OWNER'S MANUAL
&
MAINTENANCE BOOKLET

PC-4 SL

Electric Vehicles

www.pilotcar.com.tr

PILOTCAR

ELECTRIC VEHICLE OWNER'S MANUAL

The PILOTCAR Owner's Manual contains all the important information you will need about your vehicle.

This Owner's Manual involves the PC-4 SL model.
We recommend that you read the manual carefully and thoroughly. For additional questions regarding the operation or maintenance of your vehicle, you can access the contact information of PILOTCAR Authorized Services on **www.pilotcar.com.tr/en**

Thank you for choosing PILOTCAR Electric Vehicles.

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PILOTCAR is NOT responsible for incidental or consequential errors in this manual.

202405-1. Print - REV.00

Printed in Turkey.

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01 INTRODUCTION

1.1 Important Guidelines

Important informations that should be specifically mentioned throughout the guide are indicated by the following warning NOTES:

This sign means **"ATTENTION! FOR YOUR SAFETY!"**

DANGER	If not taken into account; can cause serious injury or death to the vehicle user, occupants, people near the vehicle or people inspecting / repairing the vehicle.
ATTENTION	If not taken into account; can cause serious injury or death to the vehicle user, occupants, people near the vehicle or people inspecting / repairing the vehicle.
WARNING	If not taken into account; can cause harm or damage to the vehicle or the environment.
NOTE	This message contains additional private information.
ATTENTION	Please read and understand the owner's manual thoroughly before you start using your PILOTCAR.

1.2 Vehicle Label Positionings

Your vehicle is equipped with labels on which certain vehicle-related features are indicated. These are:

- **Chassis Label:** It shows vehicle's class, Vehicle Identification Number (VIN), maximum noise level the vehicle produced, motor power, maximum speed, motor speed and maximum gross weight of the vehicle.
- **Safety and Warning Labels:** They contain informations about the vehicle that need attention.

1.2.1 Chassis Label

Figure 1-1 *Chassis label position 1*

Figure 1-2 *Chassis label position 2*

Detailed explanations about informations on the chassis label given below.

Figure 1-3 *Chassis label*

1	Manufacturer
2	Vehicle Class
3	EU Type-Approval Number
4	Vehicle Identification Number (VIN)
5	Maximum Noise Level
6	Maximum Motor Power
7	Maximum Vehicle Speed
8	Maximum Motor Speed
9	Maximum Gross Weight

1.2.2 Safety and Warning Labels

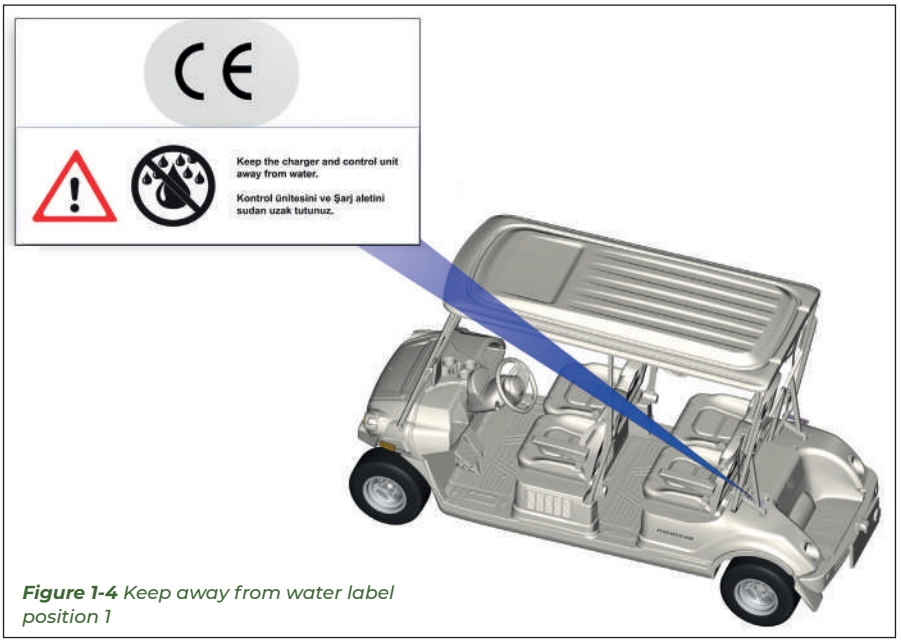


Figure 1-4 *Keep away from water label position 1*

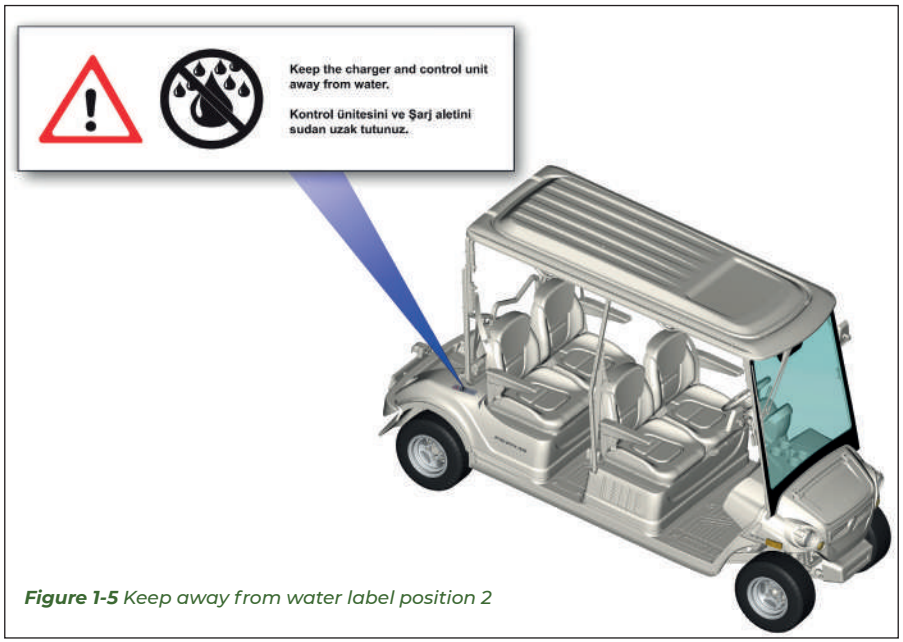


Figure 1-5 *Keep away from water label position 2*

Figure 1-6 *Keep away from water label*

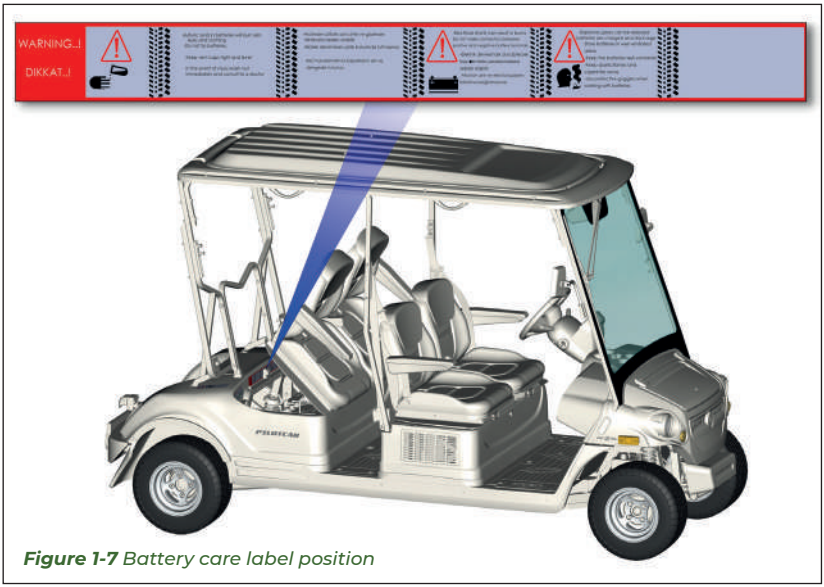


Figure 1-7 *Battery care label position*

Figure 1-8 *Battery care label*

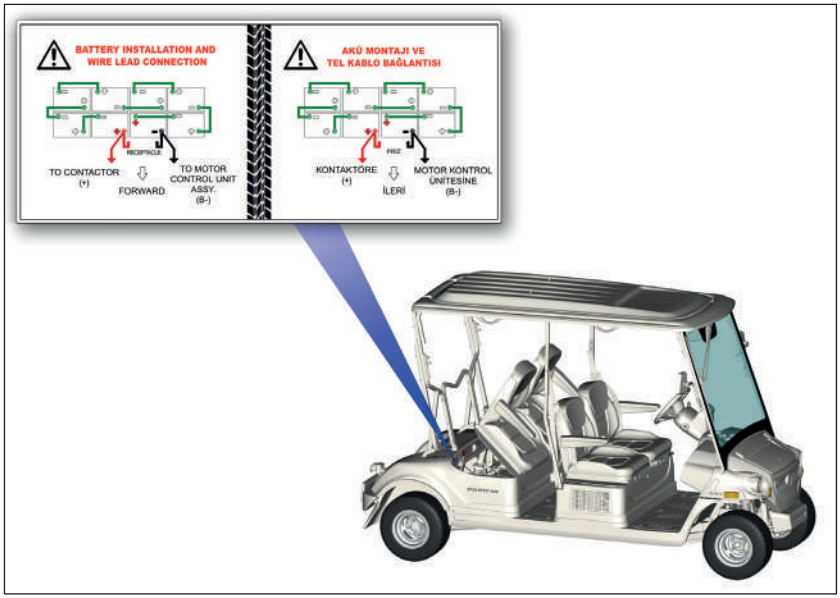


Figure 1-9 *Battery placement label position*

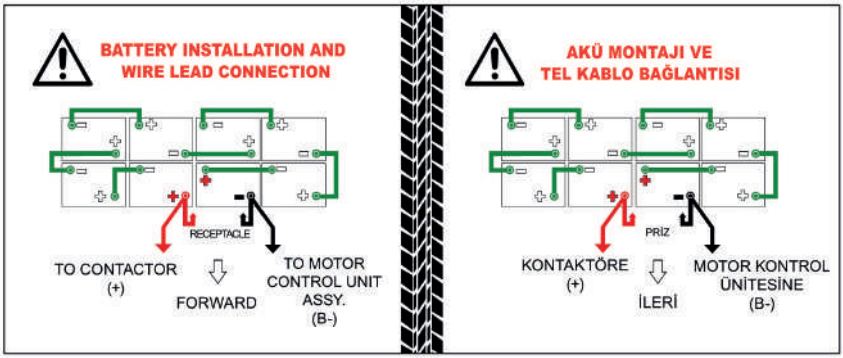


Figure 1-10 *Battery placement label - with 8 batteries*

02 SAFETY

2.1 General Notes

For your safety and the safety of other vehicles involved in traffic, we recommend that you consider the warnings defined below before and during driving.

- It should be checked whether the lighting system and the signal system are working properly.
- The tire air pressure should be checked.
- The windshield must be clean for a clear view.
- The pedals must always be freely pressable.
- The seats and mirrors should be adjusted according to body sizes.
- Shoes that make it easier to use the pedals should be worn.
- Before setting off, seat belts must be properly fastened and should remain fastened while driving.
- Only as many people as available seats and seat belts should be transported.
- If driving ability affected negatively from using drugs, alcohol or addictive substances; the vehicle should never be used.
- You should avoid movements which can distract you. For example: Making calls on phone.
- Speed and driving style should always be adjusted for visibility, weather, road and traffic conditions.
- Traffic rules and applicable speed rules must be followed.

2.2 Seat Belts

Seat belt usage:

- Check the condition of all seat belts regularly.
- Keep seat belts clean.
- Foreign objects and liquids should not to contact with seat belts and locking
- mechanism.
- Do not allow the seat belt and latch tongue to become pinched or damaged.
- The seat belt and its subcomponents should never be disassembled. It should not be modified or repaired.

2.2.1 Fastening the Seat Belt

Fasten the seat belt before every ride.

- Grasp the latch tongue and fasten the belt over your hip. Do not twist the seat belt fabric at this time.
- Insert the latch tongue into the seat belt buckle and make sure it is secured. Pull the seat belt through its fabric to make sure latch tongue is securely engaged in the seat belt buckle.

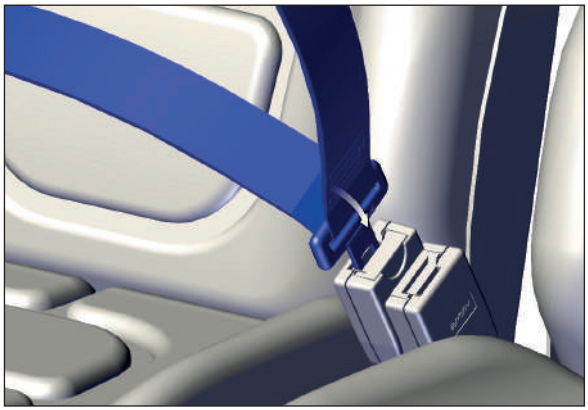


Figure 2-1 *Fastening the seat belt*

2.2.2 Removing the Seat Belt

Remove the seat belt only when the vehicle is stationary.

- Press the red button on the seat belt buckle. The latch tongue will pop out.
- Guide the seat belt with your hand so that it is easily wrapped in the belt fabric and the seat belt is not twisted.

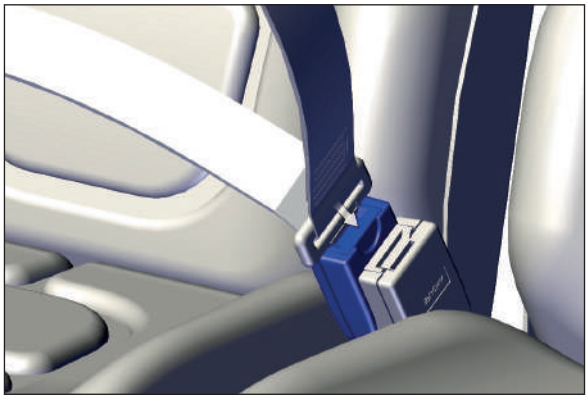


Figure 2-2 *Removing the seat belt*

2.2.3 Seat Belt Height Adjustment

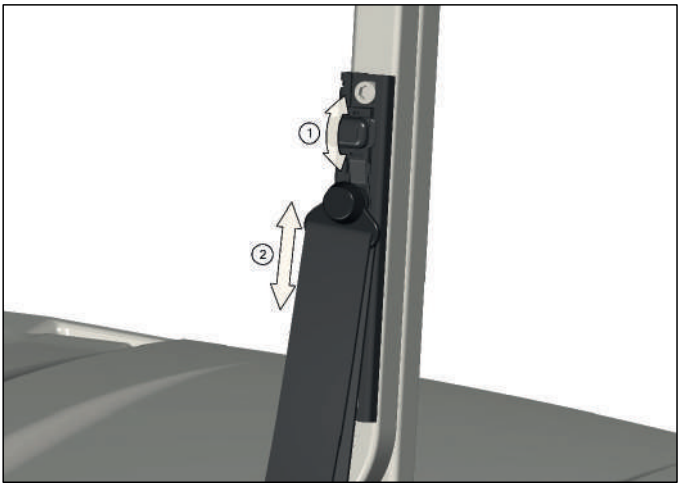


Figure 2-3 *Seat belt adjuster*

- Press and hold the button up or down indicated with ①.
- Slide the adjuster up or down until the seat belt passes through the middle of your shoulder.
- When you find the right position, release the button indicated with ①.
- Be sure the adjuster is locked securely with pull the seat belt fast.

2.2.4 Correct Seat Belt Position

- Shoulder part of the seat belt should always passes through your shoulder, it shouldn't passes through your neck, above or below your arms or on your back.
- The hip part of the seat belt should always passes through your hip, it shouldn't passes through your stomach.
- Always fasten the seat belt in such a way that it covers the body and is not loose, if necessary, rewrap the seat belt.

WARNING

ALWAYS fasten your seat belt while driving. Otherwise, possible accidents can cause serious injuries or death.

2.3 Emergency

Secure yourself and the vehicle. Observe the legal rules for securing a vehicle stranded on the road.

- Carefully pull your vehicle to the right and turn on your hazard flasher indicated with ② (See Figure 2-4).
- Activate your parking brake indicated with ③ (See Figure 2-4).
- Set your vehicle **"N"** position with button indicated with ① (See Figure 2-4).
- Turn your ignition key to direction indicated with arrow to stop your vehicle, then remove the key from lock (See Figure 2-5).
- Set your warning triangle so that the vehicle can be noticed in traffic.
- Ask for help from PILOTCAR Authorized Service if needed.

Figure 2-4 *Vehicle control buttons*

Figure 2-5 *Ignition key and turning off ignition*

03 VEHICLE OVERVIEW

3.1 External View

3.1.1 Front View

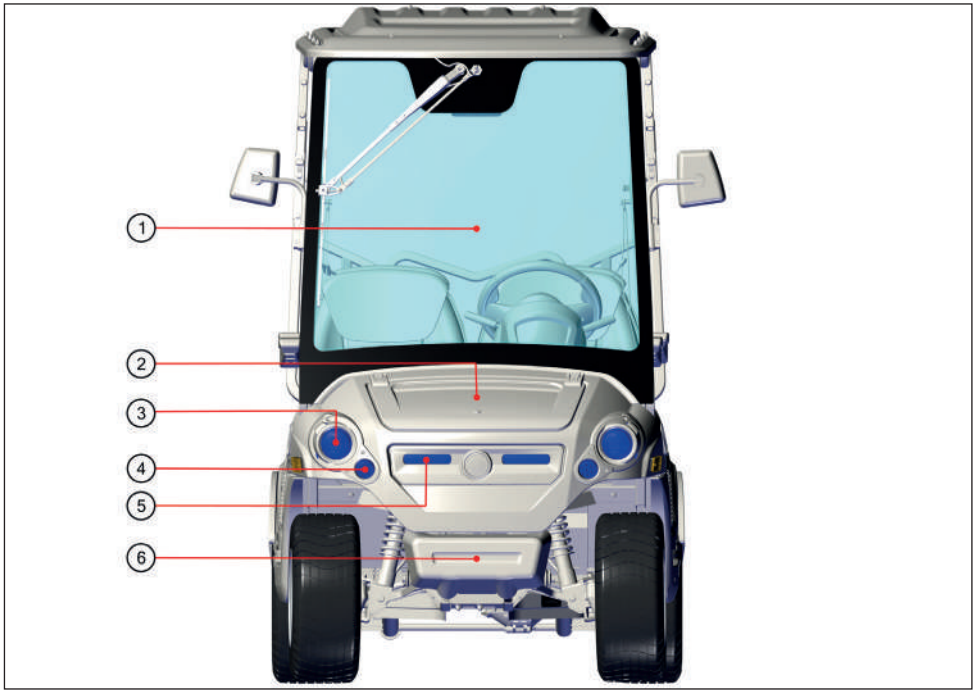


Figure 3-1 *Front view of the vehicle*

Explanations for Figure 3-1:

1	Windshield and windshield wiper	**4**	Front turn signal lamp
2	Front baggage cover	**5**	Parking light
3	Headlight	**6**	Front bumper

Location ③, ④ and ⑤ are located in the same place on the both sides of the vehicle.

3.1.2 Side View

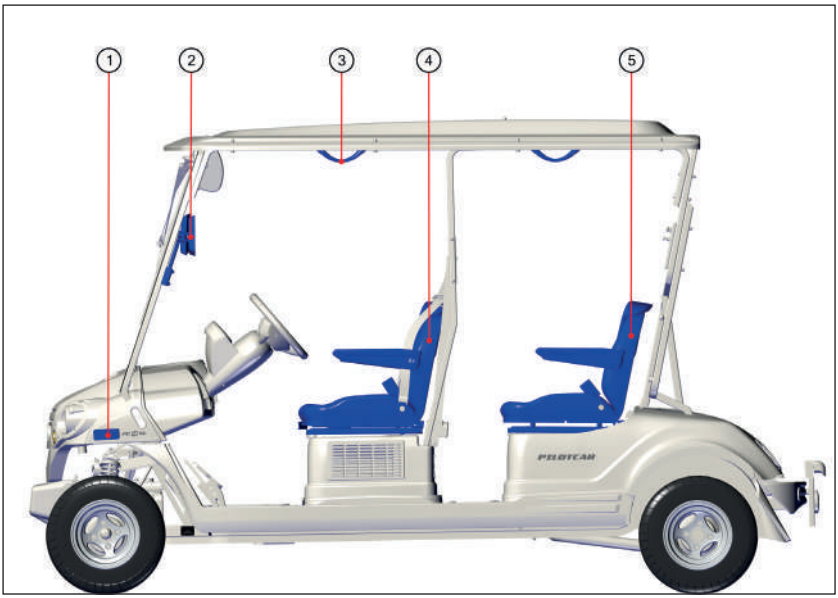


Figure 3-2 *Left side view of the vehicle*

Explanations for Figure 3-2:

1	Reflective side turn signal lamp
2	Side mirrors
3	Handle
4	Front seats
5	Rear seats

Location ①, ②, ④ and ⑤ are located in the same place on the other side of the vehicle.
For location ③ there are 1 pc. on the front and 2 pcs. on the rear of the vehicle.

3.1.3 Rear View

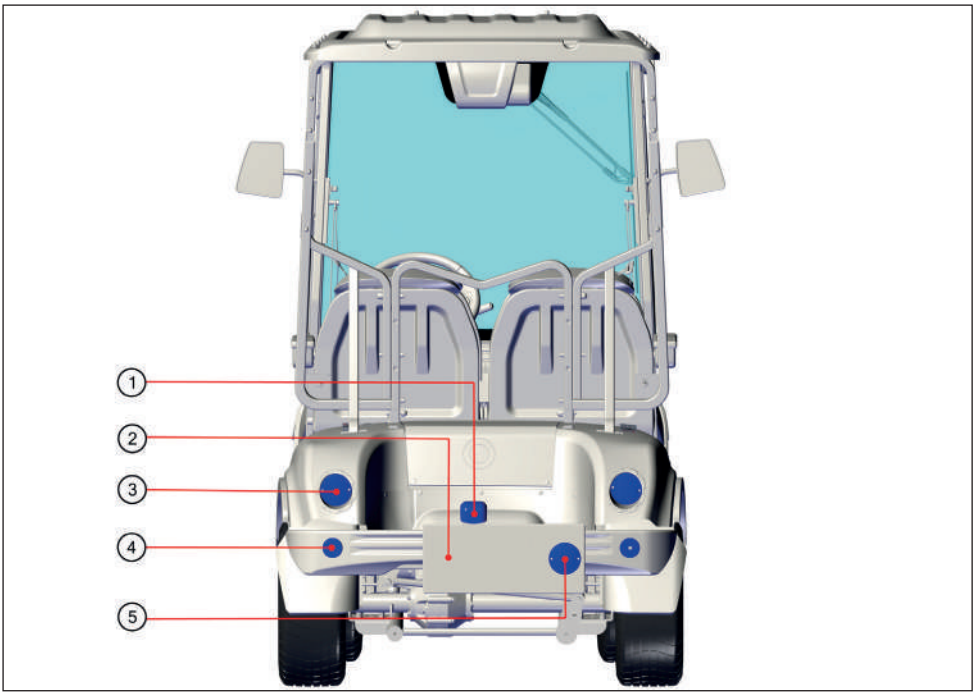


Figure 3-3 *Rear view of the vehicle*

Explanations for Figure 3-3:

1	License plate light
2	License plate mounting sheet
3	Taillight
4	Rear reflectors
5	Reverse light

Positions ③ and ④ are in the same place on the left and right sides of the vehicle.

3.2 Interior

3.2.1 General View

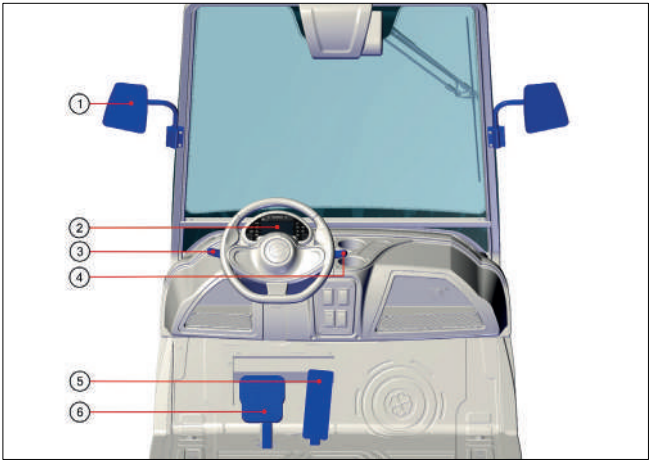


Figure 3-4 *Driver side general view*

Explanations for Figure 3-4:

1	Side mirror
2	Indicator screen • Indicator • Warning lights
3	Signal and lighting lever
4	Wiper lever
5	Accelerator pedal
6	Brake pedal

Position ① is in the same place on the left and right sides of the vehicle.

3.2.2 Dashboard

Figure 3-5 *Dashboard*

Explanations for 3-5:

1	Cup holder	**3**	Right dashboard pocket	**5**	USB Socket
2	Left dashboard pocket	**4**	Vehicle control buttons		

04 DRIVER INFORMATION SYSTEM

4.1 Dashboard

Figure 4-1 *Dashboard off state*

Figure 4-2 *Dashboard icons*

Explanations for figure 4-2:

1	Travel direction indicator (D: Forward, N: Neutral, R: Reverse)
2	Speedometer (km/h or mph)
3	Km / Distance counter
4	State-of-charge level (SOC Level)
5	Energy consumption indicator
6	Information indicators
7	Warning lights
8	Warning lights
9	Button for toggle between Odometer - Tripmeter - Distance to service / Tripmeter reset with long press
10	Km/h - x100 rev/min (speed - rev) indicator toggle button
11	Touch-screen button warning lamp
12	Turn signal indicators

NOTE It is possible to switch between km/h – mph units by pressing and holding the ⑨ and ⑩ buttons at the same time.

Travel direction indicator:

Reports the selected vehicle direction for travel.
D: Forward, **N:** Neutral, **R:** Reverse (See Figure 4-3)

Figure 4-3 *D - N - R position display indications*

Indicator information lamps:

Figure 4-4 *Indicator information / warning lamps*

Explanations for Figure 4-4:

1	Ready to move
2	Slow mode activated
3	High beams on
4	Parking lights on
5	Parking brake activated
6	Left turn signal lamp
7	Right turn signal lamp
8	Low beam headlights on
9	Low battery warning lamp
10	Brake fluid level warning lamp

05 VEHICLE PROTECTION

5.1 Vehicle Key

Figure 5-1 *Ignition key*

Explanations for 5-1

Use the ignition key to start or stop the vehicle.

WARNING

Take the ignition key with you when leaving the vehicle at the end of use. Leaving it in the vehicle or on the ignition may compromise security or cause theft.

06 VEHICLE EQUIPMENTS

6.1 Front Baggage

Figure 6-1 *Front baggage lock position*

Figure 6-2 *Front baggage unlocking and locking directions*

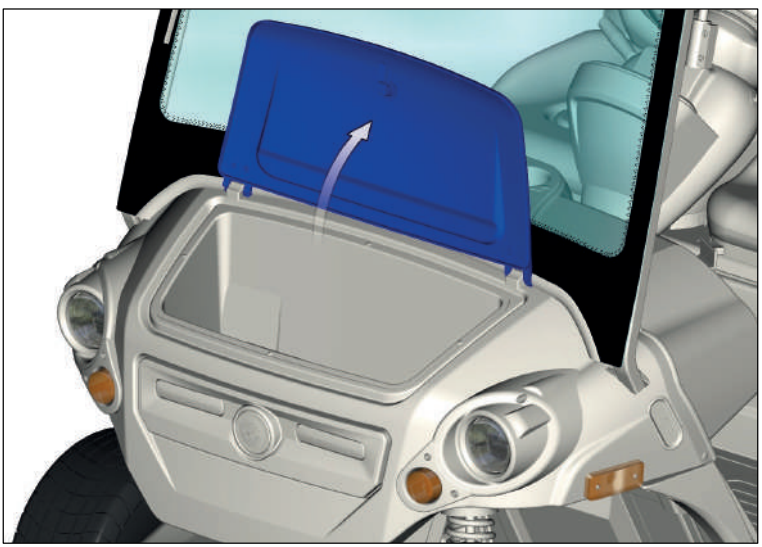


Figure 6-3 *Opening the front baggage*

To open the front baggage:

- Insert the baggage key into the front baggage lock (See Figure 6-1).
- Unlock the lock by turning it counterclockwise (See Figure 6-2).
- You can reach the front baggage by lifting the baggage cover (See Figure 6-3).

6.2 Port Baggage

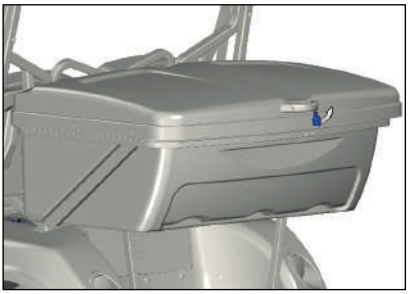


Figure 6-4 *Opening the port baggage lock cover*

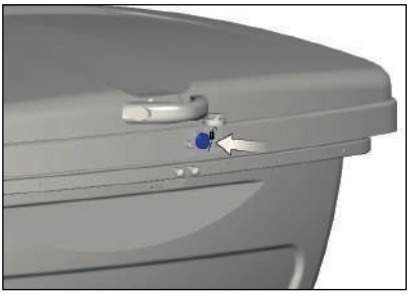


Figure 6-5 *Opening the port baggage lock*

Figure 6-6 *Opening the port baggage*

To open the port baggage:

- To open the port baggage, remove the lock cover with the key if necessary (See Figure 6-4).
- Insert the key into the lock and turn it counterclockwise as shown on the label to unlock (See Figure 6-5). The key will return to its original position.
- Lift the port baggage by its handle (See Figure 6-6).
- To secure the port baggage, switch the key after closing the cover from its slot and replace the lock cover.

WARNING

Maximum carrying capacity for port baggage is 80 kg. Heavier items can damage the port baggage and even the vehicle.

6.3 Lifting the Seat

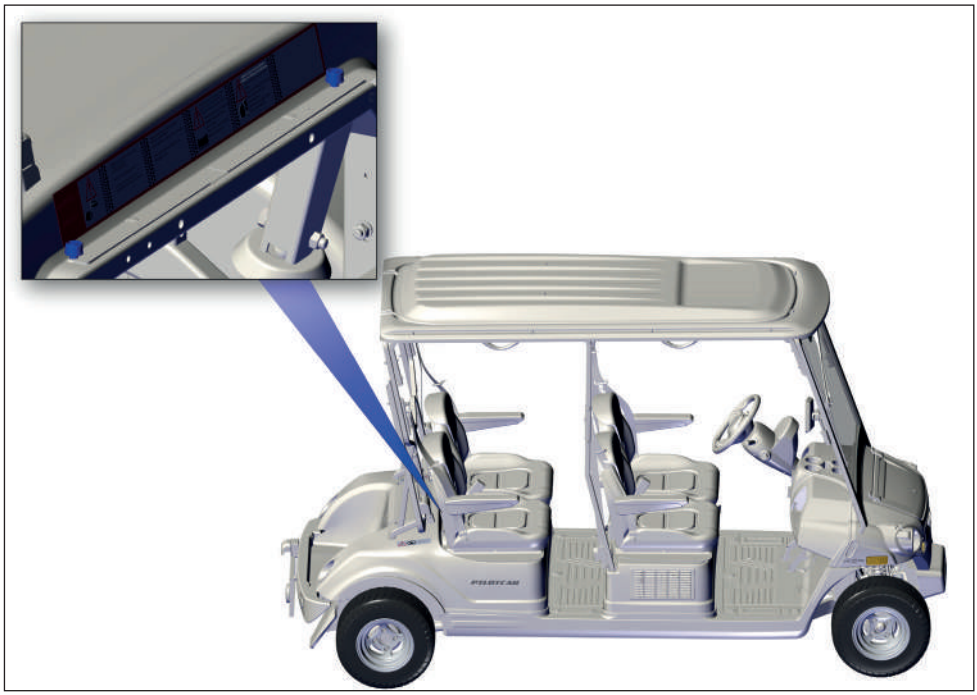


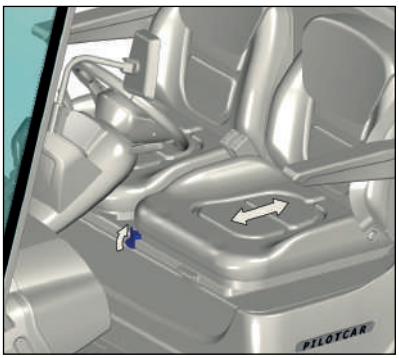
Figure 6-7 *Seat bolt position*

Figure 6-8 *Seat latch position*

To unfold the seat, first unscrew the seat bolts indicated with blue by turning them counterclockwise (See Figure 6-7). Lift the seat by holding its back (See Figure 6-8).

6.4 Seat Functions

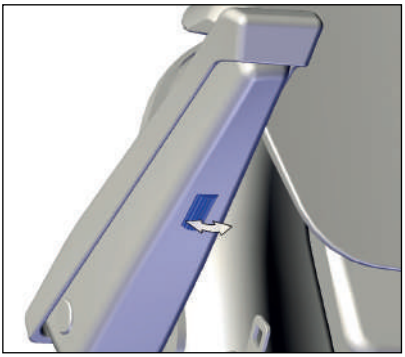
6.4.1 Adjusting Seats



To pull the seat forward or push it back, pull the slide lever indicated with blue upwards in the direction of the arrow. Release the slide handle after adjusting the seat in the directions shown. The seat should lock into place after the slide handle is released (See Figure 6-9).

Figure 6-9 *Driver's seat adjustment mechanism*

6.4.2 Armrest Height Adjustment



Explanations on Figure 6-11:

- To adjust the armrest height, turn the adjustment piece indicated with blue in the direction of the arrows.
- By holding the end of the armrest, you can raise the armrest completely or lower it to the height you set.

Figure 6-10 *Armrest height adjustment*

6.4.3 Headrest Adjustment

Adjust the headrest by moving them in the direction of the arrows as shown in the figure (See Figure 6-11).

Figure 6-11 *Headrest adjustment view*

07 LIGHTING

7.1 Turning the Lighting On - Off

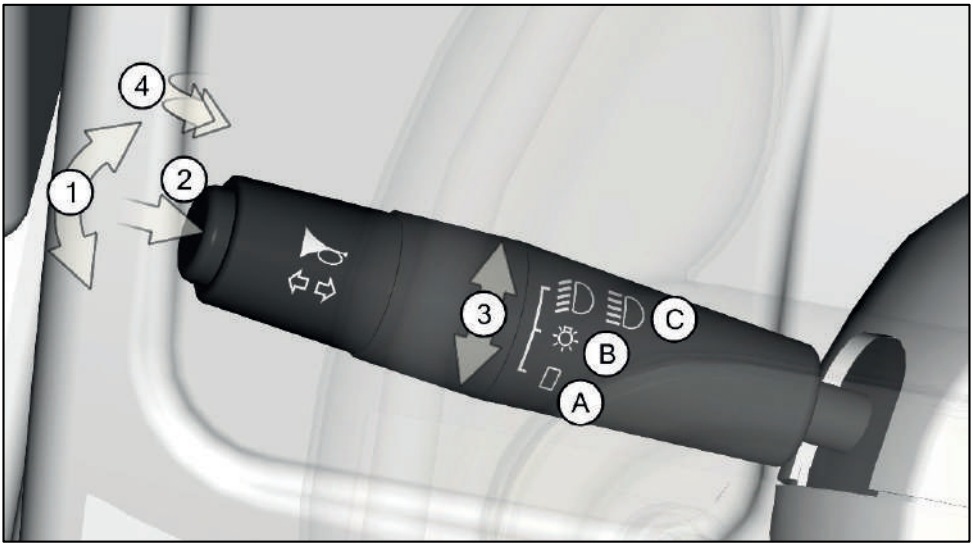


Figure 7-1 *Turn signal, low beam and high beam*

Explanation for figure 7-1:

- To operate the left or right direction indicators, pull the lever down or up in direction ① respectively.
- Press button ② for the horn.
- Turn the headlights on - off by turning the handle ③ from the point indicated. In position A, the headlights are turned off, in position B the parking lamps are on, in position C the low or high beams are on.
- You can activate the high beam by pulling the lever towards you in the direction indicated by ④. To turn on the high beams, pull the lever 2 steps towards you with the low beams on. To turn it off, pull yourself 2 steps again.

7.2 Lighting Functions

7.2.1 Parking Lights

When the headlight switch is in the B position (See Figure 7-1), the parking lights in the front body as well as the parts of the taillights, the license plate lighting and the button lights in the center console illumunates.

7.2.2 Low and High Beams

When the headlight switch is in the C position (See Figure 7-1), the parking lights in the front body and the headlights, as well as the parts of the taillights, the license plate lighting, and the button lights in the center console illumunates.

08 VISIBILITY

8.1 Windscreen Wiper

8.1.1 Wiper Lever

Figure 8-1 *Windshield wiper lever*

Move the lever to the desired position:

- **Initial position:** The windscreen wiper is off.
- **Position ① :** Slow wiping.
- **Position ② :** Fast wiping.
- **Position ③ :** Single wipe. The wiper lever will return to initial position.
- **Position ④ :** When the lever is pulled, the windscreen is washed and wiped automatically.

The windscreen wipers only work when the ignition is on. If the ignition is turned off while the wipers are on, when the ignition is turned on again, it will continue wiping at the same level. Snow, ice on the windshield can damage the wipers and the wiper motor.

WARNING

Do not operate the windshield wipers when the windshield is dry. Wiper blades operating on dry glass can cause damage to the windows.

8.2 Mirrors

The driver can see behind the vehicle through the side mirrors, monitor the traffic behind and adjust his driving style accordingly.

For driving safety, it is very important for the driver to properly adjust the side mirrors before driving.

WARNING

Side mirrors do not show the entire side and rear of the vehicle. There may be vehicles and obstacles in these invisible areas, called blind spots.

8.2.1 Adjusting The Side View Mirrors

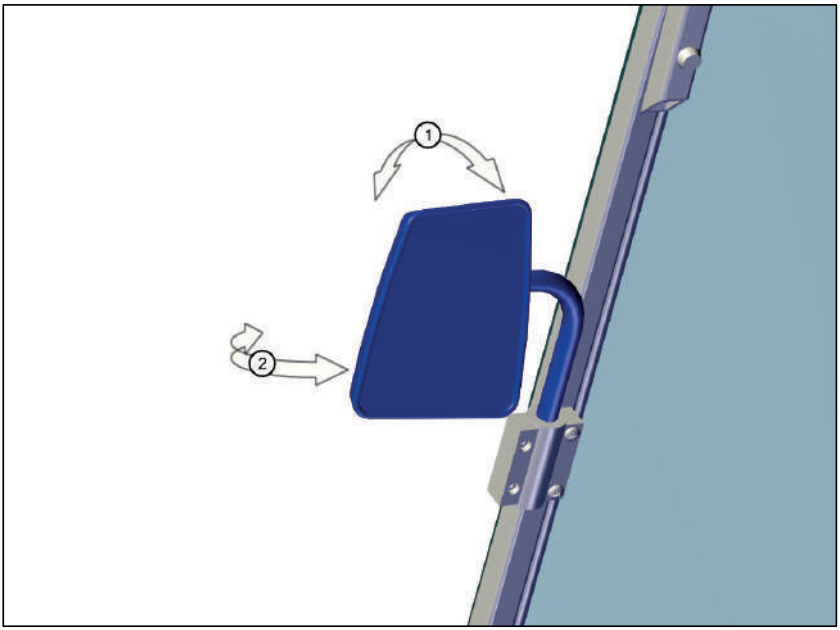


***Figure 8-2** Adjusting the side view mirrors*

Explanations for Figure 8-2:

- Adjustment of the side mirrors is done manually.
- Move the mirror in direction ① for up-down adjustment.
- Move the mirror in direction ② for left-right adjustment.

Adjusting the passenger side mirror is the same as on the driver's side.

09 DRIVE

9.1 Pre-Ride Review

ATTENTION

Improper use of the vehicle can result in collisions, loss of control, accident, or rollover, which can result in serious injury or death. Make sure you thoroughly read and understand the security-related information on the Security tab.

WARNING

Failure to perform a pre-ride inspection or to be unsure of the safety of the vehicle increases the risk of an accident. For your safety, be sure to inspect before each use.

- Make sure the right/left signals are working correctly.
- Remember to adjust the side view mirrors to assist your vision.
- Make sure the horn is working.
- Make sure that there is no damage to the seat belts and that the buckles are working properly.
- Make sure the brake system and brake pedal are working properly.
- Make sure the parking brake is working properly.
- Make sure the brake fluid level is correct.
- Inspect the front and rear suspensions, lubricate if necessary.
- Make sure that the steering mechanism is working correctly.
- Check the condition and pressure of the tires.
- Examine the condition of the wheels and make sure the fasteners are tight.
- Make sure the accelerator pedal is working properly.
- Check the headlights. Make sure it is working correctly.
- Check the taillights. Make sure it is working correctly.
- Make sure that front baggage cover and port baggage cover are working properly.
- Make sure the batteries are fully charged, has the correct water level and the terminals are clean.
- Make sure the cable rotation of the battery cables is correct and their connections are secure.

ATTENTION

Always make sure the ignition switch is turned off when controlling the pedals. If the vehicle is in the “D” or “R” gear position, the vehicle may start and cause serious damage to people or the environment. Please do not drive the vehicle if the brakes are not working properly.

9.2 Starting and Stopping the Vehicle

9.2.1 Control Lamps

When the ignition is switched on, all indicator lamps illumunates briefly to check the bulb. These lamps go out after a few seconds.

Ignoring the warning lamps may result in being stuck in traffic, accidents and serious injuries. Therefore, never ignore the warning lights that are on.

If the vehicle remains on the road or needs to be stopped, safely pull the vehicle to the side of the road, light your flasher, turn off the ignition and take the necessary safety precautions to alert vehicles behind.

9.2.2 Knowing Your Vehicle

Figure 9-1 *Ignition key and ignition lock*

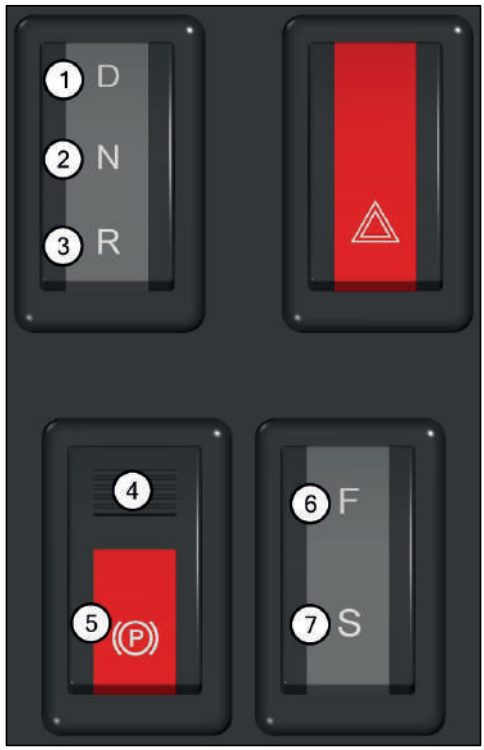


Figure 9-2 *Vehicle control buttons*

To start, travel and stop the vehicle, the following must be followed:

- Insert the ignition key in the ignition lock and turn it in direction ② (See Figure 9-1).
- Depress the brake and hold down the latch of the parking brake button ④ and press the button in the direction indicated by ⑤ (See Figure 9-2).
- For forward driving: Press the D-N-R button from the ① side to move the button to the D position (See Figure 9-2).
- For reverse driving: Press the D-N-R button from the ③ side to move the button to the R position (See Figure 9-2).
- The icon of the selected location for the D-N-R button is shown on the instrument panel (See Figure 4-3).
- Select your driving mode: Press the F-S button from the ⑥ side to move the button to the F position (See Figure 9-2) (For detailed information, see Item 9.2.2.1).
    - **F:** Fast mode. Vehicle speed in the forward direction is 50 km/h. Vehicle speed in reverse direction is 8 km/h.
    - **S:** Slow mode. Vehicle speed in forward direction 24 km/h (max.). Vehicle speed in reverse direction is 8 km/h.
- When driving is complete, set the D-N-R button to position ② (See Figure 9-2). Activate the parking brake by pressing the parking brake button in direction ④. (See Figure 9-2). Turn the ignition key in direction ① and remove it from the ignition lock (See Figure 9-1).

9.2.2.1 Driving Modes

9.2.2.1.1 Driving in F-Mode

In this mode, the vehicle moves at a maximum speed of 50 km/h. It is recommended to use the vehicle in this mode on flat roads without slopes.

9.2.2.1.2 Driving in S-Mode

This mode provides driving in a more dynamic feedback mode. In this mode, the vehicle moves at a maximum speed of 24 km/h. It is recommended to use the vehicle in this mode when the vehicle is loaded and on sloping roads.

ATTENTION

Never press the accelerator pedal while turning the ignition key on. This may cause the vehicle to move suddenly and cause accidents.

Use the vehicle always carefully. Quickly, irresponsibly or all driving styles other than recommended in this guide can cause serious injury or death to persons and damage to surrounding structures.

NEVER drive while under the influence of alcohol or drugs. Under the influence of alcohol or drugs, concentration, focus, speed and distance perception are drastically reduced, so driving under the influence can cause serious injury, death, and undue material damage. PILOTCAR does not recommend driving while under the influence of alcohol or drugs!

9.3 Notes on Driving

9.3.1 Pedals

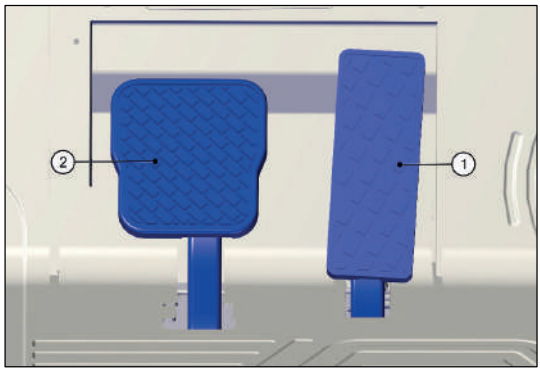


Figure 9-3 *Pedals*

Explanations for Figure 9-3

1	Accelerator pedal
2	Brake pedal

NOTE

Objects or mats must not restrict the use or movement of the pedals.

If one of the brake circuits fails, the brake pedal must be pressed harder to stop the vehicle.

WARNING

The accelerator pedal should not be used to hold the vehicle at a standstill. Always use the brake pedal to prevent the vehicle from moving.

9.3.2 Economic Driving

9.3.2.1 Driving Style and Speed

Driving in fast mode reduces the vehicle's driving distance. Only use the fast mode as needed.

Suggestions:

- Drive as steady as possible.
- Adjust your driving style to avoid excessive energy consumption.
- Customize energy recovery by adequately anticipating traffic variability by taking your foot off the accelerator or braking slowly.

9.3.2.2 Road Conditions

Do not try to maintain the same speed when going uphill, do not push th-rottle pedal more than a straight road. Keep your foot preferably in the same position on the accelerator pedal.

9.3.2.3 Regular Maintenance

Regular maintenance of the vehicle is important for economical driving and will increase the life of the vehicle.

9.3.2.4 Importance of Tire Pressure

Too low tire pressure will not only affect wear, but will also negatively affect vehicle range, along with driving ability, road holding and energy consumpti-on.

Periodically check the tire pressures and adjust the pressures according to the values written in the Tire Pressure item (See Item 11.4.4).

When changing tires, choose tires of the same size, type and construction as the original tires. The use of non-recommended tires significantly reduces the vehicle's driving range.

9.3.2.5 Getting Rid of Unnecessary Weights

Removing unnecessary weights in the vehicle or in the safe before driving will positively affect consumption.

9.3.2.6 Battery Performance by Ambient Temperature

Depending on the weather conditions, the battery works at maximum effi-ciency at an ambient temperature of 24 °C and maximum driving distance is achieved. Your driving distance may decrease as the ambient temperature decreases or increase

9.3.3 Information About Brakes

New brake linings cannot work at their full performance in the first 200 - 300 km, they need to wear a little first. The reduced braking effect can be compensated for by pressing the brake pedal harder. The full braking and emergency braking distances of the brakes that have not been run in are longer than those of the brakes that have been run in. Avoid full braking or putting a load on the brakes during break-in.

The wear of the brake linings largely depends on the conditions of use and driving style. If the vehicle is used for short distances and in places with frequent braking, the thickness of the brake linings should be checked regularly at the PILOTCAR Authorized Service.

After crossing over water, in heavy rain or after washing the vehicle, the braking effect may decrease due to freezing of the drums in winter. In this case, the drums should be dried by braking at low speeds in short distances. During this process, care should be taken not to pose a danger or risk to the vehicles behind and other drivers in the traffic.

The salt layer formed on the brake drums and linings adversely affects the braking effect and prolongs the braking distance. During long-term use on salty ground, salt deposits should be cleaned by braking at intervals.

If the vehicle is parked for a long time, not used too much, or driving styles that require less braking, it can cause corrosion on the brake drums and dirt accumulation on the linings. According to the determined maintenance period, the brake drums are removed and cleaned with brake lining spray. You can find the maintenance period in the maintenance booklet.

If the vehicle reacts differently than normal during braking, one of the brake circuits may be deactivated, such as longer braking distance. In this case, contact the nearest PILOTCAR Authorized Service and while driving at low speed, remember that the braking distance and the pressure on the pedal increases.

ATTENTION | Any damage or malfunction in the brake system can result in serious injury or death. Always make sure the brakes are working properly.

9.3.4 Driving at Maximum Load

In order for a loaded vehicle to show good driving characteristics, consider the following recommendations.

- Accelerate carefully and discreetly.
- Avoid sudden braking and maneuvers.
- Brake earlier than usual.

9.3.5 Crossing The Waterway

To avoid damage to the vehicle when driving through water, consider the following items:

- Determine its depth before crossing the water. Do not use the vehicle at depths exceeding the hood level.
- Do not drive through puddles at high speeds. Prefer low speeds as much as possible.
- Never stop in water, do not reverse maneuver.
- Beware of oncoming vehicles, they may create waves that will raise the water level above the level you can safely cross.
- You can dry the brake drums and linings that get wet after passing th-rough the water with a controlled brake. Watch out for other vehicles in traffic.
- Avoid sudden braking and maneuvers in and immediately after crossing the water.
- Vehicle parts (motor, ECU, chassis or electrical system etc.) may be dama-ged while passing through water.
- Do not go through salt water as salt will cause corrosion. Wash parts that come into contact with salt water with clean water as soon as possible.

9.3.6 Hill Assist System

The hill start assist in our vehicles prevents the vehicle from slipping backwar-ds when accelerating or stopping on sloping roads. When the vehicle stops; the motor will hold the vehicle stationary for 2-3 seconds.

If the ignition switch is not turned off, the vehicle will remember the required torque when stationary and apply the same torque when starting up again for a smooth start and no rollback.

If the motor cannot move the vehicle, the parking brake must be applied immediately and the control unit must be reset by turning the ignition switch off and shifting to the "N" position. Then, the ignition should be turned on and the forward-reverse switch should be pressed to the “D” or “R” position.

9.3.7 Braking Operation with Parking Brake

If it is necessary to apply the parking brake at speeds of 10 km/h and higher, please contact PILOTCAR Authorized Service as soon as possible for brake sys-tem control and damage repair.

ATTENTION

Using the parking brake at high speeds can lock the rear tires, resulting in a loss of control of the vehicle resulting in an accident, resulting in serious injury or death.

Brake lights do not light on when stopping with the parking and motor brake, so use these brakes only in emergencies, when there is no closely followed traffic. Damage or malfunction of the brake system can result in serious injury or even death. Please always make sure that the brakes are working correctly.

10 CHARGING

Important information about the charging process:

- Do not interfere with the vehicle while it is charging (Washing, intervention in the motor compartment, etc.).
- Do not charge the vehicle if the plug of the charging cable or the charging socket of the vehicle is wet, shows signs of corrosion, or has foreign objects. There is a risk of fire.
- Do not touch the ends of the cord, a household outlet or a car charging outlet, and not insert objects into it.
- Never plug the charging cable into an adapter, power strip, or extension cord.
- Definitely stay away from the use of generators.
- Do not disassemble or modify the vehicle's charging socket or charging cable. There is a risk of fire.
- Do not alter or interrupt the electrical installation while charging.
- Even in the slightest impact to the charging cover have it checked by a PILOTCAR Authorized Service immediately.
- Take care of the cable; Do not step on it, do not immerse it in water, do not pull from above, do not subject it to shock.
- Check the condition of the charging cable regularly to ensure it is in good condition.
- Do not use if the charging cable is frayed (cut, rusted, tarnished, etc.). Consult PILOTCAR Authorized Service for replacement.

ATTENTION

Interaction with electrical systems can lead to serious injuries. Before working on the vehicle's electrical systems, please disconnect the battery terminals to cut off the vehicle's electrical connection.

10.1 Lead-Acid Battery Charging

10.1.1 Human and Environmental Health

Before interacting with the batteries on the vehicle, please ensure that you thoroughly read and understand the following safety-related warnings. Mistakes in the instructions given below can result in serious personal injury, death, or damage to the environment.

DANGER

- Lead and lead compounds in the battery are harmful. Always wash your hands after working on the battery.
- Batteries emit flammable gases while charging. Never approach the battery with fire, cigarettes and flammable materials during the charging process.
- Ensure that the environment where the batteries are charged is well ventilated. Do not use metal containers to store pure water.
- The sulfuric acid in the electrolyte burns the areas where it comes into contact with the body. When working on the battery, wear acid-resistant gloves, work clothes and safety glasses. Immediately neutralize spilled electrolyte with bases such as sodium bicarbonate or caustic and remove waste from the floor. Immediately wash the electrolyte splashed on the skin and eyes with plenty of water and seek medical attention immediately.
- Do not place metal parts on the battery during the charging process, and never remove the cables before the charging process is finished. Always use insulated tool kit. In battery groups that exceed 60 volts in total, the main connections must be disconnected at least at 3 points and the total voltage must be reduced.
- Do not put any substance other than pure water into the battery. Boiled water, spring water, etc. substances do not have the quality of pure water.
- Make sure that all connections on the battery and battery cables are properly installed and tightened to the recommended amount (See Item 10.1.2). Connections that are too tight or too loose; may cause breakage, melting or fire.

10.1.2 Equipments That Can Be Used During Maintenance and Repair

- Safety glasses, gloves and protective clothing: Always wear safety glasses, acid-resistant gloves and clothing when handling lead-acid batteries. Remove all jewellery you have on you. The substances in the batteries are corrosive and if the above-mentioned protective equipment is not used, it can cause severe burns on the skin, serious injuries and even death, burns to clothing, and destruction. Jewellery, on the other hand, can cause arcing when placed close to the terminals, resulting in serious injury and electric shock.
- Pure water (Ex: Deionized, reverse osmosis, etc.).
- Wrench with rubber grip handle.
- Voltmeter (for voltage measurement).
- It is important to re-tighten the battery terminals after the process is finished, to minimize the malfunctions. Be sure to use a torque wrench to tighten the battery terminals. Tighten the battery terminals with a torque of 12 Nm.

WARNING

Always have baking soda and and keep plenty of water with you. Acid splashes that may occur as a result of opening the battery covers can be neutralized in this way and prevent the acid from damaging the battery or the vehicle. Strictly avoid contact of acid with skin.

10.1.3 Rules for Maintenance, Repair and Use

The battery consumes its capacity as long as it is used, and is recharged to its pre-use capacity. Charging should be continued until the battery is fully charged.
Insufficient charging causes the life of your battery to decrease and it becomes unusable in the long term. With the charger supplied with the vehicle, your battery should be charged uninterruptedly during the charging period. Frequent charging by intermittent disconnection before the battery is fully charged also reduces the life of your battery.

The recommended discharge depth for optimum battery life is 80% of the nominal capacity. Cell densities at the end of the discharge should be 1.12-1.14 g/cm3. Batteries should not be kept in a discharged state. This also applies to partially discharged batteries. Pole head bolts should be checked. Loose ones should be tightened with a torque wrench. The amount of torque to be applied: 12 Nm.

Battery terminals and connectors must be original components on the vehicle. Please apply to PILOTCAR Authorized Services for a set change.
When using your battery, you must use it consciously and appropriately.

ATTENTION

Pre-charge or under-charge battery watering may cause over-boiling and liquid over ow. This could result in bodily injury or potential damage to the watering system, battery and vehicle.

10.1.4 Basic Recommendations

- Check the cleanliness and tightness of the battery terminals and interconnect cables.
- Do not charge intermittently, do not charge little by little at frequent intervals.
- Make periodic maintenance of the vehicle's electrical system and other mechanical parts.
- If your vehicle is to be not used for a long time, first fully charge the battery. Then remove the main input terminals of your battery. Before you start using it again, connect it to the charger and use it.
- No foreign matter or object should enter the batteries. If you encounter such a situation, please contact PILOTCAR Authorized Service.

10.1.5 Battery Faults

- It is thought that there is a short circuit in the cells that do not boil during charging. That cell begins to discharge while others are charging. The cell voltage shows a value close to zero.
- If a cell has a different density and voltage than other cells, it indicates internal losses in the battery
- White lead sulphate accumulation on the (+) and (-) plate indicates pauses and intermittent charges during charging.
- Darkening and antimony accumulation on the edges of the (-) plates indicate that charging is done at very high values or that the life of the relevant chamber has come to an end.
- The formation of white deposits indicates extremely low charging.
- Lumpy brown deposits indicate overcharging (these deposits are clearly visible on the cell cap and plug bottom surfaces).
- Covering the surface of the connector or the gripper to which the plates are attached inside the cell with a whitish layer means that the battery is not balanced and the charge is insufficien.
- Excessive pure water consumption in the cells indicates that it is overcharged, the operating temperature is high or the cell is leaking.
- The fact that the cell needs very little pure water indicates that this cell is undercharged.
- Bending of the (+) plates indicates a low-value charge and consequently sulfation.
- The capacity value is not at the desired level; indicates that the battery is discharged, there is excessive sulfation or the active substance in the (+) plate is low.

10.1.6 Battery Charge

Proper charging is essential for maximizing the performance of the battery. Under or overcharging significantly shortens the life of the battery. Lead-acid batteries should be fully charged after each use and this type of battery does not have a memory effect, so it does not have to be fully discharged before charging. Each use is defined as 30 minutes or more of run time. While the batteries are charging, explosive hydrogen gas is formed. Charge batteries only in well-ventilated areas. To charge the batteries in your vehicle, the battery charger is on the vehicle. The following section is a summary of the charging steps.

10.1.6.1 Vehicle Charging Procedure

1. Turn the ignition switch to the “OFF” position (See Figure 9-1).

2. Take the charging cable that came with the vehicle (original PILOTCAR equipment; see item 10.1.7 for charging cable specifications) (See Figure 10-2) plug it into the charging socket on the vehicle (See Figure 10-3 and Figure 10-4). The charging socket location is indicated below (See Figure 10-1).

3. Plug the AC outlet plug of the charging cable into a grounded outlet (85-265 VAC) (See Figure 10-5).

4. When you see the green charging complete led on the charger, the charging process is complete. Unplug the AC outlet plug from the outlet.

NOTE | During charging, the vehicle's energy is cut off. To protect the vehicle, it will power up 10 seconds after unplugging the charging cable.

ATTENTION | Battery charging involves high electrical risks. If you don't know about the subject, get help.

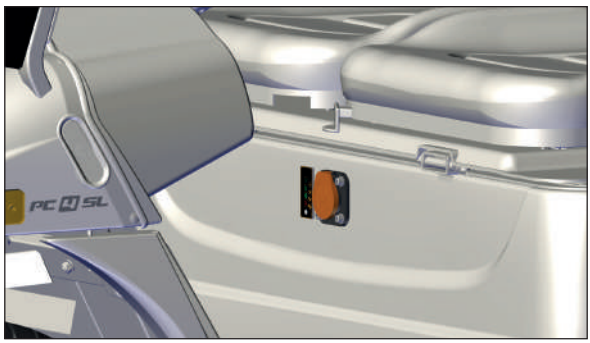


Figure 10-1 *Charging socket position*

Figure 10-2 *Charging cable*

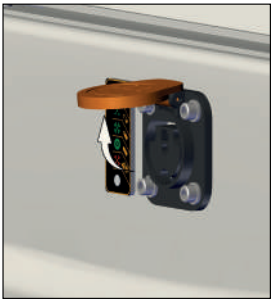


Figure 10-3 *Opening the charging socket cover*

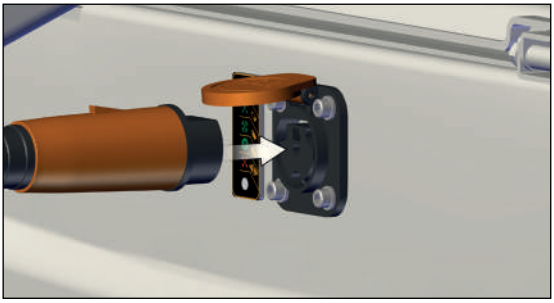


Figure 10-4 *Attaching the charging socket*

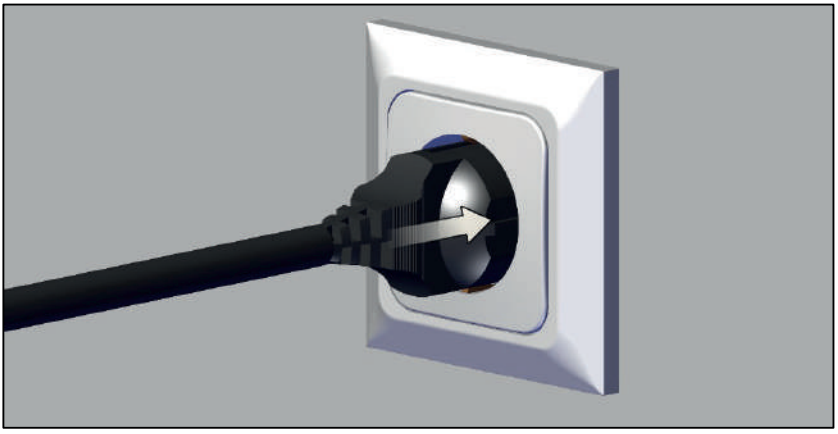


Figure 10-5 *Attaching the AC outlet of the charging plug to a grounded outlet*

10.1.7 Charging Cable Technical Specifications

POWER SUPPLY INFORMATION	V-AC/Ø/Hz	220-240/1/50
CURRENT	A	10
POWER LEAD	-	H05VV-F 3*2.5 mm^2
CABLE LENGTH	m	5
TEMPERATURE	°C	-30 /+50
VEHICLE SIDE SOCKET	-	Y-30 (220V)
NETWORK SIDE SOCKET	-	SCHUKO TYPE E/F
STANDARD	-	TS EN 50525-2-11

WARNING

The mains connection must comply with the electrical indoor facilities regulation. Low or excess voltage, faulty electrical installation, use of a charging cable that does not comply with the charging cable specifications, and charging the vehicle with a voltage different from the voltage specified in the charging cable specifications may cause damage and malfunctions in the vehicle.

10.1.8 Vehicle Charge Tracking Chart

WARNING

The algorithm of your charger has been adjusted by PILOTCAR according to the battery type. Modification of the algorithm by any person or institution other than PILOTCAR Authorized Services may cause serious problems and void the vehicle's warranty. Misuse can cause injury or damage to your battery. Lead acid batteries can release explosive hydrogen gas during normal use. Keep your battery away from sparks or ignition sources. Make sure the environment is well ventilated during the charging process. Do not charge if your battery is frozen.

DANGER

There is a danger of electric shock. Plug the charger into grounded outlets made in accordance with local safety standards. Grounded sockets reduce the risk of electric shock. Do not use grounded adapters or modified sockets. Do not touch non-insulated parts of the output connection or battery terminal. Always disconnect AC before connecting or removing battery connections. Do not open or disassemble the charger. Do not use if the AC power cord is damaged or if the device has been hit, dropped, or damaged in any way.

WARNING

Have all maintenance and repair works done by PILOTCAR Authorized Services. It is inconvenient to use this device by children, people with physical or mental disabilities, or people who do not have sufficient experience without being informed about the safety of use or being supervised during use. Children MUST be prevented from playing with the electric vehicle!

10.1.9 Operating Instructions

ATTENTION

The charger may become warm during use. Always take protective safety precautions before touching the device during charging.

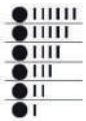
1. Extension cords must be three-core. They should be a maximum of 30m (100”) in length with 6 mm² or 7.5m (25”) with 2.5 mm² as per UL standards.

2. Plug only one QuiQ charger into a single 16A fuse-protected circuit or the circuit may be overloaded.

LED Color	Display		
Green		Lights on	Charging is complete. The charger is in maintenance mode.
		Blink	Short flashing < 80% charge Long flashing > 80% charge
Amber		Blink	low power mode. Low AC voltage or overheating of the charger.
Red		Blink	Charger error. Reset the device and see the error correction instructi-ons below.

Figure 10-6 *External indicator charge status LED indicators*

Figure 10-7 *Charger charge status LED indicators.*

LED Color	Display		
Ammeter (Amber)		Lights on	Displays the scale of the average current during the loading phase.
		Blink	Due to the high temperature, the charging output current has been reduced. Also, algorithm 1-6 is shown.
80% Battery (Amber)		Lights on	Charging phase completed, at 80% charge level. Absorption is complete.
		Blink	Indicates the selected algorithm with the number of flashes when the battery is not connected.
100% Battery (Green)		Lights on	Charging is complete. The charger is in maintenance mode.
		Blink	The absorption phase is complete. In the final stage.
AC On (Amber)		Lights on	AC power is fine.
		Blink	Check for low AC voltage and extension cord length. (See above for information)
Fault (Red)		Blink	Charger error. Reset the device and see the error correction instructions below.

10.1.10 Error Correction Instructions

Rate of Flashing	Cause	Solution
1	High battery voltage	Check the battery voltage and status. This error will automatically resolve once the condition is corrected.
2	Low battery voltage	Check the battery voltage and status. This error will automatically resolve once the condition is corrected.
3	Charging timed out because the battery pack could not reach the required voltage, or the charging output voltage was reduced due to high temperature.	Check the connections, the compatibility of the batteries with the selected algorithm and operate the charger at a lower ambient temperature. Reset the charger by removing AC power for at least 15 seconds.
4	The battery could not be charged to the minimum voltage level.	Check the batteries for shorted or damaged cells. Reset the charger by removing AC power for at least 15 seconds.
5	Charger turned off due to high internal temperature.	Make sure there is airflow required for cooling. Reset the charger by removing AC power for at least 15 seconds.
6	Internal charger error	Reset the charger by removing AC power for at least 15 seconds. If the error persists, contact PILOTCAR Authorized Service.

10.1.11 Maintenance Instructions

1. Do not expose the charger to oil, dirt, mud or pressurized water during washing.

2. If the input cable or power supply is damaged, replace with hardware specified below.

a. UL or CSA approved for America with 3 conductors, 10 AWG minimum power and SJT approved,
b. All other countries must have 3-conductor, safety approved 2.5 mm2 industrial use approved, input cable with one end grounded closed, IEC 60320 socket in accordance with the standards of the country where it is located.

3. This charger is in EN60529, IP66 standards. The AC power supply input is IP20 for indoor use. Keep all AC connections dry and clean.

10.1.12 Automatic Watering System

The battery should be watered periodically. Watering frequency depends on usage and operating temperature. Determine watering frequency by checking new batteries every few weeks. It is normal for the water requirement of the batteries to increase over time.

Considering the reasons like local climate, charging methods, charging application, etc. check the batteries at least once a month and determine the required watering frequency.

WARNING

- Do not water the batteries before charging. This situation causes acid overflow from the battery, thus reducing capacity and wear.
- Do not use water with high mineral content. Use purified or deionized water. Fully charge the batteries before adding water.

ATTENTION

If an error occurs in the valve during the battery watering process, immediately disconnect the watering system. Otherwise, excess water may be added to the cells. This can cause acid to overflow from the battery, resulting in corrosion and potential bodily injury or battery damage.

Figure 10-8 *Automatic battery watering system valve position*

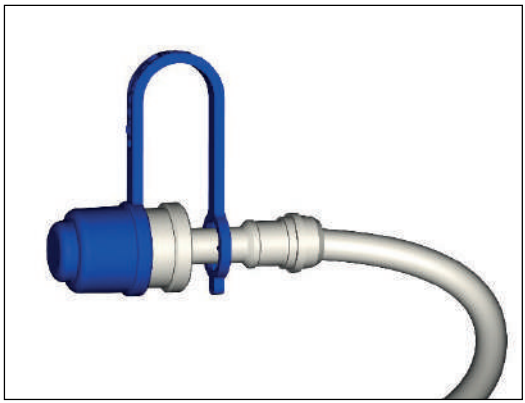


Figure 10-9 *Automatic battery watering system valve protective cover*

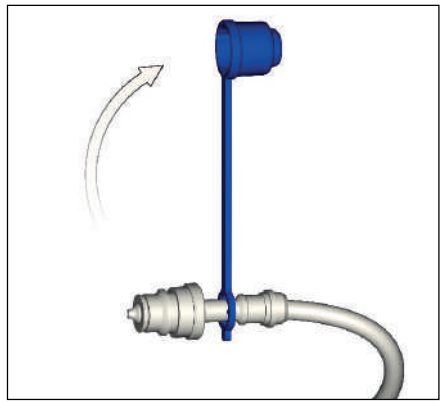


Figure 10-10 *Opening the valve cover of the automatic battery watering system*

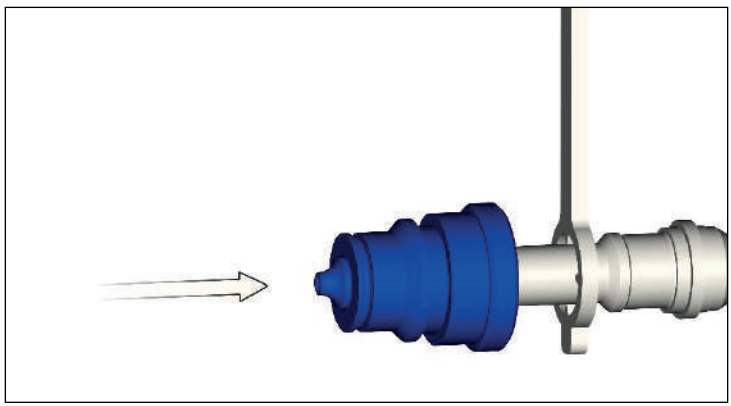


Figure 10-11 *Automatic battery watering system pump connection*

To operate the battery watering system:

- Locate the battery watering system valve (See Figure 10-8).
- Drop the end of the hand pump hose into the container filled with distilled water.
- Fill the hand pump with water by slowly squeezing it out.
- Remove the protective cap on the hose (See Figure 10-9 and Figure 10-10).
- Attach the other end of the hand pump to the valve (See Figure 10-11).
- Let the water fill the batteries by squeezing the pump. If the pump becomes inflated again, it means that the battery water is full.
- After the battery water is complete, remove the pump hose from the valve.
- Put the protective cap back on the valve.

10.1.13 Battery Maintenance

Check the battery every 15 days and keep the terminal (pole) connection points free of corrosion. Corrosion on the terminals will reduce the performance of the battery, perhaps even cause it to become dangerous.

Over the batteries, terminals and connection points; clean with a dry cloth or brush, with boiled soda or boiled water. Do not allow cleaning fluid to enter battery cells. Make sure that the area around the battery is clean and dry.

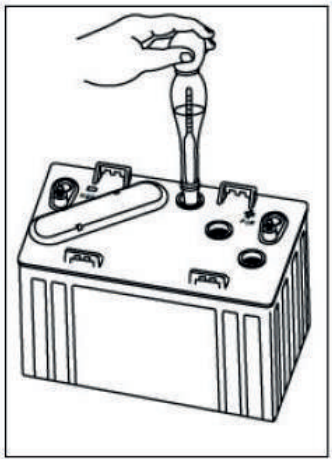
Check the electrolyte level before and after charging. To see the electrolyte level, remove the cell caps and lay them flat that way so dirt doesn't get inside the cap. Use the hydrometer to check the electrolyte level.

Electrolyte level measurement before charging: if the electrolyte level has dropped below the plates, add only enough distilled water to exceed the level of the plates and charge the batteries. If the electrolyte level is above the plates, there is no need to add distilled water.

Electrolyte level measurement after charging: If the electrolyte level is slightly above the plates, add distilled water up to 3 mm below the cell caps. A piece of plastic can be used as a measuring stick to determine this level. Clean and replace all cell covers.

WARNING

Normal tap water contains minerals that can damage the battery. Therefore, pure water should be used. Using the hydrometer, check the specific gravity of the battery water from the table. Consult an Authorized PILOTCAR Service if any low level is found or the readings differ by more than one point between cells.



Percent Charge	Specific Density	Open Circuit Voltage 48V
100	1.277	50.93
90	1.258	50.47
80	1.238	49.99
70	1.217	49.49
60	1.195	48.96
50	1.172	48.41
40	1.480	47.83
30	1.124	47.26
20	1.098	46.63
10	1.073	46.03

Table 1 *Battery charge percentage-Density-Open circuit voltage table*

Temperature		Acceptable Hydrometer Value with Vehicle Fully Charged
°C	°F	
48.9	120	1.244
43.3	110	1.248
37.8	100	1.252
32.2	90	1.256
26.7	80	1.260
21.1	70	1.264
15.6	60	1.268
10.0	50	1.272
4.4	40	1.276
-1.1	30	1.280

Table 2 *Temperature-Hydrometer value table*

10.1.14 Storage and Storage Conditions

- Cells out of service should be put on hold after they are fully charged, they should be clean and dry, they should be checked every 30-60 days and recharged if necessary. While the cells are in stock, foreign liquids and objects should not be added to them. Plugs should always be kept clean.
- The terminals should always point upwards. It should not be stacked on top of each other.
- Batteries; It should be in a closed, non-humid environment and should not be exposed to sunlight.

10.1.15 Considerations for Efficient Use of the Battery

Batteries are referred to by the C5 value. In other words, the ampere amount at the rate of 1/5 of the declared amperage value gives the discharge capacity of 5 hours. The nominal electrolyte temperature is 30 °C. It is only permissible for the electrolyte temperature to exceed 45 °C in very short periods, and the temperature of 50 °C should never be exceeded.

WARNING

The recommended operating temperature for lead-acid batteries is between -20 / +45 °C. At temperatures outside these ranges, problems such as battery freezing or loss of performance may occur. At temperatures below 0 °C, the state of charge of the batteries should not drop below 60%. Batteries self-discharge between 5% and 15% per month, depending on storage temperature conditions.

10.2 Lithium ($LiFePO_4$) Battery Pack Charging

For the charging process, please refeer to Item 10.1.6.1.:

1. Turn the ignition key to the **"OFF"** position.
2. In order not to damage the electrical system and to accurately detect the charging status by the ECU, lift the seat before charging (See Item 8.1) and take the tow-run button to the **"TOW"** position (See Figure 9-4).
   Tow-run button locations on the vehicles has shown in figure (See Figure 9-1, Figure 9-2 and Figure 9-3).
3. Take the charging cable that came with the vehicle (original PILOTCAR equipment; see Item 9.1.2 for charging cable specifications) (See Figure 9-6) plug it into the charging socket on the vehicle (See Figures 9-7 and 9-8). The charging socket location is indicated below (See Figure 9-5).
4. Plug the AC outlet plug of the charging cable into a grounded outlet (85-265 VAC) (See Figure 9-9).
5. When you see the green charging completed led on the charger, the charging process is completed. Unplug the AC outlet plug from the outlet (See Figure 9-18).

WARNING

In vehicles with a lithium battery, the battery enters sleep mode 7 hours after the last use of the vehicle or during the charging process. To exit sleep mode, the lithium wake-up button must be pressed and held for 3 seconds. (See Figure 10-13)

In case of any emergency, press and hold the lithium wake-up button for 7 seconds. This will disconnect the battery from the vehicle. (See Figure 10-13).

Vehicles with a lithium battery pack do not need maintenance. Recommended operating temperature values are between -20°C (-4°F) and +55°C (+131°F). Operating the battery at other temperature values may cause performance loss.

NOTE

During the charging process, the indicator will wake up and the SOC - charging current information will appear on the display.

Figure 10-12 *Lithium battery pack location*

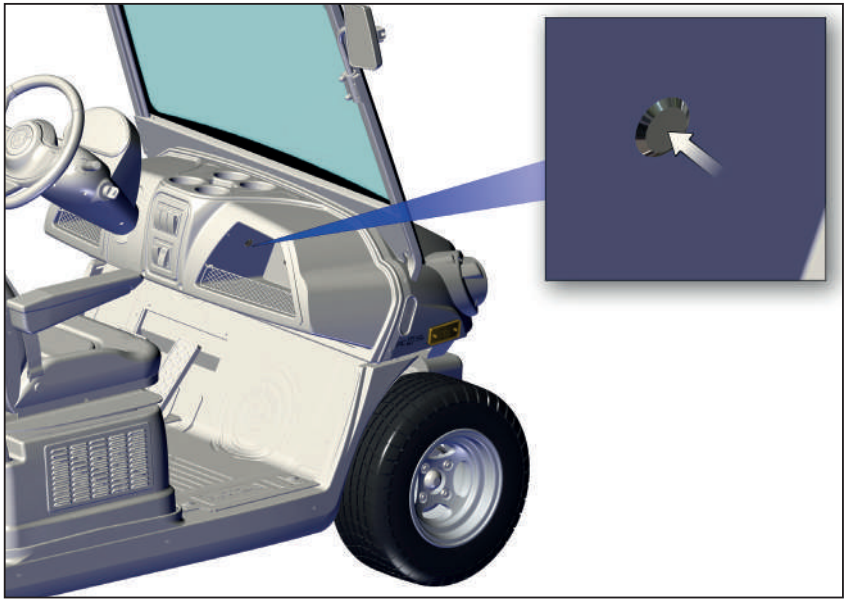


Figure 10-13 *Lithium wake-up button location*

11 OPTIONS

11.1 Port Baggage

Figure 11-1 *Port baggage view*

For using the port baggage refer to the Item 6.2.

11.2 Aluminum Baggage

Figure 11-2 *Aluminum baggage view*

11.3 Rear View Camera

Figure 11-3 *Rear view camera and camera screen view*

Rear view camera screen is turned on when the vehicles with the rear view camera option are put into reverse.

11.4 Lifted Vehicle

Figure 11-4 *Lifted vehicle view*

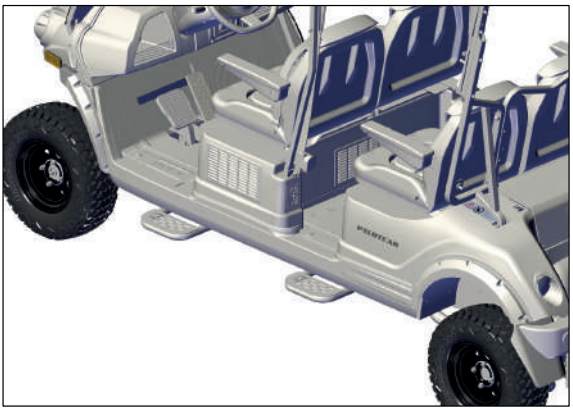


Figure 11-5 *Lifted vehicle side step location*

Side steps are at the same place for both sides of the vehicle. Off-road tire option is only available for lifted vehicles.

12 MAINTENANCE

12.1 Brakes

12.1.1 Brake System Check

- Before driving your vehicle, make sure that the brake mechanism is working properly.
- If there is a gap in the entire brake mechanism, contact PILOTCAR Authorized Service in case of a malfunction in the mechanism.
- If your vehicle's stopping distance has increased during braking, it is time to change / maintain the brake pads. In such a case, contact PILOTCAR Authorized Service.
- If the oil level in the hydraulic brake oil reservoir is below the minimum level, check whether there is a leak in the brake pipes, the brake master cylinder and the entire brake system. If leakage is detected, contact PILOTCAR Authorized Service.
- Sinking the brake pedal to the floor during braking indicates a leak or air in the braking system. If such a situation is encountered, take your foot off the accelerator pedal calmly without panicking, your vehicle will slow down with the engine brake. Slowly pull your vehicle to the side of the road and inform PILOTCAR Authorized Service.
- If your vehicle does not stand still on the specified maximum slope (See the Performance tab under Article 13 Technical Specifications), it means that it is time to change the parking brake. Contact PILOTCAR Authorized Service.
- In cases where the brake fluid fluid needs to be changed or topped up, refer to 12.1.2 for how to do it.

12.1.2 Brake Fluid Check

Figure 12-1 *Brake fluid warning label*

If the brake fluid level decreases below the "MIN" level appearing on the reservoir, check that there is a leak in the system. In case of leakage, please contact the PILOTCAR Authorized Service. To fill the hydraulic brake reservoir if there is no distress:

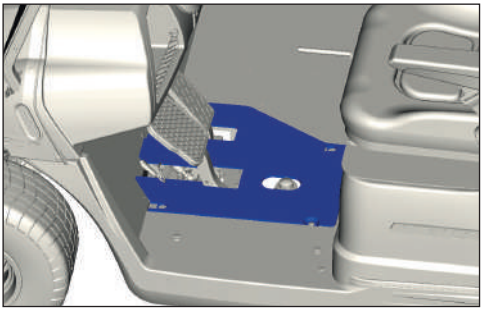


Figure 12-2 *Pedal plastic position*

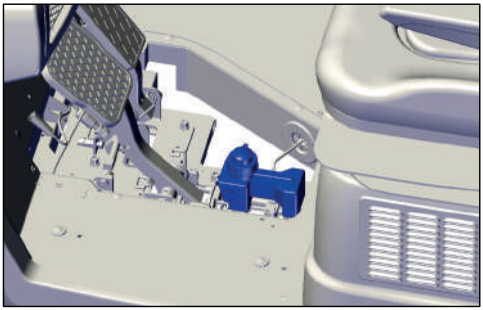


Figure 12-3 *Hydraulic brake*

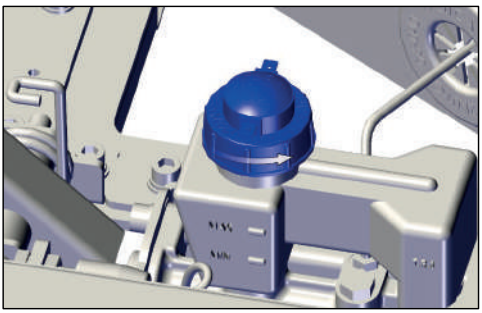


Figure 12-4 *Opening the hydraulic brake reservoir cover*

To fill the hydraulic brake reservoir, remove the front mat and then pedal plastics (see Figure 12-2). You will see the hydraulic brake reservoir (see Figure 12-3). Open the reservoir cover by turning it in the direction of the arrow
(see Figure 12-4). Turn off the cover clockwise after the brake fluid is filled up to the "max" level. Then replace the pedal base sheet and mop.

WARNING

Definitely discard the unused portions when you open a brake fluid bottle. Do not store half-used bottles. The brake fluid is hygroscopic. It absorbs moisture in the air when it contacts air. The moisture reduces the boiling point of the brake fluid and can cause early brake loss, and therefore accidents or serious injury.

Brake fluid may damage painted surfaces. The brake fluid must be observed during the filling process.

12.2 Wiper Blade Replacement and Windshield Washer Fluid Refilling

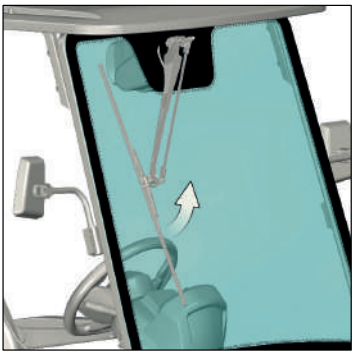


Figure 12-5 *Lifting the wiper*

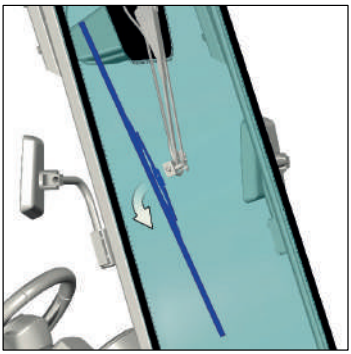


Figure 12-6 *Replacing the wiper blade*

For the change of the wiper blade:

- Lift the wiper by pulling it towards yourself (see Figure 12-5).
- Remove the blade as shown in the figure (see Figure 12-6).
- Replace the new blade in the same way (see Figure 12-6).
- Lower the wiper.

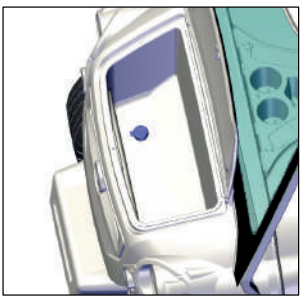


Figure 12-7 *Washer fluid tank position*

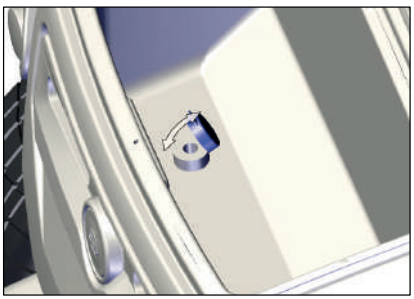


Figure 12-8 *Opening the washer fluid tank cap*

For the filling of glass water:

- Open the front front baggage cover (see Article 6.1).
- Locate the washer fluid tank cover (see Figure 12-7).
- Open the tank cover as indicated with the arrow (see Figure 12-8).
- Fill in until you see the liquid.

Since the tap water is calcated, it is recommended to be used with the windshield washer fluid. In winter you can use antifreeze doped liquids. Use a tool such as needle to set the washer.

12.3 Fuse Replacement

If an electrical device is not working, check the fuse. You can access the fuse box by removing the front baggage housing (see Figure 12-9 and Figure 12-10).

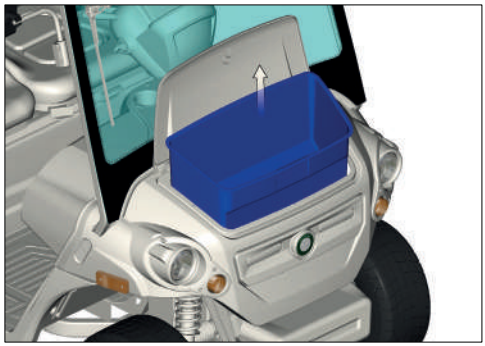


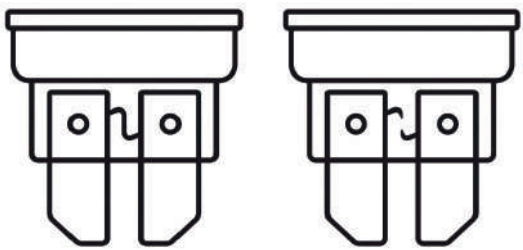
Figure 12-9 *Removing the front trunk*

Figure 12-10 *Fuse box position*

WARNING

After checking the relevant fuse, if necessary, replace it with a fuse of the same amperage as the original one. A fuse with a high amperage rating may cause the electrical installation to overheat and cause a fire in case of abnormal consumption of the equipment to which it is connected.

It is very easy to understand that a fuse has blown, remove the fuse and check if the fuse is blown by looking at the images below.



12.4 Differential Maintenance

- If you hear an unusual sound from the differential during movement in your vehicle, a malfunction may have occured in the differential. When you encounter such a situation, contact with PILOTCAR Authorized Service.
- The differential oil should be changed every four years. Remove the drain plug indicated with ② to drain the oil (See Figure 12-11)
- SAE 80 W90 API GL-5 oil should be used for differential oil change.
- 850 mm oil should be used for oil change.
- If excess oil is used, there is a possibility of oil leakage on the differential. For this reason, do not use more than specified amount of oil.
- Possibility of wear on the gears in the differential if less oil is used. This will cause a malfunction in the differential after a while. For this reason, do not use the amount of oil less than the specified amount.
- If the drain plug indicated with ② (See Figure 12-11) has been removed before adding new oil, it must be mounted first. After the drain plug is mounted, it should be tightened with a torque of 30-32 Nm.
- After oil change, the oil filler plug indicated with ① should be tightened with a torque of 30-32 Nm (See Figure 12-11).

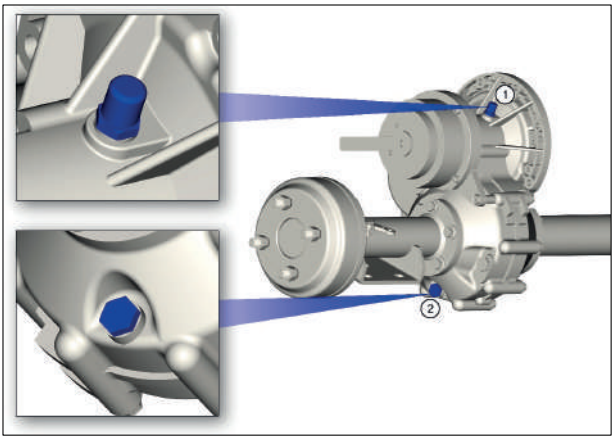


Figure 12-11 *Differential oil filler and drain plugs*

If you notice oil leakage in the differential, check the bolts on the differential. If this problem persists despite taking precauitons, contact with PILOTCAR Authorized Service.

NOT | Before adding new oil, if the drain plug indicated with ② (See Figure 11-11) has been removed, it must be mounted first. Otherwise, the newly added oil will flow again from below, causing material wastage.

12.5 Steering System Maintenance

- When there is an abnormal gap in the steering system, the tie rod ends, steering box or steering wheel should be checked. Contact with PILOTCAR Authorized Service for the replacement of the defective part.
- If your vehicle is trying to go out of the lane you follow while driving on a flat road, your vehicle's tie rods need to be adjusted. In such a case, contact with PILOTCAR Authorized Service.
- If you feel any unusual stiffness in the steering wheel, first lubricate the system through the lubrication holes indicated in blue on the spindle carriers with the grease pump (See Figure 12-12) and check the tire pressures. If the tire pressures are lower than the value given by the manufacturer, it may cause a feeling of stiffness in the steering shaft. If the problem persists, contact with PILOTCAR Authorized Service.

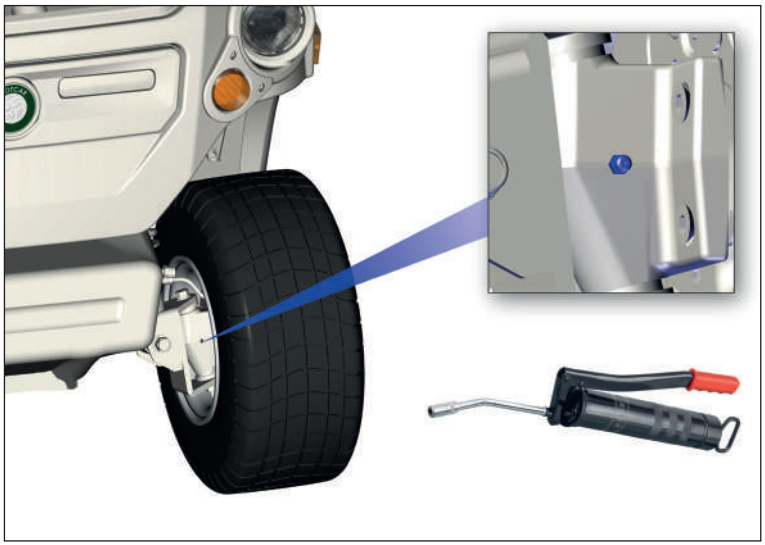


Figure 12-12 *Lubrication hole on spindle carrier location*

12.6 Use of Wheels and Tires

The tires are the most used parts of a vehicle and are extremely important because the contact of vehicle with road is provided by tires..

The usage life of the tires effected by the form of pressure, driving style, use and installation.

12.6.1 Prevention of Damage to Tires and Rims

- When you need to pass over a curb or an obstacle, be careful to pass slowly, carefully and at a steep angle as possible.
- Periodically check tires and wheels for visible and hidden damages such as tears and cracks.
- Clean the tires from the foreign objects on the sidewalls that have not penetrated to the inside.
- Check the tire pressure periodically.
- Replace damaged or worn tires as soon as possible.
- Never exceed the speed limit and load capacity specified for the tires.
- Avoid contact of tires with corrosive substances such as oil, fuel, brake fluid.

12.6.2 Tires Older Than 6 Years

Tires wear out due to physical and chemical factors and their functions are adversely affected. Tires that are not used for a long time harden and crack more quickly than used tires.

It is recommended to replace tires that are 6 years old and older with new ones. This also applies to tires that still appear usable from the outside and whose tread depths have not reached the legal limit.

12.6.3 Storing Tires

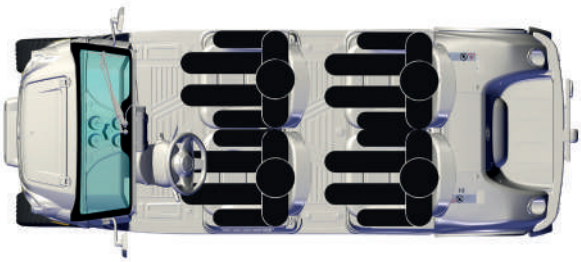
Before removing, make marks indicating the orientation of the tires (front, rear, right, left). So that it can be refitted correctly. Removed tires should be kept in a cool, dry and preferably dark area. Do not store tires vertically with rims attached. Store non-rim tires vertically in a dirt and dust-proof cover.

12.6.4 Tire Pressure

WARNING

Incorrect tire pressure can cause premature tire wear, noticeably shortened lifespan, and even tire puncture. Incorrect tire pressure also negatively affects the handling of the vehicle.
Incorrect tire pressure negatively affects range.

Recommended tire pressures for vehicles:



Front Tires: 24 PSI
Rear Tires: 26 PSI

To check the tire pressure, follow these steps:

- Tire pressure should be checked at least once a month and before each long journey. All tires must be checked. Tire pressure should be checked more frequently in cold regions. Make sure the tire pressure gauge used is correct.
- Tire pressure should only be checked if the tires are cold, driving at low speed not exceeding a few kilometers. The specified tire pressure value is given for cold tyres. The pressure of the warm tire is always higher than the cold tire. Therefore, never lower the pressure of a warm tire to adjust its pressure.
- Tire pressures should be adjusted according to the usage conditions of the vehicle.
- Remember to close the tire valve caps after changing the tire pressures.
- Be sure to comply with the pressure values given by the vehicle manufacturer, not the tire manufacturer. Be careful not to exceed the maximum tire pressure value indicated on the tire sidewall.

12.6.5 Tire Damage

Tire and rim damages are usually not visible to the naked eye.
Unusual vibrations in the vehicle or pulling the vehicle in one direction may indicate a damaged tire or rim.

- If you think a wheel is damaged, reduce your speed immediately.
- Inspect the tires and wheels for damage.
- If the tire is damaged, do not continue driving and seek assistance from PILOTCAR Authorized Service.
- If there is no visible damage, apply carefully and slowly to the nearest PILOTCAR Authorized Service.

12.6.5.1 Foreign Objects Entering the Tire

- If the foreign object stuck in the tire has reached the inside of the tire, never remove it. Objects between tire treads can be removed.
- Replace the damaged wheel. If necessary, contact your nearest PILOTCAR Authorized Service for the replacement of the damaged wheel.
- Check tire pressure and fix if necessary.

12.6.5.2 Tire Wear

There are many factors that affect tire wear. E.g:

- Driving style – fast cornering, rapid acceleration and sudden, sharp braking accelerate tire wear. If the driving style is normal and the tires wear fast, PILOTCAR Authorized Service should be consulted.
- Unbalance – new vehicles are balanced. However, due to some situations encountered in normal driving, the balance may be disturbed. This can be recognized by the unusual vibration of the steering wheel or the vehicle. In this case, tire balancing must be done again. For this, apply to the nearest PILOTCAR Authorized Service. Balancing should be done again when changing tires and installing new tires.
- Undercarriage adjustments – incorrect suspension adjustment accelerates tire wear and adversely affects driving safety and handling. If excessive wear is observed on the tires, have the wheel alignment checked by an PILOTCAR Authorized Service.

12.6.5.3 Tire Flattening

If the vehicle will not be used for more than 1 month and the tires will be left on the vehicle, the pressure of the tires must be at the maximum pressure indicated on the tire to prevent flattening.

12.6.6 Tire Change

The following items should be considered for new tires:

- Tires have break-in times. Drive more carefully in the first 600 km. Tires that have not yet been aged have lower grip and longer braking distances.
- Install tires of the same type, size and tread profile on all four wheels.
- The tread depths and profiles of new tires may differ depending on the tire type and structure.

Things to consider when changing tires:

- Tires should be changed in pairs if possible (front right/left pair, rear right/left pair).
- Old tires should be replaced with tires of the same size whenever possible. When changing a tire, attention should be paid to the size, diameter, load capacity and maximum speed of the new tires.
- Do not use tires that exceed the original tire size. Larger tires may rub against the hood or other parts of the vehicle.

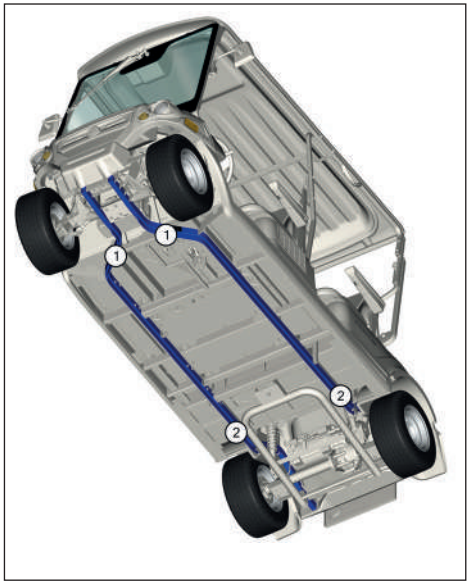


Figure 12-13 *Vehicle lifting points*

Figure 12-14 *Removing the lug nuts*

For tire change:

- Insert the 19 mm wheel wrench into the wheel nuts shown in blue in the figure and loosen the wheel bolts by turning them counterclockwise (See Figure 12-14).
- Lift the vehicle at the lifting points. Disconnect the tires from the ground with the jack at the ground indicated by ① for the front tires and ② for the rear tires on the same side as the tire to be removed (See Figure 12-13).
- After removing all the bolts, the tire will come on by itself.
- Install a wheel bolt by hand, aligning the new tire. Then insert the other wheel bolts and tighten them as tight as you can by hand.
- Lower the vehicle back to the ground.
- Tighten the wheel bolts to 86 Nm (63.4 ft-lbs) using a torque wrench.

ATTENTION

To reduce the possibility of serious injury or death from falling from a lifted vehicle, be sure to take the following precautions.

- The vehicle must be on level, smooth and stable ground.
- No operation should be performed on the vehicle unless it is secured with safety stands.
- The chocks in front of and behind the wheels must not be removed.
- Please take extra care when working on the vehicle as a lifted vehicle can be very unstable.

12.6.7 Tire Tread Depth

Differently worn tires may indicate improper alignment or poor driving style. PILOTCAR Authorized Service can assist you in this regard.

Rotate the tires every 8,000 kilometers or, if necessary, at shorter intervals, interchanging the tires.

Be sure to replace the tires if the tread depth is less than 3mm long.

12.7 Replacement of Lighting Elements

Poor lighting can result in reduced vision while driving. Headlights and taillights can become dirty during normal driving. Periodically clean the lamps and replace the blown bulbs. Do not drive in low light or at night without replacing the blown headlight bulbs. Make sure the bulbs are adjusted to give the best view at all times.

NOTE

When handling halogen lamp, do not touch the bulb with bare hands. Oils on the skin leave residue on the bulb, which reduces the life of the bulb.

12.7.1 Headlight Bulb Replacement

If the headlights fail, it may mean that the headlight bulbs need to be replaced.

- Headlight bulbs are parts that can reach high temperatures. If you are dealing with bulbs, allow time to cool beforehand.
- Pull out the wiring behind the headlight from the bulb. Be sure to pull from the socket's itself, not the cable.
- Remove the bulb by turning it counterclockwise.
- Insert the new bulb in the same way and turn it clockwise. Make sure the new bulb is seated properly in its socket.
- Reconnect the wiring to the headlight.

ATTENTION

Hot headlight bulbs can cause serious burns. Wait for the bulbs you disconnected the wires to cool. Never touch an illuminated light bulb.

12.7.2 Replacing Taillights

The taillights are equipped with an LED system, so they cannot be replaced individually. In case of malfunction, please contact PILOTCAR Authorized Service.

12.8 Battery Care

Battery maintenance always includes:

- For optimum battery life, do not stop charging the vehicle before the vehicle is fully charged.
- Make sure the fluid levels of the battery cells are correct.
- General rust, dust, dirt, etc. clean the terminals and, if necessary, first wipe the terminals with a damp cloth, then apply the battery terminal protection spray.

See Article 10.1.13 for detailed information.

WARNING

Electric shock hazard!
Always cut off the main power when handling water near an electric vehicle. For this, move the TOW-RUN button under the seat to the **"TOW"** position.

12.9 Cleaning and Storage

12.9.1 Cleaning the Vehicle

Keeping the vehicle clean not only improves the appearance but also extends the life of certain parts.

NOTE

High pressure water can damage parts. PILOTCAR recommends washing your vehicle with plenty of soap by hand or with a garden hose.

Some products damage plastic surfaces, including insect repellents and chemicals. Do not allow such products to come into contact with the vehicle.

The best and safest method of car cleaning is with soapy water and a garden hose.

- Use professional wash cloths, first clean the upper part of the body and then the lower part.
- Rinse with clean water at regular intervals.
- Dry with a chamois or similar cloth to prevent water spots.

Be extremely careful if high pressure water is to be used (not recommended). Pressurized water can damage parts and remove vehicle paint and labels on the vehicle. Avoid pressurized water directly to the following parts:

- Wheel bearings
- Gaskets
- Brakes
- Body parts
- Labels and logos
- Buttons and controls
- Electrical components and plumbing

If a security label or graphical label becomes invisible/unreadable or comes off, contact your PILOTCAR Authorized Service to purchase a new one.

Tips for washing:

- Avoid using harsh cleaning materials that may scratch the surface.
- Do not use medium or heavy duty compounds on the surface.
- Always use a clean cloth for cleaning and polishing. Dirt on old or used cloths can cause scratches on the paint.
- Avoid directing water to electrical parts such as batteries, harness and switches.

12.9.2 Vehicle Storage

If the vehicle;
If not used for less than 15 days:

- Clean the vehicle.
- Check all cables; make sure that there is no deformation or breakage in the cables.
- Store the vehicle in a cool and dry environment away from sunlight.
- Make sure the storage area is properly ventilated.
- Turn off the vehicle's ignition key.
- Set the vehicle's Tow-Run button to the “TOW” position.
- Check tire pressures.
- Never activate the parking brake. Fix the tires or support them with chocks to prevent slipping.
- Fully charge the batteries.

If it will not be used for more than 15 days (in addition to the above items):

- Perform battery maintenance (See Item 11.6). Clean and charge the batteries.
- Storage in a cool and dry place protects the vehicle from natural conditions.
- Disconnect the battery terminals and insulate them with electrical tape.
- Batteries gradually self-discharge during storage. Observe specific gravity or strain every 4-6 weeks. If the state of charge of the stored batteries is 70% or less, backup charging should be done. You can use Article 10.1.13 for specific gravity and tension measurements.
- Charge the batteries before using the vehicle again.
- Tire pressure must be at the maximum pressure indicated on the tire to prevent tire flattening.

NOTE	Do not use protectors that will prevent the vehicle from breathing and cause moisture to form. Using such protectors can cause corrosion and rust.

12.9.3 Post-Storage Use

- Check all battery connections.
- Make sure the battery is fully charged.
- Make sure the tire pressure is correct.
- Do pre-ride inspections. See pre-ride inspections (Item 9.1) in the owner's manual.
- Inspect bolts, nuts and other fasteners. Make sure they don't come loose.

13 TROUBLESHOOTING

13.1 General Problems and Solutions

The vehicle does not move.

- Make sure the Tow-Run button is in the **“RUN”** position.
- Make sure the ignition switch is on and the D-N-R button is in the **“D”** or **“R”** position.
- Check the battery charge level on the instrument panel and make sure it is sufficient for the vehicle to move.
- Reset the controller. For the reset process, see the following article **"How can I reset the control unit?**
- If the problem still persists after checking all the above items, please contact PILOTCAR Authorized Service.

The vehicle moves only at low speed.

- Make sure the batteries are charged correctly. For lead-acid batteries, if the vehicle's voltage is below 37.5 V, or if the charge level has decreased to a single flashing state, the vehicle may have switched to LOS mode (Limited Operation Strategy). This mode ensures that the vehicle only travels at low speeds for safety purposes. Fully charge the batteries to get the vehicle out of LOS mode.
- Reset the controller. For the reset process, see the following article **"How can I reset the control unit?"**
- If the above items do not help, please contact PILOTCAR Authorized Service.

The vehicle's range is lower than ever before.

- For lead-acid batteries, one or more of the battery cells may be faulty. Batteries experience a decrease in capacity after many charge cycles.
- Fully charge the batteries. Make sure the battery water levels are correct.
- If these items do not help, contact PILOTCAR Authorized Service.
- A mechanical jam can cause range reduction. In such a case, please contact PILOTCAR Authorized Service.

The charger does not charge the batteries.

- Make sure the main line is supplying power to the charger.
- Check the charger LEDs.
- The charger may overheat in hot ambient conditions. Allow the charger to cool or charge the vehicle in a cooler environment.
- Disconnect and reconnect the charging cable.
- If these items do not help, contact PILOTCAR Authorized Service.

What to do about a completely discharged battery?

- Perform a full charge cycle for the battery.
- If this item does not help, contact PILOTCAR Authorized Service.

How can I reset the control unit?

- If the instrument panel of the vehicle shows any electrical faults (See Item 12.3) resetting the control unit may be the solution. To reset the control unit to reset the Tow-Run button to **"TOW"**, and then press **"RUN"** again after waiting for 30 sec.
- If this item does not help, contact PILOTCAR Authorized Service.

Headlights do not work.

- Check the fuses. If there is a faulty fuse, replace it with a new one.
- Check the bulbs. If there is a blown bulb, replace it with a new one.
- If these items do not help, contact PILOTCAR Authorized Service.

Turn signal lights do not work.

- Check the fuses. If there is a faulty fuse, replace it with a new one.
- The LED may have burned out. Contact PILOTCAR Authorized Service for replacement.

The brake pedal is too soft or is pressed all the way down without resistance.

- Do not use the vehicle, the brakes may have failed. Please contact PILOTCAR Authorized Service.

There is vibration in the steering wheel.

- Adjust all tires according to the tire pressure chart.
- Tire balances may be wrong or tires may be damaged.
- If these items do not help, contact PILOTCAR Authorized Service.

The windshield wiper does not work or stop.

- The reasons why the wiper does not work can be:
  - o The wiper blades may be stuck. Before using the windshield wiper, separate the brushes from the windshield.
  - o The windshield wiper fuse may have blown. Replace the fuse with a new one.
  - o The windshield wiper motor may be faulty. Please contact PILOTCAR Authorized Service.
- The reason why the wiper does not stop can be:
  - o The wiper lever may be defective. Please contact PILOTCAR Authorized Service.

Display screen shows error code.

- The error code shown on the display indicates the error given by the control unit. For detailed information, please refer to Curtis control unit error codes (See Item 13.3).

Figure 13-1 *Error code display*

When there is an error in the vehicle, the indicator appears like this, the code for the error is written, where **"88"** is written.

13.2 Tow Hook Location

Figure 13-2 *Tow-Run button position*

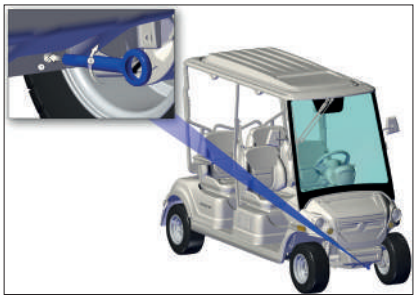


Figure 13-3 *Towing ring position*

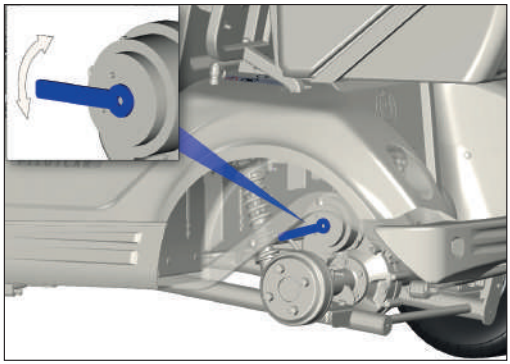


Figure 13-4 *Manually releasing the magnetic parking brake*

WARNING

This tow hook should only be used for towing. It should not be used to lift the vehicle directly or indirectly.

- When pulling is needed, tighten the tow hook clockwise to the location shown with position in the figure (See Figure 13-3). Make sure the tow hook is properly and adequately tightened. Otherwise, the vehicle may be damaged.

- Taking the TOW RUN button to the **"TOW"** position (see Figure 13-2). Release the parking brake manually. To release the parking brake manually, turn the lever shown in the arrow directions (see Figure 13-4). Otherwise the vehicle will resist the movement.

ATTENTION

Please do not use a deformed tow hook.

Be careful while towing. Do not use vehicles other than an approved vehicle tow rope. Do not tow on highways or public roads. Tow one vehicle at a time. Vehicles with the parking brake released may start to move unexpectedly, even on level ground, which can cause accidents. Do not exceed 15 km/h during towing.

13.3 Curtis Control Unit Error Codes

Code	LCD Display	Cause	Conditions	Effect of Fault
0	Hardware Failure	"1. ECU is not working. 2. Tow-Run button is not open. 3. No electricity. 4. Blown fuse."	Check the Tow-Run button. Check the fuse. Check batteries. Be sure the battery voltage value is between the ECU working voltage range.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
12	Controller Overcurrent	"1. External short of phase U,V, or W motor connections. 2. Motor parameters are mis-tuned. 3. Controller defective. 4. Speed encoder noise problems."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
13	Current Sensor Fault	"1. Leakage to vehicle frame from phase U, V, or W (short in motor stator). 2. Controller defective."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
15/16/22	Controller Severe Undertemp / Severe Overtemp / Overtemp Cutback	"1. See Monitor menu » Controller: Temperature. 2. Controller is operating in an extreme environment. 3. Excessive load on vehicle. 4. Improper mounting of controller."	Bring the engine temperature to the normal operating temperature range (-40°C/+95°C). Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake Reduced Drive and Brake Torque"
17	Severe B+ / KSI Undervoltage	"1. Battery parameters are misadjusted. 2. Non-controller system drain on battery. 3. Battery resistance too high. 4. Battery disconnected while driving. 5. See Monitor menu » Battery: Capacitor Voltage. 6. Blown B+ fuse or main contactor did not close."	Charge the batteries. Follow the battery maintenance steps in the user manual. If the error persists, please contact PILOTCAR Authorized Service.	No Drive Torque

18	Severe B+ / KSI Overvoltage	"1. See Monitor menu » Battery: Capacitor Voltage. 2. Battery parameters are misadjusted. 3. Battery resistance too high for given regen current. 4. Battery disconnected while regen braking."	Make sure there are manufacturer-specified batteries on the vehicle. Follow the battery maintenance steps in the user manual. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
23	B+ Undervoltage Cutback	"1. Normal operation. Fault indicates the batteries need recharging. Controller is performance limited at this voltage. 2. Battery parameters are misadjusted. 3. Non-controller system drain on battery. 4. Battery resistance too high. 5. Battery disconnected while driving. 6. See Monitor menu » Battery: Capacitor Voltage. 7. Blown B+ fuse or main contactor did not close."	Charge the batteries. Follow the battery maintenance steps in the user manual. If the error persists, please contact PILOTCAR Authorized Service.	Reduced Drive Torque
24	B+ Overvoltage Cutback	"1. Normal operation. Fault shows that regen braking currents elevated the battery voltage during regen braking. Controller is performance limited at this voltage. 2. Battery parameters are misadjusted. 3. Battery resistance too high for given regen current. 4. Battery disconnected while regen braking. 5. See Monitor menu » Battery: Capacitor Voltage."	Make sure there are manufacturer-specified batteries on the vehicle. Follow the battery maintenance steps in the user manual. If the error persists, please contact PILOTCAR Authorized Service.	Reduced brake torque. Note: This fault is declared only when the controller is running in regen.
25	+5V Supply Failure	"1. External load impedance on the +5V supply (pin 26) is too low. 2. See Monitor menu » outputs: 5 Volts and Ext Supply Current."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	None, unless a fault action is programmed in VCL.
28	Motor Temp Hot Cutback	"1. Motor temperature is at or above the programmed Temperature Hot setting, and the current is being cut back. 2. Motor Temperature Control Menu parameters are mis-tuned. 3. See Monitor menu » Motor: Temperature and » Inputs: Analog2. 4. If the application doesn't use a motor thermistor, Temp Compensation and Temp Cutback should be programmed Off."	Let the engine to cool down. If the error persists, please contact PILOTCAR Authorized Service.	Reduced Drive Torque
29	Motor Temp Sensor Fault	"1. Motor thermistor is not connected properly. 2. If the application doesn't use a motor thermistor, Motor Temp Sensor Enable should be programmed Off. 3. See Monitor menu » Motor: Temperature and » Inputs: Analog2."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	MaxSpeed reduced (LOS, Limited Operating Strategy), and motor temperature cutback disabled.

Code	LCD Display	Cause	Conditions	Effect of Fault
31	Coil1 / Main Driver Open / Short	"1. Open or short on driver load. 2. Dirty connector pins. 3. Bad crimps or faulty wiring."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Driver1 Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
36/93	Encoder Fault/ Encoder LOS (Limited Operating Strategy)	"1. Motor encoder failure. 2. Bad crimps or faulty wiring. 3. See Monitor menu » Motor: Motor RPM."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown EM Brake Motor disabled"
37	Motor Open	"1. Motor phase is open. 2. Bad crimps or faulty wiring."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
38/39	Main Contactor Welded / Did Not Close	"1. Main contactor tips are welded closed or did not close. 2. Main contactor tips are oxidized, burned or not making good contact.* 3. An alternate voltage path (such as an external precharge resistor) is providing a current to the capacitor bank (B+ connection terminal)."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"
41/42	Throttle Wiper High / Low	"1. See Monitor menu » Inputs: Throttle Pot. 2. Throttle pot wiper voltage too high or too low."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	Shutdown Throttle
51	Parking Brake Engaged	"1. Open or short on driver load. 2. Dirty connector pins. 3. Bad crimps or faulty wiring."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	Shutdown Throttle
52	CAN Communication Fault	"1. Wrong baud rate selection. 2. Dirty connector pins. 3. Bad crimps or faulty wiring."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	None, unless a fault action is programmed in VCL.

53/72	PDO Fault / Timeout	1. Time between CAN PDO messages received exceeded the PDO Timeout Period.	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Throttle CAN NMT State set to Pre-operational."
54	Parking Brake Timeout	1. Received parking brake setting time exceeded the timeout period.	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If not, activate the electromagnetic brake button. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Throttle Shutdown Driver4"
55	BMS Communication Fault	1. Control unit and BMS can not communicate.	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Throttle Shutdown Interlock"
69	External Supply Out of Range	"1. External load on the 5V and 12V supplies draws either too much or too little current. 2. Fault Checking Menu parameters Ext Supply Max and Ext Supply Min are mis-tuned. 3. See Monitor menu » Outputs: Ext Supply Current."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	None, unless a fault action is programmed in VCL.
73	Stall Detected	"1. Stalled motor. 2. Motor encoder failure. 3. Bad crimps or faulty wiring. 4. Problems with power supply for the motor encoder. 5. See Monitor menu » Motor: Motor RPM."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. Make sure the electromagnetic brake button is deactivated. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown EM Brake Motor disabled Control Mode changed to LOS (Limited Operating Strategy)."
77	Supervisor Fault	"1. The Supervisor has detected a mismatch in redundant readings. 2. Internal damage to Supervisor microprocessor. 3. Switch inputs allowed to be within upper and lower thresholds for over 100 milliseconds. (for recurring errors, check the switches for moisture)."	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Shutdown Interlock Shutdown Driver1 Shutdown Driver2 Shutdown Driver3 Shutdown Driver4 Shutdown PD Full Brake"
82	Bad Calibrations	1. Internal controller fault.	Set the Tow-Run button to "Tow" position for 3 sec. Then set the button to "Run" position. If the error persists, please contact PILOTCAR Authorized Service.	"Shutdown Motor Shutdown Main Contactor Shutdown EM Brake Shutdown Throttle Full Brake"

14 TECHNICAL SPECIFICATIONS

A	- Length	**D**	- Wheelbase
B	- Width	**E**	- Ground Clearance
C	- Height		

POWER ELECTRIC -48 V (AC)	
Motor Power	**AC** 6 kW (8.20 hp) Rated / 12.46 kW (16.95 hp) Peak 10 kW (13.60 hp) Rated / 22.43 kW (30.50 hp) Peak
Battery	Lead-Acid Battery Pack 8X6V YİĞİT YFFP6-240 (11.52 kWh) Lithium Battery Pack (9.7 kWh)
Charge Unit	**Lead-Acid Battery Pack** DELTA-Q QuiQ 1000 Onboard Charge Unit w/auxillary charge indicator 110-220 VAC@18A/48V **Lithium Battery Pack** 3.3 kW Onboard Charger 85-265 VAC@40A/48V Motor Control Unit CURTIS (350 A)
Motor Control Unit	CURTIS (350 A)
STEERING & SUSPENSION SYSTEM	
Steering	Self-compensating double reduction helical rack-and-pinion
Suspension Front	Fully independent McPherson style strut suspension
Suspension Rear	Semi independent, swing arm with coil springs over hydraulic shock absorbers
BRAKE SYSTEM	
Service Brake	4-wheel hydraulic drum brake system and regenerative braking
Parking Brake	Electromagnetic parking brake
BODY & CHASSIS	
Body	Naturally colored Thermoplastic ABS White, Midnight Blue, Red, Black
Chassis	Automotive style steel frame with high corrosion resistance Sanding / E-coating / Static Wet Paint

PERFORMANCE	*EU: 134/2014
Max. Speed	50 km/h
Range	Lead-Acid Battery Pack - 73 km* Lithium Battery Pack - 89 km*
Max. Gradeability	20%
Charge Time	80% - 7 hrs 100% - 9 hrs
Turning Radius	4.3 m
GENERAL	*Standart Vehicle w/Batteries **Available only for lifted vehicles
Curb Weight	Lead-Acid Battery Pack - 700 kg* Lithium Battery Pack - 570 kg*
Passenger Capacity	1+3 Passenger
Load Capacity	600 kg
Tow Capacity	1000 kg
Tyre Dimensions	20.5 x 8-10 (6 ply) 22 x 9.5-10 Off-Road Tire**
DIMENSIONS Standart Vehicle w/o Options	
Length	3350 mm
Width	1226 mm
Height	1857 mm
Wheelbase	2460 mm
Ground Clearance	140 mm
WARRANTY	
Warranty	2 years full warranty (Except wearable items) 5 years limited warranty (Motor and motor control unit)

OWNER'S MANUAL

PC-4 SL MAINTENANCE BOOKLET

CONTENTS

Vehicle Information Label

1	□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□
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Figure 1

1	Vehicle Identification Number (VIN) (Chassis Number)
2	Vehicle Type/Motor Power
3	Motor Serial Code/Color Number
4	Options
5	Permitted Total Weight
6	Allowable Tensile Weight (Trailer with Towing Vehicle)

PILOTCAR Authorized Service Stamp	**PILOTCAR Authorized Service Stamp**

PILOTCAR SERVICE

This maintenance schedule applies to the following model:	
PC-4 SL	

This service program means:

Thanks to the vehicle information Figure 1 on the maintenance booklet, it is ensured that the correct PILOTCAR Genuine Spare Parts and Accessories are always used in your vehicle. In addition, in this way, it is determined which type of service is available for your vehicle.

- Delivery date and delivery control is performed in the service program, thus confirming the beginning of the vehicle warranty.
- The service schedule indicates which type of service should be applied. Since the scope of service may vary from vehicle to vehicle, you can learn vehicle-specific studies from the authorized service.
- At the authorized service, all the work of the service program for the service is documented and recorded.

This document should be in the owner's manual file so that the service plan is always at hand when you need it.

Please do not forget to deliver this service program to the new owner during the sale of your vehicle.

WARNING

Inadequate or not performing service operations and not paying attention to service intervals may cause traffic jams, accidents, vehicle breakdown and injury.

- Have the service work done at PILOTCAR Authorized Services.
- Observe the owner's manual.

NOTE

PILOTCAR OTOMOTIV SAN. ve TİC. A.Ş. cannot be held resposible for damage caused by incorrect charging, incorrect or poor oil quality, insufficient maintenance and use of missing parts or not using original parts.

Regular maintenance of your vehicle not only contributes to the protection of the vehicle, but also contributes to the operation and traffic safety of the vehicle. Therefore, perform the service work according to the maintenance chart information.
Your authorized service will assist you with satisfaction and care.

Periodic or Control Maintenance

PERIODIC MAINTENANCE	Battery Maintenance, Differential Oil Change, Brake Pad Check, Lighting Equipment Check
CONTROL MAINTENANCE	General Check, General Oil Checks, Brake Checks, Battery Checks, Body Parts Checks, Tire Checks

Figure 2

Two different types of service are applied to your vehicle by PILOTCAR OTOMOTİV SAN. ve TİC. A.Ş. These are indicated in the table in **Figure 2**. You can understand which type of service should be applied to your vehicle from the km indicator on your vehicle.

Service Process		Transaction No	Service Type	Service Interval
Differential Oil Change			PERIODIC	Twice a year
Battery Replacement	(Lead - Acid)			750 cycles
	(Lithium)			4000 cycles
Battery Maintenance	(Lead - Acid)			Once in 15 days
	(Lithium)			-
Brake Pad Check				Once in every 25,000 km
Brake Fluid Change			CONTROL	Once in 3 years

Exceptions	Service Intervals
Due to the operating conditions of the vehicle, maintenance periods should be determined specifically.	You can use your vehicle's display to get km information for service times or you can get information from PILOTCAR Authorized Services.

Terms of Use Information

The specified service intervals and scope apply to vehicles used under **normal operating conditions.**

In vehicles used under **heavy operating conditions**, some work may be required between two services, different from the specified service intervals.

Heavy use conditions include:

- Extreme rugged environments
- Extremely dusty environments
- Extremely hot or extremely cold environments
- Short, long rides
- Extremely sloping areas

This applies in particular to the following components or vehicle fluids:

- Electric motor
- Differential
- Differential Oil
- Tyre

Service Documentation

Meaning of service documentation

PILOTCAR Authorized Service approves the following criteria by ticking the relevant box:

- Which service was implemented and when?
- Is long-life oil used?
- Has a repair recommendation been given such that the brake pad needs to be replaced?
- Has a special request been made for or during maintenance (service worker records in work order)?
- Which components or vehicle fluids were changed?
- When is the next service date?

This will give you a clear view and avoid misunderstandings.

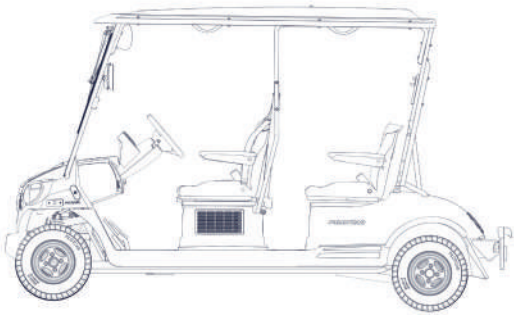
The long-lasting mobility guarantee is valid until the next inspection.

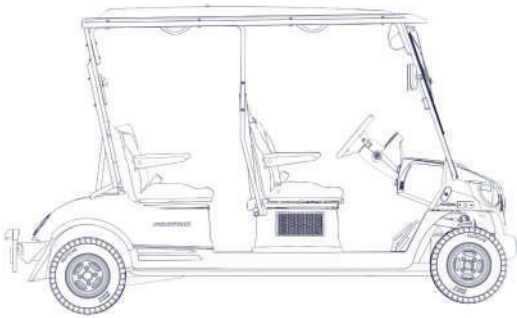
Recording every check performed in this service program entitles you to a long-lasting mobility guarantee.

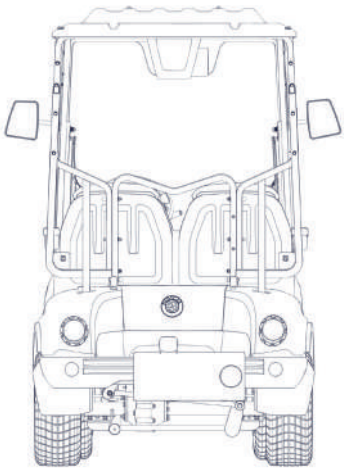
1. Service Approval Certificate	
Yes / No. Service Done:	**Yes / No Additional works-Changed:**
☐ / ☐ Differential Oil Change	☐ / ☐
☐ / ☐ Headlight Adjustments Control	☐ / ☐
☐ / ☐ Tire Check	☐ / ☐
☐ / ☐ Brake Pad Change	☐ / ☐
☐ / ☐ Battery Replacement	☐ / ☐
☐ / ☐ Battery Maintenance	☐ / ☐
☐ / ☐ Brake Fluid Change	☐ / ☐
☐ / ☐ Brake Wire Replacement	☐ / ☐
☐ / ☐ Customer Request	☐ / ☐
Applied Service:	☐ / ☐
In kilometers:	☐ / ☐
Invoice number:	☐ / ☐ .....
Service Implemented by:	Long-Lasting Mobility Guarantee:
Authorized Service Stamp	**PILOTCAR Authorized Service Stamp**

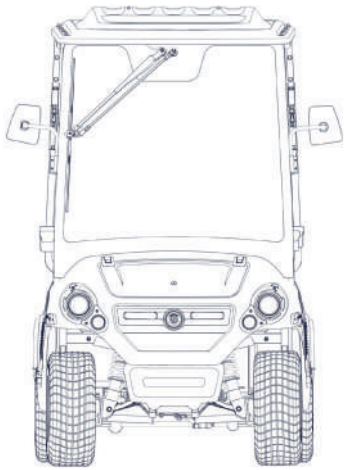
Your Next Service Time	
Maintenance Incidents	**Additional Works**
☐ According to the service interval indicator or (Date): ..... or In kilometers (mileage):	..... or (Date): ..... or In kilometers (mileage): .....

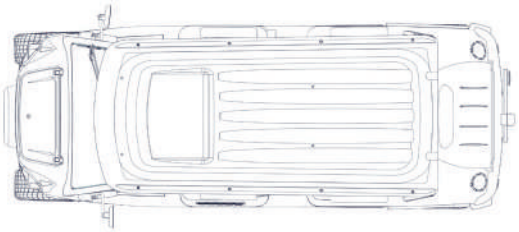
Body Control Documents

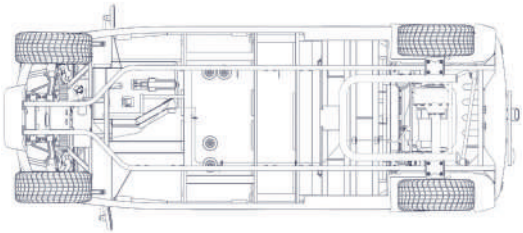






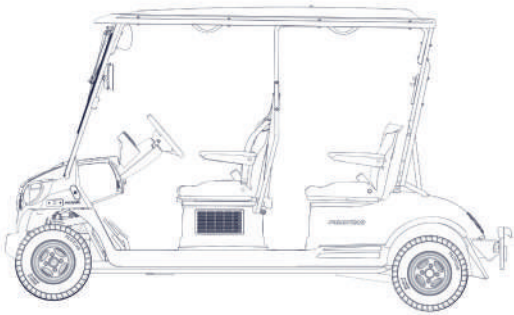


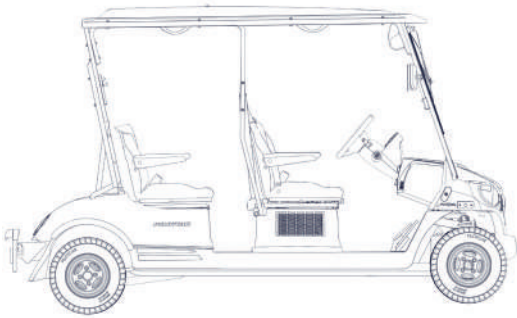


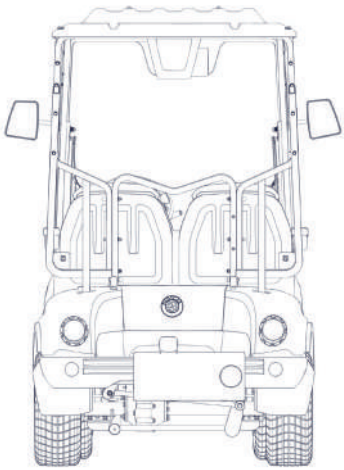


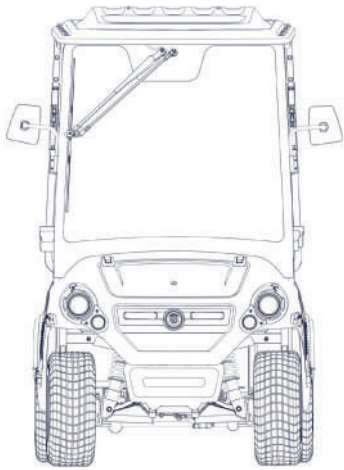
Reprsentative representation. It is valid for PC-4 SL model vehicles.	
Damaged parts are marked with the following symbols at the authorized service.	
× Scratched ❍ Bending ☐ Corrosion △ Stone Impact	
Defect detected? **Yes:** ☐ **No:** ☐	
Defect definition:	
Description:	**PILOTCAR Authorized Service Stamp**

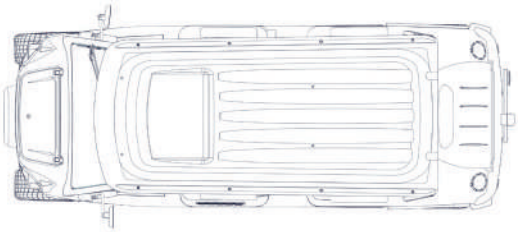
Body Control Documents

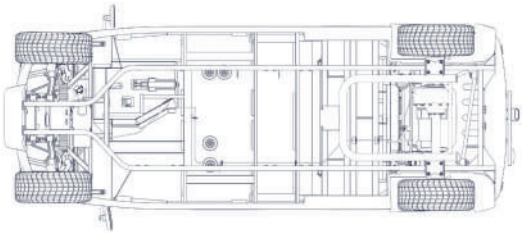






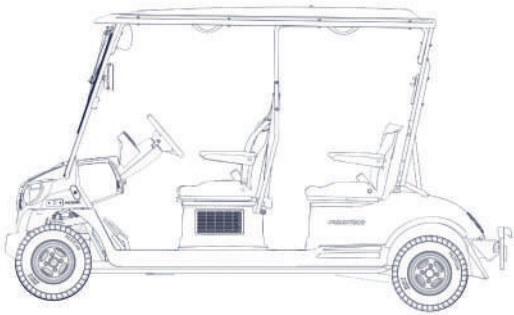


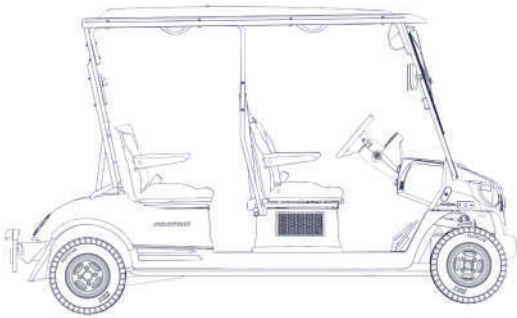


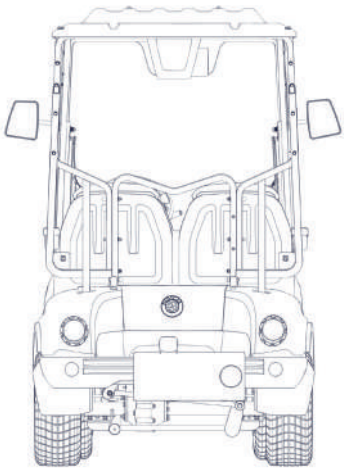


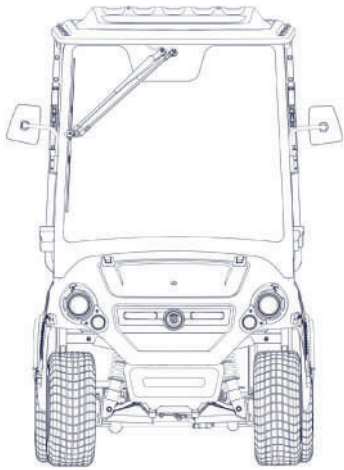
Reprsentative representation. It is valid for PC-4 SL model vehicles.	
Damaged parts are marked with the following symbols at the authorized service.	
× Scratched ❍ Bending ☐ Corrosion △ Stone Impact	
Defect detected? **Yes:** ☐ **No:** ☐	
Defect definition:	
Description:	**PILOTCAR Authorized Service Stamp**

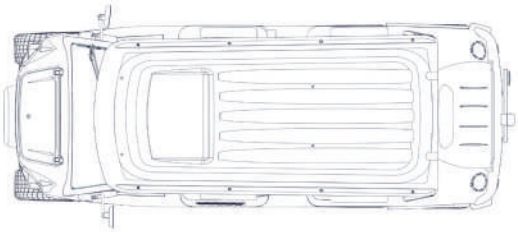
Body Control Documents

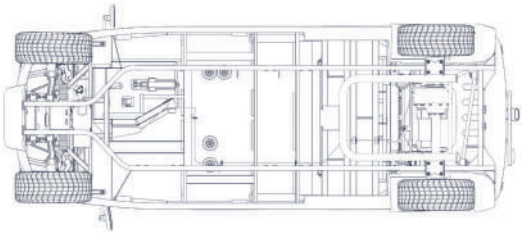






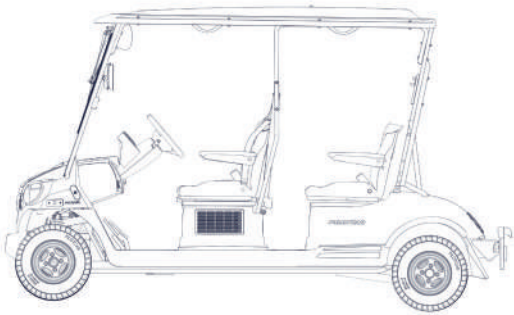


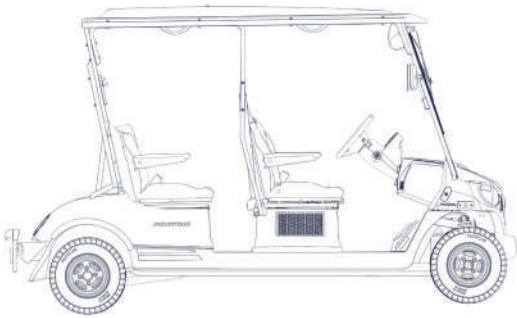


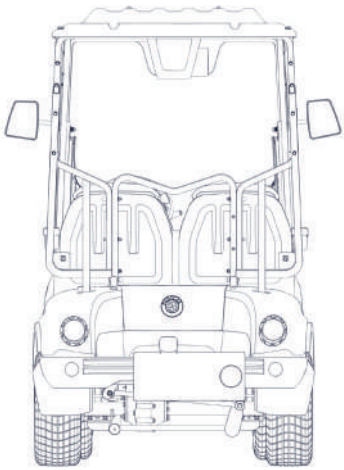


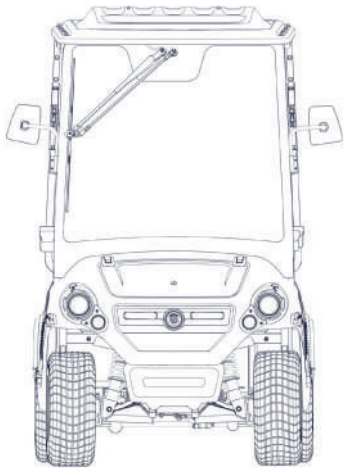
Reprsentative representation. It is valid for PC-4 SL model vehicles.	
Damaged parts are marked with the following symbols at the authorized service.	
× Scratched ❍ Bending ☐ Corrosion △ Stone Impact	
Defect detected? **Yes:** ☐ **No:** ☐	
Defect definition:	
Description:	**PILOTCAR Authorized Service Stamp**

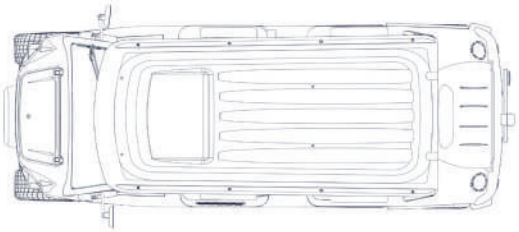
Body Control Documents

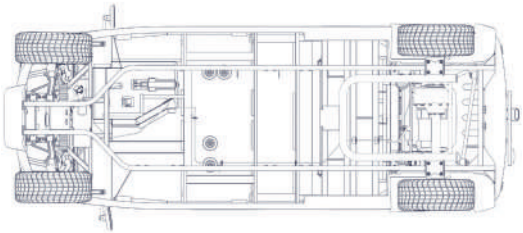












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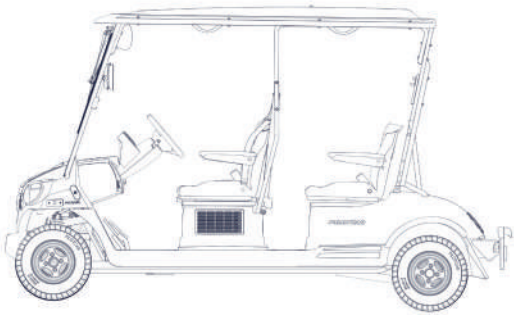

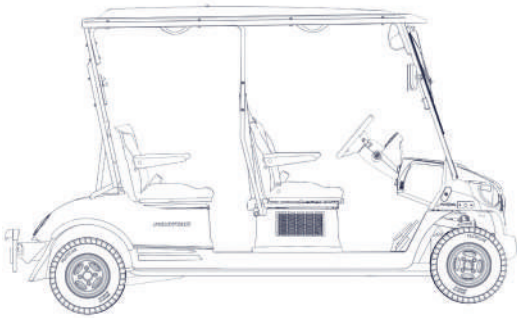

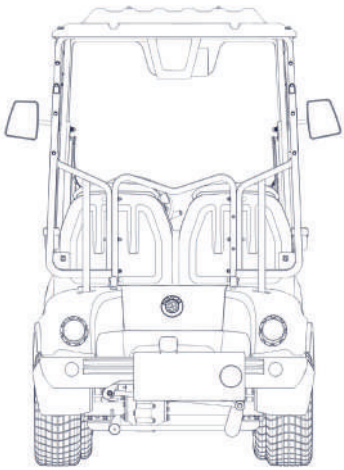

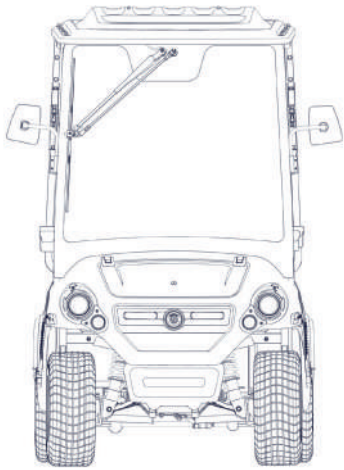

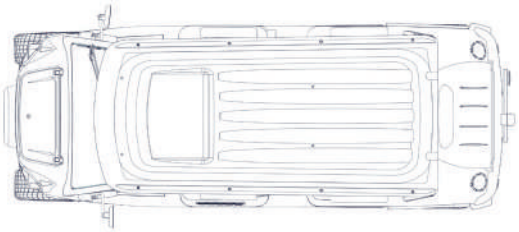

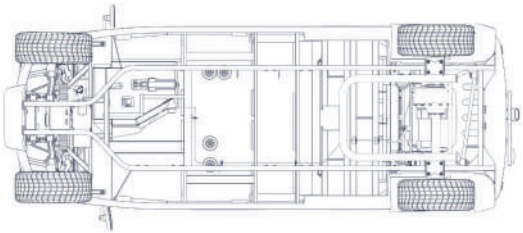

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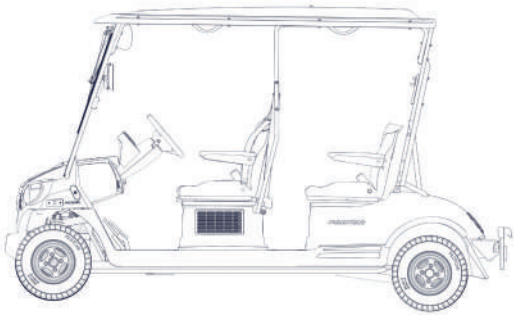

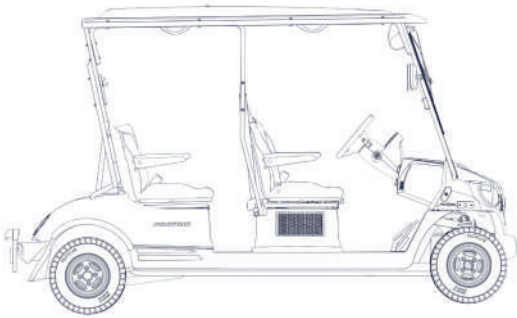

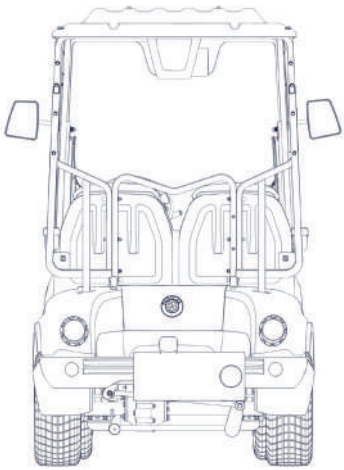

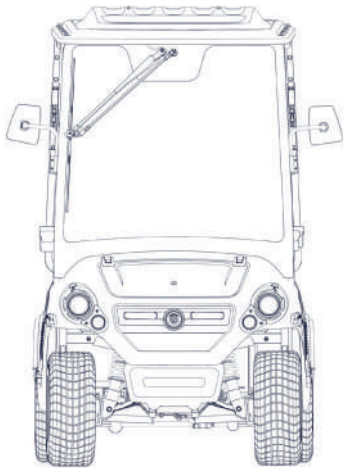

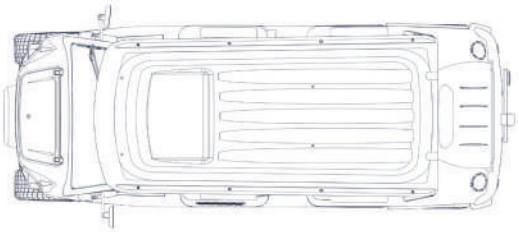

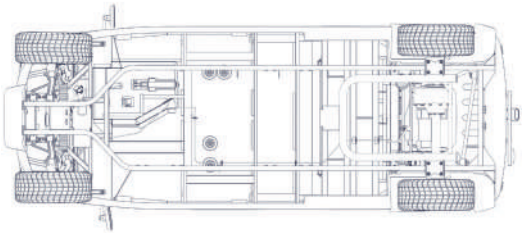

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Authorized Service Records

Works that are not included in the scope of the service performed by the authorized service on your vehicle (Ex: .....) are saved.

Date:	Mileage status:
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NOTES

Electric Vehicles

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