



**MEET  
THE  
CARVER**



# MEET THE CARVER

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Are you ready for a driving experience unlike any you have ever experienced before? Congratulations with your new Carver; the ultimate fun and city smart electric vehicle! This Owner's Manual has been written to provide you with all the information you need regarding the operation and maintenance of your Carver. Please read it carefully so that you may enjoy your Carver to its full potential.

Given that the Carver behaves quite differently to any other vehicle that you may be used to, it is very important for your safety that you take the time to become familiar with driving the Carver and that you read the driving instructions in section 3 carefully.

We also encourage you to read our Warranty Policy. These will help you understand the

warranty coverage provided as well as the responsibilities for ensuring warranty protection of your Carver.

The Carver Maintenance Schedule is also included in this manual. Following the schedule will help to keep your driving hassle free and to preserve your Carver so that you may enjoy your Carver for many years to come.

For questions regarding this manual, please contact:

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We wish you the excitement of a driving experience unlike any other!



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# 1) GENERAL PRECAUTIONS

Your own safety and that of others is paramount. As a driver, you are responsible for the proper handling of your vehicle. For practical reasons, it is not possible to describe all possible hazards and therefore it is important that you use your own judgement and act as a responsible driver.

- **Always obey local traffic regulations.**
- **Anticipate other traffic.** Keep a safe distance between yourself and the vehicle in front of you, and increase the distance if the road is wet or icy or in mist or fog.
- **Drive in the centre of the road lane and claim it as if you were driving a car.** This position makes it possible to react better in emergency situations.
- **When driving a Carver, concentrate on the driving.**  
If you need to make a phone call, read a

map or do other things that require your attention, pull over to a safe place.

- **Never use alcohol or drugs** when driving.
- **Never leave children or animals unattended in your Carver.**
- **Never leave luggage or other items loose in the Carver while driving.** These items could get stuck under the pedals, fly around upon sudden deceleration and disturb the driver or even cause injury in the event of an accident.
- **Never have the Carver towed by another vehicle.** This can result in dangerous situations. Severe damage could occur. For information on how to transport a Carver, see section 19.1.
- **Never use the Carver to tow another vehicle or a trailer.** The Carver has not been homologated to tow another vehicle or a trailer. This can result in dangerous situations. Severe damage could occur.
- **Never lend your Carver to someone unless you carefully explain the specifics and driving instructions.** See section 3.

When driving the Carver, bear in mind the following rules of thumb - see also section 3:

- Avoid abrupt steering movements.
- Take corners from the outside inwards.
- Correct over and understeer with GENTLE steering movements.
- Never deliberately cause the Carver to lose grip.
- Reduce your speed during windy weather.
- Never drive (too) fast in reverse.
- Acknowledge the acoustic signals.
- Keep in mind that the width, at the rear of the Carver, increases when tilting.
- Never use the Carver in off road situations

## 2) PRE-BOARDING CHECKS

What do you need to check before driving your Carver?

### 2.1 Run-in procedure

To extend the life of your Carver and to maintain optimal performance it is very important to comply with the following recommendations during the first 500 km:

- To run in your brakes:  
Brake gently and steady, and avoid locking your front wheel.
- To run in your tyres:  
Be aware that during the first 100 km your tyres also require a run-in period before their full traction potential is achieved. Thus drive with extra care during these first kilometres.

You should also comply with these run-in procedures if any of these parts are replaced at a later point.

We further recommend that you perform the following checks before getting behind the

steering wheel. Make it a habit to perform these checks regularly to ensure optimal safety.

### 2.2 Check for any leaks

Check for any leaks both at the front and rear of the vehicle. If you detect any signs of leaks, contact Carver.

### 2.3 Tyre pressure

Make sure the tyres are inflated to the correct pressure.

Incorrect tyre pressure can lead to poor road handling and potentially dangerous situations and may also lead to excessive wear, tyre blow-outs and higher battery consumption.

Correct tyre pressures for cold tyres are as follows:

Front: 2.5 bar

Rear: 1.7 bar

See also section 15

### 2.4 Lights

Make sure all lights (headlights, tail lights, direction indicators and hazard lights) operate properly.

See also section 6.1

### 2.5 Seat

Adjust the seat as necessary to obtain a correct seating position.

Make sure that the seat is safely locked in position.

See also section 8

### 2.6 Mirrors

Adjust the mirrors to ensure an optimal rear view.

See also section 11

### 2.7 Seat belts

Fasten your seat belts (driver and passenger) before driving away.

See also section 9

# 3) GETTING TO KNOW YOUR CARVER

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## 3.1 Things to get used to

### 3.1.1 Width of the Carver

From inside the Carver may seem narrower than it actually is whilst tilting. Therefore, keep a safe distance from the kerb, any obstacles and/or other road users.

### 3.1.2 Acoustic signals

Since you do not sense any g forces, you may, as an inexperienced driver, underestimate the speed and acceleration at which you are taking a corner. The acoustic signals indicate the cornering angle and serve as a warning when you corner (too) fast or when steering with too much force above a specific speed. Please acknowledge these signals and adapt your driving style. Bear in mind that the Carver could be close to skidding (oversteer),

even though you still feel comfortable. For your extra safety and for damage prevention skid pads (on the front sides) and side bars (on the rear sides) have been mounted. Please ensure that these extra safety elements remain securely mounted to the vehicle at all times.



In the case that either skid pads or side bars make contact with the road surface this means that the maneuver is dangerous and needs to be corrected by lowering the speed which will decrease the tilting angle.

### 3.1.3 Brakes

The brakes fitted on the Carver are not power assisted and there is no ABS system installed. Therefore, you will feel the brakes immediately and braking is solely dependent on the driver. The driver can always control the brakes to prevent the brakes from locking. Locked brakes can result in loss of control over the Carver and lead to potentially dangerous situations.

### 3.1.4 Direct steering

The Carver responds very quickly to any steering movement. Abrupt steering movements prompt a sharp response from the Carver with regard to tilting of the cockpit. Therefore you should maintain a loose, relaxed grip on the steering wheel to guide the Carver gently. Learn to trust the tilt mechanism, and remember: all you need to do is to 'steer' in the desired direction. The acoustic signals serve as a warning when steering too forcefully above a specific speed.

## 3.2 Things to watch out for

### 3.2.1 Inclined road surface more than 10 degrees

By default, when you drive slowly (below 8 km/h or 5 mph) the cockpit of the Carver will keep itself upright until a road surface inclination of 10 degrees. When reducing your speed, the cockpit of the Carver will change from a balanced situation to an unbalanced perpendicular position. As long as the slope is not too steep, this is only a small nuisance which is not dangerous.

However, if the inclination of the road is steep, you should exercise caution. Under these circumstances the Carver could topple. The Carver is equipped with a special mode to automatically return the Carver to a balanced situation if the Carver is moved manually from a slope to a horizontal surface. This situation occurs when "Unsafe Tilt Mode" is displayed on the dashboard screen. By pressing the "D" (drive) button, the Carver will slowly stand up and stop automatically as soon as the vertical position is reached. "Unsafe Tilt Mode" is then no longer displayed on the dashboard display



### Warning

Park your Carver on a horizontal surface. Do not traverse or make a U-turn on steeply inclined surfaces.

### 3.2.2 Rough / uneven road surface

The ground clearance is 10 cm (3.9 inches) at its lowest point.

This clearance is reduced when driving over

rough or uneven surfaces or obstacles. Please bear in mind that the Carver has not been designed as an off-road vehicle. You can use your Carver wherever you can use a 45 km/hr (30 miles/hr) vehicle.

### 3.2.3 Water on the road

The ground clearance is 10 cm (3.9 inches) at its lowest point.

To avoid contact between the electric wiring and water, always drive slowly through pools and avoid driving through water deeper than 8 cm (3.1 inches).

Generally, special attention is required whenever the road surface is slippery. Such circumstances may occur when the road is wet, icy or covered with gravel or snow. In theory the Carver will also stay in balance under most of these conditions. However, especially when the friction of the road surface suddenly changes, situations may occur that could cause an unpredictable situation or an incident. Adapt your driving style:

1. **Drive more slowly** than normal
2. Keep the banking angle low and **Brake gently**, in order to prevent the wheels from locking up.

### 3.3 Ready for take-off

The Carver is steered like a car, but in corners, it banks like a motorcycle or, to be more precise, like an aeroplane.

Unlike a motorcycle, however, whose rider determines the bank angle by shifting his or her weight and/or correcting the steering angle, the Carver features a Dynamic Vehicle Control (DVC™) system which automatically adjusts the bank angle to the speed and acceleration of the vehicle in order to assure perfect balance. All you need to do is steer.

**BUT:** this does not mean, of course, that nothing can go wrong.

Just as you have to learn how to handle a sports car or a motorcycle, you also need to learn how to drive a Carver.

The driving technique is in fact similar to that of a standard car with rear-wheel drive and automatic transmission. However, a

Carver behaves quite differently from any other vehicle you may be used to. For this reason, it is very important that you take time to get the knack of driving the Carver, and that you observe certain basic principles:

**Avoid abrupt steering movements**

1. **Take corners from the outside inwards**
2. **Correct under and oversteer with GENTLE steering movements**
3. **Never deliberately cause the Carver to lose grip**
4. **Reduce your speed during windy weather**
5. **Never drive (too) fast in reverse**



### 3.3.1 Avoid abrupt steering movements

The Carver responds very quickly to any steering movement.

Forceful steering movements prompt a sharp response from the Carver with regard to tilting of the cockpit.

**Always** try to do the following

 Maintain a loose, relaxed grip upon the steering wheel.

 Steer the Carver gently.

For this reason, **never do** the following:

 Cling firmly to the steering wheel or push against it.

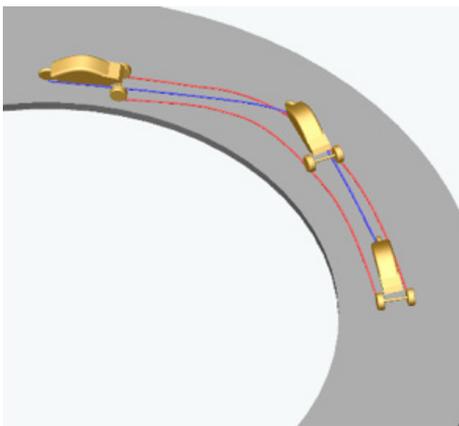
 Make abrupt or fierce steering movements.

#### **Conclusion:**

Guide the Carver gently. Learn to trust the tilt mechanism, and remember: all you need to do is to 'steer' in the desired direction.

### 3.3.2 Adjust the steering wheel GENTLY to correct understeer

Since you do not sense any g forces, you may, as an inexperienced pilot, underestimate the speed and acceleration with which you are taking a corner. The controllability of the Carver is however subject to limits.



During understeer, the front wheel loses grip, and has a tendency to 'carry straight on'. The radius of the bend thus increases. The Carver remains balanced by automatically adjusting the tilt angle of the cockpit.

The **correct response** by the driver should be similar to that in a normal car:

 Ease off the accelerator.

Hold the steering wheel gently as usual, and gently correct the steering angle.

 > You will notice when grip returns to the front wheel, enabling the Carver to negotiate the corner properly.

**Never do the following:**

 Brake aggressively or fiercely.  
> This may result in the front wheel locking up, thereby causing you to lose control.

 Cling firmly to the steering wheel and force it into a particular position.  
> This prevents you from keeping the movement under control and being aware of how the Carver is trying to react.

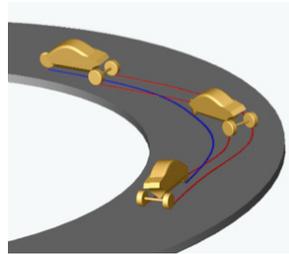
## Note

- The movement and effort of the required corrections are more subtle in the Carver than in a normal car.
  - On a slippery road surface, the wheels lose their grip earlier. The consequences of understeer are also more pronounced than in the dry. Adjust your driving style accordingly:
1. **Drive** more **slowly** than normal
  2. Keep the **banking** angle low and
  3. **Brake gently**, in order to prevent the front wheel from locking up.

### 3.3.3 Never deliberately cause the Carver to lose grip

Since you do not sense any g forces, you may, as an inexperienced pilot, underestimate the speed and acceleration with which you are taking a corner. The controllability of the Carver is however subject to limits. The Carver is driven by its rear wheels. If you apply excessive throttle in the corner, it will tend to oversteer, or the rear wheels will tend to lose grip.

The correct response by the driver should be similar to that in a normal car with rear-wheel drive:

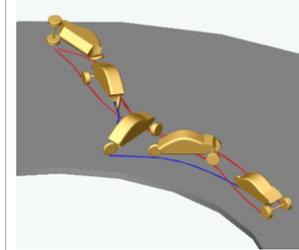


Correct oversteer with **GENTLE** steering adjustments



Hold the steering wheel gently as usual, and gently correct the steering angle until the front wheel is once again pointing in the desired direction.

**Never do the following:**



**NEVER DELIBERATELY CAUSE THE CARVER to lose grip!**

If you cannot apply sufficient opposite lock to the front wheel, an extremely dangerous and uncontrollable situation arises.



Cling firmly to the steering wheel and abruptly change its position.  
> This prevents you from keeping the movement under control and being aware of how the Carver is trying to react.

## Note

- The DVC™ system places the front wheel of the Carver at the natural angle for correction of the line. The movement and effort of the required corrections are more subtle in the Carver than in a normal car.
  - On a slippery road surface, the wheels lose their grip earlier. The consequences of oversteer are also more pronounced than in the dry. Adjust your driving style accordingly:
1. **Drive** more **slowly** than normal
  2. Keep the **banking** angle low and
  3. **Brake gently**, in order to prevent the wheels from locking up.

### 3.3.4 Reduce your speed during windy weather

In stronger winds, the Carver behaves like a motorcycle: it tilts in the direction of the wind. The higher your speed, the greater the influence of the wind. At a constant wind speed, the tilt angle of the cockpit is virtually constant. A gust of wind may cause a sudden change in the tilt angle, and under extreme circumstances the Carver may be blown off course.

For this reason, **always** do the following:



Reduce your speed, and take corners more slowly than you would otherwise.



> When you take a corner in a strong wind, the Carver may bank more sharply than you expect. It is important to maintain a safety margin.



Hold the steering wheel gently as usual, and gently but firmly steer in the direction in which you wish to travel.

**Never** do the following:



Drive fast (banking sharply) through the corner.



Cling firmly to the steering wheel.



Make abrupt and fierce steering movements.

## Note

Anticipate gusts of wind when passing lorries, high detached buildings, woods, bridges, or noise barriers. You may suddenly be hit by a gust of wind. Be alert and react calmly.

### Never drive (too) fast in reverse



Reverse at walking speed.



Never drive fast in reverse.  
> At high speeds, small steering movements may result in a sudden sharp response or in the cockpit vibrating, possibly leading to an uncontrollable situation.

## 4) KEY

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The key allows you to open the side doors, the rear storage and engage the ignition switch. You are provided with a standard spare key.

### **Driving the vehicle**

To start the electric engine with the key:

1. Put the key in the ignition, the steering is in the "locked" position
2. Turn the key clockwise one position to unlock the steering
3. Turn the key another position and you will see the power control light illuminate on the dashboard display. The gear is in Neutral (N) and illuminated. Push the "D"(Drive) button to go forwards or the "R" (Reverse) button to reverse. The key can be turned one position further without any response.





## 5) INSTRUMENT CLUSTER AND DASHBOARD

## 5.1 Direction indicator control lights



These direction indicator control lights illuminate when the left or right direction indicators are activated and only operate when the engine is switched on.

## 5.2 Direction indicator control lights



The main beam control light is illuminated when the headlights are turned on or while signalling with main beams. Due to EU traffic regulations the dimmed lights are always on making this switch obsolete. The lights of the Carver are shut off completely when you disengage the ignition switch.

Avoid the use of main beam lights when expecting counter traffic. Main beam lights could blind other drivers.

## 5.3 Battery charging status



This control light illuminates on the dashboard when the battery is being charged.

## 5.4 System temperature



The system temperature indicator illuminates when the actual temperature of the systems gets too high and reaches 100% maximum temperature. The reduced mode will be activated automatically which slows down the temperature increase. The system temperature indicator will automatically switch off again once the temperature is below the 100% maximum.



If the engine temperature indicator remains illuminated contact your Carver service point.

## 5.5 Service indicator



This control light illuminates on the dashboard when there is a system error and/or maintenance is required. The dashboard will show the error message and the related code. Refer to section 24 for further information.



If the service indicator is illuminated contact your Carver service point.

## 5.6 Engine management



This control light illuminates on the dashboard when the Reduced Mode is switched on. This indicates an electronics systems issue. For safety reasons the speed is automatically reduced. This control light is also illuminated when the battery charge falls below 10%. If this control light

illuminates, and the battery charge is not below 10%, contact a Carver service point.

### 5.7 Power ON/OFF



This control light illuminates on the dashboard when the ignition is switched on and the power is engaged

### 5.8 Battery charge level indicator



This control light illuminates on the dashboard when the state of charge of the battery is below 20%. A double warning beep signal will also start and increase in frequency when the charge reaches below 10%.

### 5.9 Handbrake / low brake fluid indicator



This indicator has multiple functions. It lights up when the handbrake is activated. After releasing the handbrake the light will automatically switch off.

Another situation when the indicator will light up is when the brake fluid level is too low. If this situation occurs, check the brake fluid level and refill if necessary.



**warning**

If the level of braking fluid is between MIN and MAX and the indicator is still illuminated please contact your Carver service point immediately. Do not drive your Carver.



## 5.10 Speedometer

The dashboard indicates current road speed in km/h whilst driving. On the left hand side bar the battery charge status is shown as well as on the right in small circular pictogram with charging icon.



## 5.11 Odometer and trip counter

The dashboard indicates the total distance travelled in km in the standard odometer mode (ODO). There is also a trip counter function (RT). The trip counter counts how many kilometres you have travelled since

you last reset the counter. The right hand side button, underneath the dashboard display, is used to toggle the display mode between odometer and trip counter function. The left hand side button is used to reset the trip function by pressing the button for 2 seconds.

## 5.12 Ventilation and heating



Defrosting button for windshield

**Ventilation:** for ventilation you can turn the ventilators on either side of the dashboard on by pushing the ventilation switch on the dashboard upwards to blow air.

**Defrosting and heating:** in cold weather you can quickly defrost the windshield by pushing the windshield defrost button. For the front side windows you can turn the ventilators on either side of the dashboard on to blow heated air by pushing the ventilation switch on the dashboard downwards.



### warning

Always ensure you have full view of the road. Impaired visibility due to a fogged up or frozen window greatly increases the chance of an accident.

### 5.13 Hazard lights

Turn on the hazard lights by pushing the hazard switch directly underneath the dashboard display. The lights will flash when the switch is activated. The switch light will flash at the same frequency as the hazard lights. The hazard light will stop flashing once the switch is turned back in its original position.



### 5.14 USB plug in charger

The outlet can be used to feed external devices such as a mobile phone.



#### Warning

Maximum applicable load is 7.5 Watt.  
Exceeding such load may damage the electric system/circuit of the vehicle

### 5.15 Amplifier



The amplifier is located on the right hand side of the steering wheel underneath the dashboard. The amplifier is equipped with a Bluetooth Audio Receiver and Stereo Power Amplifier 2-In-1 to Stream music from your mobile phone to your speakers wirelessly. It is compatible with all your favorite bluetooth devices such as Smartphone, TV, iPod Touch, iPhone, iPad and Android. Other functionalities are a bass function and an Aux outlet.

## 6) STEERING WHEEL CONTROLS AND IGNITION

### 6.1. Lights and direction indicator lever



The switch has 3 positions: Off, dimmed lights and Main-beam lights for the lights.

#### 6.1.1 Dipped-beam light

Due to EU traffic regulations the dimmed lights are always on. The lights of the Carver are shut off completely when you disengage the ignition switch.

#### 6.1.2 Main-beam lights

The main-beam lights can be activated by moving the switch forwards. Ensure that the main-beam lights are selected first otherwise the main-beam lights cannot be activated. To signal only with the main beams, move the light lever towards you briefly. When signalling or activating the main beam lights there will be an indication light on the instrument panel.

#### 6.1.3 Direction indicators

The light lever is also used for direction indication. Move the light lever upwards and the right directional indicators will activate. Move the light lever downwards and the left directional indicators will be activated. The corresponding direction indicator control lights on the dashboard will also flash.

After each corner the light lever will automatically cancel and centre. When the corner has been smooth, it is possible that the light lever will not centre automatically. In this case you may have to centre the light lever yourself.

### 6.2 Horn

Sound the horn by pushing firmly on the centre of the steering wheel.

The Carver is an electric vehicle so it drives silently. You may need to use the horn to warn other traffic participants that you are approaching or in emergency situations.



## 6.3 Windscreen wiper and washer control



The wiper speed may be controlled using the switch to the right side of the steering wheel. To activate the wiper, push the lever downwards. There are 2 downward steps for wiper action: low and high (interval is not functional). Pulling the lever towards you activates the washer. It will centre automatically after being released. For a single wipe of the windscreen, push the lever up and let go, it will centre automatically.



### warning

Only use the wiper when it begins to rain or when activating the washer. Do not turn on the wiper when the windscreen is dry, it may be damaged or wear out more quickly. When streaks are left on the windscreen the window wiper blade should be replaced. If the windscreen is frozen, detach the windscreen wiper first and remove ice with a scraper from the windscreen. Then defrost the windscreen to prevent the wipers blades from becoming damaged.

## 6.4 Ignition



### The ignition switch has three positions:

#### 1 Ignition off/Steering locked

Steering locked'

The key can be inserted or removed in this position only. After removing the key, you may turn the steering wheel slightly to the left or right until the lock engages.

#### 2 Ignition off/Steering unlocked

'Steering unlocked'

In this position the steering lock will be released. To reach this position, put the key into the ignition slot and turn the key one position in clockwise direction to unlock the steering.

#### 3 Ignition on

In this position all electric functions will be activated. To reach this position, turn the key clockwise one position to turn on all electrical functions. The dashboard screen is switched on. Press the "D" button to go forward or the "R" button to go backwards.

# 7) FOOT PEDALS AND DIRECTION SELECTOR

## 7.1 Foot pedals



The Carver has 2 foot pedals: on the left is the brake pedal and on the right is the accelerator, both pedals are operated with the right foot of the driver. The Carver has been equipped with 2 electric motors that will all be activated when depressing the acceleration pedal

## 7.2 Brakes

### 7.2.1 Foot brake

The Carver has been equipped with disk brakes on all wheels that will all be activated when depressing the brake pedal.

Please note that the brakes fitted on the Carver are not power assisted and there is no ABS system installed. For braking under slippery conditions, read the driving instructions in section 3.

### 7.2.2 Handbrake



Always apply the handbrake fully before you leave your Carver . To apply the handbrake, pull up the handbrake fully and push the button on top of the handle into the locked position. When the handbrake is activated, the indicator light on the dashboard lights up. An engaged handbrake prevents the Carver from rolling away from its parking position.

The handbrake may be released by pushing the button on top of the handle into the unlocked position and pulling up gently until you feel the lock disengage. The handbrake may then be lowered and the indicator light will go out when it is fully released.

When parking on a slope it is advisable to use the parking brake.



**warning**

Never try to drive the Carver with the parking brake on.

Because the Carver is an electric vehicle without gears, you must always use the parking brake when parking on a sloping surface.

### 7.3 Direction selector



Each button gives a direction and works similar to an automatic car. Drive (button D) is to be pressed to move forward. Reverse (Button R) is to be pressed to reverse. Neutral (button N) is to be pressed before turning the Carver off and is also the starting position. The different modes are also displayed on the dashboard display.

When the passenger door is open the Neutral mode will automatically switch on. When in Drive (D) mode it is not possible to switch directly to R (Reverse) mode. These are extra safety features.

 Make sure that the Carver is standing still when selecting reverse (R). Always drive backwards slowly; it is possible to lose control over the Carver when you are driving backwards too fast.

## 8) SEATS

### 8.1. Driver's seat position adjustment

The seat position can be adjusted by the handle on the side of the driver's seat. Pull this handle upwards to slide the seat forwards or backwards. Sliding the seat forwards also allows access to the rear seat or allow a passenger to get into the Carver.

When the seat is in the correct position, release the handle and the seat will be secured. You will hear a click when the seat locks.



**warning**

Only adjust the seat when the Carver is standing still. To do otherwise is potentially dangerous. Always check that the seat is locked. An unlocked seat can also lead to dangerous situations.



**warning**

When pushing the driver's seat into its secure position, make sure that the passenger keeps their feet away from the seat.

### 8.3. Children as passengers

Dutch legislation states that drivers and passengers of a Carver class vehicle need to make use of the available seat belts. All passengers younger than 18 years of age with a length of less than 1,35 meter need to make use of a childrens safety system that has been approved with the appropriate quality mark. Carefully follow the instructions provided with the childrens safety seat. When in doubt, ask the manufacturer of the childrens safety seat for advice. It is forbidden to carry more passengers than seatbelts allow for.



**warning**

Never carry two children in the back. There is only one passenger safety belt.

## 9) SAFETY BELTS

The Carver is equipped with three-point safety belts for driver and passenger.

### 9.1 Driver's safety belt



- Grasp the seat belt.
- Put your left arm and shoulder through the belt.
- Pull the belt to the right and insert it into the lock.
- Press the red button on the lock and the seat belt will be released.



### warning

Be careful that the passenger's foot does not interfere with your seat belt.



### 9.2 Passenger's safety belt

- Grasp the seat belt.
- Put your right arm and shoulder through the belt.
- Pull the belt to the left and insert it into the lock.
- Press the red button on the lock and the seat belt will be released.

## 10) WINDOWS

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The front side door glass windows can be removed. The front windows can be removed by unscrewing the two turning knobs on the inside of the front door. Once these are loosened the window can be lifted out and stored on the rear side beside the passenger seat. The rear glass windows cannot be opened or removed.



# 11) MIRRORS

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The position of the mirrors can be easily adjusted by carefully tilting the mirror surface. They can also be folded inwards if needed. Always check the mirror positions before setting off.



**warning**

Mirrors only provide you with a limited view of what is behind you. Where possible always try to double check by turning your head. Objects in the mirror may be closer than they appear. Do not adjust your mirrors while driving.

## 12) STORAGE

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Luggage can be stored in the rear luggage compartment, underneath the dashboard and on the passenger's seat.

### 12.1 Rear luggage compartment



The rear luggage compartment can be opened and locked by using the key.

### 12.2 Interior storage compartments

The Carver has an extra interior storage compartment directly underneath the dashboard.



## 13) TILT ANGLE INDICATOR

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Acoustic signals indicate when the tilting angle reaches 30 degrees as a warning when you corner (too) fast. The maximum tilt angle is 40 degrees to the right or to the left. When the tilt angle reaches 30 degrees you will be alerted by an increasing acoustic signal.

When the tilt angle approaches a value between 30 to 40 degrees an acoustic signal warns the driver that the Carver is approaching the maximum tilt angle and the maximum safe cornering speed.

When you hear the acoustic signal the driving sensation may still be comfortable, but in reality the Carver is about to reach its maximum tilt angle. Adjust your driving style accordingly.



### warning

Since you do not sense any g forces, you may, especially if you are an inexperienced pilot, underestimate the speed and acceleration with which you are taking a corner. Please acknowledge the acoustic signals and adapt your driving style. Bear in mind that the Carver could be close to skid (oversteer), even though you still feel comfortable.



# 14) DOORS

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## 14.1. Opening and closing from outside with the key

The Carver is fitted with two front doors.

To unlock the door:

- Put the key in the door lock.
- Turn the key to the right.
- Pull the door handle up and the door will open.

To lock the door after closing it:

- Put the key in the door lock.
- Turn the key to the left.



## 14.2 Opening and closing from inside



From the inside you can open the door by pulling the door handle and carefully pushing the door outwards. Close the door by pulling firmly on the steel frame bar located on the inside of the door. The doors can also be locked via the lock switch by the inside door handle.



**warning**

Before closing the door make sure no body parts or objects could get caught between the door and the cockpit.

## 15) RECHARGING THE BATTERY

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To recharge your Carver use the retractable charging cord stored in the battery compartment which is accessible via the rear end of the Carver. To carry out the recharge, all you have to do is link your Carver to a normal, 220v household outlet, by using the retractable charging cord provided.



**warning**

Do not forget to **unsecure the retractable charging cord** from the charging socket and close the lid securely before starting and driving the Carver.



When charging the battery the dashboard display will show the battery charging mode :



The dashboard display shows the battery charging control light illuminated. The display shows the state of charge. When the battery is 100% and fully charged the battery charging control light will switch off.

When the Carver is not being used, it is recommended to charge the battery regularly (fully charge at least once a month). The Carver is equipped with a battery heating system that heats the battery when the temperature is below freezing. In ice cold weather, it can take 30 minutes or more for the battery to start charging.

# 16) TYRES

## 16.1 Specifications

Always use the following tyres:

Front	Category	H
	Dimensions	120/70 R14
	Maximum loading	
	Rims (standard type)	3.0MT x 14
	Brand	Michelin City Grip (scooter band)
Rear	Category	
	Dimensions	135/60 R13
	Maximum loading	
	Rims (standard type)	3.75J x 13
	Brand	Carver (custom made)



### warning

Never use any tyres other than the ones specified above. The Carver has been specifically homologated for use with these tyres only.

Inspect your tyres frequently for tread wear, signs of damage and for foreign objects lodged in the tread. Check the tread depth of all tyres. Have your tyres replaced when the tread depth has become insufficient. When the tread depth is insufficient, there is an increased risk of aquaplaning, even at relatively low speeds.

## 16.2 Tyre inflation pressure

To guarantee optimal road handling and banking performance of your Carver it is very important to monitor your tyre inflation pressure at regular intervals and adjust it when necessary.

Incorrect pressure greatly impairs road handling, steering and braking response, and may lead to loss of control over the Carver. The adequate pressures are:

- Front tyre: 2.5 bar / 36 psi
- Rear tyre: 1.7 bar / 25 psi

If the pressure of one of your tyres declines significantly faster than the other tyres you have to repair or replace this tyre.



**warning**

Monitor your tyre inflation pressures at regular intervals and adjust them when necessary.

Never use pressures other than the ones indicated above.

## 16.3 Flat tyre

There is no spare tyre provided with the Carver. Repair or replace the damaged tyre as soon as possible. If one of the front or rear tyres is punctured you can contact a Carver service point to have it repaired.

For replacing tyres follow the instructions under 16.4 Tyre replacement.



**warning**

The front tyre is never repairable and should always be replaced.

Never drive on a deflated (flat) tyre. A flat tyre greatly impairs road handling, steering and braking response, and can lead to complete loss of control over the vehicle.

## 16.4 Tyre replacement

### 16.4.1 Front tyre

The front tyre cannot be lifted by a jack and needs to be replaced by a Carver service partner.



**warning**

Only use tyres explicitly specified by Carver. Never mount wheels and tyres that have not been specifically approved by Carver for use on the Carver. Although other wheels and tyres may theoretically have the same dimensions, variations in factors such as manufacturing tolerances can result in contact between tyre and bodywork or different tilting behaviour, ultimately leading to serious accidents.

Have your (front) tyres replaced by the Carver service partner

### 16.4.2 Rear tyre

To replace the rear tires, place a jack on one of the sides of the bottom plate. Then proceed as follows:

1. **Apply the parking brake.**
2. **Loosen the wheel bolts half a turn.**
3. **Jack up the Carver on one side.**
4. **Remove the wheel.**
5. **Fit a new tire.**
6. **Mount the wheel - Wheel bolt torque = 84 Nm.**

Rear tyres can be replaced by your Carver service partner or by any tyre service centre.

If you replace one tire, the other must also be replaced.



**warning**

Do not place the jack underneath the center of the bottom plate. In this position the Carver can tip over to the side from which you have dismantled the wheel.



**warning**

Stay away from underneath the Carver at all times when it is jacked up.

## 17) SOFT CABRIO TOP

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To open and store the soft top to a convertible , proceed as follows:

1. **Open the rear compartment to release the tension off the soft top**
2. **Roll off the soft top.**
3. **Fasten with the two velcro straps**
4. **Close and lock the rear compartment**



### **warning**

Always ensure the soft top is securely fastened before driving the Carver.

Never attempt to open the soft top while driving. An unsecured soft top may blow away at high speed and create a hazardous situation.



## 18) EXTRA OPTIONS, ACCESSORIES AND SPARE PARTS

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Only Carver spare parts, options and accessories comply with the required specifications and have been approved by Carver. The reliability, safety and performance of your Carver will be safeguarded provided spare parts, options and accessories that have been developed in accordance with the same stringent quality standards as the original components are used.

Before any options, accessories or spare parts are installed, please contact Carver with regards to the approval, suitability, installation and use of these components. A comprehensive list of available options and accessories is available from Carver Europe.



**warning**

The use of spare parts, options and accessories of inferior quality and/or unapproved modifications or conversions could lead to potentially dangerous situations that could jeopardise the safety of the vehicle as well as that of its passengers. In addition, this would also result in loss of warranty.

## 19) TRANSPORTING AND STORING YOUR CARVER

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### 19.1 Transporting your Carver

The Carver cannot be towed. It can be pushed into a bus. If transported in an open trailer the Carver needs to be securely fastened as otherwise it may topple over when cornering or with gusts of wind .



**warning**

Carver needs to be securely as otherwise it may topple over with gusts of wind. Never tow the Carver.

### 19.2 Storing your Carver

If you decide to store your Carver for a longer/ extended period we advise you to keep it inside in a dry storage room.

To guarantee battery life, **it is essential to fully charge the battery regularly (at least once a month).**



**warning**

Always store the Carver upright.

## 20) WINTER OPERATION

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If you decide to use your Carver during the winter we advise you to contact Carver or a Carver service point for a proper winter check up.

## 21) PERIODIC MAINTENANCE

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### 21.1 Maintenance service provider

To guarantee safe and proper functioning of your Carver, you must ensure that your Carver is serviced by a Carver approved mechanic. Given the specific technology involved, servicing and maintenance should only be handled by a trained specialist. Carver approved mechanics will have all required spare parts, documentation and tools.

To find your nearest Carver approved mechanic, check out [www.carver.earth](http://www.carver.earth), or contact Carver headquarters directly:

Carver Europe BV  
Celsiusweg 26 , 8912 AN Leeuwarden  
Telephone: +31 085 1302484  
E-mail: [info@carver.earth](mailto:info@carver.earth)

### 21.2 Maintenance intervals

Your Carver will remain in top-condition when you adhere to the recommended service intervals.

- The run-in 500 km check (or within 1 year whichever is sooner)
- The minor maintenance check (every 4,000 km or once per year, whichever is sooner)
- The major maintenance check (every 8,000 km or once every 2 years, whichever is sooner)

These maintenance checks, performed by a Carver approved technician or mechanic, are obligatory during the vehicle warranty period. These checks should be logged on the 'Carver

maintenance schedule' pages at the back of this owner manual.

# 22) CARE AND PROTECTION OF INTERIOR AND EXTERIOR

## 22.1 Interior

### 22.1.1 Windows

Be sure to clean the inside of the windows on a regular basis to ensure a clear, unobstructed view of the road. Clear vision will allow you to react better to driving situations. Clean up any dirt or spills immediately to prevent damage to other interior components or fabrics. Do not use acids or alcohols as cleaning agents.

### 22.1.2 Plastic parts

The best way to clean plastic parts is using a wet, clean cloth and to gently rub off the dirt. If the dirt does not come off, you can use commercially available cockpit spray (always read instructions before use).

## 22.2 Exterior

### 22.2.1 Inspection

Keep the steering and tilting mechanisms free from any obstructions to prevent them from being blocked and causing damage. Remove any dirt or substances from the rubbers or paintwork immediately to prevent discoloration. The following substances could cause damage to the paintwork:

- Bird droppings
- Dead insects
- Tree resin
- Lubricants
- Fuels
- Tar
- Salt.

### 22.2.2 Washing your Carver

Wash down the Carver including the soft top with cold or lukewarm (not hot water) water, car shampoo (read shampoo instructions before use) and a soft sponge, soft brush or cloth. Use plenty of water and make circular movements to protect the paintwork from scratches. Do not use abrasive cleaning agents or scourers.

The soft top should be impregnated regularly (at least once a year) with a commercially available impregnation spray to ensure that it stays water and dirt resistant.



#### Warning

- Do not clean the Carver in an automatic car wash. Most automatic car washes are not designed for the specific shape of the Carver. The brushes can also damage the paintwork.
- Never use polish or wax for matte exterior colours.



#### Warning

It is strictly forbidden to wet the electrical components and to wash the interior of the vehicle with a hydro-cleaner or with other “water jet” systems.



#### Warning

Straight after the cleaning work, brake efficiency might temporarily diminish. You have got to use them a few times to restore normal braking. Foresee dilated braking spaces and times.

# 23) LITHIUM IRON PHOSPHATE BATTERY

## 23.1 General information

Comply with the instruction so as not to damage the batteries nor to damage the system in which they must be assembled.



### Warning

Do not handle the battery; always contact a Carver service point. Any incidents of electrocution can be promptly reported to the emergency intervention. .



### Warning

Do not simultaneously touch the two poles of the battery when it's connected (with enabled BMS). Danger of electric shock caused by short circuit with possible death or serious injury

## 23.2 Why we choose LiFePO4 Batteries

Lithium iron phosphate (LiFePO<sub>4</sub>) batteries have several features that make them preferred over other battery technologies. They are lightweight and versatile, they have a long lifespan and a fast recharge rate and they can also withstand cold, heat, collision, and mishandling during charging and discharging without risk of combustion. Manufacturing batteries does require energy and resources. Lithium iron phosphate batteries have several advantages over other technologies in terms of resource consumption and safety. Let's take a look at a few of the environmental benefits of using LiFePO<sub>4</sub> battery technology.

### An Environmentally-Friendly Battery Technology

The disposal or recycling of batteries remains a key environmental issue. More than 3 million tons of lead-acid batteries are discarded every year. With electrodes made of non-toxic materials, lithium iron phosphate batteries pose far less risk to the

environment than lead-acid batteries. They can be recycled to recover the materials used in their electrodes, wiring, and casings. Some of this material can be used in new lithium batteries. As more lithium batteries reach their end of life, recycling will become more efficient as processes improve to recover key materials.

LiFePO<sub>4</sub> batteries also have big advantages over other lithium chemistries:

- They use no rare earths or toxic metals and employ commonly available materials including copper, iron, and graphite
- Less energy is consumed in mining and processing of materials
- Phosphate salts are also less soluble than metal oxides, so they are less likely to leach into the environment if the battery is improperly discarded.
- And of course, LiFePO<sub>4</sub> batteries are chemically stable against combustion and rupture under nearly all operating and storage conditions

We at Carver are concerned about protecting the environment, and we strive to do our

part to reduce pollution and resource consumption. When it comes to choosing a battery technology, lithium iron phosphate batteries are an excellent choice for minimizing the consequences of resource extraction. As lithium iron phosphate batteries become more widely adopted, the benefits of this technology for the environment will continue to grow.

### 23.3 Principles of operation

The lithium iron phosphate batteries used to equip the Carver are sealed rechargeable lithium polymers, with a BMS inside (Battery Management System) for the continuous monitoring and the balance of the cell voltages.

IMPORTANT: remove the key from the vehicle when it is not in use. If the key stays in the ON position over 12 consecutive hours, the battery may be damaged irretrievably

### 23.4 Loss of capacity during the storage

Like all batteries, lithium iron phosphate batteries too are affected by the ambient

conditions. The energy stocked inside the battery is physiologically dissipated in small amount if the vehicle is unused for long periods. The lost energy is completely recovered as soon as the vehicle is recharged, and it does not cause damage to the battery or ageing. The vehicles go out of the Company with at least 80% of their normal performance

### 23.5 Environmental conditions in discharge

IMPORTANT: the batteries are sealed in order not to let water and moisture to get in, but they shall not be put in water. The batteries are fit for installation in environments containing salt and humidity. Overheating, on the other hand, causes quick deterioration. The batteries must be used on the vehicle in compliance with the following ambient temperature range: min.  $-20^{\circ}\text{C}$  to max.  $+60^{\circ}\text{C}$ . When working outside this temperature range, the battery electronics (i.e. the BMS) disables battery operation.

### 23.6 Environmental conditions in charge

The batteries must be charged in compliance with the following ambient temperature range: from min.  $0^{\circ}\text{C}$  to max.  $+45^{\circ}\text{C}$ . In cold seasons we recommend charging the vehicle immediately after the end of your travel, and not the day after, because the battery may cool down excessively, which would cause an extended charging process.

### 23.7 Warranty terms

Carver lithium iron phosphate batteries are covered by a warranty for material and/ or manufacturing defects for a period of 24 months or 1000 recharge cycles, depending on the first to occur. Upon exclusive discretion of the Seller, the warranty provides for the repair or replacement of the battery pack on condition that all the requirements illustrated in this User Manual and/or the batteries are complied with, otherwise the warranty becomes null and void.

#### 23.7.1 Warranty exclusions

The warranty will be due only in case of defects or production's non compliance of the product, and only when the product has been used under the terms established by this User Manual. All direct or indirect expenses due to the substitution of the battery are excluded from warranty.

### 23.7.2. Warranty application

Follow these guidelines:

1. in case of defects or non-compliance of the product, inform Carver no later than seven calendar days after the date of notification;
2. Transport the vehicle with defective battery or non-compliant one to the nearest Carver service point.

### 23.7.3. End of the warranty

The warranty ends immediately in case of modifications and/or non authorized repairs of the battery, or when the defect or non compliance is communicated to Carver more than 7 calendar days after the receipt of the goods, or from the date of notification of the defect or the non conformity.

**IMPORTANT:** only Carver certified technicians are authorized to open the battery, otherwise the warranty becomes null and void.



# 24) PROBLEM SOLVING

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DESCRIPTION / TEXT ON DISPLAY	CAUSE	DRIVER ACTION
THROTTLE FAULT	Faulty throttle sensor or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
THROTTLE SHORT HI		
THROTTLE SHORT LO		
BRAKE FAULT	Faulty brake sensor or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
BRAKE SHORT HI		
BRAKE SHORT LO		
TILTANGL FAULT	Faulty tilt angle sensor or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
TILTANGL SHORT HI		
TILTANGL SHORT LO		
STEER FORCE FAULT	Faulty steer force sensor or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
STEER FORCE SHORT HI		
STEER FORCE SHORT LO		

STEER ANGLE 1 FAULT	Faulty steer angle sensor or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
STEER ANGLE 1 SHORT HI		
STEER ANGLE 1 SHORT LO		
STEER ANGLE 2 FAULT		
STEER ANGLE 2 SHORT HI		
STEER ANGLE 2 SHORT LO		
STEER ANGLE MISALIGN		
REAR RPM OUTSIDE RANGE	Faulty motor, motor controller, or CAN bus	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
FRONTSPD FAULT	Faulty front speed sensor or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
PUSHBTN FAULT	Faulty push button or connection	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
REAR SPD FAULT	Rear motor speed mismatches front wheel speed	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
CHECKSUM MISMATCH	Flash memory of DVC may be corrupted	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB CAN LOSS	No connection detected with motor controller	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
RIGHT HUB CAN LOSS	No connection detected with motor controller	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
DANGER BRAKE	Active speed control is limited by limited regen	Lower speed by braking.

NO REGEN	Regen is needed but not applied	No action required.
TILT IS UNSAFE	The current tilt angle is not safe to drive away	Press and hold D (DRIVE) for safe upright mode. When the cabin will stop moving when in safe upright position
BAT LOW	Battery voltage level is low	Charge battery
DOOROPEN	Door is open	Close door. If alert remains when both doors are closed, contact Carver Support.
DVC CONN LOSS	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
HV NOTOK	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
HV OVERCURR		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
HV UNDERCURR		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
CELL UNDRVOLT ERROR	Batter cell voltage is too low	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
CELL UNDRVOLT CRITICAL	Critical malfunction.	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
CELL OVERVOLT	Battery cell voltage is too high	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.

CELL UNBALANCE WARNING	Battery cell is unbalanced	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
FET TEMP WARNING	FET temperature of Battery Management System is high	No action required.
TM TEMP WARNING	Temperature of Tilt Motor is high	No action required.
CELL OVERTEMP WARNING	Temperature of battery cell is high	No action required.
CELL UNDERTEMP WARNING	Temperature of battery cell is low	No action required.
FET OVERTEMP	Temperature of Tilt Motor is too high	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
TM OVERTEMP	Temperature of Tilt Motor is too high	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
PCB OVERTEMP	Temperature of Battery Management System circuit board is too high	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
BALRES1 OVERTEMP		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BALRES2 OVERTEMP		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BATT CELLS OVERTEMP	Temperature of battery cells is too high	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
BATT CELLS UNDERTEMP	Temperature of battery cells is too low	No action required.
TM SPEED INVALID	Tilt motor invalid speed	No action required.
FET NTC FAILURE		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.

TM NTC FAILURE		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
PCB NTC FAILURE		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BALRES1 NTC FAILURE		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BALRES2 NTC FAILURE		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BATT CELLS NTC FAILURE		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
AMP SNSR FAILURE	BMS current sensor failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BATT HEAT FAILURE	BMS battery heating failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
PRECHRG FAILURE	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
CHRGRLY OPENFAIL	BMS charge relay failed to open	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
DCDC FAILURE	DC-DC converter failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
DCDC RLY FAIL	DC-DC relay failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
TM HALL ERROR	Tilt motor hall sensor error	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.

TM OVERCURRENT		Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
TM SPLY ERROR	Tilt motor voltage supply error	Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
TM FAIL SELFTEST	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
TM SETP INVALID	Invalid setpoint for tilt motor	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
TM START TIMEOUT	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
EEPROM READ WARNING	BMS EEPROM read failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BMSTMC CHECKSUM MISMATCH	BMS EEPROM checksum mismatch	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BMS MEM READ ERR	BMS EEPROM read failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BMS MEM WRITE ERR	BMS EEPROM write failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BMS MEM MAXWRITE	Maximum write attempts of BMS EEPROM reached	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
BMS DVC SYNC ERR	BMS DVC sync failure	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
GRIDMODE UNDRTEMP	System temperature is below specifications while charging	No action required.

ROADMODE UNDRTEMP	Battery temperature is too low	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
TM VAC OFFSET		Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
BMSTMC CANBUS WARNING	BMS communication is unstable	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
SOC CALC ERR	State of Charge calculation error	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
INVALID CELLVOLT MEASURE	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
BMS FW FATAL RESET	Critical malfunction	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
BMS RST	BMS firmware soft reset	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB CANBUS FAILURE	Wheel motor controller communication failure (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB SELFTEST FAILED	Wheel motor controller critical malfunction (left)	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
LEFT HUB UNDRVOLT	Wheel motor controller DC voltage is too low (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB MIDLEVEL FAULT	Wheel motor controller midlevel fault (left)	
LEFT HUB HALLSNSR FAULT	Wheel motor hall sensor is failing (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.

LEFT HUB TEMP ERR	Wheel motor controller temperature is high (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB NTC FAIL	Wheel Motor controller temperature sensor is failing (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB AMP SNSR FAILURE	Wheel Motor controller current sensor is failing (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB INVALID SETPOINT	Wheel Motor controller setpoint is invalid (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB CANBUS WARNING	Wheel motor controller communication is unstable (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB ROLLSTRT FAILURE	Wheel motor controller rolling start not possible (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
LEFT HUB OVERSPD	Wheel motor controller overvolt limiting is active (left)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB CANBUS FAILURE	Wheel motor controller communication failure (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB SELFTEST FAILED	Wheel motor controller critical malfunction (right)	DO NOT DRIVE! Turn ignition off, wait 10 seconds, turn ignition on. If problem persists, contact Carver Support.
RIGHTHUB UNDRVOLT	Wheel motor controller DC voltage is too low (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB MIDLEVEL FAULT	Wheel motor controller midlevel fault (right)	
RIGHTHUB HALLSNSR FAULT	Wheel motor hall sensor is failing (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.

RIGHTHUB TEMP ERR	Wheel motor controller temperature is high (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB NTC FAIL	Wheel Motor controller temperature sensor is failing (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB AMP SNSR FAILURE	Wheel Motor controller current sensor is failing (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB INVALID SETPOINT	Wheel Motor controller setpoint is invalid (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB CANBUS WARNING	Wheel motor controller communication is unstable (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB ROLLSTRT FAILURE	Wheel motor controller rolling start not possible (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.
RIGHTHUB HUB OVERSPD	Wheel motor controller overvolt limiting is active (right)	Turn ignition off, wait 10 seconds, turn ignition on. If warning persists, contact Carver Support.

# 25) TECHNICAL SPECIFICATIONS

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## Dimensions

Length	2.89 m
Height	1.49 m
Width (side mirrors folded in)	0.98m
Width (including side mirrors)	1.21 m
Luggage compartment	75 L
Wheel base	2.28 m
Unladen weight (without battery)	260 kg
Laden weight (with battery)	330 kg
Maximum permissible weight	500 kg

## Motors

Propulsion	electric
Tilting	E-DVC
Max power	2 x 2 kW
Max torque	2 x 150 Nm
Battery type	Lithium Iron Phosphate
Battery capacity	5.4 kWh
Charging time 80%	4.2 hours
Charging time 100%	5.3 hours
Charging input	1200 W

## Performance

Max. speed	45 km/h (28 mph)
Acceleration	0-45 km/h (28 mph) in 8.0s
Max. tilt angle	40°
Max. tilt speed	84°/s
Turning circle (curb to curb)	7.1 m
Range	Variable depending on the driving style with a max of 100 km (very economical driving style)

## Wheels, tyres, brakes and suspension

Wheels		5-spoke alloy
	front	3.0MT x 14
Tyres	rear	3.75J x 13
	front	120/70 R14
Tyre pressure	rear	135/60 R13
	front	2.5 bar
Brakes	rear	1.7 bar
		discs on all wheels
Front suspension		Telescopic
Rear suspension		Trailing arm
Fluids		<b>Quantity in litres</b>
		<b>Minimum specification</b>
Brake fluid	to max	brake fluid DOT 4
Washer fluid	1.0	windscreen (de-icing) cleaning fluid



