buying the Trail F4 - you've picked our best selling model, designed & developed at our Shanghai office in China!*

The Trail has been our best selling model for a couple of years, and based on our customer feedback that's because of a reason! The concept for the Trail F4 is the same – hybrid tires good for on-road and off-road, lockable front suspension and a powerful mid-motor. But this time we reconsidered the design, style and geometry of the model.

The concept became real with the first aluminium welded prototype, enabling us to discover technical defects in new Trail F4 components, for example the battery lock. With the second prototype we took the bike for a ride to test the geometry, weight, and other technical parameters.

The final part of the development is always the most fun, seeing the bikes actually built. We always make sure to be there and inspect every bike when the frames are welded, the paint is sprayed and the bikes are assembled.

After a lot of hard work we finally present:

**The Trail F4- The world's best Trail e-bike.**



Trail F4 Bikes are being assembled



Inspecting the welding & quality of the frame



The FLX Shanghai Team inspecting every bike



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## CONTENTS

*In this manual, we're going to break down the basics to make sure that your bike remains in top shape and performs to the highest standard.*

We highly recommend familiarizing yourself with local ebike laws and the **COMPONENTS, TECHNICAL SPECS, and GEOMETRY** of your model prior to your first ride.

You're about to experience the ride of your life. In order to get you out and having fun as quickly and as safely as possible, please read the chapters: **ASSEMBLY INSTRUCTIONS and USEFUL TIPS.**

To make sure that your bike remains in top shape and performs to the highest standard please refer to the **MAINTENANCE INSTRUCTIONS** chapter, which also includes references to important component's manuals.

Having trouble sleeping? Check out the chapter **LEGAL DISCLAIMER.** We promise it will put you right out.

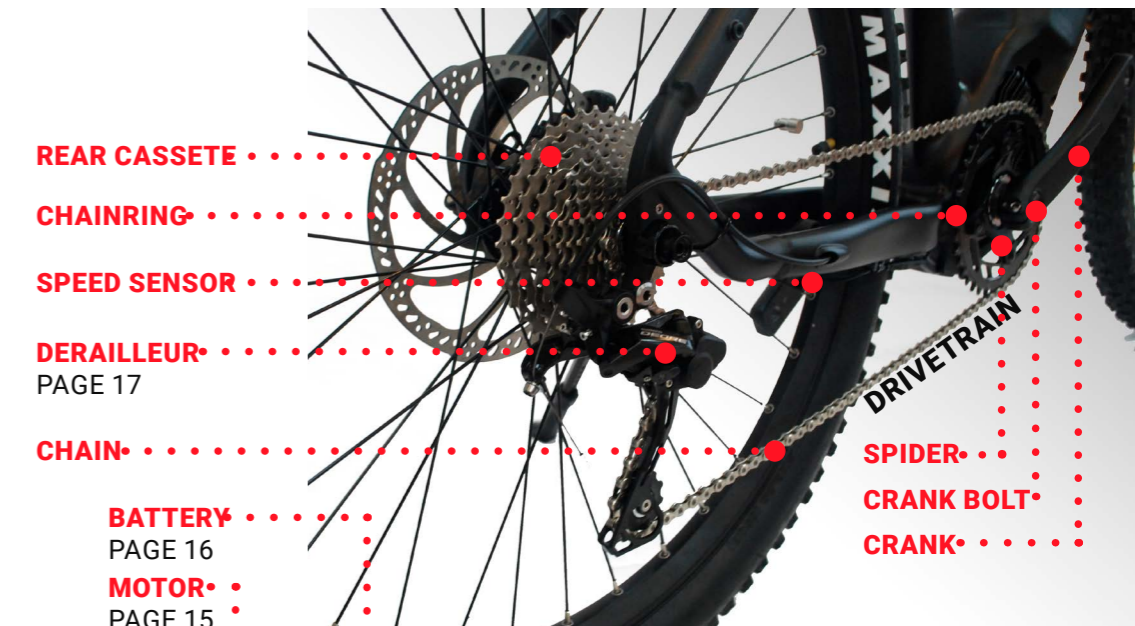
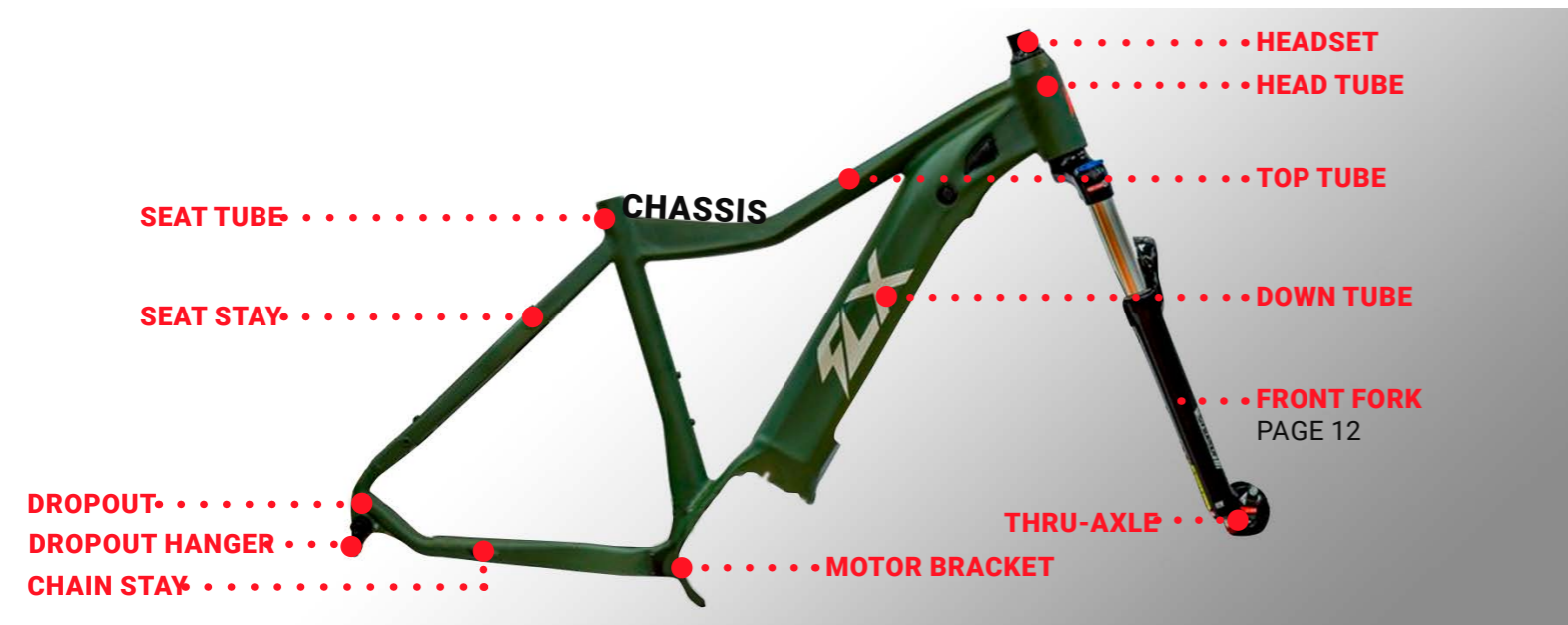
**Ready to get started? Let's ride!**

-Team **FLX**



# COMPONENTS

Familiarize yourself with the components of your model. This are technical terminology used at the FLX engineering department.





## TECHNICAL SPECS

*The bike has high quality components throughout, this list is for the bike nerds that want to know every technical detail.*

### CHASSIS

#### FRAME

Designed by FLX with Internal Cable Routing  
Manufactured by JiuLun, 6061 Aluminium Alloy Tubes, Smooth Welds

#### REAR AXLE

M12x148 mm Spacing  
Quick Release Thru Axle  
New Dropout with Inner Brake Mount

#### HEADSET

Semi Intergrated, Tapered Design Headset  
ZS44/28.6 (1-1/8") Top Sealed Bearing  
ZS56/39.8 (1-1/2") Bottom Sealed Bearing

#### FORK

SRSUNTOUR XCR32 Spring Suspension  
120 mm of Front Wheel Travel  
M15x100mm Thru Axle Spacing

### COCKPIT

#### SEAT

Zoom SP-C261 AL-Alloy, 300mm Seatpost  
FLX Branded Velo, VL-1205 Active Saddle  
Promax 319Q Ø38.1mm QR Seat Clamp

#### HANDLES

Zoom Al-Alloy, 780 mm width, Rise Handlebar  
Zoom Aluminum, 60 mm Length 15° Stem  
Velo Flat Rubber Grips with Lockers

#### REMOTES

FLX Branded Bafang DP C230 Display  
Advanced Pedal Assist mode  
Shimano Deore 10 Speed Trigger Shifter

#### BRAKES

Tektro HD-M745 Auriga Hydraulic Disc Brakes  
Three-Finger Levers w/ Adjustable Reach  
Quad Piston Calipers with 203 mm Rotors

### DRIVETRAIN

#### MOTOR

Bafang M600 Max Mid-Mounted Motor  
500W Nominal Power/850W Peak Power  
120 Nm Torque

#### BATTERY

48V, 14AH Lithium Ion Cells, 4PIN discharge  
(500/650WH) LED Capacity Indicator  
Security Key Lock

#### CRANKSET

Prowheel Bafang Ebike Crankset  
170 mm Crank, Bafang 40T Chainring  
104 mm BCD Spider

#### CHAINLINE

Shimano Deore 10-Speed Derailleur  
Shimano Deore 11-36T 10-Speed Cassette  
KMC, X10e 10-Speed Silver Chain

### WHEELS

#### HUBS

Vuelta M06F M12x148 mm Rear Hub  
Vuelta M10R M15x100 mm Front Hub  
Shimano Deore HG Standard Freewheel

#### RIMS

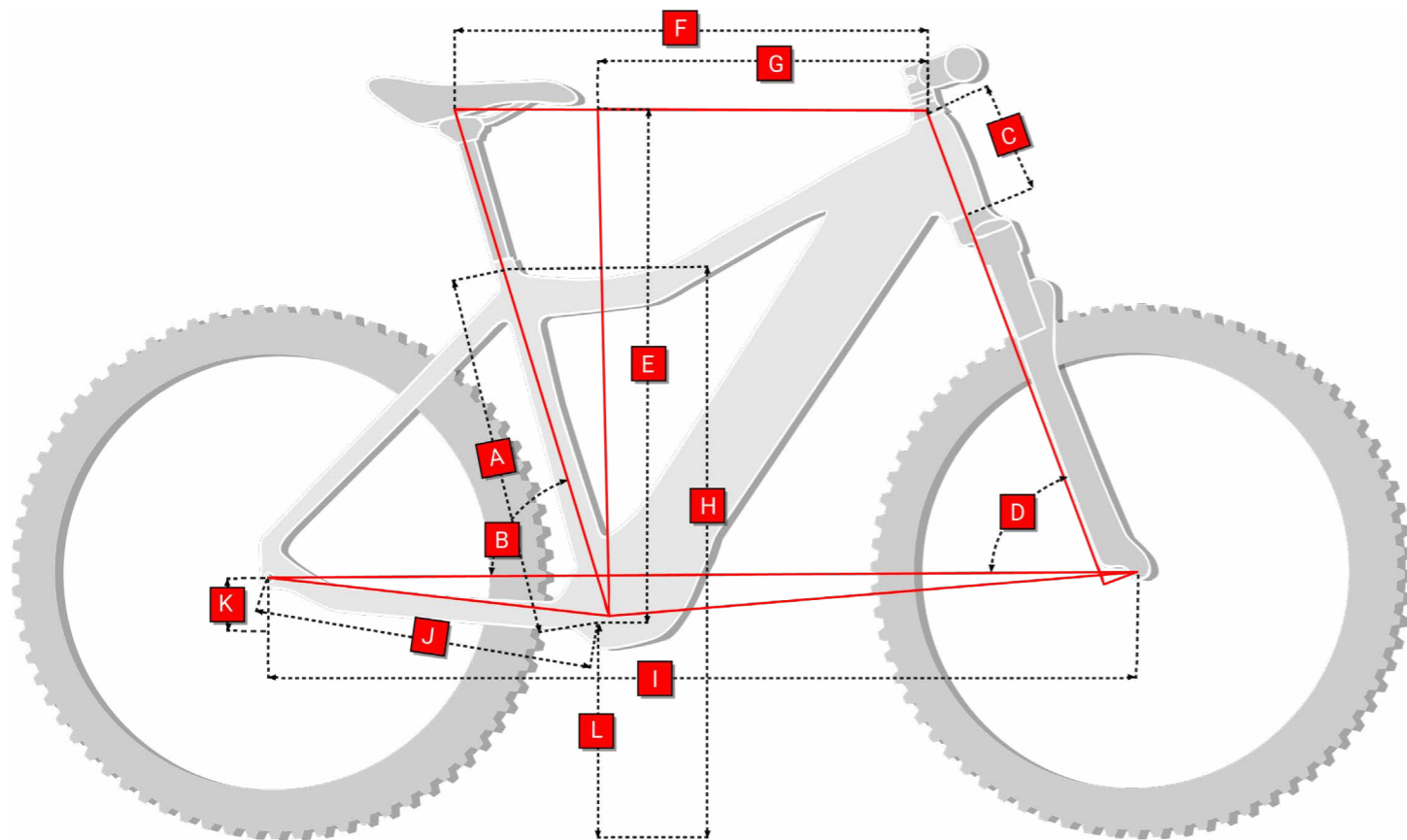
Powerwheel 27.5" Double Walled Rims  
HaiCheng 36 Spoke Holes. AL Eyelets  
622 x 25.6 mm Rim Dimensions

#### SPOKES

Stainless Steel, 13GX266mm Spokes  
36 Spokes/ Wheel  
Black with Brass External Nipples

#### TIRES

Maxxis Forekaster, 27.5" x 2.35" Tires  
Maxxis 27.5" x 2.35" AV48mm Tube  
50-85 PSI, 3.5-5.9 BAR, Schrader Valve



## GEOMETRY

### TRAIL F4 - SIZE L

<b>A.</b>	Seat Tube Length	<b>19 Inches (480 mm)</b>
<b>B.</b>	Seat Tube Angle	<b>73.5°</b>
<b>C.</b>	Head Tube Length	<b>5.1 Inches (130 mm)</b>
<b>D.</b>	Head Tube Angle	<b>69°</b>
<b>E.</b>	Stack	<b>26 Inches (667 mm)</b>
<b>F.</b>	Effective Top Tube	<b>23.8 Inches (604mm)</b>
<b>G.</b>	Reach	<b>16 1/3 Inches (415 mm)</b>
<b>H.</b>	Standover Height	<b>29 1/2 Inches (750 mm)</b>
<b>I.</b>	Wheelbase	<b>44 1/4 Inches (1141 mm)</b>
<b>J.</b>	Chainstay Length	<b>17 1/3 Inches (455 mm)</b>
<b>K.</b>	Bottom Bracket Drop	<b>2 Inches (47 mm)</b>
<b>L.</b>	Bottom Bracket Height	<b>12 Inches (305 mm)</b>

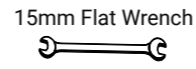
### OTHER DIMENSIONS

Fork Height	<b>516 mm</b>
Fork Rake	<b>42 mm</b>
Seat Post Insert	<b>min 100 mm - max 200 mm</b>
Seat post diameter	<b>31.6 mm</b>
Headset spacer	<b>2*10 mm</b>
Stem length	<b>60 mm</b>
Stem angle	<b>15°</b>
Handlebar Diameter	<b>31.8 mm</b>
Handlebar Width	<b>780 mm</b>
Cranklength	<b>170 mm</b>
Wheel size	<b>27.5*2.35"</b>
Wheel radius	<b>357 mm</b>





## INCLUDED TOOLS FOR ASSEMBLY:

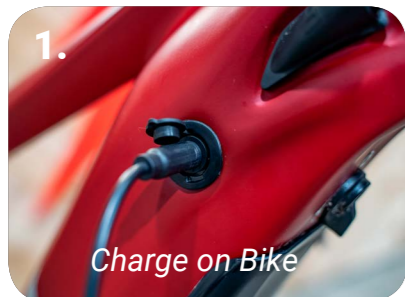


# ASSEMBLY INSTRUCTIONS

Please follow the instructions for assembly in the following pages carefully and properly. If you don't feel 100% confident assembling the bike, please take it to a bike shop for assistance.

### 01. CHARGE THE BATTERY BEFORE FIRST USE

Insert the charging plug into the charging port on the battery. The light on the battery will turn red while the battery is charging. This indicator light will turn green when the battery is fully charged. A full charge will take 5-8 hours depending on battery type.



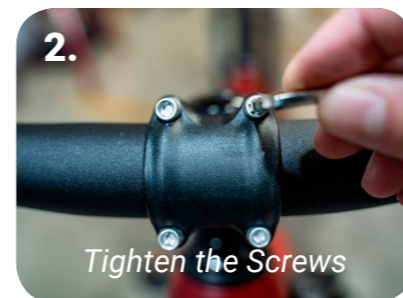
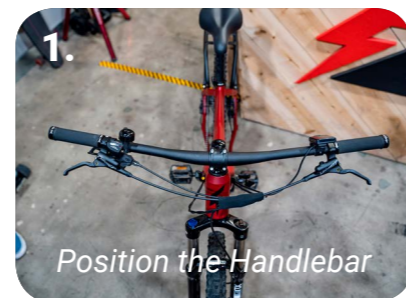
### 02. MOUNT THE FRONT WHEEL

Insert the wheels in the front fork and make sure the front rotor is positioned properly between the front brake pads. Insert the Thru Axles through the routing and tighten it using the quick release.



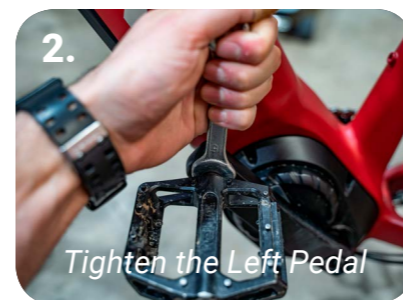
### 03. INSTALL THE HANDLEBARS

Press the handlebar against the stem. Insert and screw the bolts into the stem plate to assemble the handlebar, tighten the screws clockwise with the M4 Hex key



### 04. ATTACH THE PEDALS

Use the 15mm flat wrench to attach the pedal by hand in the directions shown. The left pedal has a reverse thread. To tighten, please turn counter-clockwise.

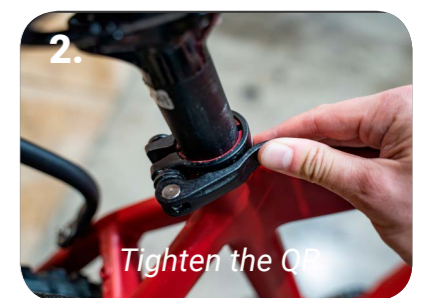
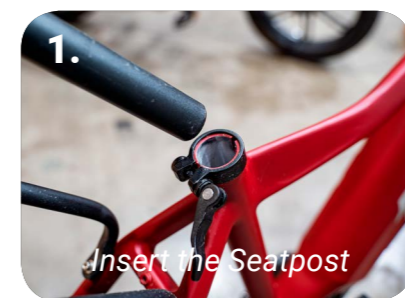


### 05. INSERT THE SEATPOST

Insert the seatpost into the seat tube and make sure your seat is in at least to the minimum insertion depth which is marked by the vertical lines. Use the seatclamp's quick release to tighten the seatpost.

#### ! WARNING: INSERT YOUR SEATPOST PROPERLY

Failure to insert the seat post to the proper depth could overstress the seat tube, which could cause the frame to break and lead to a serious accident. If the seat post is not tall enough for you, please purchase an extra long seat post that can accommodate your height.



## TOURING PACKAGE INSTRUCTIONS

The touring package is optional and is not included with every bike. Please follow the instructions for assembly of step 5 to 9 carefully and properly.

### 05B. INSERT SUSPENSION SEATPOST & COMFORT SEAT

Same as step 5, but with the seatpost and saddle have been upgraded to a suspension and comfortable variation.

! **Warning:** Make sure you the suspension seatpost is in at least to the minimum insertion depth.

### 06. CHECK THE FUNCTIONALITY OF THE LIGHTS

The headlight, taillight and backlight on the LCD screen can be activated by pressing the "+" and "-" buttons for 3 seconds, and can be turned off the same.

### 07. INSTALL THE CARGO RACK

The cargo rack is attached by four bolts, make sure to tighten them. The rack can bear a weight of max 25 Kg, enough for your bags, but not for carrying your friend!

### 08. ATTACH THE FRONT AND REAR FENDERS

Riding can't stop just because it is raining a little, therefore these fenders keep you dry when the weather is wet. Easily installed using the tools provided.

### 09. INSTALL THE SMARTPHONE MOUNT

The universal mount is easy to install, without any bolts or tools. Simply wrap the elastic belt around the handlebar and attach it to the hook.

! **Warning:** We don't recommend to use your phone while riding. Use the smartphone responsibly: when you want to snap a picture of a stunning sunset, need to call for help, have a flat or check an online map.







## USEFUL TIPS

*Your safety, comfort, and happiness are of great importance to us and we can't stress enough how important the use of proper safety equipment is.*

### BEFORE RIDING

Before taking the bike for a ride, ensure that all components are attached properly. Neglecting to do so may cause issues in the future. Make sure you know about the local laws regarding electric bicycles in the areas you're riding in and abide by the regulations.

### RIDING TIPS

Although it may not be required by law, we highly recommend the use of pads and a helmet. Make sure to wear appropriately bright clothing during the day and use head and tail lights at night to increase visibility. Please use proper cycling hand signals and always be cautious when riding - whether you're in a bike lane or not.

The bike has a powerful mid-motor which places more stress on the gears than a regular bike. Reducing the force placed on the pedals whilst shifting will prolong the life of the drivetrain.

### ! Warning: EVERY 100 MILES!

Please make sure to tighten the crank bolts (bolts which attach the pedal cranks to the motor shaft) after riding the first 50 miles, and every 100 miles thereafter. They should be tightened to 40-50NM, failure to maintain this tightening torque may result in the crank arm falling off during a ride, which could cause a serious accident.

### CLEANING & CARE

The biggest enemy of any bike is rust, so make sure to dry it off after a wet ride and store it in a dry place.

In general, wiping down your bike after a rough ride with a damp rag should be enough to keep it looking great, just make sure to be careful around the electronics.

Cleaning the battery should only be done while the battery is disconnected and turned off. DO NOT spray the battery with high-pressured water to prevent damage or possible short-circuiting.

### ! Warning: BATTERY CARE

It is recommended to remove the battery from the bike when storing it for a longer period of time (> 2 weeks). Store the battery in a cool and dry area away from water or direct sunlight. The charge left in the battery should be 50% for long storage times. Lithium-ion batteries are meant to be recharged with 10%-15% of the charge remaining to prolong the life of the cells. Only charge the battery with the supplied charger as others may cause damage to the battery and increase the possibility of fire or explosion. We recommend placing the battery on a non-flammable surface and charging it during the day in a dry space with a smoke/fire alarm.

! Warning: Based on IATA regulations you are not allowed to ship Lithium-ion batteries this size by air. Please consult a land or sea freight agent for transportation of the battery.

### REGULAR INSPECTION

Inspect the bolts on a regular basis, to ensure that they are tight and all components are secure. This is especially important if you are riding in demanding conditions. As with all bikes pay particular attention to the crank bolts, as they pose the highest risk of loosening.

Regularly check the brake pads, the provided brake pads should be replaced if they have less than .8mm of material, been contaminated, or show Cracks/ deformation

### MAINTENANCE

Warning: Whenever you service your bike, make sure to remove the battery first.

! Warning: To replace the brake pads or perform other maintenance take it to a qualified professional at your local bike shop.

Warning: Properly inflate your tires according to riding conditions. Under-inflated tires are prone to pinch flats, especially if riding off-road or over sharp edges. If you are unsure of the proper pressure, read the tire.



## MAINTENANCE INSTRUCTIONS

While FLX bikes are built for heavy use, proper care and maintenance should be performed to maintain optimal performance. Most adjustments can be performed with basic tools. Larger issues should be handled by a qualified bike mechanic.

This bike would not have been possible without the technical support from these amazing brands. For more detailed information of these parts, please use their original user manual.







## FLX TRAIL F4

### FRAME

The frame is custom designed by the engineering team at the FLX Shanghai office. It still has the iconic FLX top-tube, but with a new downtube and motor bracket. The dropouts are also new, with the disc brake caliper mounted inbetween the chainstay and seatstay. The rear axle still uses a 12mm Quick Release with 148mm Boost spacing. The frame is occupied with plenty of Rear Rack Bosses, Fender Bosses, and Bottle Cage Bosses to mount any accessory.

For detailed drawings of the frame and dropout parts, check out **APPENDIX A - 2D DRAWING**

**FLX HELP CENTER**



• AIR ADJUSTMENT LEVER

• REBOUND ADJUSTMENT LEVER

• PISTON

• CROWN

## SRSUNTOUR XCR32

### SUSPENSION FORK

The XCR 32 LO R AIR is SR SUNTOUR's first offering of an air sprung fork in the XC category of suspension forks. It features externally adjustable rebound, and air spring for more precise set up and a hydraulic lockout that can be used on the fly. The chassis is robust enough to handle XC singletrack and it utilizes their proven sealed cartridge design that requires minimal service work.

*Find the XCR user manual in the link below for the latest technical and maintenance information.*

[SRSUNTOUR XCR MANUAL](#)





## BAFANG LCD SCREEN

### DISPLAY

The LCD screen has many functions. The speed is shown in the middle, the battery level at the top, and the trip distance/ power assist level at the bottom.

To turn on the LCD, press and hold the “Power Button” for 3 seconds. The level of pedal assist can be adjusted by pressing the “+” or “-” buttons. The lights can be activated by pressing and holding the “+” and “-” buttons for 3 seconds simultaneously. Walk-assist mode can be activated by pressing and holding the “-” button for 3 seconds.

*The LCD has been preprogrammed to comply with your local speed regulations. For information on how to change this, please contact us!*

[LCD SCREEN MANUAL](#)

LINK WILL BE ADDED IN THE FUTURE!



BRAKE LEVER

BRAKE CABLE

BRAKE ROTOR

MOUNTING ADAPTER

BRAKE CALIPER

# TEKTRO AURIGA

## DISC BRAKES

The Trail F4 comes with a powerful 4-piston, low maintenance hydraulic Tektro HD-M745 Auriga disc brake. The rotor with 203 mm is the largest on the market, for maximum stopping power. We recommend to bleed the system after a lot of riding when the brake action starts to feel spongy. If you are not confident to bleed the brakes yourself, go to a bike mechanic in your neighbourhood that is qualified to bleed hydraulic brakes.

*Please refer to the Tektro Owner's Manual for details of required tools, maintenance and setup options.*

**TEKTRO AURIGA MANUAL**



## BAFANG M600 MAX

### MOTOR

This 500W, 48V motor from Bafang with a maximum torque of more than 120 N.m is especially suitable for hill climbing. It uses torque measurement, pedal-assist speed measurement and wheel-speed measurement to calculate the amount of assist needed. For checking cable connections or regular maintenance there is no need to disassemble the motor. Simply remove the motor covers and you will be able to see all cables.

*If there appears to be an issue with the motor, stop use immediately and contact us. We will help you solve the problem or will contact the manufacturer to get you back on road.*

M600 MAX MOTOR

MOTOR COVER . . . ●

MOTOR . . . . . ●



# SYR 'MUSTANG'

## BATTERY

This 650Wh battery from SYR has a voltage of 48V. The battery can be de-attached via the 2-step lock. 1st turn the key to open the key lock, 2nd turn the security lock lever, and you will be able to take off the battery.

*If there appears to be an issue with the charger or battery, stop use immediately and contact us. We will help you solve the problem quickly or will contact the manufacturer to get you back on road as soon as possible.*

**MUSTANG MANUAL**

LINK WILL BE ADDED IN THE FUTURE!



## SHIMANO DEORE

### DRIVETRAIN

The updated SHIMANO DEORE M6000 drive system is designed for aggressive trail riding. The derailleur uses SHIMANO SHADOW RD PLUS technology for improved chain stability and retention. The cassette has a steel spider and refined tooth profile for the chain. It delivers precise and consistent shifting performance across a wide range of MTB conditions. The Narrow KMC Chain comes with a mud-shedding design.

*Shimano has a great customer support, check out their derailleur user manual for more details.*

CHAINRING . . . . .

CHAIN

CASSETTE

DERAILLEUR

SHIMANO DEORE MANUAL



## MAXXIS FORECASTER

### TIRES

The tires on your Trail F4 are 27.5" and are 2.35" wide. With the Forecaster on your bike, you can forget about the weather and hit the trails. Mid-height tread blocks are spaced evenly to allow penetration through loose trail conditions and open up for better mud-clearing compared to other race tires. When the leaves start falling and the weather becomes more unpredictable, the Forecaster is the tire of choice.

*Click below to view the specifications of the Maxxis Tire or contact the Maxxis office for specific questions.*

**MAXXIS FORECASTER**





## LEGAL DISCLAIMER

*Our extensive quality control means that our products are thoroughly tested and ultra-reliable by industry standards. However, that doesn't mean the bikes cannot be broken or will last forever.*

### **WARRANTY**

All new FLX products are warranted against manufacturing defects in materials and/or workmanship for a period of (1) year from the date of delivery.

There are a few conditions: The original receipt of purchase is required, and you are required to complete the standard procedure for warranty claims that will involve media such as photos and videos to help our after sales staff establish the fault with the product.

This warranty does not cover normal wear and tear, improper maintenance, or damage from abuse, neglect, misuse, or an accident.

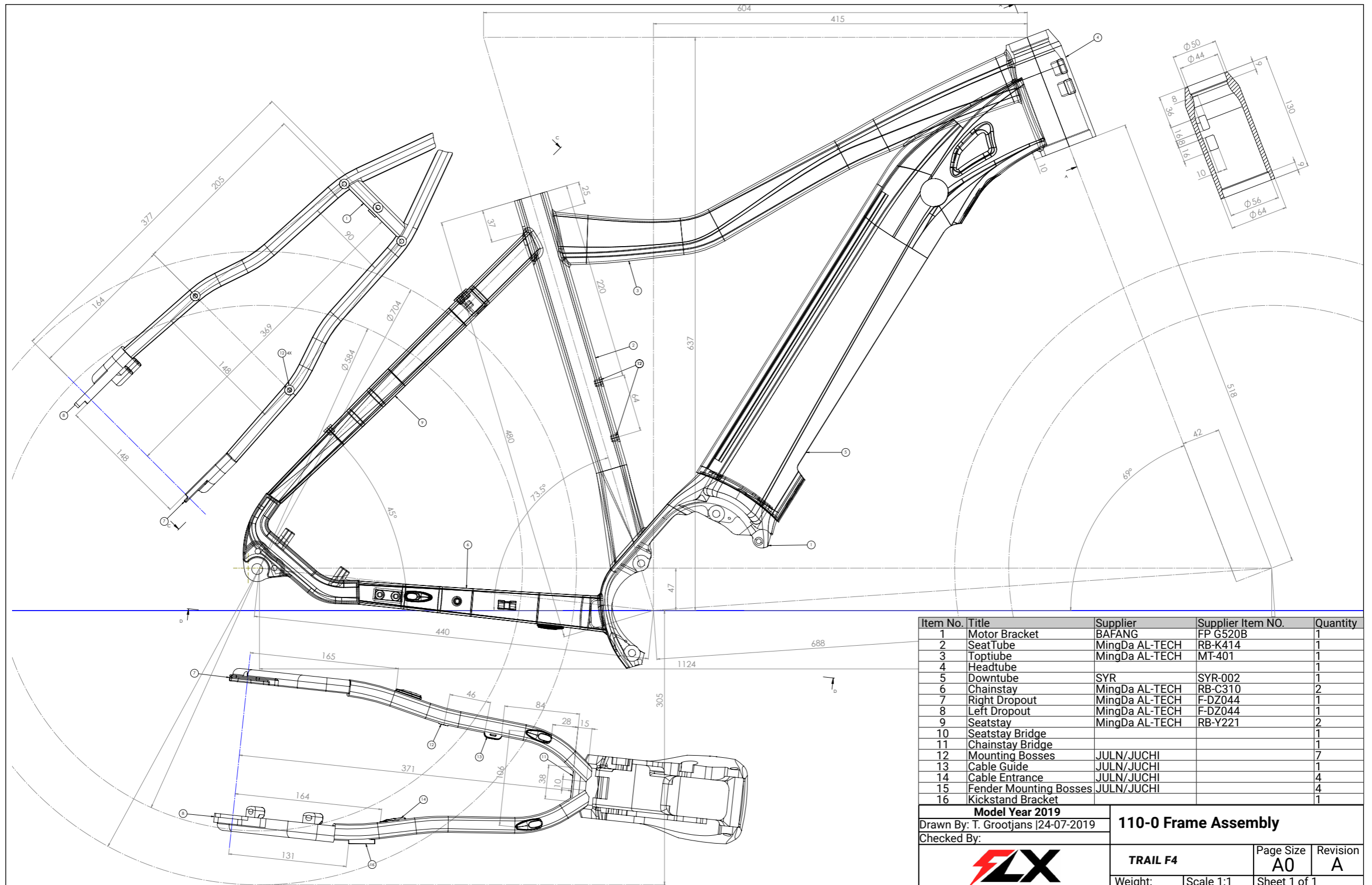
### **DISCLAIMER**

FLX Bike holds no liability whatsoever for any damage - regardless of what type - or injury to any party involved in improper use, maintenance, handling, or storage of any FLX electric bicycle, or any of their components.

Technical details in the text and illustrations of the translation of these operating instructions are subject to change. For the most up to date version of this FLX User Manual visit [flx.bike/manual](http://flx.bike/manual) or email [hello@flx.bike](mailto:hello@flx.bike).



# APPENDIX A - 2D DRAWING




Item No.	Title	Supplier	Supplier Item NO.	Quantity
1	Motor Bracket	BAFANG	FP G520B	1
2	Seat Tube	MingDa AL-TECH	RB-K414	1
3	Toptube	MingDa AL-TECH	MT-401	1
4	Headtube			1
5	Downtube	SYR	SYR-002	1
6	Chainstay	MingDa AL-TECH	RB-C310	2
7	Right Dropout	MingDa AL-TECH	F-DZ044	1
8	Left Dropout	MingDa AL-TECH	F-DZ044	1
9	Seatstay	MingDa AL-TECH	RB-Y221	2
10	Seatstay Bridge			1
11	Chainstay Bridge			1
12	Mounting Bosses	JULN/JUCHI		7
13	Cable Guide	JULN/JUCHI		1
14	Cable Entrance	JULN/JUCHI		4
15	Fender Mounting Bosses	JULN/JUCHI		4
16	Kickstand Bracket			1

Model Year 2019  
 Drawn By: T. Grootjans |24-07-2019  
 Checked By:

**110-0 Frame Assembly**

**TRAIL F4**

Weight: | Scale 1:1 | Page Size A0 | Revision A | Sheet 1 of 1







Share your pictures and experiences with us!

BAFANG

M600

[WWW.FLX.BIKE](http://WWW.FLX.BIKE)

[HELLO@FLX.BIKE](mailto:HELLO@FLX.BIKE)

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