



L-TWOO

Electronic Road Kit Series User Manual



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Zhuhai L-TWOO Sport Technology Co. , Ltd.

Address: No.8 Honghui Road No.5, Liangang Industrial Park,
Hongqi Town, Jinwan District, Zhuhai City, Guangdong Province, China. 519090

Website: www.ltwoo.com

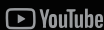
Tel: 0756-7795001

Sales mailbox: sales@ltwoo.com

Service mailbox: service@ltwoo.com



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<https://www.youtube.com/@ltwoo.official>



<https://www.instagram.com/ltwoo.official>



To users

Thank you very much for choosing our products!

For the sake of safety, before you use this product, please be sure to read this operation manual carefully, and use it correctly according to the instructions.



Notice!

For ease of understanding, the pictures in the manual may differ from the product you purchased, please refer to the actual product!

1. If the product is not used for a long time, please store it in a dry environment at room temperature. At the same time, it is recommended to charge the battery to 60%-80%.
2. It is recommended to use it after fully charging to obtain the longest working time. Before charging, please ensure that the charging port is clean. If it is dirty, please use a damp cloth or a non-corrosive clean damp cloth to wipe the charging port, and dry it with a dry cloth.
3. The product will automatically enter the sleep mode when it is stationary for a long time. Before connecting and debugging, please lightly shake the bicycle to wake up the device.
4. For the sake of safety, please keep away from fire sources when using, and do not use this product in a high temperature environment for a long time.
5. It is recommended that this product be installed and debugged by professionals or in stores.
6. Please pay attention to cut off the power supply before the bicycle is transported, and please be careful not to squeeze the hand change button when parking, so as to avoid it being triggered to avoid malfunction.
7. Please pay attention to protect the power connection port from being corroded by sediment and sewage, and it is forbidden to immerse the product in water. Operational failure or corrosion may occur if any component is wetted by rain, please clean it in time if it is dirty.
Please keep the terminal connections between the battery and the rear derailleur and front derailleur clean, and observe and confirm whether the joints of the terminal wires and the inside of the terminal head are dry and clean when disconnecting and reconnecting the power supply terminal wires.
8. The product has IPX6 waterproof function, but do not use a high-pressure cleaner to clean the bicycle, and regularly maintain the equipment and bicycle.
9. Be careful not to disassemble or modify this product without permission, otherwise it will cause the product to run abnormally, and may cause you to fall or get injured suddenly.
10. When you find that the shifting function of the product is abnormal, please do not continue to use it, and seek a professional qualified bike shop or contact the official after-sales service. Please do not try to disassemble and repair it privately. Failure to do so will cause irreversible damage and void the warranty.



Warning!

1. Do not use a damaged power cord to connect the product, otherwise it may cause a short circuit and damage the product.
2. This product has the risk of causing fire and burns.
3. It is forbidden to disassemble, squeeze or incinerate this product.
4. The surface temperature of the product shall not be higher than 60°C.
5. There is a risk of explosion if the battery model does not match.
6. In order to avoid injury to personnel or damage to equipment and bicycle during use, please do not disassemble, install or modify the product abnormally, otherwise it may not only cause damage to the equipment, but may also endanger personal safety in severe cases!
7. There are small parts and brake fluid in the package. Please beware of children's contact. In case of accidents such as eating or drinking by mistake, please take first aid measures and seek medical treatment immediately.
8. Regarding the brake fluid, in order to avoid allergies such as itching and rashes that may occur when people with different physiques come into contact, please wear a mask and gloves during installation.
9. Please use L-TWOO special mineral brake fluid, and do not use DOT type oil, otherwise it will damage the oil system!

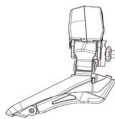
Packaging accessories



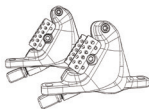
Shifter*2 (Left+Right)



Electronic rear derailleur*1



Electronic front derailleur*1



Hydraulic caliper*2 (Front+Rear)



Power cable*2



Charging cable*1



Battery*1



Screw kit*1

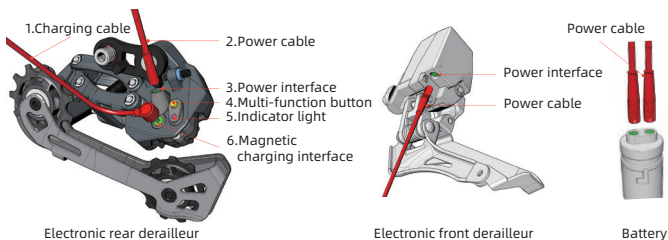


0 One brake fluid 50ML*1



User manual

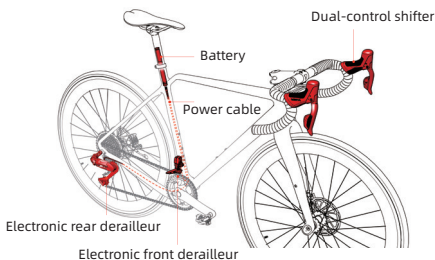
Product Structure Introduction



Installation/removal

Main wiring diagram

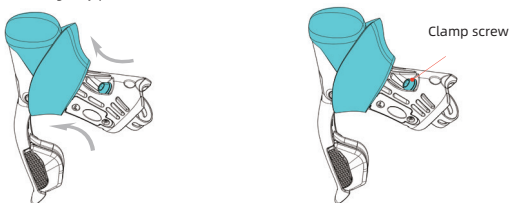
Our Electronic road kit uses wireless connection + wired power supply. The shift command of the dual-control shifter to the front and rear derailleurs is a wireless communication method, and the front/rear derailleurs are powered by the battery installed in the seat tube through the terminal wire. Note that before installing each component, please pass the wire through the inside of the frame, and do not connect the power cord to the battery during the wire installation process.



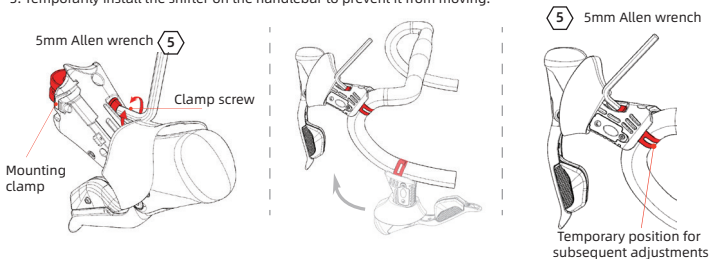
Install shifter

***Please refer to the "Disc Series Product Installation Manual" for details on brake oil filling and calipers installation.**

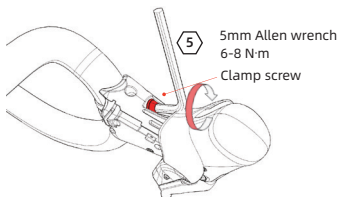
1. Flip the bracket rubber sleeve from the back. Use both hands to gently flip the ends of the shifter sleeve over from the back, and then gently push it down.



2. Loosen the clamp screw and put the clamp through the handlebar. When flipping the bracket rubber sleeve, there should be a clamp screw on the top of the handle bracket.
3. Temporarily install the shifter on the handlebar to prevent it from moving.



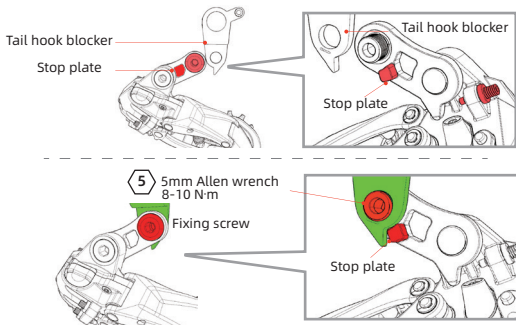
4. After installing and connecting the brake hose, check the connection.
5. Tighten the clamp screw to fix the dual-control shifter to the handlebar.



Install the rear derailleur

1. Secure the rear derailleur

Please be careful not to insert the rear derailleur fixing screw obliquely into the tail hook. Also, when installing the derailleur, ensure that the stop plate is in seamless contact with the tail hook blocker. After locking, the derailleur and lifting lug should be able to rotate relative to the tail hook, but there should be no obvious axial shaking.



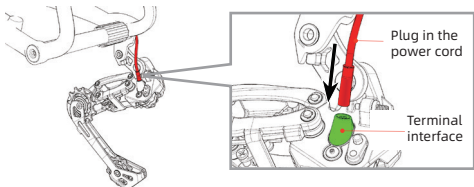
2. Connect the power cord

Please insert the power cord correctly according to the steps shown in the figure, and do not insert the wire forcibly to prevent the connector from being damaged. At the same time, please avoid excessive bending of the wire ends of the wire harness to prolong the service life of the wire harness. When the wire harness becomes loose or cannot be firmly fixed with the front and rear derailleurs, please replace the wire harness in time.



Notice!

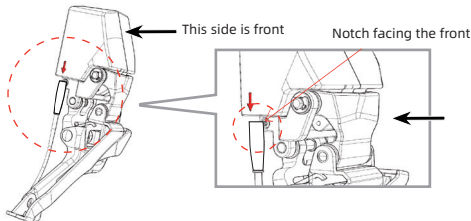
- (1) Insert the wiring harness into the power cord interface and slowly rotate the connector to find the accurate interface direction;
- (2) After confirming the alignment of the V-groove of the interface, press the wiring harness tightly.



Install front derailleur

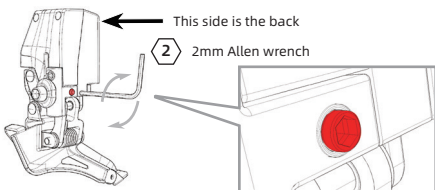
1. Connect the power cord (for the wiring method, refer to the rear derailleur description)

Before fixing the front switch, thread the power cord into the frame and then connect the power cord. After confirming that the V-shaped slot in the power cord is aligned with the front terminal interface, press the wiring harness in.



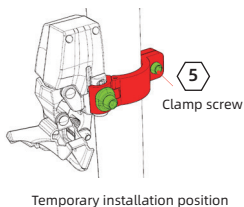
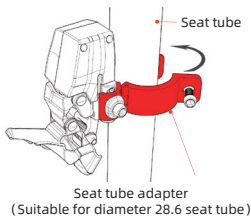
2. Adjust the installation stability

In order to increase the stability of the front derailleur installation, you can adjust the stability adjustment screw on the back of the front derailleur, unscrew it so that it can be supported on the front derailleur lug/clamp ring of the frame, and choose a suitable position to fix it after trying.



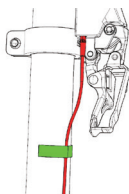
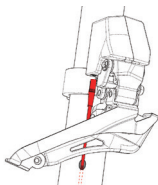
3. Secure front derailleur

Direct installation: temporarily install the front derailleur on the front derailleur lug of the seat tube; Clamp type: Remove the clamp screw, place the mounting clamp of the clamp adapter on the frame, and then reinstall the clamp screw.



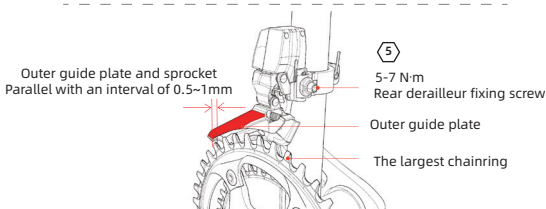
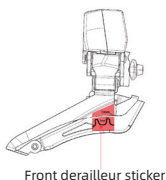
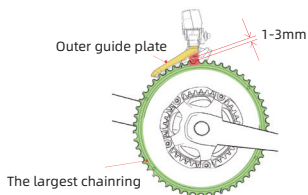
4. Organize the power cord

After fixing the front derailleur, it is recommended to pull out the terminal wire connected to the front derailleur moderately, and fix it with tape first, so as to facilitate the subsequent fixing and adjustment of the front derailleur.



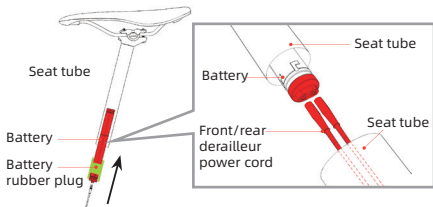
5. Adjust the installation height and angle

When adjusting the installation height, please refer to the schematic label posted on the outer guide plate of the front derailleur, and align the tooth tip of the largest chainring with the gear outline on the label. After adjustment, the gap between the two ends is controlled at 1 - 3 mm. Also make sure the outer guide plane is directly above the largest chainring and the outer guide plate is parallel to the crankset plane.



Install battery

1. Wrap the battery rubber plug around the bottom of the battery compartment;
2. Slowly insert the battery into the seat tube to ensure that the battery will not fall off;
3. Insert the two power cables connected to the front/rear derailleur into the two power ports of the battery in an aligned direction. When the seatpost is non-cylindrical or the diameter of the seatpost is non-standard 27.2, please consult the frame manufacturer for the requirements of the seatpost battery installation on the relevant installation accessories.
4. Finally, gently insert the seat tube into the frame and tighten the seat tube screws.



Note: When using, please make sure the power cord is inserted correctly so that the front/rear derailleur is always connected to the power supply.

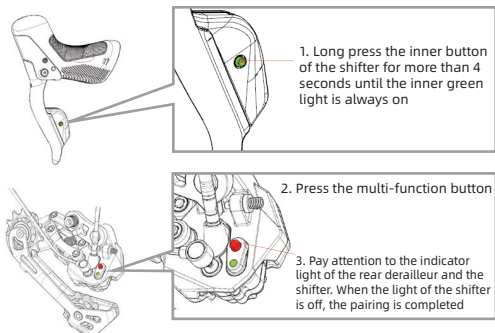
Bind

Once all the components are installed and secured, then check the wire connections and start pairing. After the LTWO road electronic shifter is newly installed or replaced with a shifter/rear derailleur, it needs to be paired before use.

Binding:

Before use, you need to pair the left and right shifters with the rear derailleur once

1. Press and hold the round button on the inside of the right-hand shifter for more than 4 seconds, observe that the internal indicator light is always green, and then press the multi-function button on the rear derailleur, and the indicator light inside the hand transmitter will go out, and the pairing is completed;
2. Then use the same method to complete the pairing of the left hand shifter and the rear derailleur. After the pairing is completed, you can try to press the left and right shifter buttons to check the response of the front and rear derailleur. (By default, the left shifter controls the front derailleur, and the right shifter controls the rear derailleur) *take the right shifter + rear derailleur as an example.



Debugging

1. Rear derailleur function button adjustment

Button operation	Functional status
Press once	Decrease one gear (up chain)
Press twice	Increase one gear (down chain)
Long press for 2 seconds (or more)	The green light flashes quickly, press the up and down keys to quickly adjust, enter the continuous motion zero finding mode, and then press the green light for 2 seconds to turn off, save, and exit
Long press for 5 seconds (or more)	Reset: Find the mechanical zero point

2. Status display of the indicator light

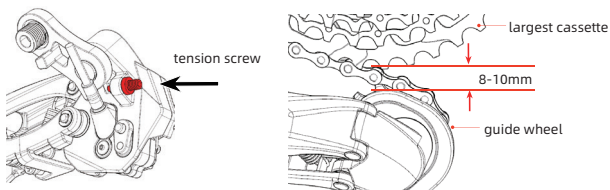
Status display of the indicator light		
Charging status	Charging in progress	Green light flashes slowly
	Charging completed	Green light stays on
	Low battery (<20%)	Yellow light flashes slowly
	Low battery (<5%)	Red light flashes slowly and cannot shift gears
Working status	Shift up command	Green light flashes once
	Shift down command	Green light flashes once
	No response to shift up command when in highest gear	Red light flashes once
	No response to shift down command when in lowest gear	Red light flashes once
	When the battery is low (<5%) during work	Red light flashes slowly after receiving the shift signal

3. Fine-tuning function

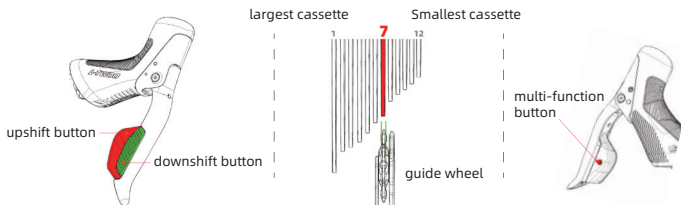
Button operation	Function status
Hold down the circular button on the inner side of the right hand shifter, then press the upshift button	Fine-tune value :+
Hold down the circular button on the inner side of the right hand shifter, then press the downshift button	Fine-tune value :-
Hold down the circular button on the inner side of the left hand shifter, then press the upshift button	Fine-tune value :+
Hold down the circular button on the inner side of the left hand shifter, then press the downshift button	Fine-tune value :-

4. Road Electronic Shifter Debugging Method (Important!!!) Notice!

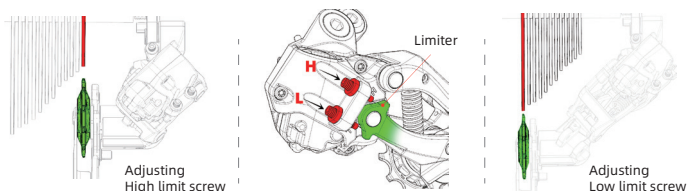
- ① After the bicycle is assembled, enter the debugging process. First adjust the tension screw, shift the rear derailleur and front derailleur to the lowest gear (the largest cassette and the smallest sprocket), so that the gap between the largest sprocket and the guide wheel is within 8-10mm.



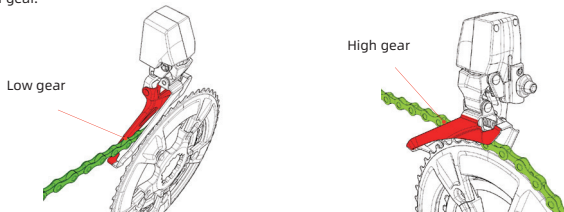
- ② Press the shifter again to shift the rear derailleur to the 7th gear.
(It is recommended to use 11-32T 12S cassette, from big to small, make sure the chain is on the 7th freewheel)



- ③ Press and hold the multi-function button for more than 2 seconds until the indicator light enters the green light flashing state, then release it to enter the adjustment mode. (Note that pressing and holding for more than 5 seconds is the initialization setting of the front/rear derailleur)
- ④ Adjust the upshift button/downshift button on the right shifter. When the rear derailleur upper guide wheel is on the same vertical plane as the cassette, press and hold the rear derailleur multifunction button for more than 2 seconds until the indicator light goes out, and save the setting. (Note that short press for 1 second will also turn off the indicator light, but the parameter setting will not be saved)
- ⑤ Operate the upshift key/and downshift key of the shifter to check whether the shifting is accurate and smooth. If there are only a few gears that are not smooth, you can fine-tune the single gear through the shifter. For example, press and hold the right hand variable function button for a long time, and press the downshift button or upshift button at the same time to fine-tune the rear derailleur.
- ⑥ Rear derailleur high/low limit adjustment: (1) First shift the rear derailleur to the highest gear (smallest cassette), turn the H screw clockwise, lock the high limit screw until it just touches the limiter, and then turn it counterclockwise H Screw 1/4 turn to maintain travel difference. (2) Then change the rear derailleur to the lowest gear (largest cassette), turn the L screw clockwise, lock the low limit screw until it just touches the limiter, then turn the H screw counterclockwise 1/4 turn to maintain the travel difference.

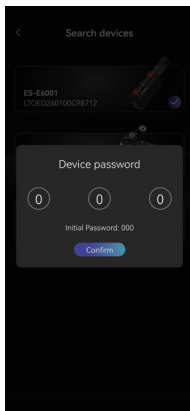
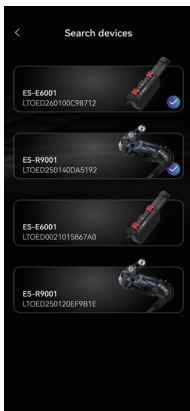
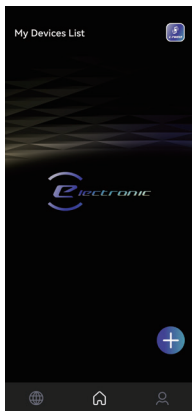


- ⑦ Front derailleur high/low position limit adjustment: (1) First change the rear derailleur to the lowest gear (maximum cassette), then change the front derailleur to the small gear, and make fine adjustments through the shifter to confirm that the gap between the chain and the inner guide plate is within 0.5-1mm. (2) First change the rear derailleur to the highest gear (minimum cassette), then change the front derailleur to the large gear, and make fine adjustments through the shifter to confirm that the gap between the chain and the outer guide plate is within the range of 0.5-1mm.
- ⑧ Front derailleur half gear operation: If the front derailleur has chain rubbing phenomenon during riding, you can adjust the half gear through the shifter. Example: If the chainring gear is large, then press the upshift button to trigger the half gear; if the chainring gear is small, then press the downshift button to trigger the half gear.

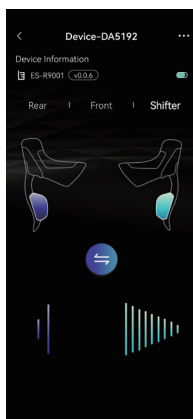
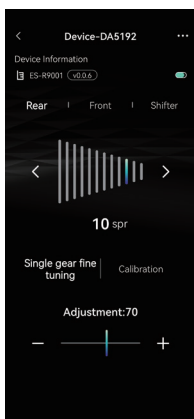


APP debugging operation

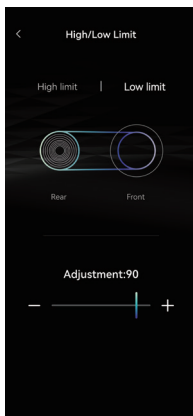
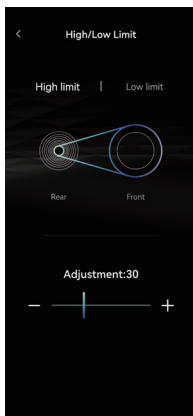
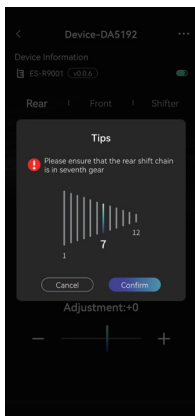
- (1) Install the APP (scan the QR code on the home page to download), log in or register the APP
- (2) Click "Find Device" to bind the eRX electronic shifter (for example: ES-R9001)
- (3) Enter the device **password (default: 000)** of the eRX electronic shifter, and it will prompt that the binding is successful.



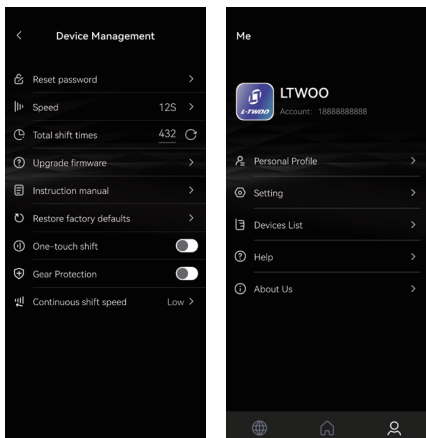
- (4) Rear derailleur adjustment mainly includes: gear +/-, single gear fine-tuning, Calibration
 (5) Front derailleur adjustment mainly includes: gear +/-, single gear fine-tuning, high and low limit setting
 (6) Shifter adjustment mainly includes: left and right shifter switch settings



- (7) Rear derailleur calibration function: ensure that the rear derailleur and the chain are in the 7th gear, and then perform +/- fine adjustment so that the upper guide wheel and the cassette are on the same vertical plane
 (8) Front derailleur high limit: Make sure the chain is on the largest chain ring and the smallest cassette, and then perform +/- fine-tuning
 (9) Front derailleur low limit: Make sure the chain is on the small chain ring and the largest cassette, and then perform +/- fine-tuning



- (10) Click "... in the upper right corner of the device connection interface to enter the device management page, where you can modify the device password, check the number of shifts, upgrade the firmware, restore factory settings, Speed shifting, Gear protection, Speed setting for rear derailleur continuous shifting, etc.
- (10) Other APP operations: My--personal information modification, Personal Information Settings, account setting, device list management, Version update, etc.

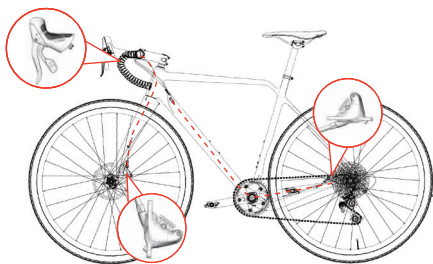
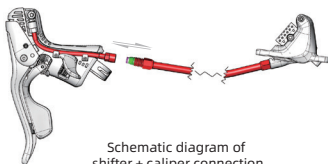


Disc series product installation manual

Get the following tools ready:

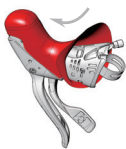
2.5mm Allen wrench	Cutter
3mm Allen wrench	Oil needle presser
5mm Allen wrench	Oil injection special kit
8mm open end wrench	Solid oil
10mm open end wrench	L-TWOO mineral brake fluid
T15 ring wrench	Detergent, Cleaning cloth

1. Keep the bike fixed parallel to the ground.



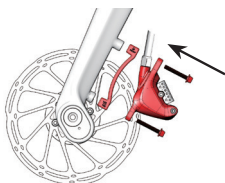
⚠ Notice!

For the convenience of explanation, some schematic diagrams do not contain rubber sleeves. During the actual installation, the rubber sleeves at the positions where the operation is required can be turned over. Pay attention not to pull hard to avoid damage to the rubber sleeves.

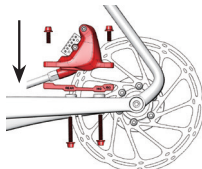


2. Select the adapter corresponding to the size of the disc and install it to the caliper.

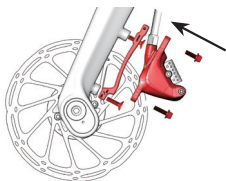
*because there are many types of frames, please choose the appropriate screws to fix.



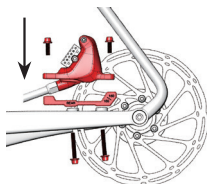
Front 140:
Front 140/160 adapter + screw M5*29*2



Rear 140:
Rear 140/160 conversion seat + screw M5*34*2
*Choose M5*39 or M5*44 according to the thickness of the frame rear fork

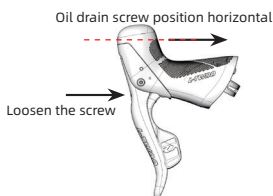
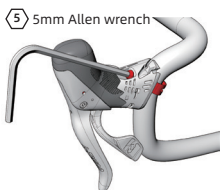


Front 160:
Front 160/180 adapter + screw M5*34*2



Rear 160:
Rear 160/180 conversion seat + screw M5*34*2
*Choose M5*39 or M5*44 according to the thickness of the frame rear fork

3. Use a 5mm hex wrench to insert the top clamp screw of the shifter, install it to the handlebar, adjust its position so that the top of the oil drain screw is parallel to the ground, and the maximum torque value is 5-7N.m.

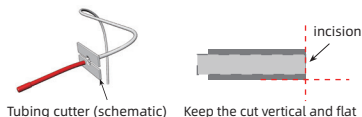


Release the fine adjustment screw first, so that the lever is at the maximum position. Keep the top of the shifter's oil drain screw level.

⚠ Notice!

4. Cut the brake hose to the required length.

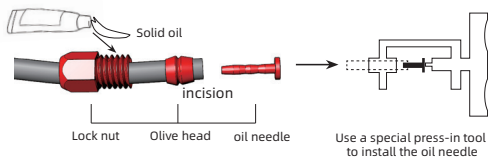
- *Please use a special tool for cutting hose to ensure a smooth section!
- *The cutting tool is sharp, please use it carefully!
- *Cutting is an irreversible process. Please make sure the length is appropriate before cutting!



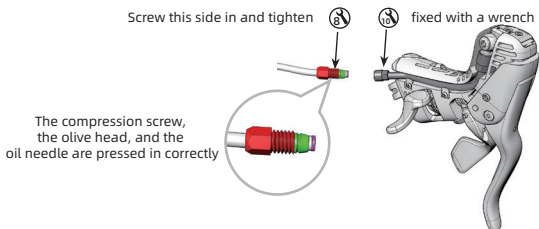
5. Pass the hose through the tight screw and the olive head in turn.

6. Use a special press-in tool to install the oil needle.

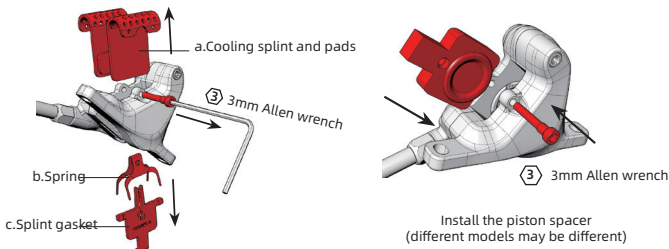
7. Apply a small amount of high-quality solid grease to the outer surface of the pressing screw and olive head.



- Remove the hose connection plug at the end of the shifter, and insert it into the hose connection of the brake handle (depth 13mm). *Please be sure to fully insert the oil hose and lock the nut, otherwise the brake fluid may leak or the braking force may drop!
- Use a 10mm open-end wrench to fix the oil hose, and use an 8MM open-end wrench to apply a torque of 5-6N.m to the lock nut.

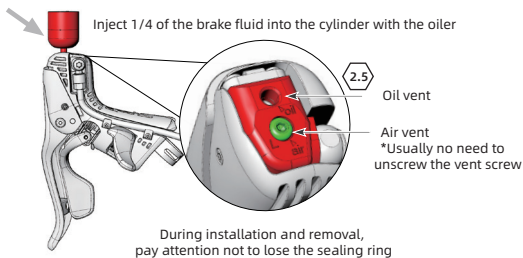


- Use a 3mm hexagon socket to remove the brake pad fixing screws, brake pads, and brake pad springs.
- Install the piston block and fix it with screws.

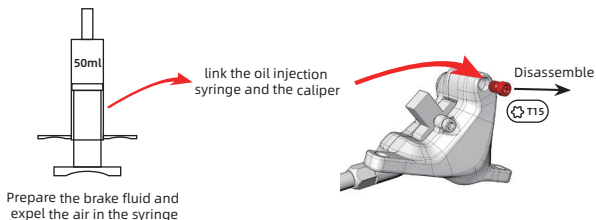


- Use a 2.5mm hex wrench to remove the oil filling screw at the top of the shifter.
- Inject 1/4 of the brake fluid into the cylinder with the oiler.

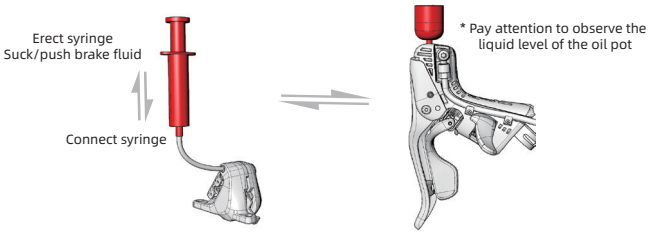
⚠ Notice! Please ensure that the shifter oil hose is properly connected to the caliper before filling oil.



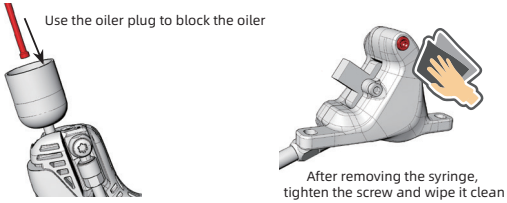
- Inhale 50ml of brake fluid with a syringe.
- Use the T15 torx wrench to open the screw of the oil filling port of the caliper, and the maximum torque value is 5-7N.m
- Use the M5 adapter to link the oil injection syringe and the caliper.



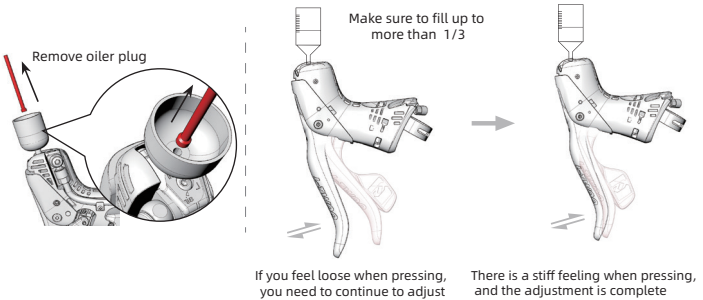
- Push the plunger of the syringe to press the brake fluid into the caliper. *Observe the brake fluid in the oil pot to avoid overflow!
- Twist the syringe to suck out the air from the caliper, *Observe the liquid level of the oil pot to prevent the brake fluid in the oil pot from being absorbed!
- Stand the syringe upright, and observe that the air bubbles gather at the top of the syringe until all the air bubbles disappear;
- Repeat step 16 and step 17 and step 18 again until there are no obvious air bubbles when the syringe and oiler work. This process needs to push and pull the syringe several times for injection and suction operations to ensure that the air in the caliper and the hose is completely exhausted.



21. Use the plug of the oil pot to block the oil pot, remove the syringe and use the T15 ring wrench to lock the screw of the oil filling port of the caliper, simply wipe the oil filler port with detergent and a cleaning cloth.
 *The torque value of the caliper oil filling port screw is 5-7N.m



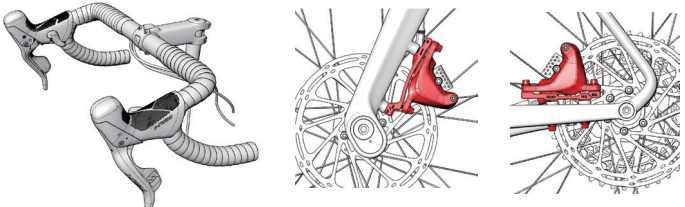
22. Take out the plug of the oiler. When the oil volume of the oiler is more than 1/3, adjust the angle of the handlebar continuously, and press the brake handle several times until the handle feels stiff.
 *If the handle is not stiff, please repeat step 14. to step 20



23. Insert the oiler plug to remove the oil filling funnel.
 24. Use a 2.5mm hex wrench to tighten the oil filling screw at the top of the shifter.
 *The torque value of the oil injection screw at the top of the shifter is 1-1.5 N*m



25. Reset the rubber sleeve, adjust the shifter on the handlebar to a position suitable for you to hold, and tighten the screws; finally, put back the brake pads, cooling fins and springs on the caliper and fix them.



Effect diagram after installation

Now that the installation is complete, you can continue to install and debug other components.
Thank you again for choosing and using L-TWOO products!