

RFN ARES RALLY PRO Maintenance Manual

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// 1. Important Cautions

Guarantee

The work specified in the service plan must be performed in an authorized workshop and in accordance with the scope of the customer's service card, otherwise no warranty claims can be made. The damage caused by operation and/ or vehicle modifications can not be covered by the warranty claim service.

Caution and Warning

Please note the notes/ warnings in this Manual.

Failure to take these measures may, result in environmental damage, cause fatal or serious injury, cause extensive damage to machinery and materials, or even cause fatal or serious permanent injury.

Maintenance Manual

It is important to read this Manual completely before starting work. It contains useful information on how to repair and maintain your vehicle.

Spare Products, Spare Parts and Accessories

Use only spare parts and accessories that are approved or recommended by KSR Group Ltd.

Practice

Please use professional workshop tools and equipment to maintain and restore your vehicle, with following the instructions proposed by the manufacturer. After disassembly, clean the parts to be reused and inspect the same for damage and wear, and if they are damaged or worn, replace such parts.

Important Check

A safety inspection and test drive must be performed after each repair or maintenance job.

Before you hand over the vehicle to the customer, a road safety test must be performed on such vehicle so as to ensure that the vehicle is in proper deliverable condition.



1.1 Serial No. Position

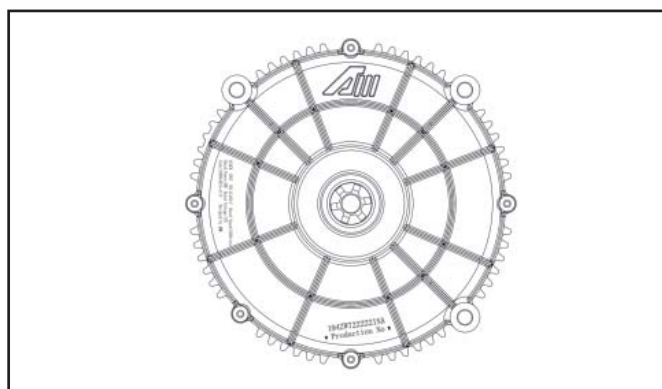
1.1.1 Vehicle Identification No.

Frame number (VIN) (1) on the right side of the front riser

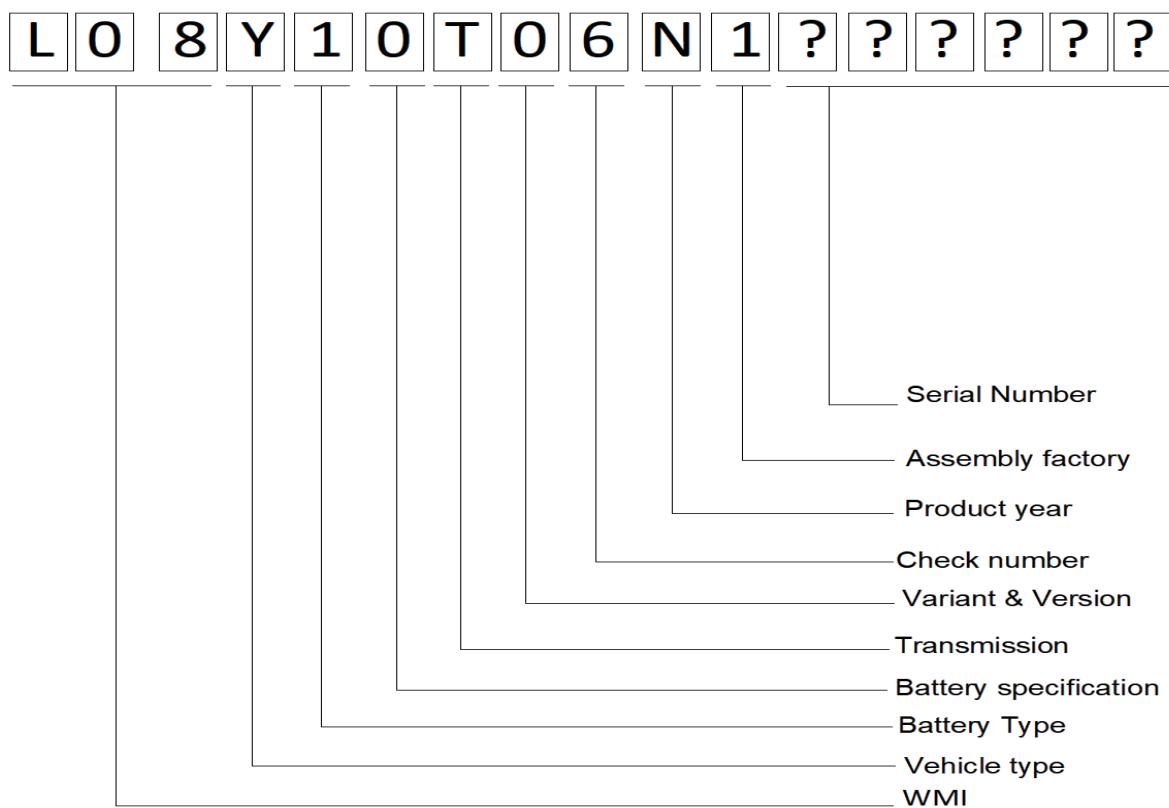


1.1.2 Motor No.

Motor number is engraved on the right side of the motor



1.1.3 Definition of Vehicle Identification No.

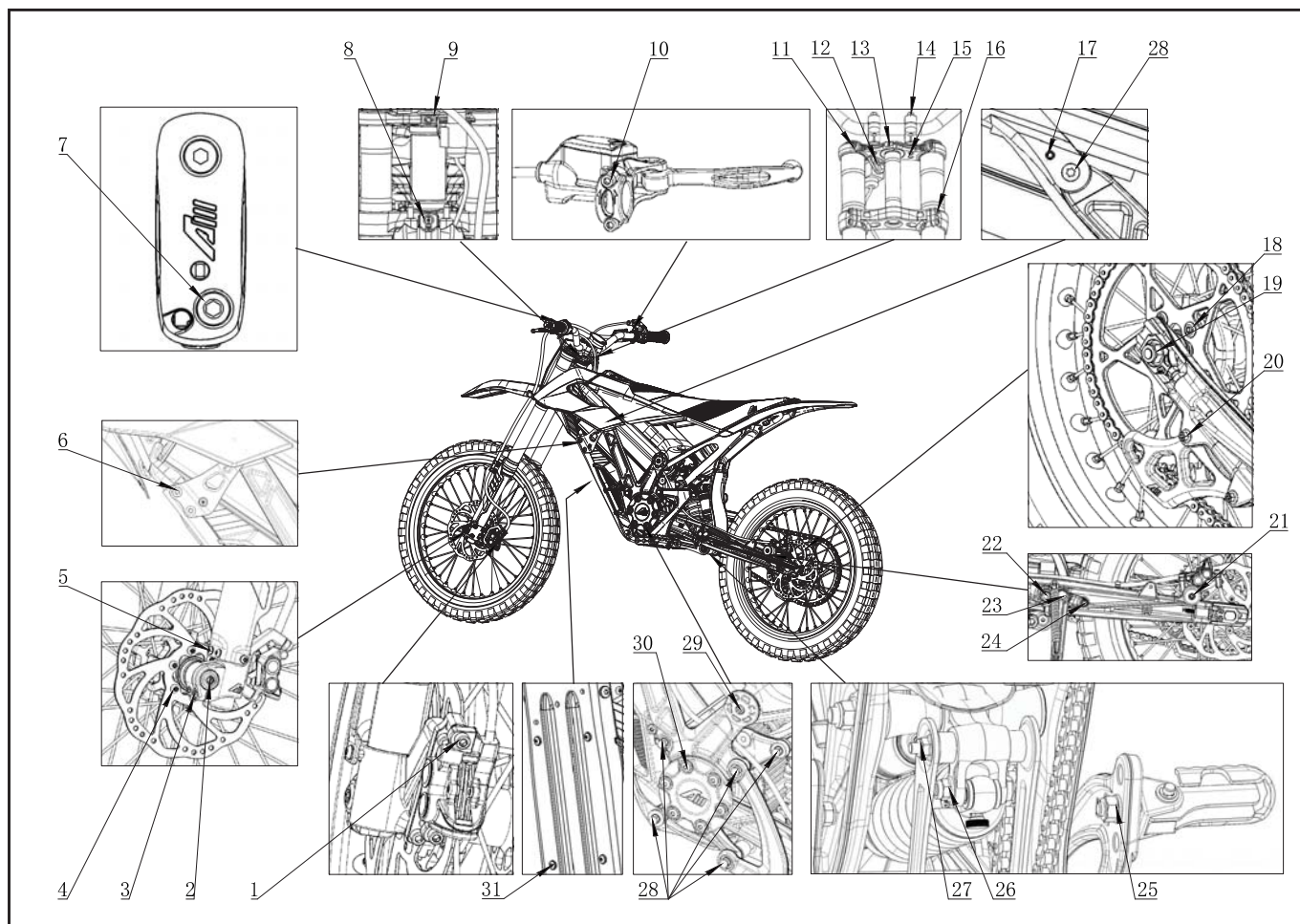


1.2 General Technological Conditions

1.2.1 Vehicle Specification

	Battery
Capacity:	35Ah / 2.5kWh
Cells:	LG Premium 21700 lithium cells
Features:	Removable, can be charged when installed in bike or separately.
Voltage (nominal):	74V
	Brake modes
Brake mode 1:	Freewheel, no motor brake
Brake mode 2:	Motor brake with energy regeneration
	Brakes
Disc:	Stainless steel, 210mm diameter, 2.0mm thickness
Type:	Mountain bike disc brakes, two piston calipers, alloy levers. Hand lever for front- and rear brake.
	Charging
0-100%:	3 hours (10A)
0-80%:	2 hours (10A)
Type:	Variable voltage External charger for 100V-240V outlets
	Controller
Features:	Best-in-class power density and state-of-the-art motor control algorithms.
	Drivetrain
Chain:	420 chain with DX
Electric motor:	Permanent magnet synchronous motor
Front sprocket:	11T/13T
Nominal power:	5 kW
Peak power:	11 kW
Rear sprocket:	58 teeth
Torque (motor)	58N·m
Torque (wheel):	270N·m
Type:	Direct drive, chain
	Dimensions
Fork angle:	25°
Ground clearance:	320mm - 12.60"
Offset:	15mm in triple clamps, 43mm in forks
Seat height:	860mm - 33.86"
Trail:	111mm - 4.37"
Wheel base:	1330mm - 52.36"
Vehicle demension:	1950*770*1080
	Fenders & Bodywork
Material:	PP/ABS plastic
	Frame
Build:	6082 aluminium - extruded, forged and CNC machined
	Front suspension
Travel:	200mm
Type:	Upside-down forks featuring 45mm stanchion tubes.Double shoulder adjustable front damper , 14-step adjustable damping
	Handlebar
Interface:	31.8mm
Material:	6061 aluminium
Rise:	22mm
Width:	760mm
	Rear suspension
Type:	240mm shock.Compression damping 9 segments / rebound damping 15 segments adjustable + Spring preload adjustable
	Regulatory
Classification:	off-road
License:	None / USA, CE / EU
	Ride modes
Ride mode 1:	Tortoise mode: The ultimate mode energy conservation exploration.
Ride mode 2:	Rabbit mode: Enduro or active trail riding.
Ride mode 3:	Rocket mode: Track and race mode, maximal torque and speed.
Ride mode 4:	Reverse mode: Limited to 9 km/h
	Speed & Range
Range:	Trail/Enduro riding: 3.5 hours
Top speed:	11-58T 60km/h 13-58T 70km/h
	Weight
Battery:	15 kg
Net weight:	70 kg
Max load	170kg (bike + battery + rider)
	Wheels & Tires
Hubs:	Forged and CNC aluminium RFN hubs with 20mm axle
Rims:	F 19" / R 18" (Motorcycle standard) re-inforced, triple chamber, 7050 aluminium
Tires:	Front:70/100-19" Rear: 90/100-18"

1.2.2 Torque



serial number	Position of installation	specification	quantity	Fastening torque value	serial number	Position of installation	specification	quantity	Fastening torque value
1	brake bottom pump	M6	4	13-15	17	bottom clamp	M6	4	3-3.5
2	Front axle side cover	M16	2	28-30	18	Front side plate	M5	2	28-33
3	Shock-absorber Lower Cylinder	M5	4	8-10	19	chain disc	M8	5	85-95
4	Front and rear brake discs	M6	12	16-18	20	Rear axle	M12	1	8-12
5	shock-absorber decorate cover	M5	6	4-5	21	Chain guide holder	M6	2	8-12
6	Motor guard support	M8	4	43-45	22	foot support limit base	M6	1	85-95
7	Plastic part bolt	M6	13	3.5-4.5	23	rear fork center axis	M12	1	38-55
8	Steering column upper cover	M24	1	4-5	24	Foot support bolt	M10	1	8-12
9	multifunction switch	M4	2	3.5-4.5	25	Foot support fixed base	M6	1	40-45
10	rearview mirror	M5	2	4-4.5	26	pedal	M10	2	30-40
11	brake upper pump	M5	4	43-45	27	rear shock	M8	1	30-40
12	upper clamp-01	M8	2	4-10	28	swing arm	M8	1	43-45
13	Combination lock	M5	2	13-15	29	frame-01	M8	7	38-40
14	upper clamp-02	M6	1	33-45	30	frame-02	M8	2	35-40
15	handlebar upper holder	M8	4	51-69	31	rear fork holder support	M8	10	10-13
16	handlebar bottom holder	M10	2	13-15	32	controller	M6	4	8-12
						other parts	/	5	

// 2. Regular Maintenance

*The inspection frequency must be observed, otherwise the warranty will be invalid.		The 1st 1000KM	Every 1000 KM	Every 3000KM	Every year	Every 2 years
component	activity					
display, switch	Check	Check				
electric system	Check	Check			Check	
battery	Check	Check			Check	
front-wheel bearing	Check and replace	Check		Check		
rim	Check and replace	Check	Check			
brake system	Check and replace	Check		replace		
braking line	Check			Check		
brake disc	Check, clean and replace	Check		clean		
braking fluid	Check and replace	Check		Check		replace
brake pads	Check and replace	Check	replace	replace		
chain, rear sprocket	Check, clean and replace	Check and clean		replace		
front shock absorber	Check and clean	Check		Check and clean		
rear shock absorber	Check and clean	Check		Check and clean		
steering bearing	Check	Check		Check		
side stand	Check, clean and lubricate	Check, clean and lubricate	Check, clean and lubricate			
tight of all visible screws and nuts	Check	Check		Check		

Electrical System			
Part	Item		Technological Parameter
Battery	Rated Voltage		74V
	Capacity		35Ah/2590Wh
	Voltage	Over-voltage	84V
		Under-voltage	56V
	Charging Current	Standard	5A
		Fast	10A
	Charging Duration	Standard	5~6H
		Fast	2~3H
	Work Temperature		-25~+65℃
Motor	Peak Power		11KW/2950RPM
Controller	Type		TOLL Encapsulated power tube
	Control Method		FOC SVPWM
	Battery Charging Voltage		84V

2.1 Vehicle Wheel Maintenance

Item	Technical Specification		Tyre Pressure (bar)
Tyre Pressure	Inner Tyre of Front Wheel	70/100-19	1.8bar
	Inner Tyre of Rear Wheel	90/100-18	1.8bar

Measurement Position	Item		Standard Value (mm)	Extreme Value (mm)
Front Axle	Curvature		/	0.2
Front Wheel	Oscillating Quantity	Lengthways	/	2.5mm
		Horizontal	< 3mm	3mm

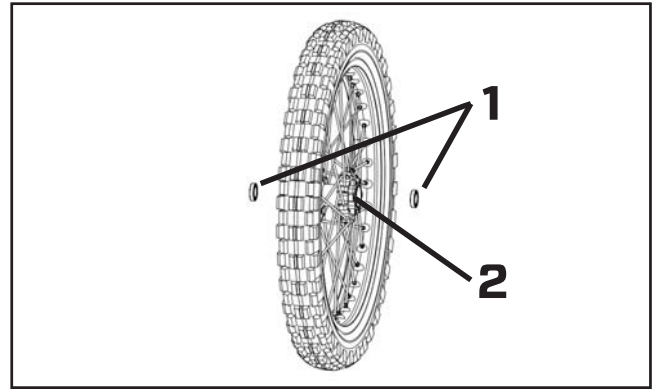
2.1.1 Inspection on Tyre Pressure

1. Low Tyre pressure can cause abnormal wear and overheating
2. Tyre pressure should be measured with the tyres colding (as shown in the figure).
3. Correct tyre pressure ensures optimal ride comfort and maximum tyre life.



2.1.2 Inspection on Wheel Axle and Damage of Wheel Axle

1. Difficult wheel rotation, or wheel rotation with a strange noise, may be caused by the failure of the axle bearing (1) or hub (2).
2. See (Replacement of front wheel bearing) and (Replacement of rear wheel bearing) for the steps of replacing the wheel bearing.
3. Please replace the wheel assembly if the hub is damaged.



2.2 Brake Maintenance

2.2.1 Inspection on Brake Fluid

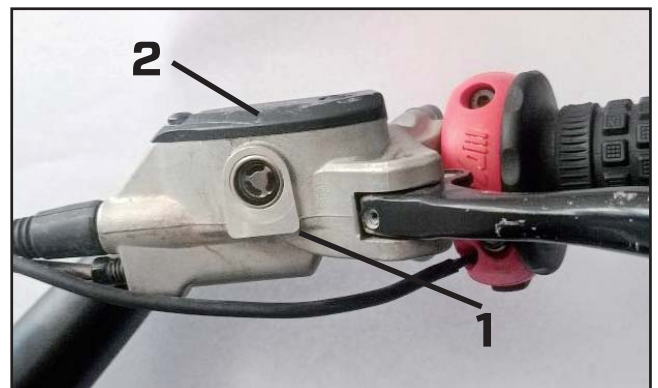
1. In the upright position of the vehicle, confirm the position and cleanliness of the brake pump fluid level observation window.
2. Check the brake assembly for brake fluid leakage at all locations.



2.2.2 Replacement of Brake Fluid

1. Keep the vehicle in the upright position and make the brake pump be adjusted to the horizontal position.
2. Remove the protective cover (2) and the internal diaphragm.
3. Add brake fluid to the maximum level (fluid level in contact with the diaphragm).
4. Install the cover (2) with the internal diaphragm.

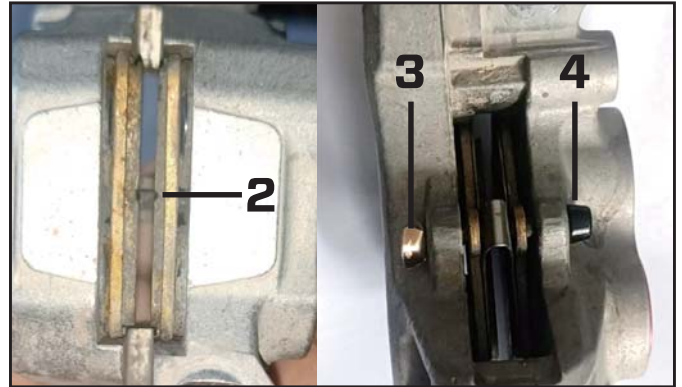
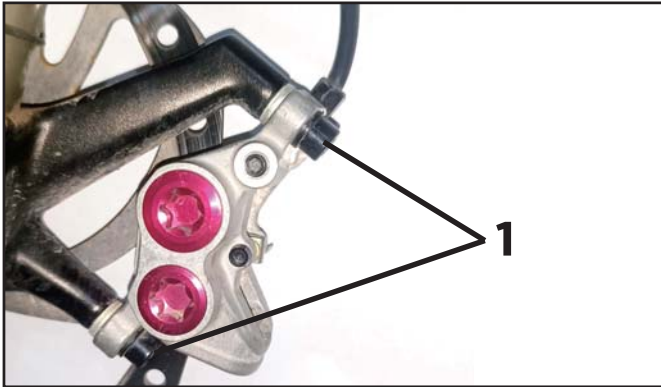
*** Type of Brake Fluid: DOT 3 / DOT 4**



2.2.3 Inspection on and Replacement of Brake Pad

*If the minimum thickness of the brake pad friction material is less than 1.5mm, Please replace worn brake pads immediately.
If need to replace the brake pads, please replace a pair of such brake pads at the same time.
do not just replace a single brake pad.

1. Loosen the mounting bolts (1) of the brake caliper bracket.
2. If the minimum thickness of the brake pad friction material is less than 1.5mm (2), or if there is visible damage or cracking, the brake pads must be replaced.
3. Loosen the brake pad mounting clips (3)
4. Loosen the brake pad mounting bolts (4)
5. Replace the pair of brake pads.
6. Reassemble in reverse order.



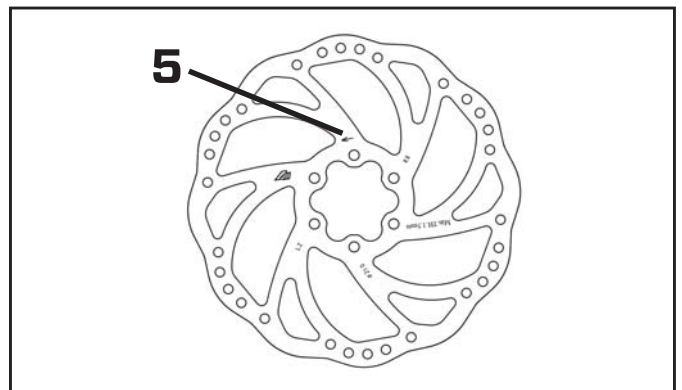
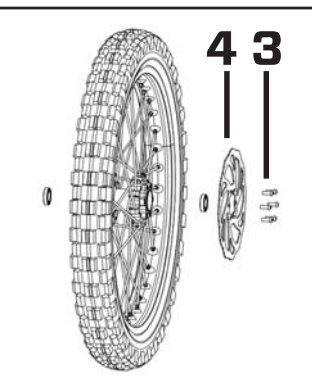
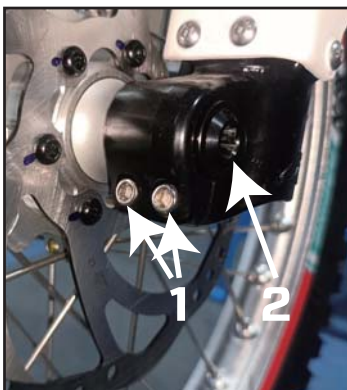
2.2.4 Inspection on and Replacement of Front Brake Disc

1. Replace the brake disc if the thickness of the disc is less than 1.5mm (limit value) at any position or if it is damaged, cracked or deformed
2. Place a suitable bracket under the vehicle to lift the front wheels.
3. Loosen the fastening screws (1) of the left and right shock absorbing feet.
4. Remove the front axle (2) to remove the front wheel.
5. Unscrew the six screws (3) to remove the front brake disc (4), replace the brake disc screws with new ones and re-add the thread fastening adhesive.

【Note】 Note that the direction indicated by the new brake disc arrow (5) shall be consistent with the direction of rotation when the wheel is moving forward.

6. Re-assembly by following opposite sequence.

【Note】 Always keep the brake disc free of oil and grease, and clean it with brake cleaner if necessary. Residual grease and stains on the brake discs will affect the braking performance.



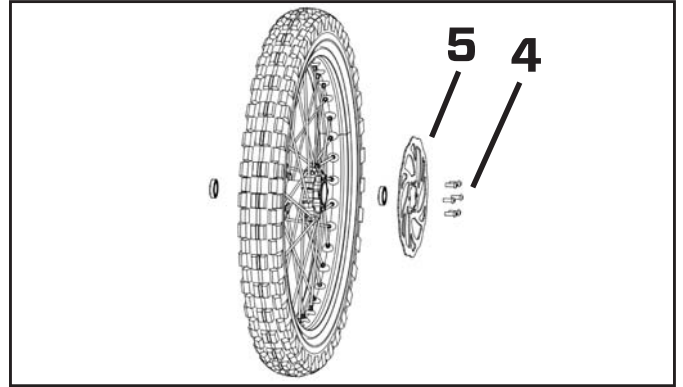
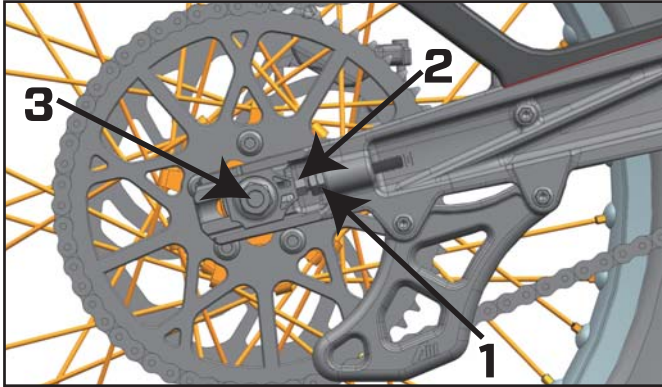
* Brake disc tightening bolt torque: 16-18Nm

2.2.5 Inspection on and Replacement of Rear Brake Disc

1. Replace the brake disc when the thickness of the disc is less than 1.5mm (limit value) at any position or if it is damaged, cracked or deformed
2. Place a suitable bracket under the vehicle to lift the rear wheels.
3. Loosen the adjusting bolt lock nut (1) and loosen the adjusting bolt (2) to remove the axle (3) to remove the rear wheel.
4. Unscrew the six screws (4) to remove the rear brake disc (5), replace the brake disc screws with new ones and re-add the thread fastening adhesive

【Note】 Note that the direction indicated by the new brake disc arrow shall be consistent with the direction of the brake disc rotation.

5. Reassemble the new brake disc in reverse order.

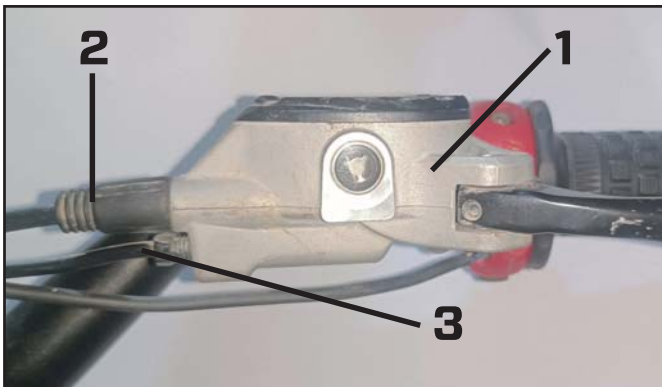


* Brake disc tightening bolt torque: 16-18Nm

* Axle tightening torque: 85-95Nm

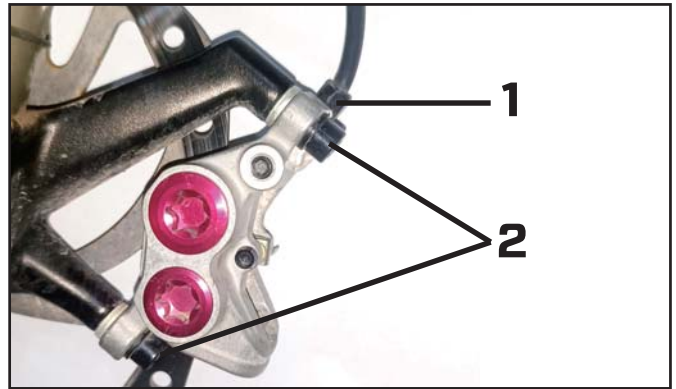
2.2.6 Replacement of Main Brake Cylinder

1. Drain the brake fluid from the hydraulic brake system.
2. Remove the brake oil pipe (2) and the oil pressure switch harness (3) from the master brake cylinder (1).
3. Unscrew and remove the two bolts (4) that connect the brake master cylinder.
4. Remove the brake pump.
5. Replace the defective parts and assemble in a reverse order.



2.2.7 Replacement of Brake Calliper

1. Remove the oil pipe (1) from the brake caliper.
2. Drain the brake fluid from the hydraulic brake system.
3. Unscrew and remove the two bolts (2) connecting the brake caliper.
4. Replace the brake caliper.
5. Reassemble in reverse order.
6. Fill the brake fluid.



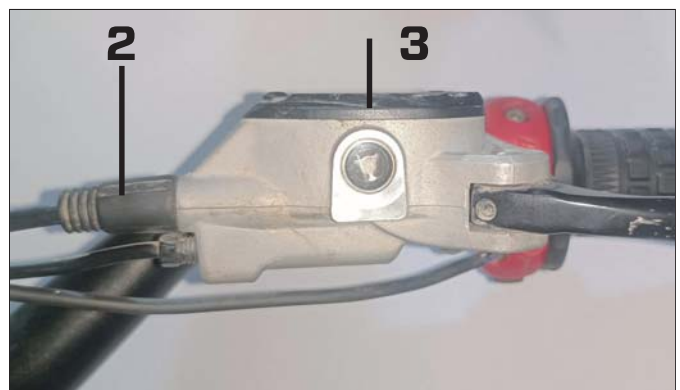
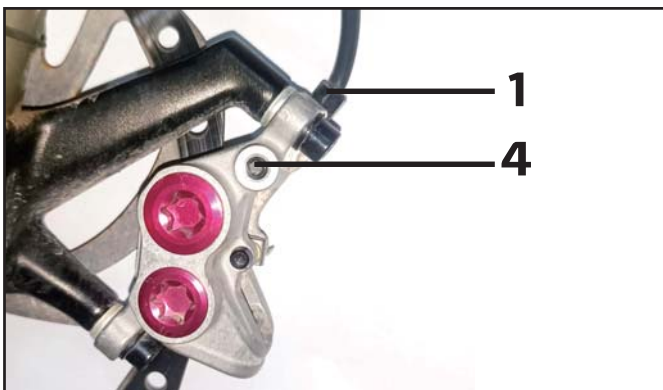
2.2.8 Replacement of Brake Line

1. Place a container under the brake caliper to hold the used brake fluid.
2. Remove the brake line fitting (1) and empty the brake fluid inside the line.
3. Remove the brake pipe (2) from the main brake pump.
4. Replace the brake hose. Take care that the brake hoses are properly installed and connected to all brackets.
5. Remove the protective cover (3).
6. Add brake fluid to the maximum level.
7. Open the air vent valve (4) and add a brake fluid suction tool to the valve hole. As long as air is in the system, keep adding brake fluid. Be careful to prevent the brake fluid level in the master brake cylinder from falling below the minimum level, otherwise, the air will enter into the brake system.
8. Keep pumping air out of the system and keep adding brake fluid until no air bubbles are present in the system.
9. Close the air vent valve and fill the brake fluid level to the maximum level.
10. Reassemble all other components in a reverse order.

【Note】 Brake fluid can cause skin irritation when in contact.

- Avoid contact with skin and eyes and keep out of the reach of children
- Wear appropriate protective clothing and goggles.
- If brake fluid gets into your eyes, flush thoroughly with water and contact a doctor immediately.
- Brake fluid can damage paint, rubber and plastic parts. When brake fluid drips on these parts, wipe them off immediately.

【Note】 The steps for replacing the front and rear brake hoses are the same



2.2.9 Adjustment of Brake Rod

1. Adjust the brake rod adjusting bolt (1).
2. Narrow the gap between the tie rod and handlebar by twisting in a counterclockwise way (1), and enlarge the gap between the tie rod and handlebar by twisting in a clockwise way (1)

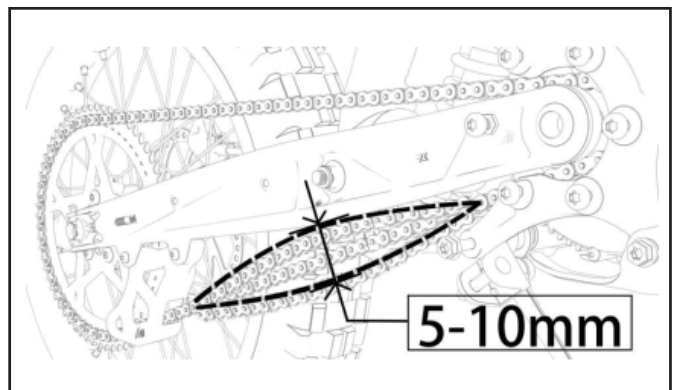
【Note】 The steps for replacing the front and rear brake rods are the same



2.3 Maintenance of Transmission Chain

2.3.1 Inspection on Slackness of Transmission Chain

1. Check the slackness of the drive chain (A) when the vehicle is in an upright condition. **(Allowable range A: 5- 10 mm)**

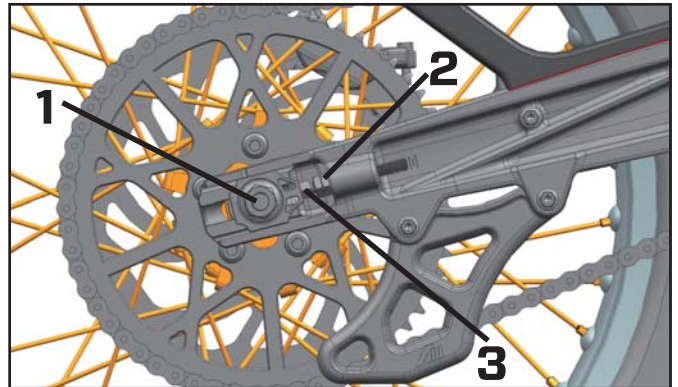


2.3.2 Adjustment of Slackness of Transmission Chain

1. Loosen the retaining nut (1) of the rear axle.
2. Loosen the adjusting bolt lock nut (2). Use the adjusting bolts (3) on both sides to adjust the chain until it reaches the specified slackness of the drive chain.
3. Move the rear wheel several times and check the slackness of the chain again.
4. Tighten the locknut (2) and tighten the swivel nut (1) of the rear axle.

Real Axle Torque: 85 - 95 Nm

【Note】 The transmission chain and transmission chain disc need to be replaced together



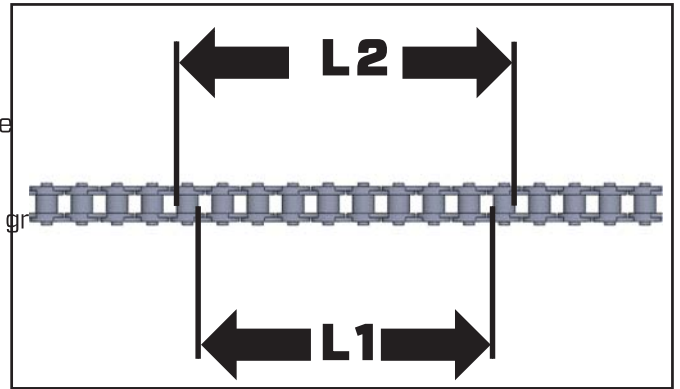
2.3.3 Transmission Chain Lubrication

【Note】

1. Steam cleaning, high-pressure water gun rinsing, and acidic solvent, will damage the chain.
2. Special chain cleaner and chain lubricant spray could only be used to clean and lubricate the transmission chain.

2.3.4 Inspection on Abrasion of Transmission Chain

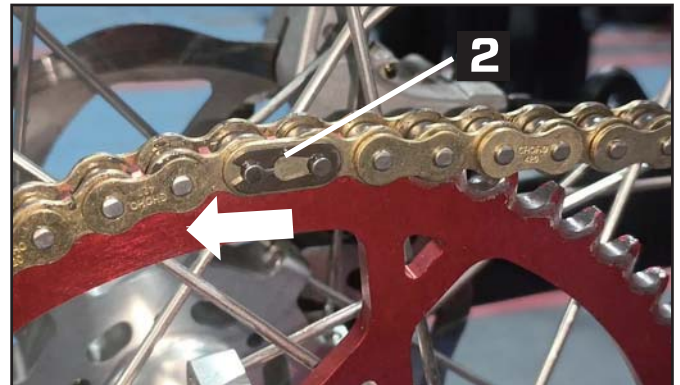
1. Stretch the chain to a tight state.
2. Measure the inside L1 and outside L2 of the first and 10th chain rollers, and enter the formula " $L = (L1 + L2)/2$ " to calculate the center distance of the chain.
3. Take two or more measurements at different positions on the chain in the same way. When any measurement result L is greater than the maximum value 129.1 mm, please replace the chain immediately.



2.3.5 Replacement of Transmission Chain

1. Loosen the rear axle.
2. Open the chain lock of the damaged drive chain (1).
3. Install the new chain in the reverse order.
4. Install the chain in the reverse order and pay attention to the correct adjustment of the slackness of the chain.

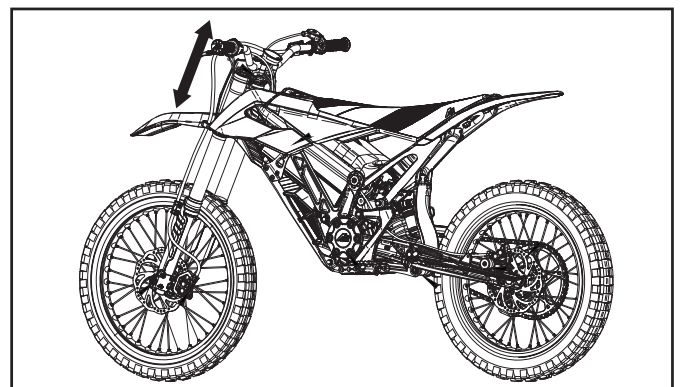
【Notes】 The open side of the chain lock (2) must be installed in the opposite direction of rotation (arrow).



2.4 Maintenance of Suspension Parts

2.4.1 Inspection on Front Shock Absorber

1. Check whether each screw of the suspension system is tightened.
2. Apply the front brake and compress the front shock absorber (arrow) up and down to check whether the front shock absorber could work in a proper way.
3. Check whether the shock core of the shock absorber is damaged or loose.
4. When the shock damping fails, it cannot absorb the vibration normally, or there are other abnormalities please replace it in a timely manner.



2.4.2 Inspection on Leakage of Damping Oil

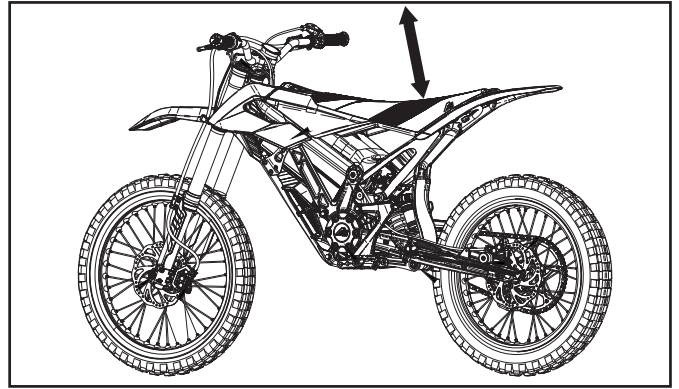
1. Check the dust seal/ oil seal and replace the damaged shock absorber when the shock absorber oil leaks.

【Note】 Make sure the fixing bolts of front shock absorber are in tight condition at each inspection.



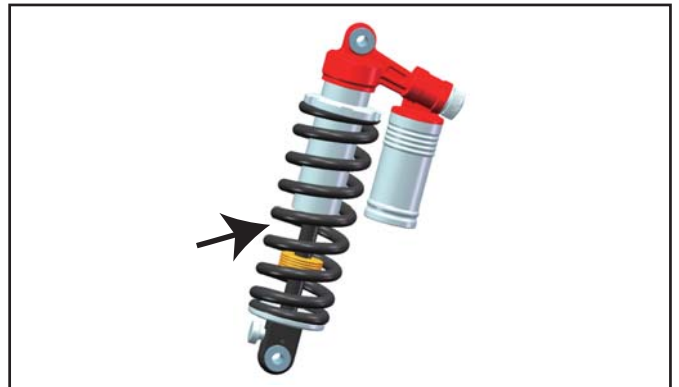
2.4.3 Inspection on Rear Shock Absorber

1. Check that each screw is tightened.
2. Compress the rear shock absorber up and down to check for proper function (arrows).
3. Check whether the shock core of the rear shock absorber is damaged or loose.
4. Place the vehicle on the main stand and move the rear wheels up and down to check whether the bushings or bearings are loose or have abnormal slackness.
5. When the damping of the shock absorber fails, it cannot absorb the vibration normally, or there are other abnormalities, please replace it in a timely manner.



2.4.4 Inspection on Leakage of Rear Shock Absorber

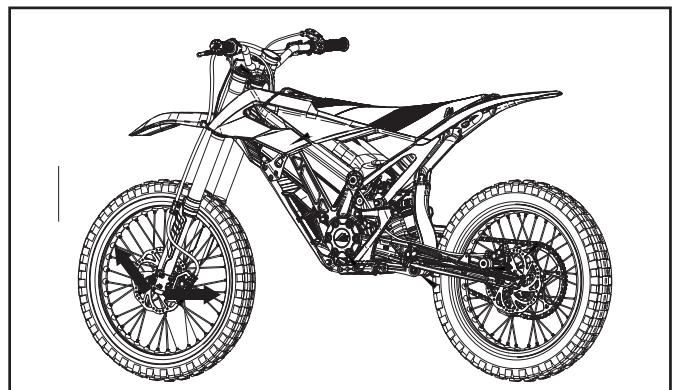
1. Check the dust seal/oil seal and check if the spring is normal. When the damping oil leaks, the dust seal/oil seal will break or wear out, and please replace the damaged damper seals.



2.5 Maintenance of Steering

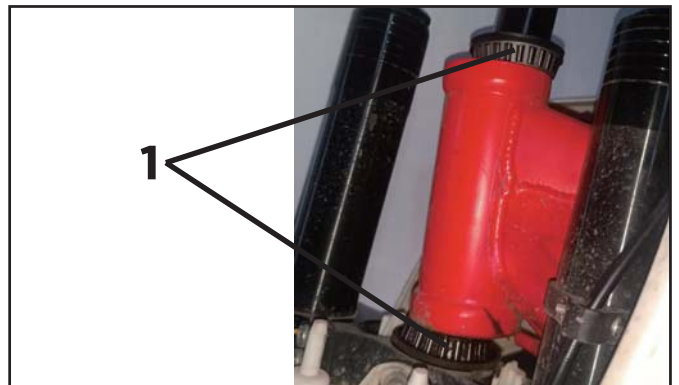
2.5.1 Inspection on Steering Bearing

1. Place a bracket under the vehicle to raise the front wheels off the ground.
2. Hold the lower ends of the front shock absorber and try to move them back and forth (arrows). Turn the forks in both directions and check the steering head for any abnormal openness or clamping.
3. In case of any abnormal openness or clamping, replace the steering bearings.



2.5. Lubrication of Steering Bearing

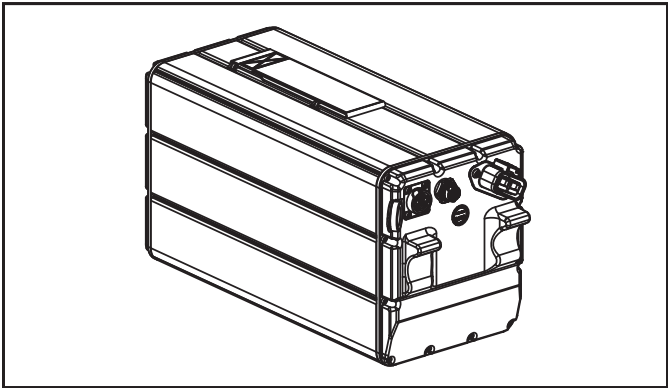
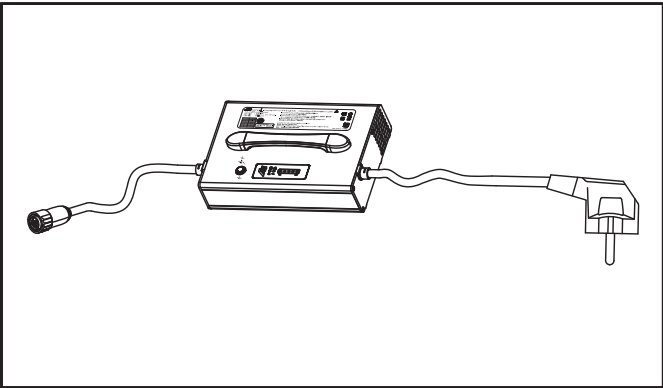
1. Place the vehicle on a level surface.
2. Remove the number plate, gauges, handlebars and upper shock absorber coupling plate.
3. Lift the vehicle or lower the front forks.
4. Lubricate the steering bearings (1). Please use only high quality grease to prevent grease loss.
5. After bearing lubrication, assemble the parts in a reverse order.
6. If the steering bearing is damaged, please replace the steering bearing, see **(Replacement of Shock Absorber Coupling Plate and Steering Bearing)** for steps.



2.6 Electrical Maintenance

2.6.1 Maintenance of Battery

- 1. Always keep the battery to be charged. Storing a depleted battery will cause permanent damage to the battery.
- 2. If the vehicle has not been used for more than one month, remove the battery from the vehicle to recharge it, as described in the (Lithium Battery) section, and store it in a dry place at 0-40° C. Keep the battery charge at 30%-40%.
- 3. If the battery is stored for more than two months, check the battery level at least once a month and recharge the battery if necessary. The battery needs to be charged for two hours every three months.
- 4. Charge the battery before inserting the battery back.



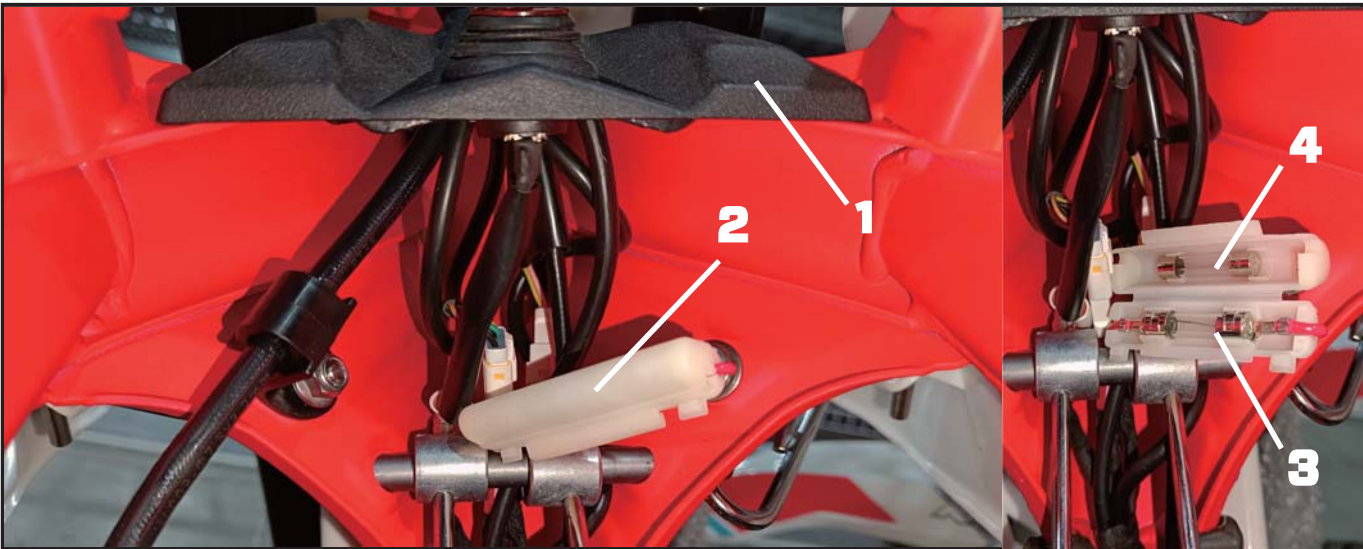
2.6.2 Fuse

【Note】 To avoid short circuit, always turn the main key off when checking or replacing the fuse.

Fuse	Fusing Current
Main Fuse	10A
Spare Fuse	10A

- 1. Open the master key to verify that the circuit is operable. Under the trim cover (1). In the fuse socket (2) , contains the main fuse (3) and the backup fuse (4)
- 2. Open the fuse socket (2) and replace it with a new fuse.
- 3. If the fuse is fused again immediately, check the circuit.

【Note】 Do not use fuses whose fusing current does not match the rated value, which may cause extensive damage to the electrical system and cause a fire.



2.6.3 Inspection on Operation of Key Sets

1. Place the vehicle on the stand so that the rear wheels are off the ground, and then start the vehicle.

【Note】 Please unlock the vehicle P gear and enter the “ready” gear

2. Test the function of all switches one by one

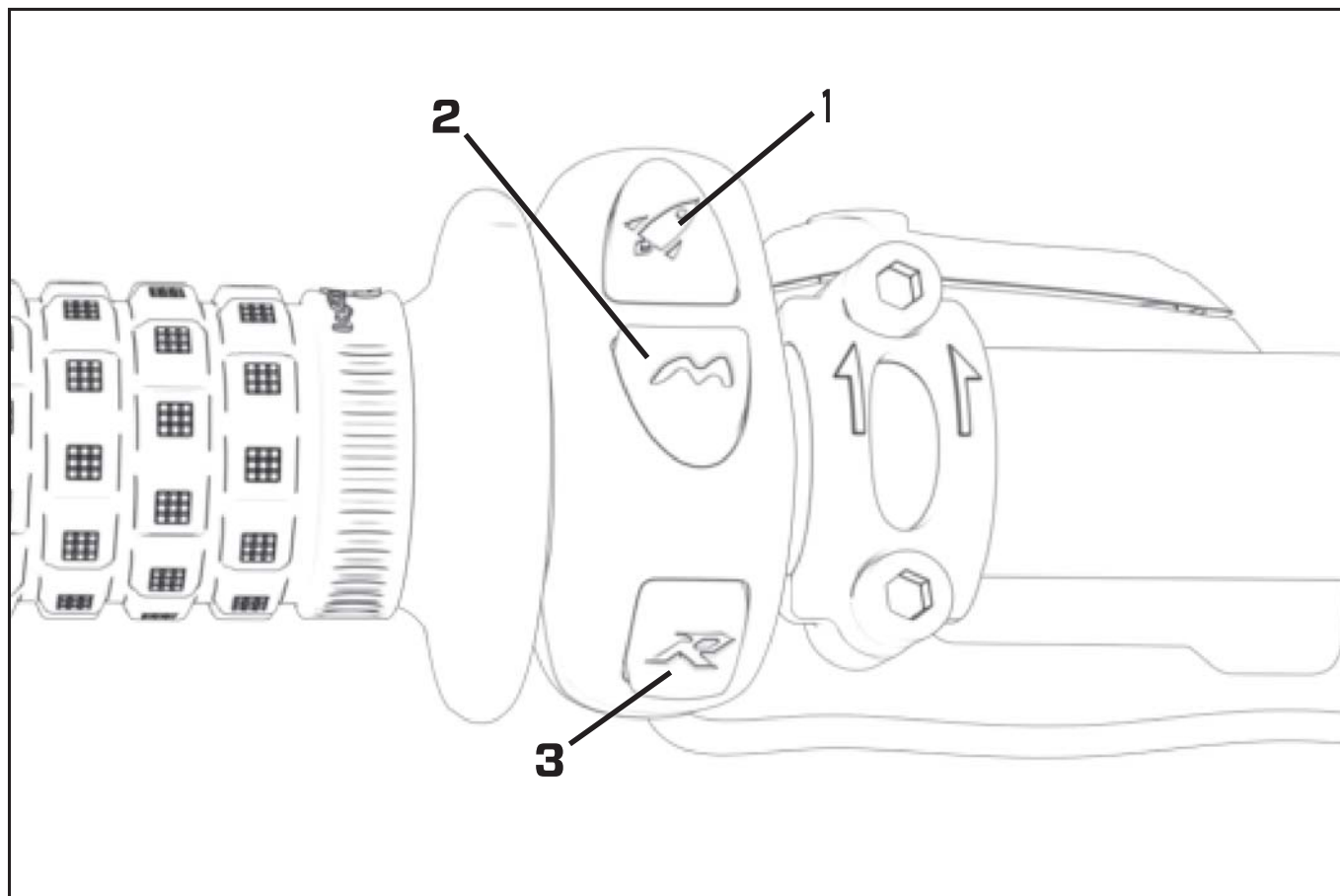
3. If the function of the keys is abnormal, check the key set and the circuit system

Functions of Keys

1. Rocket mode

2. Turtle / Rabbit mode switch

3. R backup



// 3. Repair and Diagnosis

3.1 Electric System

Motor Parameter

Item	Type / Specification
Rated Busbar Voltage	74V
Rated Power	5 kW
Peak Power (10min)	11kW@2950rpm
Rated Service Speed	2200rpm
Max Service Speed	3000rpm
Rated Torque	21.7N•m
Peak Torque	58N•m
Rated Phase Current	80A
Peak Phase Current	350A
Max Motor Efficiency	93%
Insulation Grade	F
Type of Sensor	Magnetic encoders
Protection Level	IP67
Cool Method	Air cooling
Chain Transmission Ratio	11-58/13-58
Weight	9.7kg
Operation Mechanism	S9 (Non-periodic changes in load and speed)
Work Temperature	-25℃ ~+60℃
Storage Condition	-40℃ ~+65℃

Battery Parameter

Item	Type / Specification
Battery Parameter	
Type of Battery	TLithium Ion
Normal Voltage	3.7V
	4.8Ah@25℃ 0.5/3C charge and discharge 4.2V~2.75V
Max. Voltage	4.2V
Min. Service Voltage	2.8V
Battery System Parameter	
Tandem or Parallel Method	20S7P/ 20 Serial 7 parallel
Normal Voltage of System	74V
Voltage Range	56V~84V
Normal Capacity	35Ah
Min. Capacity	33.6Ah
Direct Resistance	≤65.7mΩ@50% SOC, 2C
Max. Charging Current	10A
Max. Charging Voltage	84V
Max. Rated Discharge Current	85A
Peak Discharge Current	150A for 9sec
Insulation Resistance	(@DC500V) ≥200MΩ
Impulse Withstand Voltage	No spark, no breakdown (@50Hz~60Hz 1500VAC 1min)
Service Temperature	
Charging Temperature	0℃ ~45℃
Discharging Temperature	-20℃ ~60℃

3.1.1 Caution for Operation

1. Before starting the circuit system maintenance, make sure that the battery, controller and motor are free from damage or abnormality.
2. Please remove the key switch from the vehicle and then conduct the on-off test of the key switch
3. After maintenance, ensure that all cables and cables are in normal assembly state.
It is forbidden to repair the vehicle electrical system when the vehicle is powered on
4. Only personnel with relevant certificates and complete high-voltage protective equipment are allowed to maintain the vehicle high-voltage circuit system.

3.1.2 Caution before Maintenance

Electric vehicle-specific voltages are high-voltage of which shall exceed 36V safety voltage. In such a case, careful operation and backup support are required when performing rescue work. When repairing or handling the vehicle-specific voltage system, please prepare at least the following safety protection means:

1. insulated protective equipment, including insulated gloves, protective glasses, insulated shoes, etc.
2. ABC dry powder fire extinguisher.
3. solvent-resistant protective equipment, including gas masks for organic gases, chemical-resistant rubber gloves, etc.
4. rags, towels.
5. Only operators who have received high-voltage electrician training and hold high-voltage work permit are allowed to repair the vehicle circuit system.

【Note】 If the vehicle-specific voltage cable parts are damaged and the wiring and terminals are exposed, do not touch the exposed parts under any circumstances. In addition, do not touch the exposed wiring or terminals if you are not sure whether the damaged is an electric motorcycle-specific voltage component.

Contacting the wiring or terminals without proper safety precautions may result in serious burns or electric shock causing serious injury or death.

If contacting with exposed parts of electric motorcycle-specific voltage cables or voltage components is necessary, or if there is a risk of contact, insulated protective equipment (insulated gloves, protective glasses, insulated shoes) that can withstand electric motorcycle-specific voltage must be used.

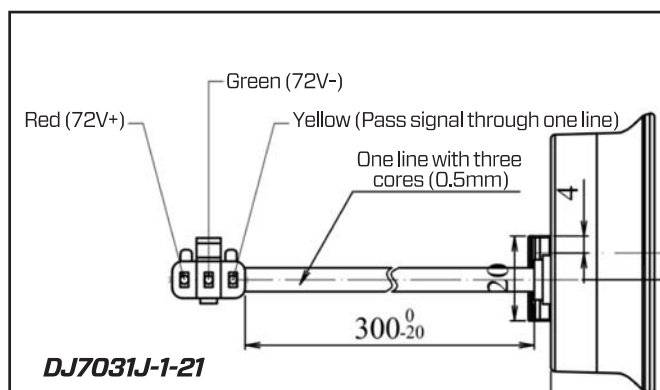
When the person concerned is separated from the vehicle, e.g. when storing the vehicle after an accident, please put a sticker on the body of the vehicle saying “Under Operating. Do not touch!” to avoid serious safety accidents caused by other person inadvertently touching the vehicle.

3.1.3 Fault Phenomenon and Fault Shooting

Serial No.	Fault Phenomenon	Error Code	Cause For Fault	Shooting Method
1	Turn on the power, the ready light can not be activated		1.Single brace fails to be retracted or single brace switch encounters a failure	1.Retract the single brace or replace the single brace switch
			2. Brake switch encounters a failure	2.Unplug or replace the brake switch
			3.Emergency switch is damaged or the key is not put back	3. Put back the hand type key or replace the switch
2	Turn on power, activate the ready light, motor does not work	1. 10 2. 20 3. 30 4. 50	1.Battery failure	1.Check whether the connection cable is firmly connected or replace the battery
			2.Controller failure	2. Reconnect and tighten the connection at the maintenance office or replace the controller
			3. Motor failure	3. Reconnect and tighten or replace the motor at the maintenance office
			4. Speed control handle failure or not to zero position	4. Check the turnbuckle plug wire connection or replace
			5. Brake power-off switch is damaged to turn on	5. Check the brake handle and brake switch
3	Speed regulation is not working or maximum speed is low	1.Two indicators for battery power are left 2. 11 3. 12 4. 21 5. 31 6. 50	1. Battery power is below 20%, and the vehicle will enter into the turtle gear	1. Fully charge the battery
			2. Battery temperature is higher than 60℃	2. Wait until the battery temperature is lower than 55℃ and higher than 0℃
			3. Battery temperature is lower than 0℃	3. Wait until the battery temperature is lower than 55℃ and higher than 0℃
			4. Controller temperature is higher than 90℃	4. Wait for the controller temperature below 80℃
			5. Motor temperature is higher than 120℃	5. Wait for the motor temperature below 120℃
			6. Speed control handle failure	6. Repair the after-sales service to replace the speed control handle
4	The range is not enough after charging once		1. Tyre pressure is insufficient	1. Tyres charged to the appropriate air pressure
			2. Insufficient charging or charger failure	2. Sufficient power or check the charger plug contact
			3. Improper brake adjustment, driving resistance is too large	3. Readjust the brake
			4. Battery aging or damage	4. Replace the battery
			5. Go uphill, headwind, frequent acceleration and deceleration, heavy load	5. Under the use of the environment, reducing the battery life is the normal phenomenon
5	Charger does not work	1. Two lights flashing 2.Three lights flashing 3.Four lights flashing 4. Five lights flashing	1. Battery under-voltage (lower than 44V) or output short circuit	1. Restore the voltage to 56V or more or replace the battery
			2. Battery over-voltage (higher than 85V)	2. Reduce the voltage to 84V or less or replace the battery
			3. Battery positive and negative reverse connection or battery overheating	3. Check the connection plug, and wait until the battery temperature is below the limit
			4. Charger failure	4. Wait for the charger temperature below the limit or replace
			5. Charger plug off or loose connection	5. Check whether the charging input and output plugs are well connected

3.1.4 Instrument

Definition of Function of Instrument Interface

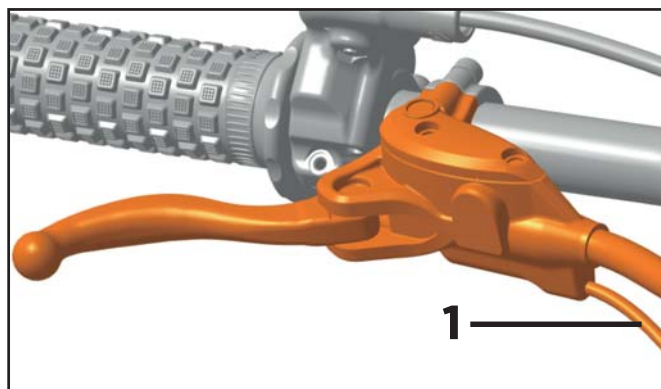


pin	Color of Line	Function	Remarks
1	Red	Electric key switch	DC72V +
2	Green	Power source -	GND
3	Yellow	Data communication	One line pass data line

3.1.5 Turn on /off Power Supply

Brake power-off switch is not working: pull out the brake wiring switch plug (1) and check the brake switch wiring.

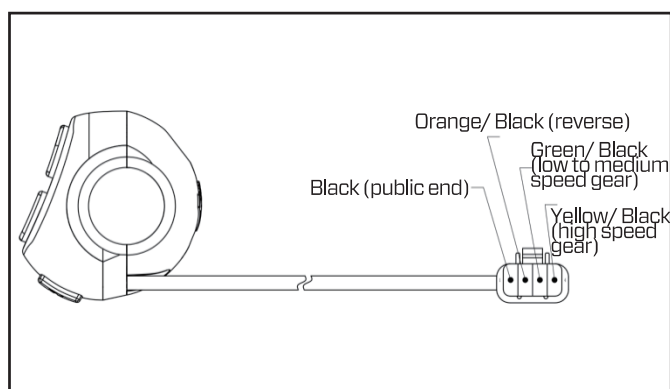
1. When the brake handle is pinched: the brake switch is on.
2. When the brake handle is released: the brake switch is off.



3.1.6 Switch of Gear

Gear button failure: Disconnect the connector connecting the gear switch harness (1) to the main cable and check the three-button switch action on and off.

Press and hold the key switch to turn on, and release the switch to turn off.

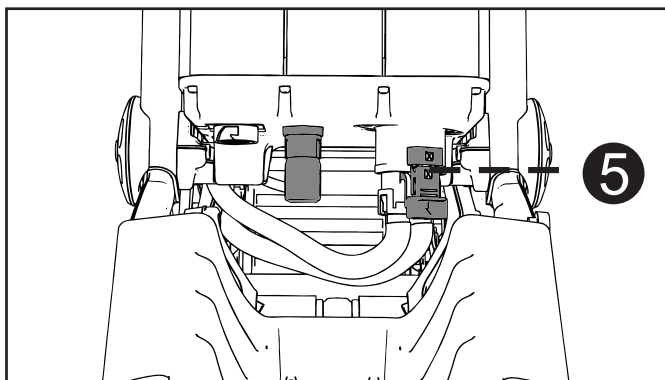
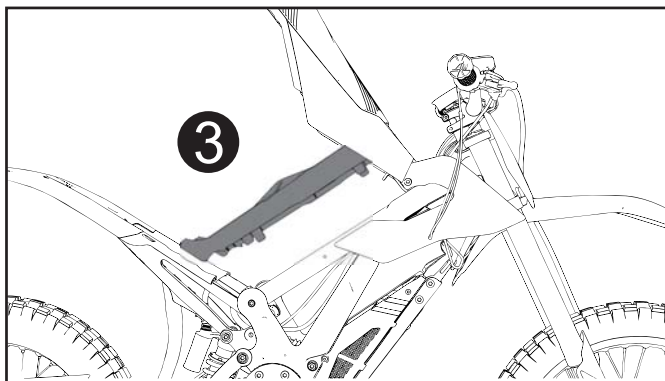
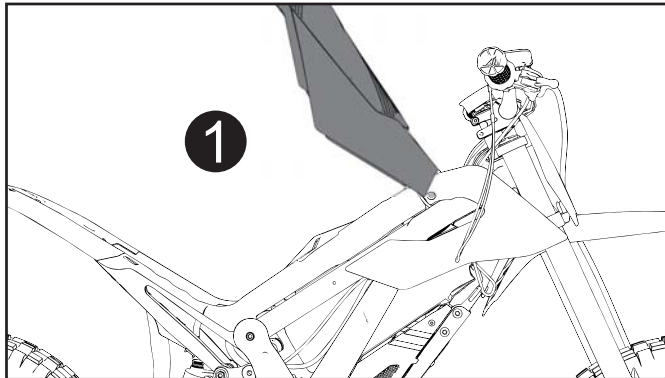


Function	Black	Yellow/Black	Green/Black	Orange/Black
	●	●		
	●		●	
	●			●

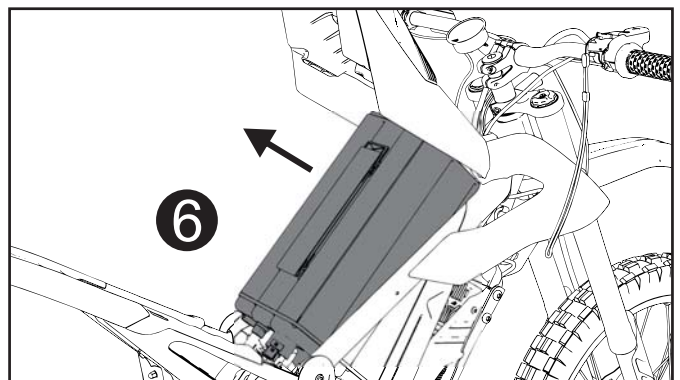
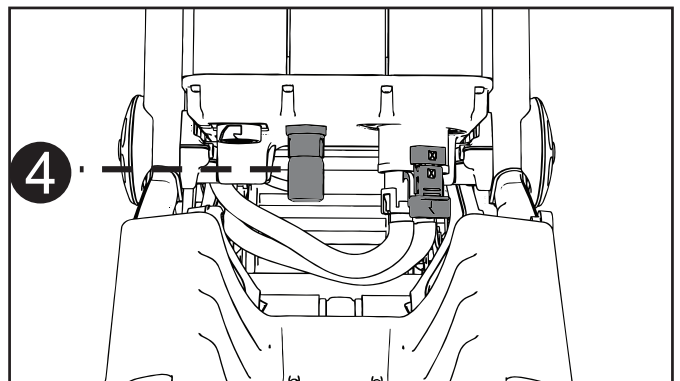
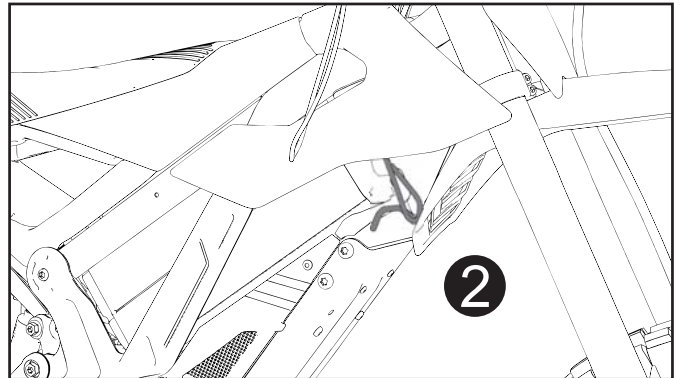
Definition of Function for Line with Different Colors

3.1.7 Lithium Battery, Step for removing the battery

1. Open the seat cushion
2. Open the locking mechanism
3. Take off the battery cover
4. Unplug the communication plug



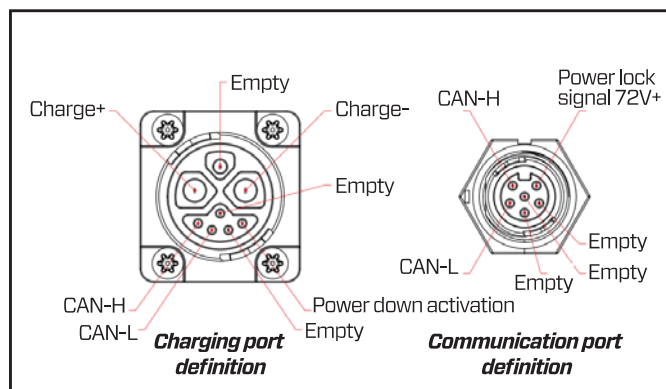
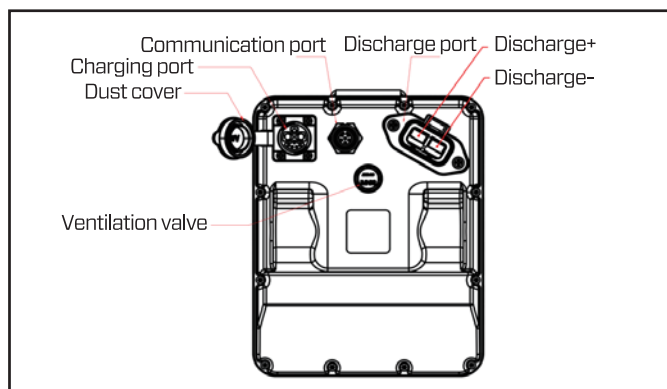
5. Unplug the power supply
 6. Lift up the battery
- Insert the battery
Insert the battery in the reverse order.



[Note]

1. Even if the lithium battery is not used, it will lose power every day.
2. The charging state and charging method are very important for the life of lithium battery, and using high charging current and fast charging may have a negative impact on the life.
3. If the charging current, charging voltage and charging time are exceeded, the lithium battery will be damaged.
4. If the lithium battery is kept for a long time in a low battery state, it may lead to the deep discharge and sulfation, thus damaging the lithium battery.
5. When the motor is running, it is not allowed to disassemble the battery cable.
6. It is forbidden to use the method of piercing the skin of the wire to detect the electrical signal of the input and output of the parts.
7. Charging / discharging connector plug in place.
8. Make sure that the power is between 30% and 50% when storing.
9. Every 3 months to recharge the battery
10. The battery shall be removed from the car when not in use for a long time
11. The battery is charged by the designated charger in a timely manner after the electricity is used up.
12. The battery to be repaired is discharged to less than 10% and stored it separately
13. No flammable and explosive substances around the battery
14. Prohibit rain, exposure to the sun, high temperature baking
15. Hold and put lightly
16. Prohibit the disassembly of the upper and lower cover nuts, prohibit the modification of internal wiring.

3.1.8 Description of Lithium Battery Interface



【Note】 After the power lock is connected to the positive side of the power supply, the discharge port voltage output. When disassembling the lithium battery, it must first disassemble the positive and negative lines, otherwise it will lead to a short circuit lithium battery.

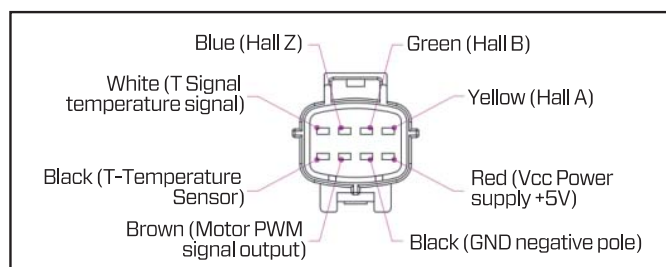
3.1.9 Charge

1. Turn off all electrical appliances and motors.
2. Remove the battery or charge it directly in the car directly.
3. Connect the charger to the lithium battery charging port and turn on the charger.
4. Turn off the charger after charging and unplug it from the lithium battery.

【Note】 If you do not use the vehicle, re-charge the lithium battery every 3 months.

3.1.10 Motor

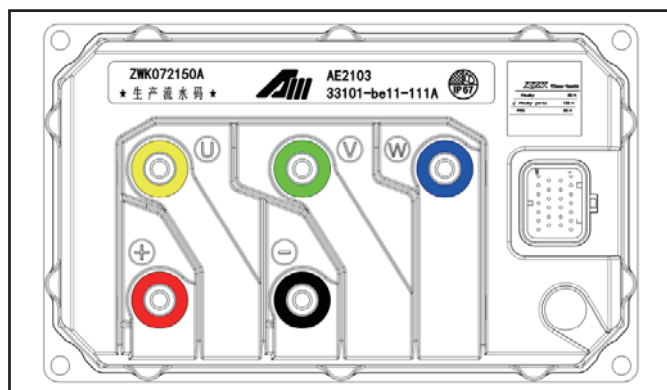
1. When the motor is in the high temperature after running, it can not be directly cleaned with a water gun. In such a case, the motor need to be cooled to ambient temperature before cleaning
2. Prohibit disassembling of the motor without permission, and the motor is a precision parts need to be lightly held and not to be knocked



Definition of Function of Motor Plug with Different Colors

3.1.11 Controller

1. The motor three-phase line must be firmly connected, locking screw fastening torque is not more than 8N.m
2. Check whether the plug-in is well connected, and whether the internal pins are loose and deformed.
3. Prohibit disassembling the controller without permission.
4. Prohibit immersing the controller in water for a long term.



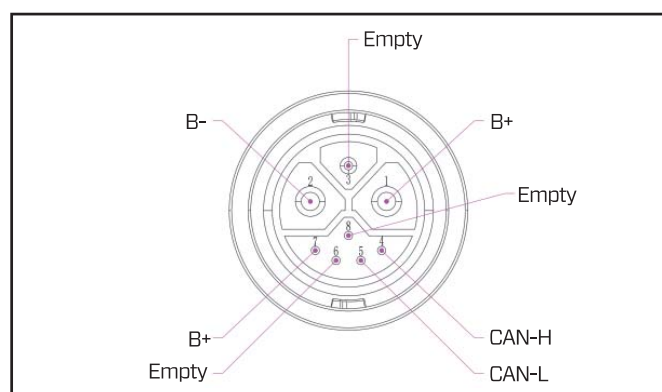
Magnetic Code + 12±0.3V 50<mA	TX	RX	High-speed gear	Shifter + 5±0.3V 100<mA	VB+	Electric door lock
PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7
Motor temperature	Collision Code-	Backup	Shifter-	Shifter signal	Negative pole	
PIN8	PIN9	PIN10	PIN11	PIN12	PIN13	
Hall Z	Negative pole	One wire pass	High brake	Spare input	1-2 gear	
PIN14	PIN15	PIN16	PIN17	PIN18	PIN19	
Hall B	Hall A	Magnetic code PWM	Side brace power off	Low brake	CAN-H	CAN-L
PIN20	PIN21	PIN22	PIN23	PIN24	PIN25	PIN26

Definition of Function of Controller Interface

3.1.12 Charger

【Note】

1. Prohibit flushing by water gun and being immersed in water.
2. Keep the vehicle body neat and tidy to prevent the heat sink from being blocked.
3. The voltage output will be available only after the charging output port is successfully communicated by CAN. Do not use a metal probe to test the plug on and off.
4. Match the battery with this model.

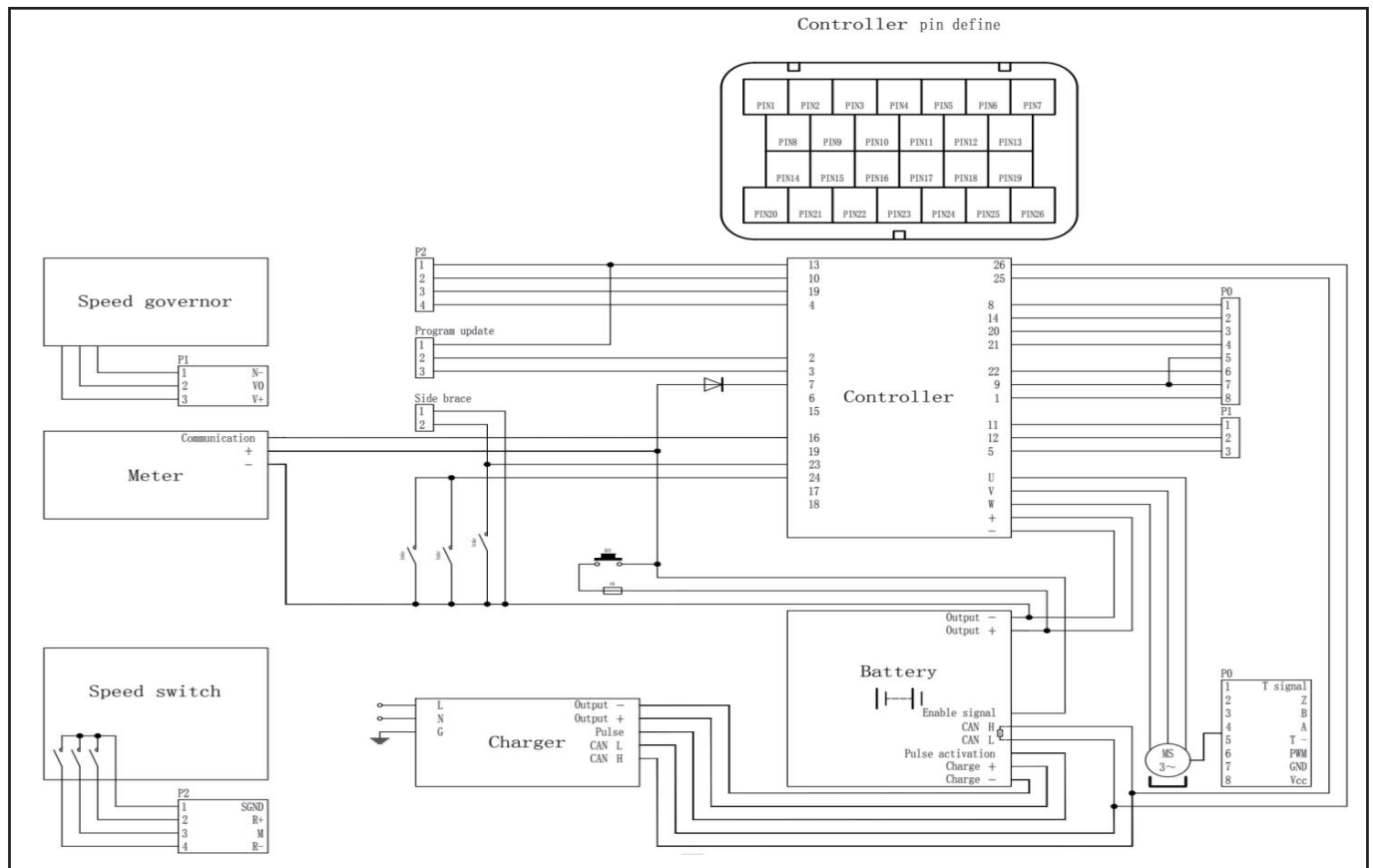


Definition of Function of Charger Plug Low

Definition and Application of Instruction of Charging Status:

Serial No.	Charging Status	Notes	Fault	Shooting Methods
1	Fast charging and slow charging indicator flashes		If not connected to the battery, this is the normal standby condition, and it fails to charge normally after connecting to the battery	Check whether the charger output plug is in place, re-insert the plug into the socket to ensure that the correct connection, no loose connections and good contact, still not charging, please contact the after-sales service
2	20%, 40% battery indicator flashes faster		Battery undervoltage or output short circuit (battery voltage below 44V)	Check whether the battery voltage is correct (44V-84V), if not, please check the battery, and if after eliminating the problem, the battery still fails to charge, please contact the person in charge of after-sales service
3	20%, 40%, 60% power indicator flashes faster		Battery over-voltage (battery voltage is higher than 85V)	Check whether the battery voltage is correct (44V- 84V), if not, please check the battery, and if after eliminating the problem, the battery still fails to charge, please contact the person in charge of after-sales service
4	20%, 40%, 60%, 80% power indicator flashes faster		Battery reverse connection or overheating alarm	Check whether the polarity of the output plug corresponds to the battery socket, if not, please check the battery; check whether the charger is overheated, if overheated, please stop charging and wait for the charger temperature to reduce before charging; if the charging time is too short, please contact the after-sales service
5	20%, 40%, 60%, 80%, 100% power indicator flashes faster		Charger failure (power supply over-voltage, over-current, overheating)	Check the connection between the charger and battery, such as all correct after still can not charge, please contact the person in charge of after-sales service
Serial No.	Application and Maintenance	Notes	Fault	Shooting Methods
6	Machine appearance	Pay attention to keep the machine tidy when using, wipe the dust on the machine body and wire on a regular basis	Long time use in dusty environment may cause certain stains on the charger's appearance, blurring or covering the nameplate information on the body, even affecting the service life of the machine	After use, wipe off the dust and other stains on it in time. When not in use, please keep in an environment without direct sunlight, less dust, dry and ventilated
7	Wire	Check the machine wire on a regular basis to keep it neat and tidy	The cable is broken or fractured	When the wire is broken or fractured, do not continue to use, please contact the person in charge of after-sales service
8	Protection grade IPX5	Prohibit using the water gun cleaning and being immersed in water	Water, clogged or dirty heat sink holes, poor heat dissipation	Wipe off the dust and other stains on it, but still do not charge, please contact the person in charge of after-sales service

3.1.13 Electrical Schematic Diagram



3.1.14 Battery temperature control information

1.High / low temperature charging and discharging parameters

Low temperature charging: $0^{\circ}\text{C} \pm 3^{\circ}\text{C}$ stop charging

$4^{\circ}\text{C} \pm 3^{\circ}\text{C}$ recovering

low temperature discharging: $-20^{\circ}\text{C} \pm 3^{\circ}\text{C}$ stop discharging

$-14^{\circ}\text{C} \pm 3^{\circ}\text{C}$ recovering

High temperature charging: $54^{\circ}\text{C} \pm 3^{\circ}\text{C}$ stop charging

$50^{\circ}\text{C} \pm 3^{\circ}\text{C}$ recovering

High temperature discharging: $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$ stop discharging

$64^{\circ}\text{C} \pm 3^{\circ}\text{C}$ recovering

2.Each mode temperature control parameters:

	$<-20^{\circ}\text{C}$	$-20^{\circ}\text{C} \sim 0^{\circ}\text{C}$	$1 \sim 60^{\circ}\text{C}$	$61-65^{\circ}\text{C}$	Under charging
Turtle mode	×	√	√	√	×
Rabbit mode	×	×	√	×	×
Rocket mode	×	×	√	×	×
Reverse mode	×	√	√	√	×

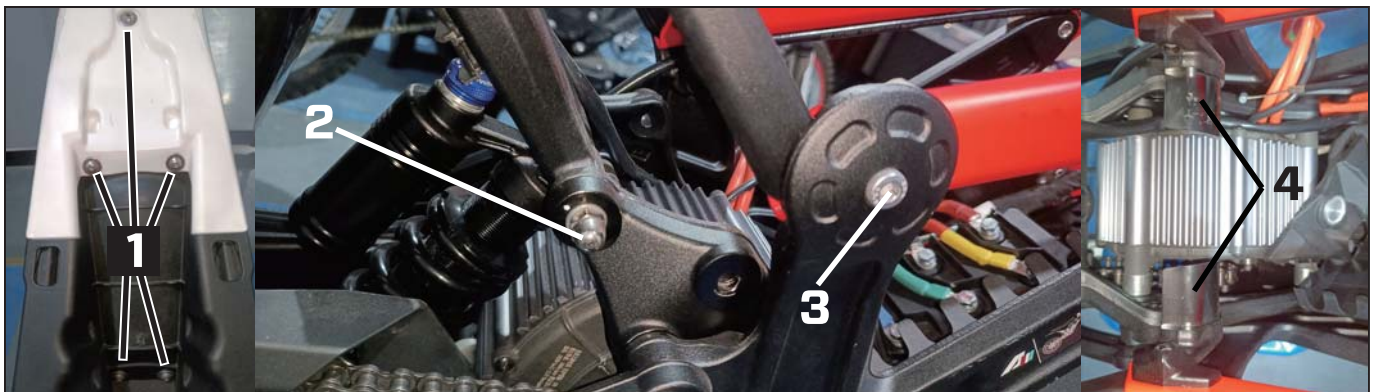
3.2 Chassis

3.2.1 Chassis Exploded View / Parts Location - Chassis

1	Subframe assembly	7	Battery mount left	13	Front side plate fixing bracket	19	Frame reinforcement plate right	25	Hexagon socket flower-shaped flange face bolt M8X1.25X205mm	31	Foot assembly right
2	Cap nut M8 X 1.25	8	Motor left side beam	14	Flange face hexagonal nut M6	20	Knurled implosion conical nut M8/OD Φ12	26	Hexagon socket flower-shaped flange face bolt M8X1.25X230mm	32	Positioning pin
3	Flat washer Φ 8 X Φ 16 X 2	9	Rubber fixing piece	15	Frame	21	Motor right side beam	27	Hexagon socket flower-shaped flange face bolt M8X1.25X135mm	33	Foot bracket right
4	Hexagon socket flower-shaped pan head screws M8 X 1.25 x 16mm	10	Cushion rubber sleeve	16	Rubber gasket Φ 4.5 X Φ 10mm	22	Hexagon socket flower-shaped pan head screw M8 x 1.25 x 16mm	28	Hexagon socket flower-shaped flange face bolt M8X1.25X205mm	34	Fine tooth full metal hexagonal flange face lock nut M10 X 1.25
5	Hexagon socket flower-shaped pan head screws M8 X 1.25 X 30mm	11	Frame reinforcement plate left	17	Cap nut M6	23	Battery mount right	29	Hexagon socket flower-shaped flange face bolt M8 X 1.25 X 230mm	35	Motor guard plate
6	Hexagon socket cheese head bolts M8 x 1.25 x 40mm	12	Metal insert hexagonal locking nut M8x1.25M8x1.25	18	Hexagon socket flower-shaped pan head screws M8 x 1.25 x 20mm	24	Shock mount seat	30	Rear swing arm mount	36	Foot bracket left
										37	Foot assembly left

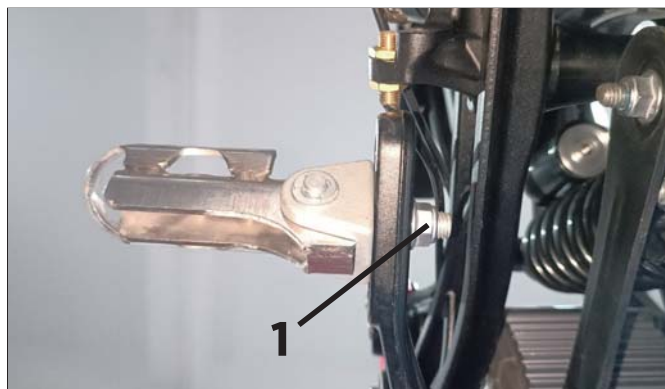
3.2.2 Replacement of Chassis

1. Remove the battery, see (Lithium Battery) for the steps and lift the rear wheels of the vehicle and stabilize the body
2. Remove the rear wheels, see (Replacement of Rear Wheel Removal and Rear Wheel Bearing) for steps
3. Unscrew the screws which aims to fix the fender (1) to remove the plastic fender
4. Unscrew the bolts fixing the shock(2) and bolts fixing the subframe (3) on both sides
5. Remove the subframe assembly and battery mount (4)
6. Replace the subframe assembly
7. Install in a reverse order

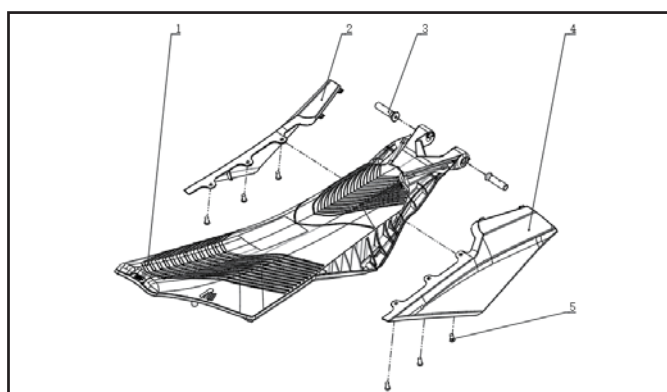


3.2.3 Replacement of Pedal

1. Unscrew the foot pedal fixing bolt (1)
2. Replace the new foot pedal



3.2.4 Exploded View / Part Location - Seat Cushion

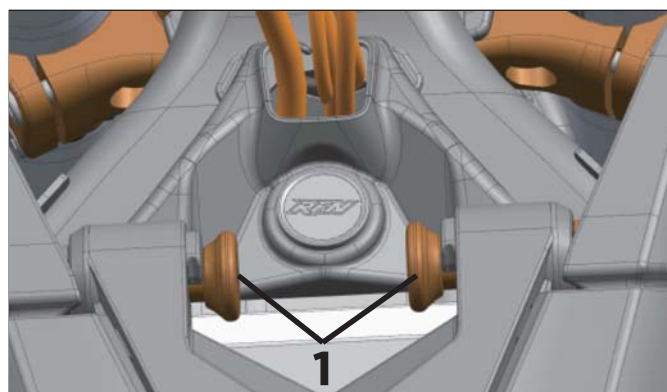


1	Seat cushion assembly
2	Left center side trim panel
3	Seat cushion retaining pin
4	Right center side panel
5	Center side panel mounting bolts M6 x 12

List of Part

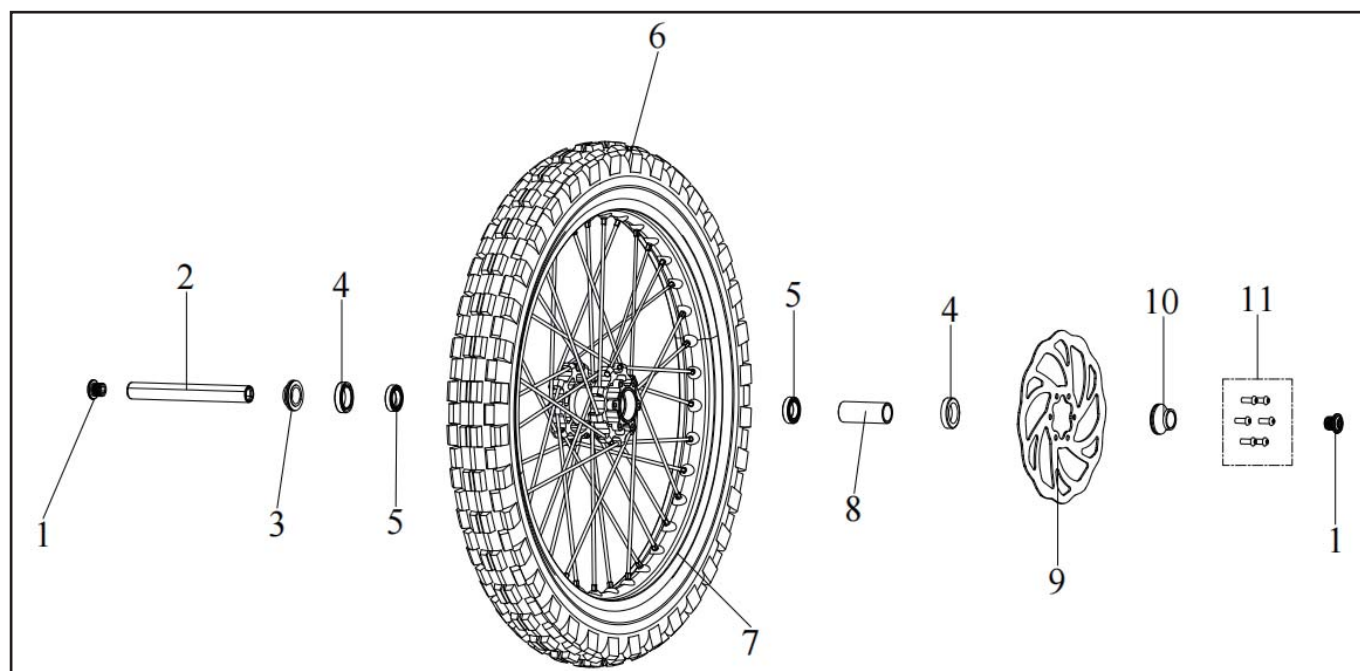
3.2.5 Replacement of Seat Cushion

1. Pull out the seat fixing pin (1) and remove the cushion
2. Unscrew all the bolts at the bottom of the seat cushion to replace the seat cushion



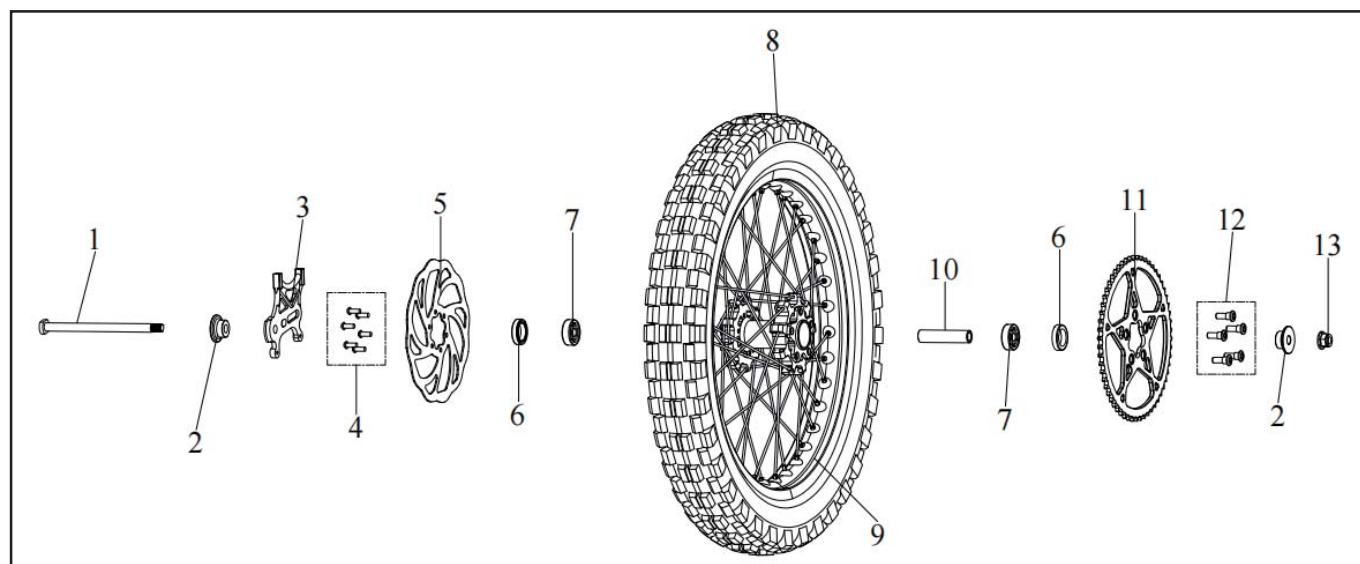
3.3 Wheel and Tyre

3.3.1 Exploded View / Part Location - Front Wheel



- Parts list:**
- | | | | |
|--------------------------------|-----------------------------|-----------------------------|------------------------------|
| 1. Front wheel axle screw plug | 2. Front wheel axle | 3. Front wheel right spacer | 4. 26 x 37 x 7 oil seal |
| 5. 61904 bearing | 6. Tyre 70/100-19 | 7. Wheel hub | 8. Front wheel middle spacer |
| 9. Disc brake disc | 10. Front wheel left spacer | 11. Disc brake disc bolt | |

3.3.2 Exploded View / Part Location - Rear Wheel



- Parts list:**
- | | | | |
|--|---|-----------------------|-------------------------|
| 1. Rear wheel axle | 2. Rear wheel spacer | 3. Disc brake bracket | 4. Disc brake disc bolt |
| 5. Disc brake disc | 6. 25x37x8 oil seal | 7. 6301 bearing | 8. Tyre 90/100-18 |
| 9. Wheel hub | 10. Rear wheel spacer | 11. Sprocket | |
| 12. Inner flower type disc head step screw | 13. Fine tooth full metal hexagonal flange face locking nut | | |

Part	Size	Tyre Pressure	Min. Tread Depth
Front Tyre	70/100/19	1.8BAR	3mm
Rear Tyre	90/100/18	1.8BAR	3mm

3.3.3 Clearing of Fault

Fault	Cause for Fault	Solution
Difficult to move the wheel or front wheel	Damage of wheel axle	Replace the wheel axle
	Tyre pressure is over low	Adjust the tyre pressure
Wheel is unbalance	The rim is damaged	Adjust the spoke or replace the rim
	The tyre is wore	Replace the dynamic balance level of tyre or wheel
It would generate noise when the wheel rotating	The wheel axle is loose or wore	Replace the wheel axle

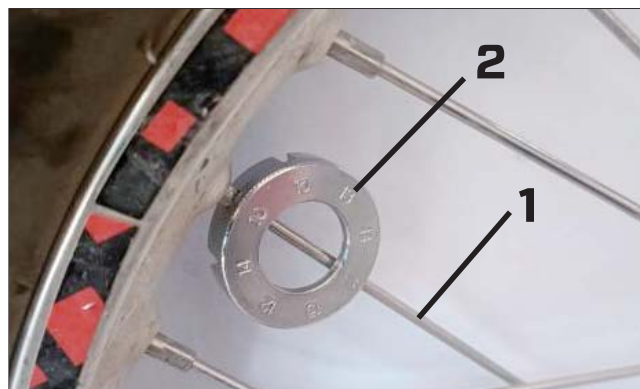
3.3.4 Rim

【Note】 The rims should be checked for cracks and bends. If any cracks are found, please do not try to repair the rim.

3.3.5 Spoke

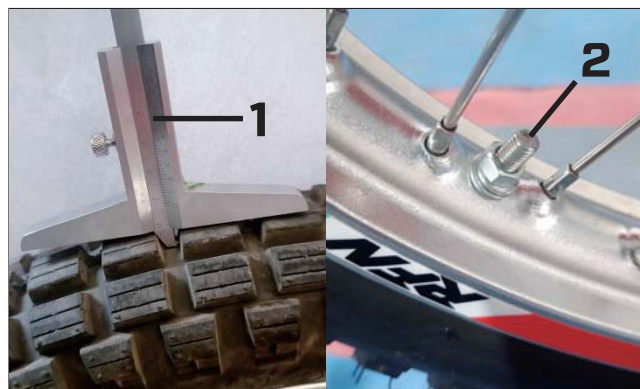
Check the spokes (1) for Slackness, if there is any slackness, please use the spoke wrench (2) to re-tighten the spoke nut

Spoke Nut Torque	3.5Nm
Spoke Tension Balance Range	≤5%



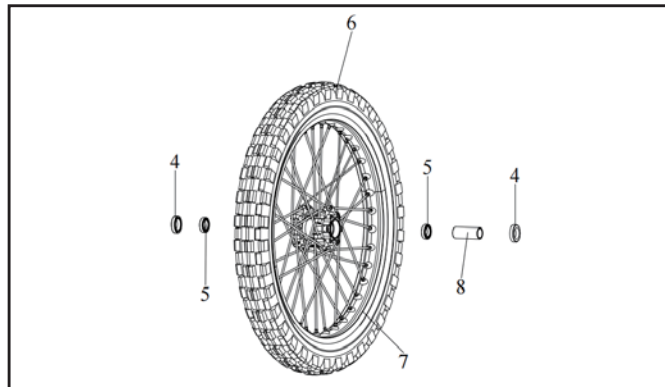
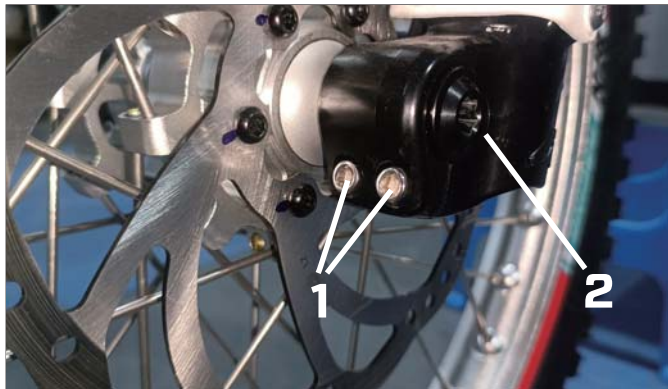
3.3.6 Replacement of Tyre

1. Use the depth vernier calipers (1) to measure the depth of the tread. If the tyre tread depth <3mm, or tyre sidewall rupture, please replace the Tyre immediately.
2. Remove the wheel, see **(Replacement of Front Wheel Removal and Front Wheel Bearing) (Replacement of Rear Wheel Removal and Rear Wheel Bearing)** for steps.
3. Release the tyre pressure, unscrew the tyre stabilizer nut (2) to remove the tyre and inner tube and replace it with a new one.
4. Assemble in a reverse order.



3.3.7 Disassembly of Front Wheel and Replacement of Front Wheel Axle

1. Lift up the front wheels of the vehicle and stabilize the vehicle body.
2. Unscrew the bottom foot bolt (1) of the shock absorber.
3. Remove the front axle (2) and front wheel.
4. Remove the oil seal (4) and bearing (5) and replace them.
5. Reassemble in a reverse order.

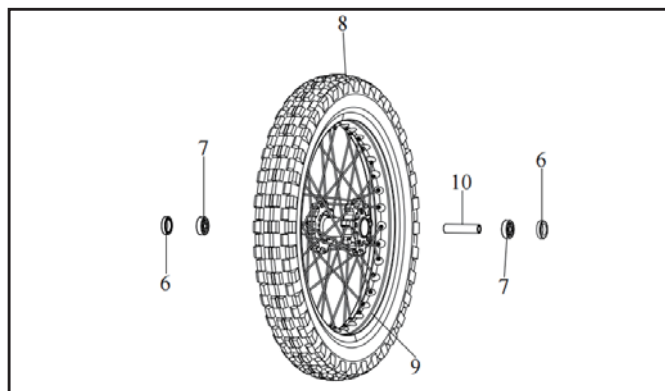
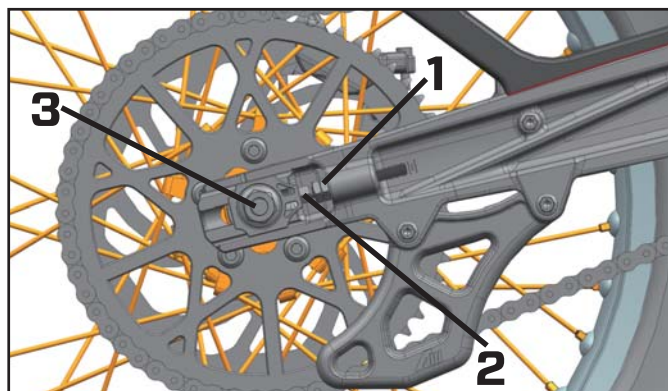


Torque Table

Bolt	Torque
Shock absorbing foot bolt (1)	8-10Nm
Bolt of front axle (2)	28-30Nm

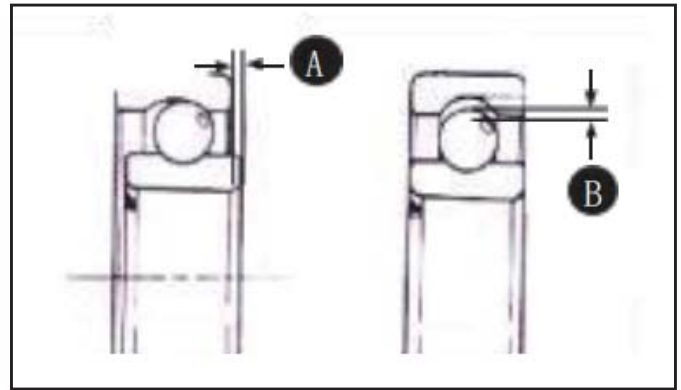
3.3.8 Disassembly of Rear Wheel and Replacement of Rear Wheel Axle

1. Place a suitable bracket under the vehicle so that the rear wheels are off the ground.
2. Unscrew the adjusting bolt lock nut (1)
3. Unscrew the adjusting bolt (2)
4. Unscrew and remove the axle nut (3) to remove the rear wheel.
5. Remove the oil seal (6) and bearing (7).
6. Reassemble in a reverse order.



3.3.9 Inspection on Wheel Axle

1. Check the rolling condition of the bearing. Rotate the inner ring of the bearing with your finger.
2. If it does not roll, or the bearing is damaged, or there is a gap (A, B) or the bearing rotates sticking, replace the bearing.



3.3.10 Inspection on Wheel Axle

1. Measure the eccentricity using a percentage table.
- Allowable limit A: 0.2 mm

3.3.11 Inspection on Rim

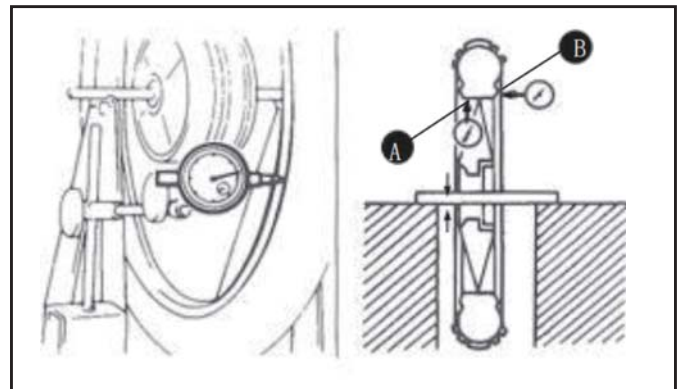
1. Place the wheel on an exact stand and check for unbalance with a percentage meter.
2. Turn the wheel by hand and read it from the dial.

Allowable limits:

A: Axial: Adjust the spoke tension or replace if greater than 2.0 mm

B: Transverse: adjust the spoke tension or replace if it is greater than 2.0 mm

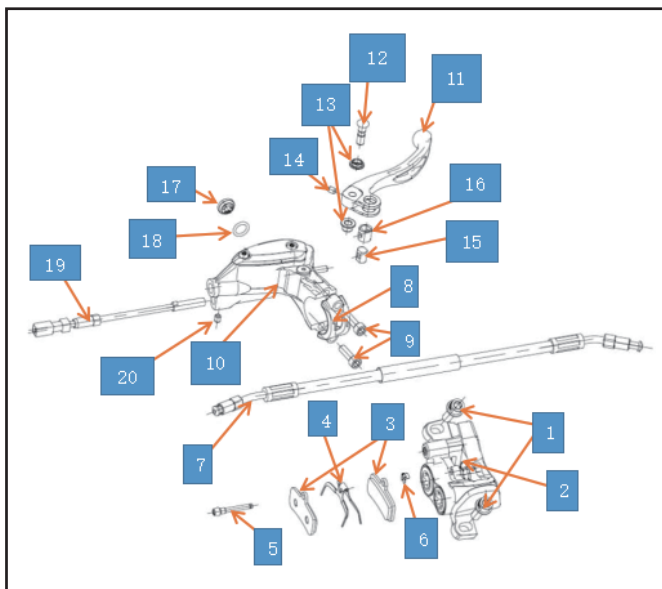
3. If the rim deformation exceeds the limit value, please repair or replace the rim.



3.4 Brake

3.4.1 Exploded View - Part Location - Front Brake

【Note】 Brake parts must not be damaged in the installation or disassembly process using the specified cleaning agents to clean, so as to avoid the reduction of braking effect.



1	Caliper Bolt
2	Caliper Assembly
3	Brake Pads
4	Brake Pad Return Spring
5	Brake Pad Locking Bolts
6	Brake Pad Locking Bolt Spring
7	Brake Fluid Hose
8	Upper Pump Bracket
9	Upper Pump Bracket Bolt
10	Upper Pump Assembly
11	Brake Rod
12	Brake Rod Shaft
13	Brake Rod Shaft Bushing
14	Brake Rod Shaft Top Wire
15	Piston Top Rod Shaft
16	Piston Top Rod Shaft Sliding Bushing
17	Brake Fluid Sight Window
18	Brake Fluid Sight Glass Oil seal
19	Oil Pressure Switch
20	Oil Pressure Switch Top Screw

Item	Standard Value	Permissible Limit
Thickness of brake discs	2mm	1.5mm
Thickness of brake pad	2mm	1.5mm
Brake disc diameter	210mm	210mm

3.4.2 Clearing of Fault

Fault	Cause	Solution
Poor brake performance	Improperly adjusted brakes	Adjust the brake system
	Worn brake pads	Replace brake pads
	Improper installation of brake pads	Install the brake pads correctly
	Contaminated brake pads or discs	Clean or replace the brake pads and clean the brake discs
	Air in the front brake hose	Exhaust the brake system
	Leaking oil line	Replace the oil pipe
Generate noise when braking	Worn brake pads	Replace brake pads
	Brake disc burr	Grind off burrs
	Contaminated brake pads or discs	Clean or replace brake pads and clean brake discs
Pulse during the braking process	Worn brake discs	Replace the brake discs
	Brake pads or discs are contaminated	Clean or replace the brake pads and clean the brake discs

3.4.3 Brake Fluid

1. Do not use any brake fluid other than the type specified by the manufacturer, otherwise it will damage the brake system.
2. Spilled brake fluid on the brake pads or discs will reduce braking effectiveness. Clean the brake pads and discs with a high quality brake cleaner.
3. When servicing the brake system, use a towel to cover the plastic parts and coated surfaces to avoid damage caused by brake fluid splashing.
4. Do not allow dust or water to enter the brake system when refilling.
5. Brake fluid should be replaced at least once a year.

Type of Brake Fluid	DOT3/DOT4
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3.4.4 Brake Lever

1. You must replace the front rear brake hose when it is leaking, cracked or worn.
2. When it is necessary to replace the brake hose, use only the parts specified by the manufacturer.

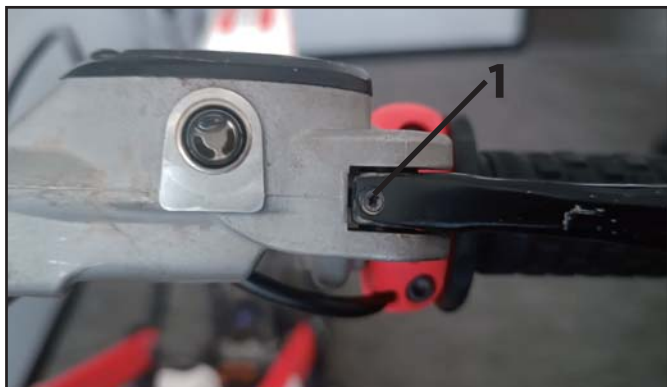
3.4.5 Inspection on Brake Pad

1. When the brake efficiency is reduced due to brake pad wear, please replace the worn brake pads immediately.
2. Brake pads should always be replaced in pairs, and do not replace a single piece replacement.

3.4.6 Replacement of Brake Rod

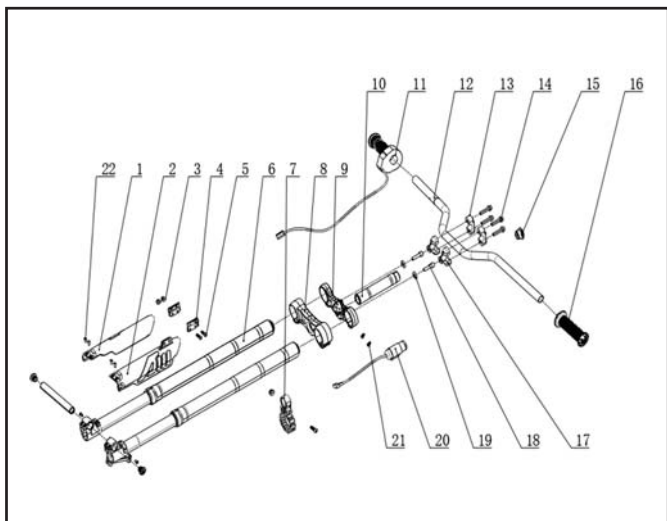
【Note】 If the brake rod is deformed, broken and any other damage, please replace the damaged brake rod immediately

1. Loosen the brake rod top wire (1)
2. Use 1.5mm hexagonal wrench to jack out the brake rod spindle (2)
3. Screw in the tie rod adjusting bolt (3) clockwise until it separates from the piston top rod spindle
4. Remove the piston top rod shaft and the piston top rod shaft slide sleeve (4)
5. Replace the damaged brake rod
6. Assemble in a reverse order



3.5 Suspension

3.5.1 Exploded View - Part Location - Front Suspension



1	Front shock absorber right trim cover	12	Steering Shifter _ Frosted Black
2	Front shock absorber left trim cover	13	Upper deck
3	All-metal hexagonal flange face lock nut M6	14	Hexagon socket head bolt M8x1.25x30
4	Oil pipe support	15	Steering column end cap
5	Hexagon socket flat round head screw M6 X 20	16	Left shifter cover _ black
6	Front shock absorber assembly	17	Lower deck
7	Fuel pipe support sleeve	18	Hexagon socket head bolts M10x1.5x35
8	Lower junction plate	19	Holder spacer_black
9	Upper junction plate	20	Combination lock_black
10	Steering column	21	Hexagon socket countersunk head screws M5X20_10.9
11	Electronic shifter	22	Hexagon socket flat round head screws M5X10

3.5.2 Torque Table

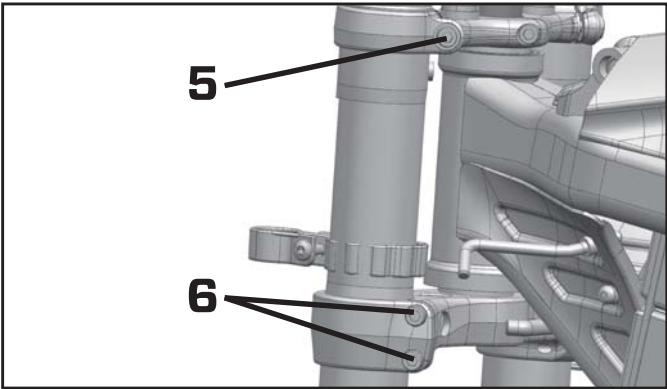
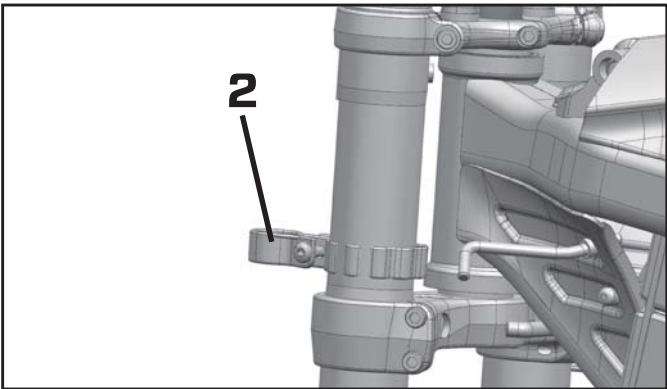
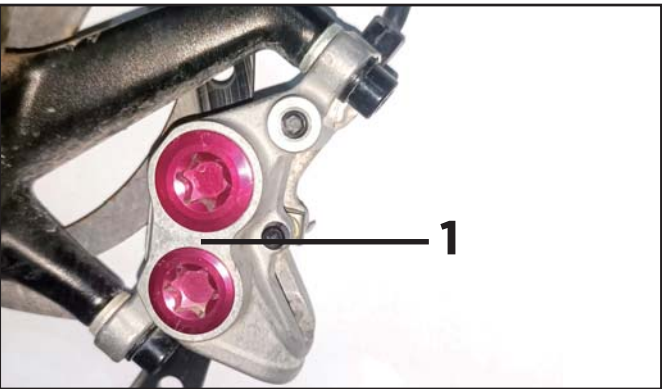
Bolt	Torque
15	10-15 Nm

3.5.3 Specification of Front Shock Absorber

Item	Description	Parameter
Travel	Travel of shock absorber	200mm
Damping Oil	Type of damping oil 15w	Capacity 220ml ± 5ml

3.5.4 Replacement of Front Shock Absorber

- 1. Place a suitable bracket under the vehicle to lift the front wheels.
- 2. Remove the brake caliper (1)
- 3. Remove the brake line bracket (2) (3)
- 4. Remove the front wheel, front fender and number plate.
- 5. Loosen the bolts on both sides of the upper shock coupling plate (5)
- 6. Loosen the bolts on both sides of the lower shock coupling plate (6)
- 7. Drag the shock absorber downward.
- 8. Replace the damaged shock absorber.
- 9. Assemble in a reverse order.

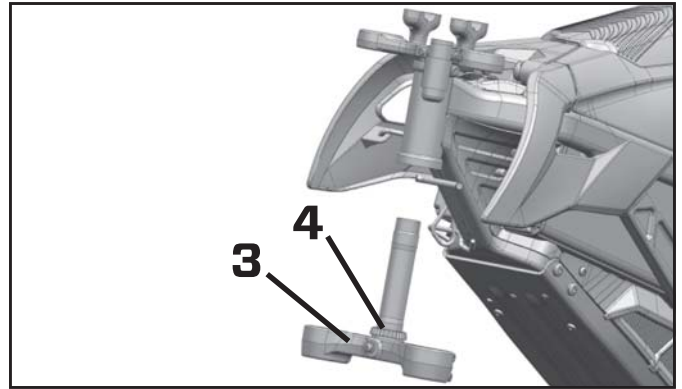
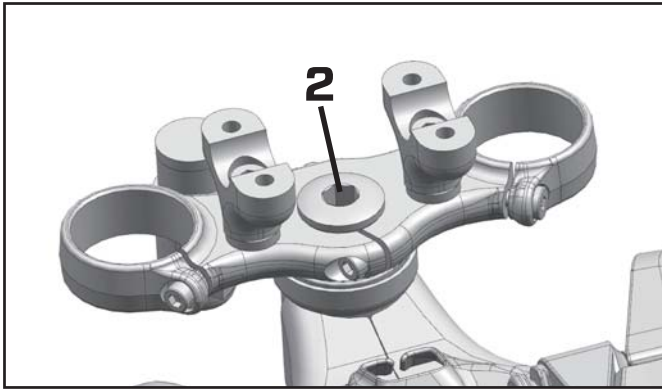
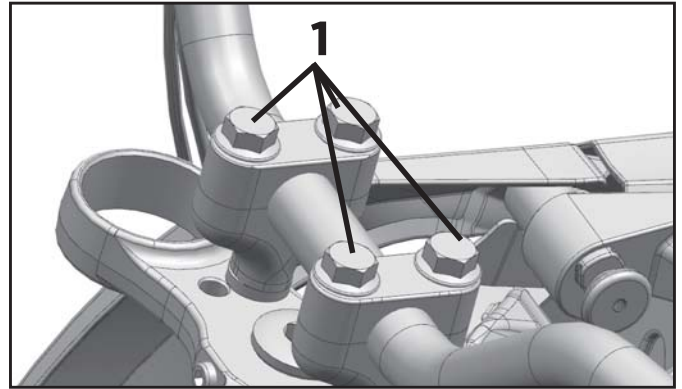


Torque Table

Bolt	Torque
5	13-15Nm
6	13-15Nm

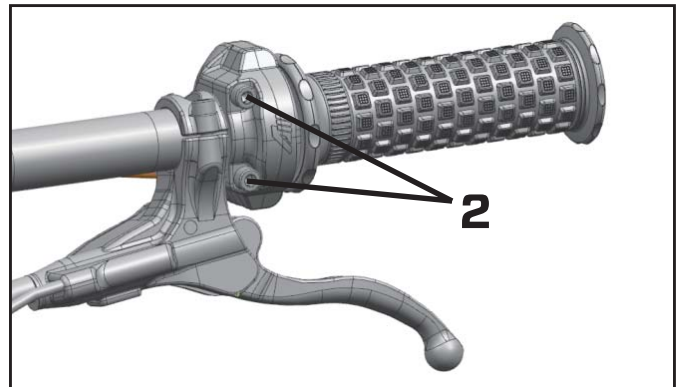
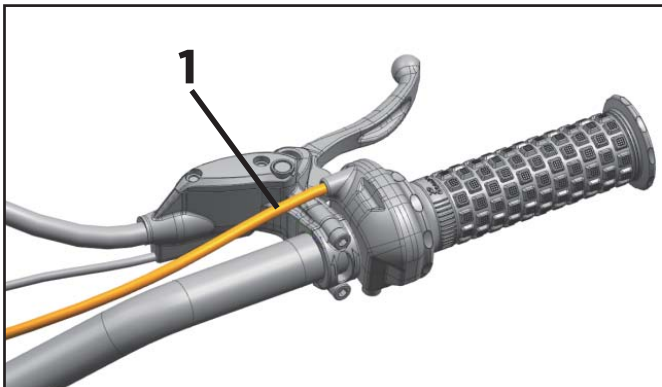
3.5.5 Replacement of Shock Absorbing Yoke Plate and Steering Axle

1. Place a suitable bracket under the vehicle to lift the front wheels.
2. Remove the front shock absorber (see “Replacement of Front Shock Absorber” for steps)
3. Remove the instrument and gauge bracket
5. Loosen the handlebar top cover bolts (1) to remove the handlebar
6. Loosen the coupling plate nut (2)
4. Remove the shock absorber coupling plate (3) and steering bearing (4).
5. Replace the damaged shock absorber plate and steering bearing.
7. Assemble in reverse order.

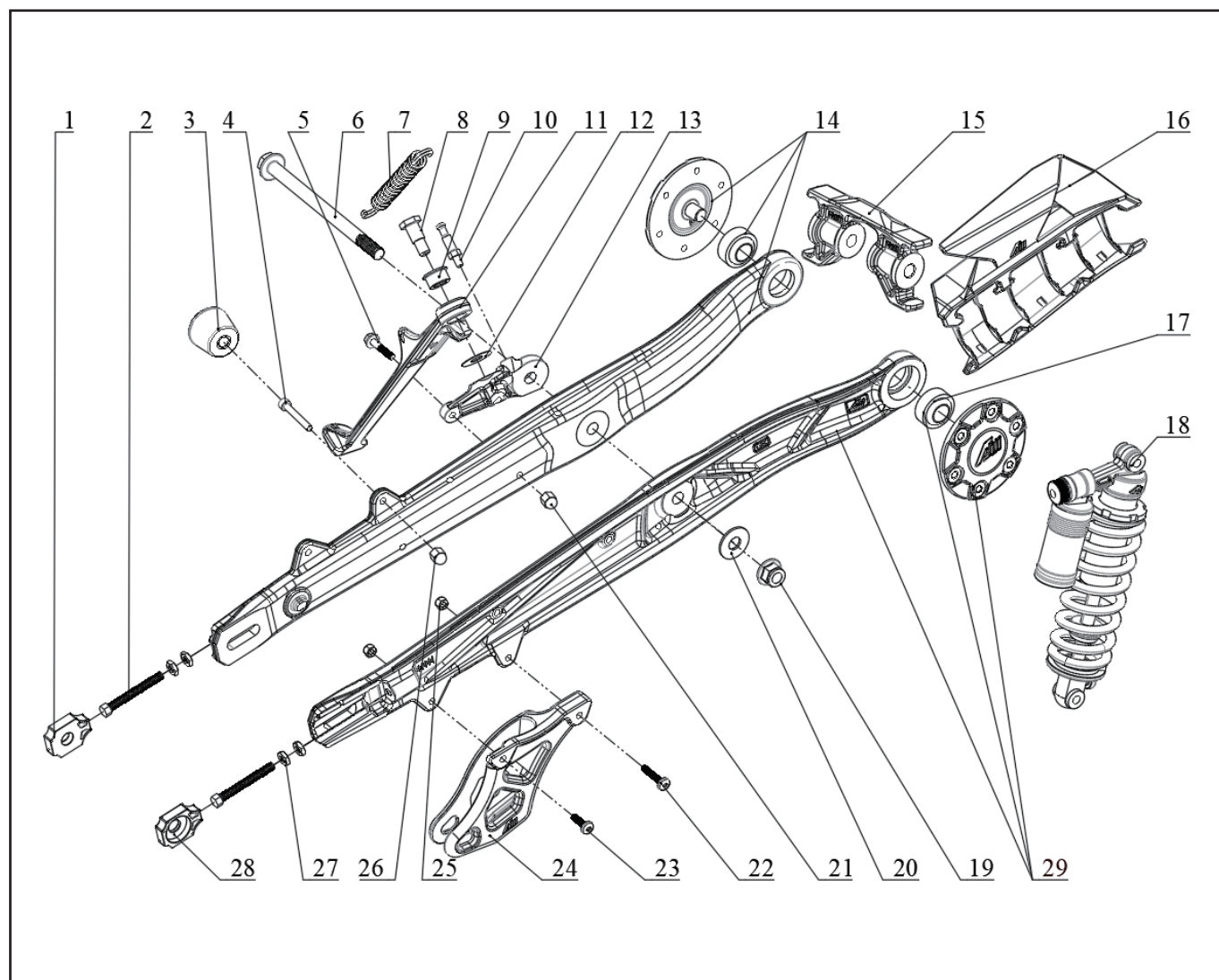


3.5.6 Replacement of Electrical Shifter

1. Disconnect the electronic handle signal cable (1) plug
2. Unscrew the electronic handle fixing bolt (2) to remove the electronic handle



3.5.7 Exploded View/ Part Location - Rear Suspension



1	Chain adjuster left	15	Rear fork reinforcement beam	8	Hexagonal step bolt M10 X 1.25 X 30	22	Hexagon socket flat round head screws M6 X 30
2	Hexagon head bolt full thread M8 X 60 X 1.25	16	Fork protection sleeve	9	Foot support bushings	23	Hexagon socket flat round head screws M6 X 20
3	Kickstand turret stop	17	Radial spherical plain bearing GEG17C	10	Pull spring fixing pin	24	Chain guide
4	Hexagon socket head bolt M6 x 40mm	18	Rear shock absorber assembly - black	11	Kickstand brace	25	Full metal lock nut M6
5	Hexagonal flange face bolt M6 X 30	19	Hexagonal flange face bolt M12 x 1.25 x 175	12	Flat washer Φ12 x Φ30 x 0.5mm	26	Hexagonal flange face lock nut M6
6	Double tension spring	20	Flat washer M12 x 32 x 2	13	Foot brace holder	27	Hexagonal nut M8 x 1.25
7	Fine tooth all metal hexagonal flange face lock nut M12 X 1.25	21	All-metal hexagonal flange face lock nut M6	14	Rear swing arm	28	Chain adjuster right

3.5.8 Specification of Rear Shock Absorber

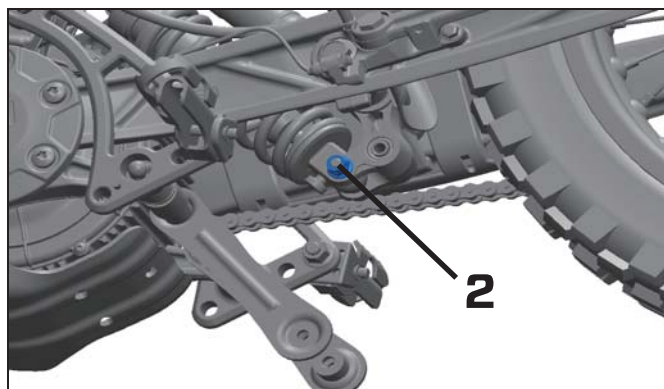
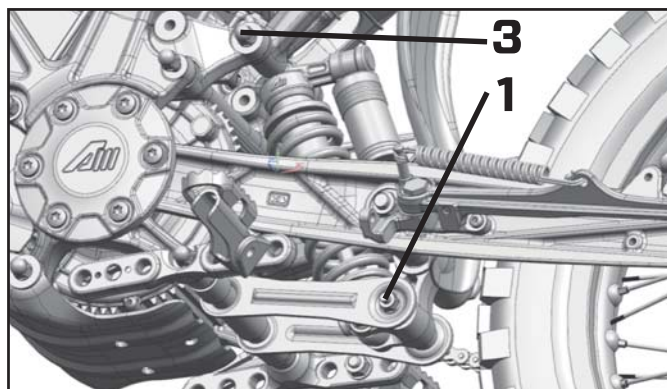
Part	Length	Journey
Rear Shock Absorber	240mm	68mm

3.5.9 Clearing of Fault

Fault	Cause	Solution
Steering vehicle deviation	Insufficient tyre pressure	Adjust the tyre pressure
	Broken or bent fork legs	Replace the affected fork leg
	Uneven support of the front shock absorber from left to right	Adjust the shock damping or replace damaged fork legs
Front shock absorber is too soft	Damaged spring	Replace the front shock absorber
	Insufficient damper oil	Refill the damping oil
Front shock absorber noise	Shock absorber broken or bent	Replace the affected shock absorbers
	Loose fasteners	Tighten the fasteners
	Lack of lubrication	Replace the affected fork legs
Leaky fork legs	Defective gasket	Replace the affected fork legs
Weak rebound of shock absorber	Worn or broken spring	Replace the rear shock absorber
Rear shock absorber leakage	Defective	Replace the rear shock absorber

3.5.10 Replacement of Rear Shock Absorber

1. Place a suitable bracket under the vehicle to lift the rear wheels.
2. Remove the fixing bolts of the rocker arm (1)
3. Remove the lower bolt of the shock absorber (2)
4. Remove the upper bolt of the shock absorber (3)
5. Remove the shock absorber from under the vehicle
6. Replace the damaged shock absorber
7. Assemble in a reverse order

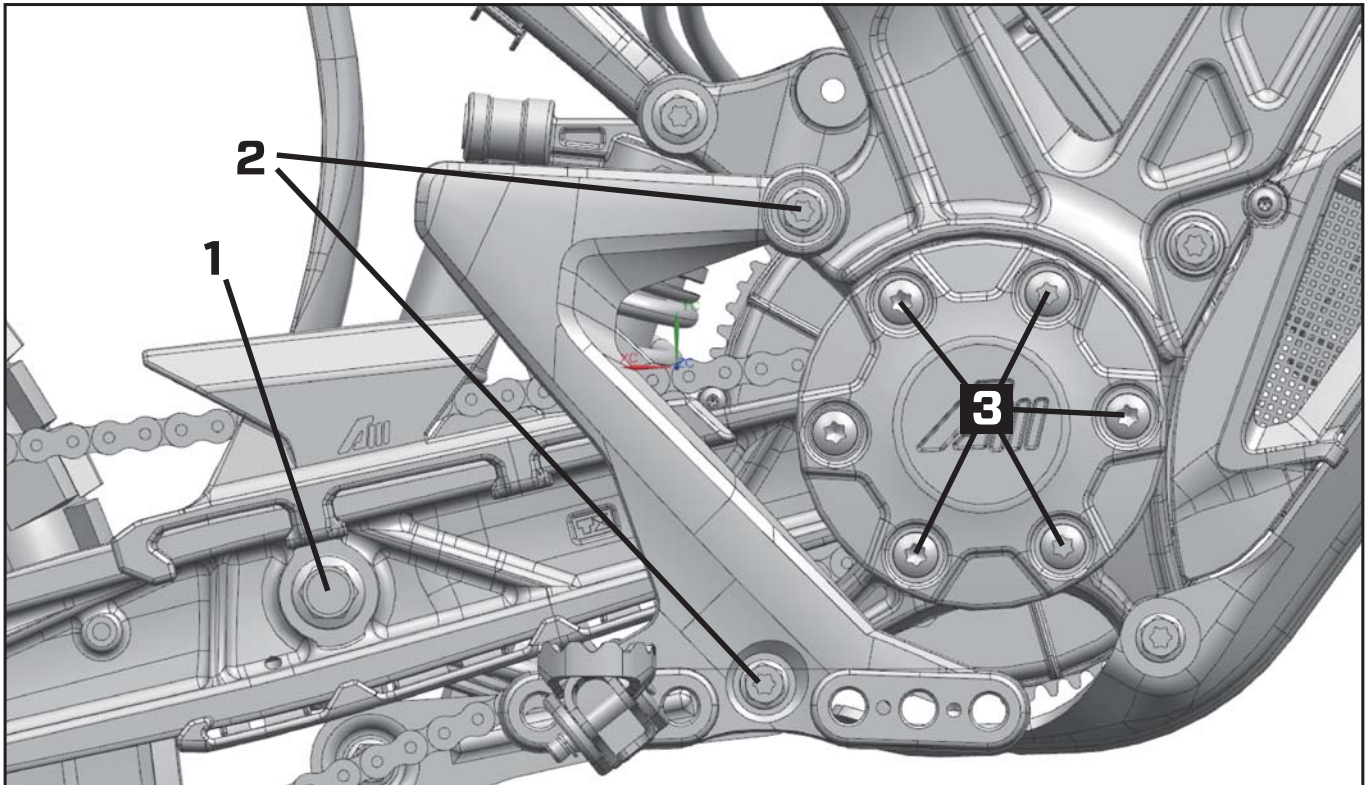


Part	Torque
1	30-40Nm
2	43-45Nm

3.5.11 Replacement of Rear Swing Arm

【Note】 To replace the rear swing arm, please follow the steps below:

1. Raise the vehicle until the rear wheels are off the ground.
2. Open the chain lock, then remove the chain.
3. Remove the rear brake parts attached to the swing arm or rear wheel.
4. Remove the rear wheels.
5. Unscrew the bolts (1) on the rear suspension.
6. Unscrew the foot bracket bolts (2) to remove the foot bracket
7. Unscrew the bolts of the rear swing arm mount (3)
8. Remove the rear swing arm
9. Assemble the new rear swing arm in the reverse order.
10. After assembling in reverse order, adjust the chain tension to ensure the rear brake is properly installed and check whether all nuts are tight.



NOTES:



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