



TWIST FREEDOM & EXPRESS OWNER'S MANUAL

 **GIANT.**

WELCOME, AND CONGRATULATIONS

On your purchase of a new Giant electric vehicle; the fun of pedaling your new Giant Twist is only moments away.

Safety First.

You should completely read through this owner's manual before you take your new Giant Twist for a spin. By doing so, you will have a greater understanding for the general operation of the various components found on your new electric vehicle. You will learn many of the components you once recognized as part of a electric vehicle have changed significantly. Safe riding instructions are equally important and shouldn't be overlooked. So even if you are an experienced cyclist, please take a moment to read through this manual before you ride.

Sharing the Joy of the Ride.

Nothing makes us happier than seeing people out riding bikes. For over thirty years Giant has manufactured distributed quality bicycles for every type of terrain and rider imaginable. Giant bicycles have allowed millions of cyclists just like you the opportunity to live happier, healthier lives because of the joy, exercise, and sheer exhilaration riding a bicycle brings. And it's this commitment to sharing the joy of the ride that inspires us to continually offer the world's most innovative bicycles.

Approval and conformity

This Twist bicycle fulfils the requirements of the following EC directive:
Electro Magnetic Compatibility directive (89/336/EEC).



Learn More.

We encourage you to get connected and learn more about proper riding and safety through your local Authorized Giant Retailer. The independent bike shop retailers are the best in the nation at providing sales and service for any and all your bicycle related needs. It's the only place you'll find knowledgeable assist you with everything you'll need to get the most out of your bike and your ride.

Enjoy.



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NOTE:

This manual is not intended as a comprehensive use, service, repair or maintenance manual. Please see your dealer for all service, repairs or maintenance.

1. What it is called

Twist Freedom



A. General

1. Handlebar
2. Fork
3. Hub motor
4. Chainwheel (torque sensor integrated)
5. Driver
6. Carrier
7. Rear Pannier Bag and Battery Cover
8. Battery Lock
9. Rear light
10. Mudguard
11. Multi-speed Rear Hub/Sprocket

Twist Express RS



General

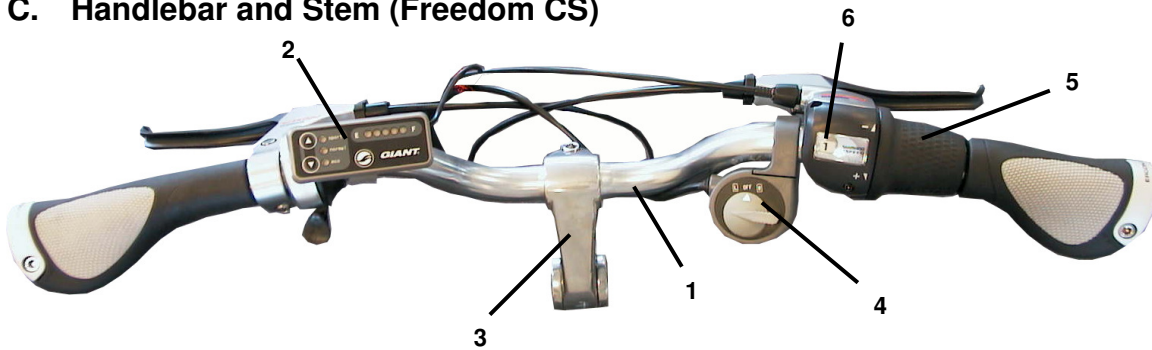
- | | |
|---------------|-----------------------------------|
| 1. Handlebar | 7. Battery sets |
| 2. Fork | 8. Battery Lock |
| 3. Hub motor | 9. Rear reflector |
| 4. Chainwheel | 10. Mudguard |
| 5. Driver | 11. Multi-speed Rear Hub/Sprocket |
| 6. Carrier | |

B. Battery and Charger



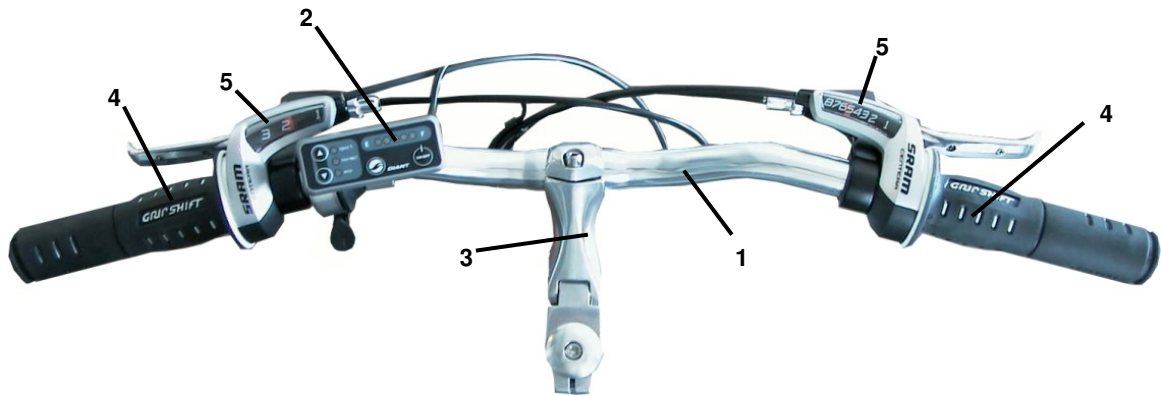
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|--------------------|--------------------------|
| 1. Battery | 5. Twist Freedom Charger |
| 2. Grip | 6. Charger plug |
| 3. Battery Lock | 7. Power source plug |
| 4. Charging socket | |

C. Handlebar and Stem (Freedom CS)



- | | |
|----------------------|-------------------------|
| 1. Handlebar | 4. Power control switch |
| 2. Left hand control | 5. Gear shifter |
| 3. Handlebar stem | 6. Gear indicator |

Handlebar and Stem (Express RS)










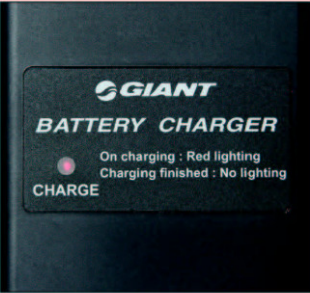
- | | |
|----------------------|-------------------|
| 1. Handlebar | 4. Gear shifter |
| 2. Left hand control | 5. Gear indicator |
| 3. Handlebar stem | |



2. Battery and charger operation

CAUTION: Battery must be fully charged before first ride, or if the bike has not been ridden for over a month!!

- Charge the battery in a room with a temperature between 0°C - 40°C (32-104 degree F)
- If you notice a strange smell or smoke, stop the charging procedure immediately! Take your battery to your authorized Giant retailer for service or replacement.
- **Do not recharge the battery for over 24 hours!!** This could seriously reduce the life of the battery.
- **Charge the battery every 3 months when the battery is in storage!**

A. Normal Charging		
Step 1	Turn the Power Control Switch (on right side of the handlebar) of Twist Freedom CS to the “off” position and turn off the power (in the display) of Twist Freedom CS Lite/Express RS	
Step 2	Follow steps A and B to open the Rear Pannier bag	<p>Step A</p>  <p>Pull up</p> <p>Step B</p>  <p>Pull</p>
Step 3	Turn the battery lock key to the “OPEN” position and at the same time push the top of the battery pack outward to 45 degrees.	 <p>Key Push</p>

Step 4	Lift the battery pack out of its holder.	
Step 5	Place the battery in a horizontal position and then insert the Twist Freedom charger plug into the battery's charging socket.	
Step 6	<p>Connect the power source plug into an electric outlet (AC 110~240 volts) and make sure that all poles are fully inserted into the socket.</p> <p>Caution: KEEP THE AREA WHERE THE BATTERY IS CHARGED WELL VENTILATED AND FREE FROM LITTER OR ANYTHING ELSE COMBUSTIBLE TO AVOID FIRE FROM SPARKS OR OVERHEATING.</p>	
Step 7	<p>Confirm that LED lamp of the charger lights up red. The light should remain constant and not flash. When charging is finished (which could take approximately 6hours) the light will go out. The battery is fully charged.</p> <p>Caution! DO NOT CHARGE BATTERY FOR MORE THAN 24 HOURS!!</p>	
Step 8	Disconnect the battery from the charger, after the charge is completed. Unplug the charger's power source plug from the electrical outlet.	

<p>Step 9</p>	<p>Mount the battery into its holder.</p> <p>Step A Slide the battery pack into its holder at a 45-degree angle. Make sure the "GIANT" logo on the battery is on the outside of the bicycle.</p> <p>Step B Replace the grip. Gently pivot the battery pack to an upright position until the battery pack snaps into place. If the battery pack does not pivot easily, remove it and reposition it in the holder and try again.</p>	 
<p>Step 10</p>	<p>Make sure that the battery is secured in the "LOCK" position, so that it can not move from side to side.</p>	

B. Battery Lock Key

Your Giant Twist comes standard with 2 battery lock keys, we suggest you keep one in a safe place for emergencies. Giant Twist bike keys may be duplicated by a qualified locksmith. Blank keys for Twist are available through your Authorized Giant Dealer.

Please record the key number for future reference and key replacement. If your keys are ever lost or stolen, contact your Authorized Giant dealer for replacement.

C. Range for battery

Running distance on one charge varies depending on rider's weight, wind resistance, outdoor temperature, etc. Below chart is the approximate riding range based on different road patterns.

1. RIDING RANGE FOR TWIST FREEDOM CS WITH 2 LITHIUM-ION BATTERIES

RIDING CONDITION	ECO	NORMAL	SPORT
Flat/No wind	68 – 86 miles 110 – 140 km	52 – 74 miles 85 – 120 km	42 – 52 miles 65 – 85 km
Slope or slight headwind	58 – 66 miles 95 – 105 km	42 – 58 miles 65 – 95 km	30 – 42 miles 50 – 65 km
Steeper incline or stiff headwind	46 – 58 miles 75 – 95 km	30 – 46 miles 50 – 75 km	20 – 30 miles 30 – 50 km

2. RIDING RANGE FOR TWIST FREEDOM CS LITE & EXPRESS RS WITH 1 LITHIUM-ION BATTERY

RIDING CONDITION	ECO	NORMAL	SPORT
Flat/No wind	34 – 43 miles 55 – 70 km	26 – 37 miles 40 – 60 km	21 – 26 miles 35 – 42 km
Slope or slight headwind	29 – 33 miles 45 – 55 km	21 – 29 miles 35 – 45 km	15 – 21 miles 25 – 35 km
Steeper incline or stiff headwind	26 – 29 miles 40 – 45 km	15 – 23 miles 25 – 35 km	10 – 15 miles 15 – 25 km

PLEASE NOTE

- In cold weather, the riding range per charge becomes shorter.
- The riding range per charge decreases as the charge/discharge cycle is repeated.
- The riding range may vary depending on road or riding conditions.
- The riding range decreases after prolonged use even if the number of charges is limited.

(1) CONDITIONS THAT EFFECT BATTERY RANGE

- Ambient temperature: Extreme cold and heat can deplete the battery's charge more quickly.
- Number of charges/discharges: The more charge/discharge cycles the battery has undergone, the less capacity it will have.
- Headwinds: Riding into a strong headwind will cause the motor to use more energy.
- Road conditions: Hilly and rough terrain will cause the motor to use more energy.
- Luggage: Carrying extra luggage on the carrier or in a backpack will cause the motor to use more energy.
- Rider weight: A heavier rider will cause the motor to use more energy than with a lighter rider.
- Acceleration from a standing stop: Since more energy is used during initial acceleration, riding in conditions that force you to start and stop often (i.e. city traffic) will cause the motor to use more energy.
- Proper gear usage: Pedaling in the correct gear for the terrain will help save energy for both you and the battery.
- Poor maintenance: A dry or dirty chain and under-inflated tires can cause the motor to use more energy.

(2) To help maintain maximum range

- Charge the battery under room temperature between 0°C ~ 40°C (32~ 100 degrees F).
- Discharge the battery as much as possible before recharging.
- Use the proper gears while accelerating or riding uphill.
- Don't ride with under inflated tires and keep the chain clean and well lubricated.

(3) Battery Tips Approximate life

- The Twist CS/CS LITE is equipped with Li-Ion batteries. If used and maintained properly they should last at least approximately 600 charging cycles.
- Use and drain the battery as much as possible before charging.
- At the end of a useful life, lithium-ion batteries are recyclable.
- In various localities, there are laws regulating proper disposal.
- When your Twist battery must be replaced, please return it to an Authorized Giant Dealer for recycling. Your Authorized Giant Dealer can also order a replacement battery for you.

(4) For extended storage

- If you won't be riding your Twist for an extended period of time, remove the batteries from the bicycle.
- Charge the battery 10hours at least before use it the first time.
- Charge the battery to full level.
- Recommended storage temperature: 0° ~ 26°C (0 ~ 80 degree F).
- Charge the battery every 3 months.

D. Safety Precautions

These safety precautions are provided for your benefit to protect you and those around you. Please read and follow them carefully to avoid unnecessary injury, damage to the product, or damage to other property.

1. Battery

- Do not throw the battery in to a fire.
- Do not apply the battery to other appliances.
- Use the specified charger only to charge the battery.
- Do not disassemble or modify the battery.
- Do not connect positive and negative terminals by using metallic objects.
- Keep the battery away from water. Pouring water on the battery may result in short-circuit and overheating of the battery.
- Do not submerge the battery. Soaking the battery in water may cause irreparable damage

2. Charger

- Do not disassemble or modify the charger.
- Do not use the charger to charge batteries other than supplied.
- Do not subject the charger to shocks-such as dropping it. Keep the charger away from water.
- Do not touch the charger with your skin for long periods during charging. Burning of the skin may result
- Do not cover the charger or place objects on it.
- Place the charger firmly on a flat surface. Using the charger upside-down or stretching the cord tight may result in malfunction, fire or electric shock.

3. Charger & Battery

- Do not short-circuit the terminals by using metallic objects.
- Do not apply pressure to the cord or the plug. Placing the cord tightened between a wall and a window frame, or placing heavy objects on the cord or the plug may result in electric shock or fire.
- Be sure to insert the plug fully into a wall socket.
- Do not touch the plug with wet hands.
- Keep out of reach of children or pets.
- Do not attempt to use another brand/model's charger to charge the battery.
- Do not use the charging plug and/or the power source plug when they are dusty. Pull out the power source plug and clean it with a dry cloth.
- To remove a cable from a socket, do not pull the cable, pull the plug. Always pull the charging cable gently.
- Do not rotate the pedals when charging the battery while it is mounted on the bicycle. The cord may twist around the pedal or the crank, and the damage to the plug may result, causing electric shock or fire.
- Do not use sockets, connectors and other wiring devices with a power source other than standard rated volts (AC 110~240 volts) power supply.
- Do not use damaged components such as charge case, power cord, plug, if the supply cord is damaged, it must be replaced by the manufacture or its service agent or similarly qualified person in order to avoid a hazard.
- When charging is finished, please plug off the charger and then detach batteries from the charger.

3. How things work

It is extremely important to the performance, enjoyment and safety of your Twist bicycle and yourself to understand how the features of the electric bicycle operate. Even if you're an experienced cyclist, you should not assume that the way things have worked on previously owned bicycles will operate similarly on the Twist bike. Be sure to read and to understand this section of the owner's manual. If you have even the slightest doubt about how any of the mechanical features of the Twist operate, talk to your Authorized Giant Dealer.

A. HYBRID CYCLING TECHNOLOGY

Hybrid Cycling Technology provides motor assistance based on your pedaling force and speed. To engage hybrid power, turn the Power Control Switch located on the right side of the handlebar to either the "R" or "L" position. This engages the battery on either the right ("R") side of the bicycle or the left ("L").

B. Power Control Switch (Only Freedom CS model)



- The Power control switch is located on the right side of the handlebar.
- When the battery at "R" position has completely run down, turn the power control switch to the "L" position to engage Pedal Activated Power. And recharging the battery "R".
- R position: The battery on the right side of the bicycle.
- L position: The battery on the left side of the bicycle.
- If the Twist is stored with the battery in place, turn the power control switch to the "OFF" position. Leaving the power switch in the "L" or "R" position while stored or parked will result in rapid energy loss.
- If left unattended for 5 minutes, Twist will go into sleep mode. Simply reset the power to reactivate the Twist.

Procedure (CS Model)

1. Turn the power control switch to the "OFF" position



After 1~2 seconds

2. Turn the power control switch to the "L" or "R" position again reset operation

Procedure (CS Lite Model)

1. Press the ON/OFF button

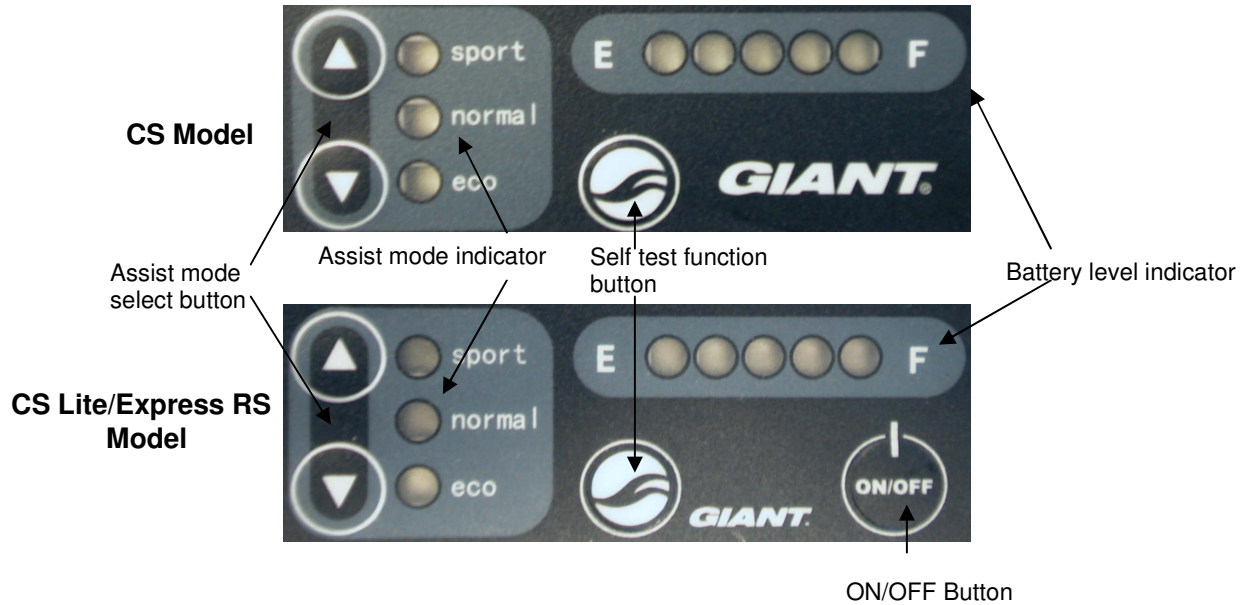


After 1~2 seconds

2. System reset

C. Left Hand Control

The Left hand control is located on the left side of the handlebar.



(1) Assist mode select button

- When you turn the power switch to “L” or “R” position, Twist provides Pedal Activated Power in the “NORMAL” mode any time the rider pedals.
- If you want to go faster, press the select button to “SPORT” mode.
- Press the select button to “ECO” mode to extend range.
- When your speed reaches 25km/h, the Twist 's motor will automatically disengage and cease assistance. When your speed drops below 25km/h, the motor can assist you once again.

(2) Battery level indicator

LEDs illuminated	Battery Capacity	System status
E ●●●●● F	100%-90%	The battery has adequate power.
E ●●●●● F	85%-70%	About 3/4 capacity is remaining.
E ●●●●● F	75%-50%	About 1/2 capacity is remaining.
E ●●●●● F	45%-30%	About 1/3 to 1/4 capacity is remaining.
E ●●●●● F	25%-0%	Charging the battery is recommended.
E ●●●●● F	0%	The battery has completely run down. Charging the battery is required.

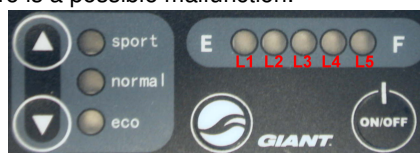
IMPORTANT: Please note that the capacity of the battery shown on this table is approximate.

(3) Malfunction model:

If the LED lights flash while riding, it means that there is a possible malfunction.



Freedom CS Model



Freedom CS lite & Express RS Model

LED Status	What's Happening	Solution
L1 blinking	The battery has completely run down.	Recharging is required.
L2 blinking	Torque sensor malfunction	Reset the power. If the symptom persists even after resetting, bring your electric vehicle to an Authorized Giant retailer.
L3 blinking	Driver overheating	
L4 blinking	Motor malfunction	

- The power assist is not available when indicator is blinking.
- If LED lamp does not light up during operation, check if the battery is charged and securely mounted.

(4). Self-Test Indicator

The Self-Test system can help determine if the two components, the torque sensor and the front wheel Hub Motor, are working properly. To begin the self-test, make sure your Twist is resting on its kickstand and Power Control Switch is in the "OFF" position. Place the right pedal forward at the "3:00 o'clock" position.

- Press the Self-Test button and turn the Power Control Switch to either "R" or "L". One or more of the middle LED's on the Left Hand Control should light up.
- While standing on the right side of the Twist, steady the bicycle by holding the saddle with your left hand. Then step down on the right pedal while squeezing the right brake lever with your right hand. Don't let the rear wheel move. L1,L2,L3 and L4 should light up in order, depending on the strength and torque you've generated while stepping on the right pedal. The harder you push down on the pedal, the more LED's(up to L4) will light up.
- Next, carefully lift the front of the bicycle off the ground and gently spin the front wheel forward. L2,L3 should light up and flash in sequence as the wheel spins. Stop the wheel from spinning and carefully place it back on the ground.

If the Twist passed these two tests, you must turn the Power Control Switch to "OFF" and then back to "R" or "L" to ride again.

If the Twist did NOT pass either or both of these tests, bring it to your Authorized Giant Dealer for service.

D. Carrier

If you carry luggage on the Rear Rack, make sure everything is securely fixed and free from the rear wheel, chain, etc. Total weight of the luggage must not exceed 15 kg (35lbs). The Rear Rack is not equipped with rack straps; ask your Authorized Giant Dealer for straps so luggage can be carried safely.

Never carry a passenger!

Do not attach a child carrier to the Twist!

4. Service & Maintenance

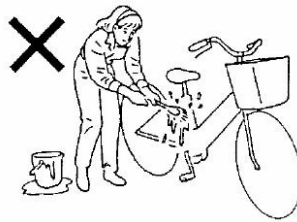
A. Recommendation for washing

Giant Hybrid bike uses plastic shells to cover the electric parts, so it is forbidden to wash the plastic with water.

Please use soft cloth with neutral solution to wipe the dirt on those plastic shells. After that, wipe it dry with clean soft cloth.



Do not wash those plastic components with water. When the internal electrical parts are defected by water, it will be very easy to corrode the insulator and lead to power-leakage or other problems.



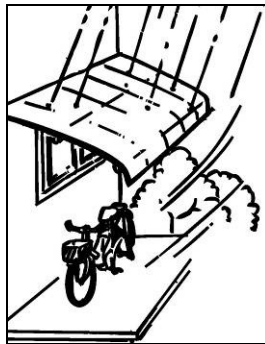
Do not use other solutions to wash those plastic components. With non-neutral solutions, it will cause color-change, distortion, scratch etc.



Do not use high-pressure water or air hoses to clean the Twist bike. This can force water into electric components that may cause malfunction.

B. Avoid Leaving Your Twist Bike Out In the Weather

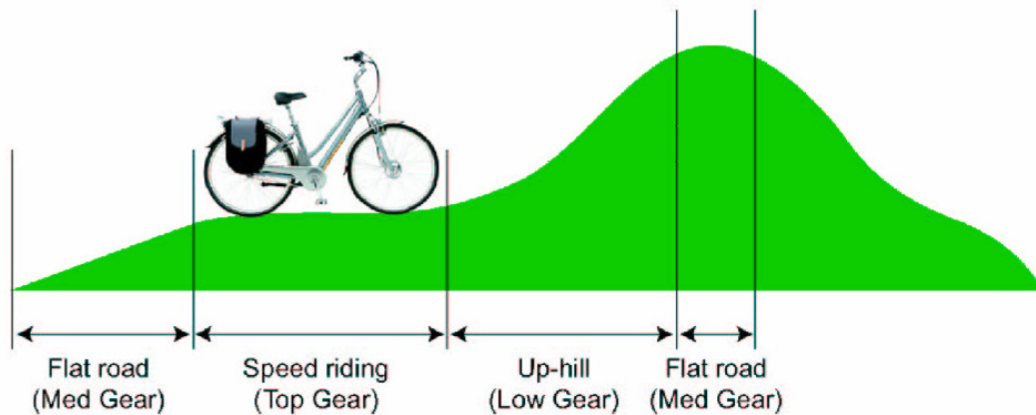
When not riding, keep your electric vehicle in a location where it will be protected from snow, rain, sun etc. Snow and rain can cause your Twist bike to corrode. The ultraviolet from the sun can fade the paint, or crack any rubber or plastic on the electric bicycle.



5. Troubleshooting Guide

This table is only a guide to aid you in getting your electric vehicle operating, should you have any problem. If you are unable to get your electric vehicle operating, bring your electric vehicle to an Authorized Giant retailer.

Symptom	Possible Cause	Solution
Range less than expected	<ol style="list-style-type: none"> 1. Cold weather reduces battery life 2. Riding on many uphill Frequent slope climbing Repeating start and stop 3. Riding at high gear ratio 	<p>Allow batteries to reach room temperature 0-40 degree C (32-104 degree F) and then fully recharge</p> <p>Larger amount of battery power is consumed as the bicycle is used under high current load condition.</p> <p>Select the optimum position of the gear shift and/or Assist mode depending on up-hill or down hill, head-wind or tail-wind, and your physical condition.</p>



6. Giant Guarantee Programme

Article 1 Guarantee

- 1.1 Giant guarantees that every new Giant bicycle is free of constructional defects, defective materials and rustiness, for as far as the conditions as set out in this Giant Guarantee Programme are being met.
- 1.2 Only the first owner of a new Giant bicycle can eventually lay a claim to the guarantee, in the event and for as far as this first owner has obtained the new Giant bicycle from a dealer that has been approved by Giant.
- 1.3 The rights that come forth from the Giant Guarantee Programme are in no event and not in any possible way transferable.
- 1.4 Without prejudice to what has been settled in the Giant Guarantee Programme, the regulations of directive 99/44/EU of the European Parliament and of the Council of the European Union on certain aspects of the sale of consumer goods and associated guarantees (official journal L 171) and respectively the correspondent national legislature of the country in which the Giant bicycle has been bought are valid.

Article 2 Specifications and terms

- 2.1 A guarantee for the period of 10 years is applicable for regular Giant frames and regular Giant forks.
- 2.2 A guarantee for the period of 5 years is applicable for Giant suspension frames.
- 2.3 A guarantee for the period of 2 years is applicable for Giant suspension forks.
- 2.4 For other Giant parts (including paint and clear coat), for as far as they have not been mentioned in article 3.1, a guarantee for the period of 2 years after date of delivery is valid. For parts of third parties the relevant guarantee conditions of that producer are valid and applicable to these parts.
- 2.5 For batteries and other electrical equipment a guarantee of a year after date of delivery is valid.

Article 3 Exceptions

- 3.1 The guarantee does not apply to parts that are subject to normal wear and tear, such as tyres, chains, blades, brakes, cables, gearwheels in the circumstance that there are no assembly – or material defects.
- 3.2 The guarantee lapses in the event: A. The bike has been used for professional purposes such as bike rental; B. The bike has been damaged as a result of taking part of competitions, jumping, downhill, trial or as a result of exposing the bike to – or riding the bike in severe conditions or climates. C. The bike has been involved in an accident. D. The bike has been used in an improper manner or in another manner than usual, in view of the sort and type of the bike concerned. E. The bike has not been serviced in confirmation with the directions in the service manual. F. The bike has been serviced and / or repaired by a non Giant dealer. G. The bike has been assembled with non original parts. H. The first owner has actually transferred the bike to a third person.

Article 4 Procedure

- 4.1 On delivery of the bike to the first owner, a guarantee registration card and a duplicate guarantee registration card are being issued. After delivery of the bike, the guarantee registration card is to be completed by the first owner of the bike and sent to Giant Europe B.V. A claim on the guarantee will no sooner be discussed than after receipt of a guarantee registration card by Giant Europe B.V.
- 4.2 The claims that come under the competence of this guarantee are to be issued with an acknowledged Giant dealer.
- 4.3 While issuing a claim with an acknowledged dealer that comes under the competence of this guarantee, a prove of purchase must be handed over. Furthermore, the first owner must also hand over the duplicate guarantee registration card to the Giant dealer.
- 4.4 On issuing the claim, the Giant dealer completes a guarantee application form that in all cases must

include the following data: name and address of the owner of the bike, date of purchase, frame number of the bike, description of the part that comes under the guarantee, stamp of the Giant dealer.

- 4.5 In the event that a guarantee is acknowledged by Giant, then Giant shall take care of replacement or reimbursement of the part concerned.
- 4.6 The final decision on whether a claim on the guarantee is to be accepted and the choice between replacement or reimbursement will ultimately be taken by Giant Europe B.V.

Article 5 Liability

- 5.1 Giant excludes any and all liability for damages to (parts of) the bike that may arise from the incorrect tuning of the moving parts of the bike, the improper use and/or maintenance of the bike (including the untimely replacement of the parts mentioned in article 3.1).
- 5.2 In the event that Giant accepts a claim on the guarantee, then this does not in any case imply an acceptance of any liability for possible damages. If and for as far as there is some talk of suffered (consequential) damages, Giant excludes all liability for that as far as she is not legally bound to compensate these damages.
- 5.3 The guarantee offered in the Giant Guarantee Programme forms an addition to legal rights. These rights may be different in each country within the European Economic Space.



Giant Europe B.V. Pascallaan 66 8218 NJ Lelystad The Netherlands
www.giant-bicycles.com