ALRAYYAN

شركة الريان للتجارة و المقاولات

GOLF CART MANUALS

USER MANUAL

WWW.GOKARTS-ATVS.COM

INDEX

1. Overview

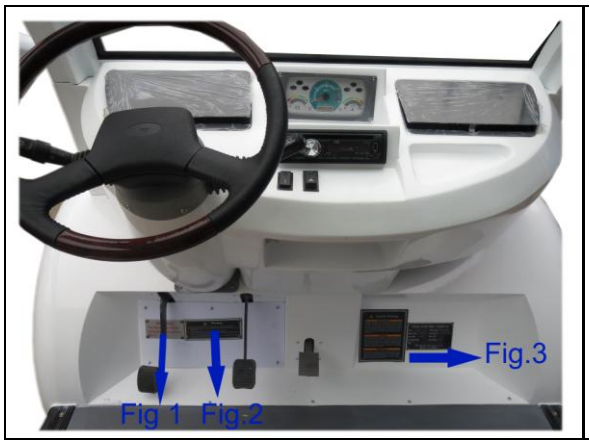
WARNING!

Please make sure you have checked with the local authorities on where your new low speed vehicle can be used! Moto Electric Vehicles is not responsible for knowing you local laws; please make sure you look into this before using your new vehicle!

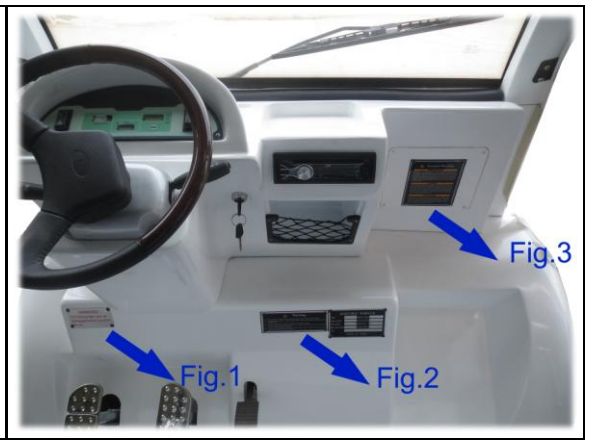
IMPORTANT LABELS

SAFETY LABEL

Read carefully and understand the contents on the safety label attached on the vehicle.



Safety labels on 03 style vehicle



Safety label on 02 style vehicle

Label content of the safety labels

Fig. 1


Warning
When washing your electric vehicle, avoid putting water in contact with any electrical parts.
The electric vehicle must be in a clean and good ventilated area when charging to reduce the risk of explosion or fire.
The ignition key must be in the "OFF" position when charging the vehicle.
Check to make sure the cooling fan located in the charger is functioning properly during charging process to avoid the charger overheating.
This vehicle is not intended for street use and/or on public roads. It should only be operated in a safe area, as allowed by local rules and laws.

Fig.2

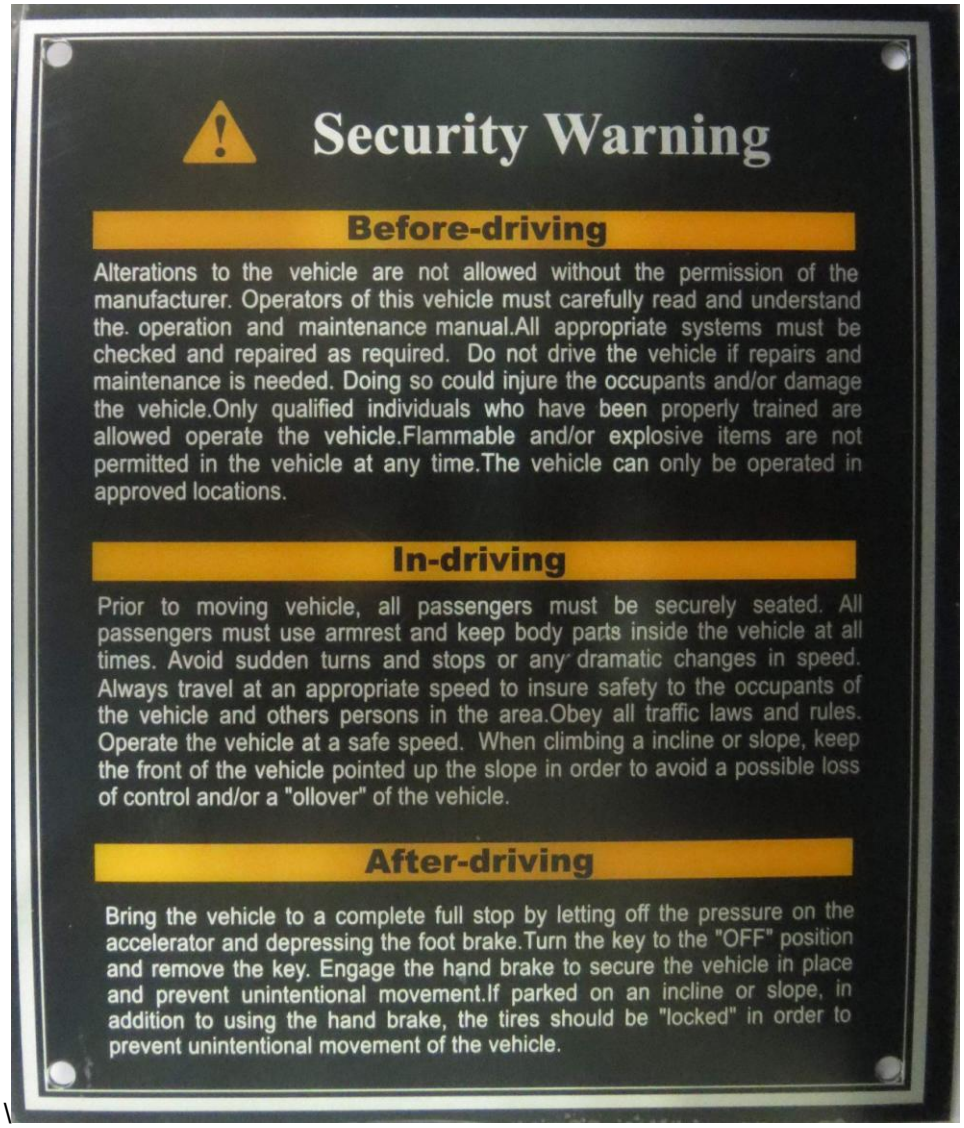

Security Warning
Before-driving
Alterations to the vehicle are not allowed without the permission of the manufacturer. Operators of this vehicle must carefully read and understand the. operation and maintenance manual.All appropriate systems must be checked and repaired as required. Do not drive the vehicle if repairs and maintenance is needed. Doing so could injure the occupants and/or damage the vehicle.Only qualified individuals who have been properly trained are allowed operate the vehicle.Flammable and/or explosive items are not permitted in the vehicle at any time.The vehicle can only be operated in approved locations.
In-driving
Prior to moving vehicle, all passengers must be securely seated. All passengers must use armrest and keep body parts inside the vehicle at all times. Avoid sudden turns and stops or any dramatic changes in speed. Always travel at an appropriate speed to insure safety to the occupants of the vehicle and others persons in the area.Obey all traffic laws and rules. Operate the vehicle at a safe speed. When climbing a incline or slope, keep the front of the vehicle pointed up the slope in order to avoid a possible loss of control and/or a "ollover" of the vehicle.
After-driving
Bring the vehicle to a complete full stop by letting off the pressure on the accelerator and depressing the foot brake.Turn the key to the "OFF" position and remove the key. Engage the hand brake to secure the vehicle in place and prevent unintentional movement.If parked on an incline or slope, in addition to using the hand brake, the tires should be "locked" in order to prevent unintentional movement of the vehicle.

Fig.3

Vehicle Information (Name Plate)

The name plate is at the lower part of the dashboard as in the below picture:

Chassis number of the vehicle:

See Picture below to view the Chassis Number:

2. Operating Instructions

The MotoEV Bubble Car has a very simple design for operation. Please carefully read the below operation procedures to have a successful experience with the vehicle!

BEFORE OPERATING:

- ALWAYS read this first before you start driving the vehicle.
- ONLY authorized people should drive this vehicle. DO NOT OPERATE WHEN SITTING IN THE PASSENGER SEAT.
- Drive the vehicle ONLY in areas where the vehicle is allowed by law or local regulations and under safe conditions.
- DO NOT overload the vehicle! If this vehicle is overloaded the motor could become overloaded as well resulting in failure.
- DO NOT climb any slope over 20% grades.

- Do not operate this vehicle in sand or mud, this will damage the motor.

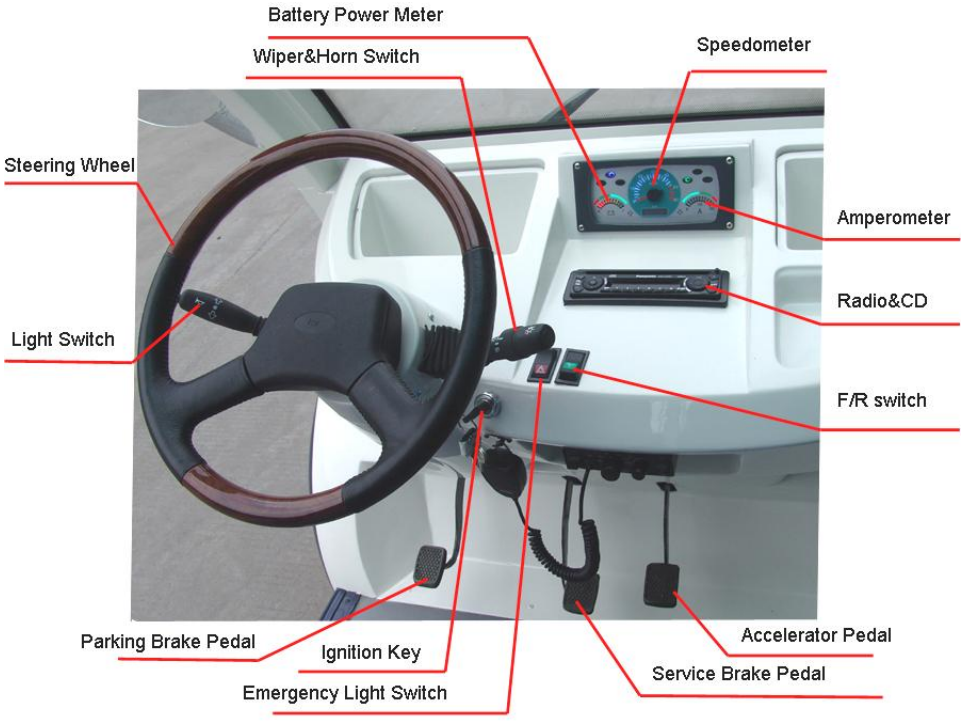
WHILE OPERATING THE VEHICLE

- Keep your entire body inside the vehicle, keep seated and hold on while the vehicle is moving.
- Do not start the vehicle until all occupants are securely seated.
- Keep your hands on the steering wheel and your eyes on road.
- Always back up slowly, and watch behind the vehicle carefully.
- Avoid starting or stopping suddenly.
- Avoid turning the steering wheel too sharply at higher speed.
-

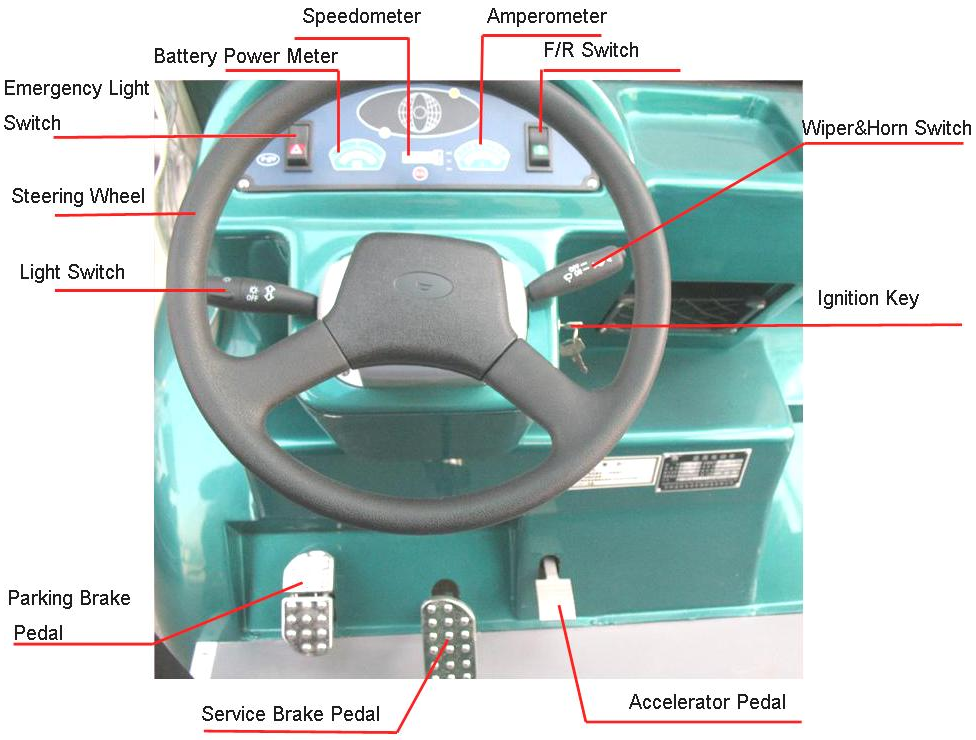
3. Controls

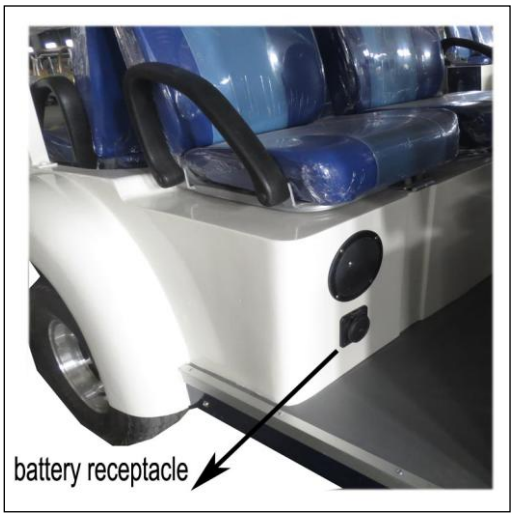
1) **Schematic Figure of controls** (Please note there was a Chassis Design Change Made in 2012. We have listed the SE and LE dash controls for reference. Please Follow the Chassis Design Below that matches your vehicle)

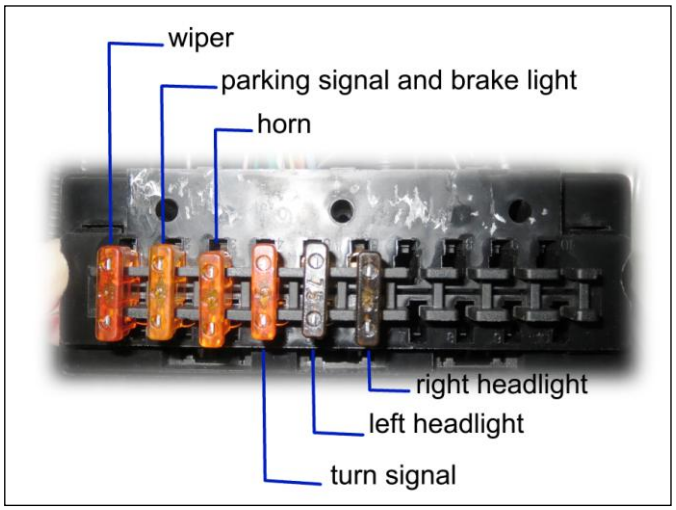
LE DESIGN (2012 AND AFTER)



SE DESIGN (2012 AND BEFORE)







2) Functions of Controls

Power key

The power key is used to switch on the electrical system of the vehicle.

To engage the motor and start the vehicle, Insert the key and turn it clockwise to the ON position, at the same time, the 12V accessory system (including the headlight,

turn signal, taillight, brake light and horns) will be engaged too.
To switch the power off, turn the key counterclockwise to OFF position.

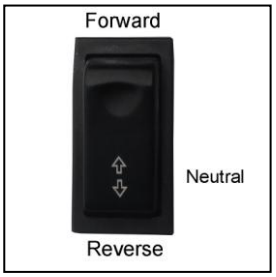
CAUTION!

When the Key is on 'ON' position, the key cannot be pulled out. Don't try to pull out the Key when it's on 'ON' position!

Forward/reverse switch

This is a three-position switch:

- Up Position: Forward
- Middle Position: Neutral
- Down Position: Reverse



WARNING! This switch must be fully pressed into the proper position. If not, the electrical system/motor could become faulty.

NOTE: When the F/R Switch is in the Down Position (Reverse), a Buzzer will activate which warns pedestrians and vehicles behind the vehicle.

Accelerator pedal

The accelerator pedal is used to control the speed when driving. When pressing down the accelerator pedal, the vehicle will start to move. Letting off the accelerator pedal will cause the vehicle to slow down. Please note regenerative braking is included on this vehicle. Regenerative Braking will activate when the driver takes his/her foot off the accelerator pedal.

Service Brake pedal

The service brake pedal is used in braking.

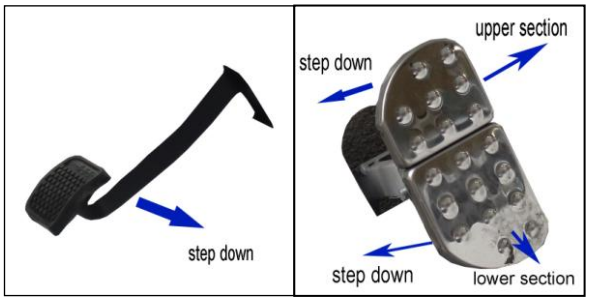
SE DESIGN

LE DESIGN

Parking Brake Pedal

The parking brake pedal is used in when the vehicle is being parked. The parking brake should be engaged into parking position whenever the vehicle is left unattended.

How to engage and disengage the parking brake?



LE SE

To engage the parking brake

Fig. 1 Step down the parking brake pedal by foot until it's hooked

Fig 2. Step down upper section of the parking pedal by foot until it's hooked.

To disengage the parking brake,

Fig. 1 Step down the parking brake pedal to the end until the parking brake pedal is unhooked.

Fig. 2 Step down lower section of the parking to the end until parking brake pedal is unhooked.

WARNING!

Please always disengage the parking brake pedal before you drive the vehicle. Failure to do this can cause damage to the braking system of the vehicle.

Steering wheel

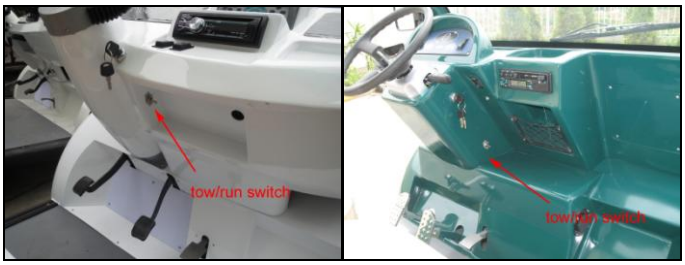
The steering wheel is used to control the driving direction. Please avoid any sudden movements which can cause the vehicle to flip.

TOW/RUN SWITCH (available for Curtis 1268 controller)

Before operating the vehicle, make sure the TOW/RUN switch is on 'RUN' position.

Make sure the TOW/RUN switch is on the 'TOW' position if towing the vehicle.

The TOW/RUN switch is located under the dashboard as showed below picture.



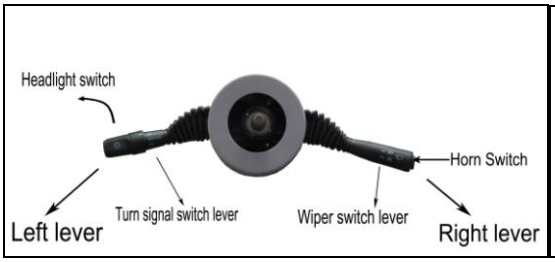
LE SE

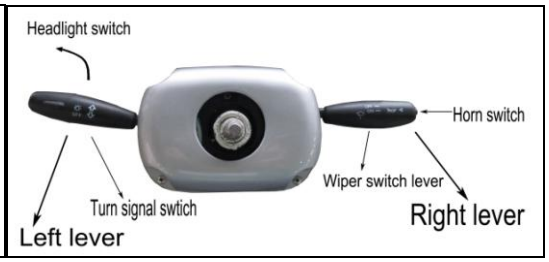
NOTE: When the TOW/RUN switch is on the 'RUN' position, the vehicle will beep if towing the vehicle. **TURN THE VEHICLE TO TOW MODE RIGHT AWAY IF YOU HEAR THIS BEEP**

COMBINATION SWITCH:

Combination switch includes a left lever and a right lever: the left lever of the switch is used to switch on/off the lighting system including the headlights, front turn signals, rear turn signals, and the taillights; the right lever is used to control the wiper and horn.

***NOTE: The Combination Switch is NON Canceling, please return the Turn Signal Stick to the Neutral Position when done turning!**





LE **SE**

Left lever:

It's used to control the lights including headlights, taillights and turning lights.

1) Turn the top button to power on the headlights and taillights; and turn back to power off the headlights and taillights.

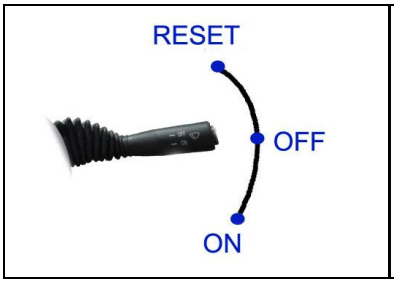
2) Push the lever up to engage the right turning lights

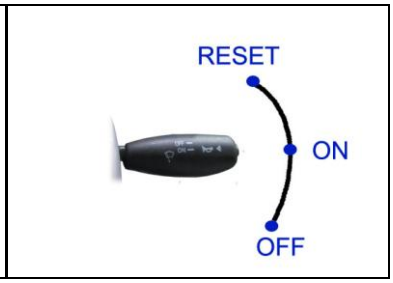
3) Push the lever down to engage the left turning lights

Right lever

It's used to control the wiper and horn

Wiper switch: This switch is used to control windshield wiper.



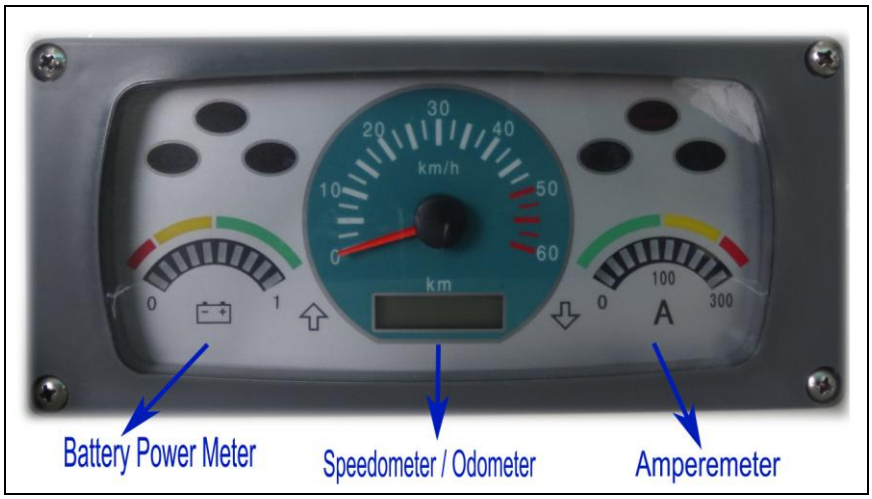


LE **SE**

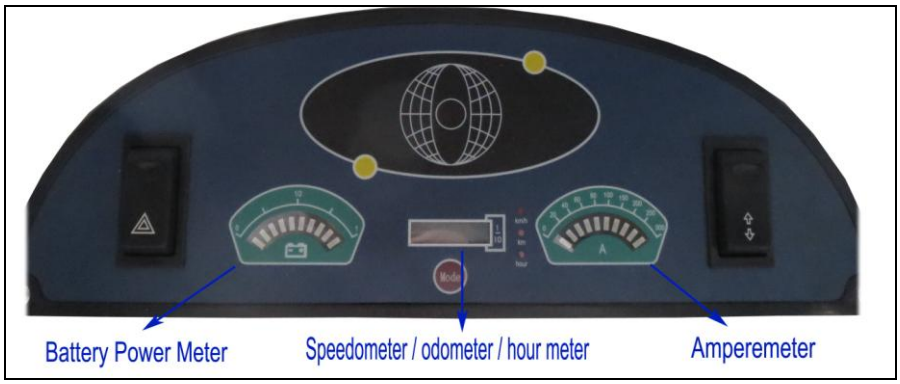
Horn Switch: Press the top button of the lever to activate the horn.

Emergency Light Switch—the emergency light switch is located near the digital dashboard. Press the button down to turn the Emergency Flashers on. Turn the Button to the upper position to shut it off.

DIGITAL DASHBOARD:



LE



SE

Speedometer / Odometer---

Speedometer- Shows the current speed of the vehicle
Odometer- Show the current distance the vehicle has traveled.

Amperemeter —— Indicate the current running through the vehicle at the current time.

Battery Power Meter
There are 10 divisions on the meter (from 0 to 1). The meter will decline from the top to the bottom as the battery discharges. When the battery is too low, the red indicator light will flash, reminding you to recharge the battery.
NOTE: please refer to your Battery Charger Owner's Manual to know how to recharge the batteries.

4. Operation

STARTING:

a) Disengage the parking brake pedal.
CAUTION!
Failure to disengage the parking brake when driving the vehicle will cause motor the burn up!

b) With the Forward/Reverse switch on the Neutral position, turn the power key to ON position.

CAUTION!

The car will not run if if the F/R Switch is not in the neutral position when an AC Motor is installed. Please make sure to start the vehicle in the Neutral Position to have a successful experience.

c) Press the Forward/Reverse switch to lock the vehicle into the desired position.

WARNING!

Do not shift from Forward ↑ to Reverse ↓ or from Reverse ↓ to Forward ↑ when the car is moving.

d) Step down on the acceleration pedal slowly; the vehicle will start to move.

STOPPING:

To stop the vehicle, gradually press down the brake pedal. When the vehicle has come to a stop, apply the parking brake pedal and turn the power key to the OFF position and press the F/R switch to the Neutral position.

CAUTION:

When on an incline, do not use the accelerator pedal to stop the vehicle. Please use the brake to avoid any damage to the batteries and motor.

PLEASE WEAR SAFETY BELTS AT ALL TIMES IF PROVIDED

5. Maintenance

Users should perform regular maintenance to the vehicle to keep the performance at an acceptable manner.

MAINTENANCE OF BATTERY

NOTE: Our Vehicles are equipped with deep-cycle flooded lead-acid batteries. If your vehicle is equipped with other types of batteries (AGM or Sealed Gel Batteries), please follow the maintenance instructions by the battery manufacturer. The below maintenance instructions relate to deep-cycle flooded lead-acid batteries.

WARNING! Battery electrolyte is extremely poisonous and may cause severe burns and injury. Always wear protective clothing, gloves, and goggles when doing battery maintenance.

KEEP OUT THE REACH OF CHILDREN.

1) Cleaning

a. The Exterior of al the batteries should be kept clean. The Battery Cables and Battery terminals should also be cleaned on a constant basis. When cleaning, please make sure all battery vent caps

are tightly in place. Clean the top of the battery with a cloth or brush. Baking Soda and Water can be used along with a cloth. When cleaning the batteries please make sure the cleaning solution doesn't gets inside the batteries. This should be done **every week**.

b. Cleaning the battery cable clamps (ends of the battery cable) is important! Use a bristle brush to remove any corrosion present. After cleaning, the ends should have a metallic shine to it. Constantly check for corrosion when inspecting the battery cables.
c. Reconnect the clamps to the terminals of the batteries and thinly coat them with petroleum jelly (Vaseline) to prevent corrosion.

WARNING! Before you disconnect any battery cable from any terminal on the battery, please always remove the power by disconnecting the main battery cable from the controller.

2) Checking the terminals and nuts

The connection of the battery should always be kept in good condition. Please check the battery cables **every week** and make sure the battery cable terminal/nut has not come loose. Checking the battery cable nuts will prevent the cables from burning. If any burnt cables are present, replacement is needed.

3) Recharging

a. Moto Electric Vehicles recommends plugging in your vehicle every time the vehicle is not being used. The Lead Acid Batteries do not have a memory so the end user does not have to fully discharge the vehicle to then charge it. When the vehicle is not in use, plug the vehicle in. The vehicle should be charged **daily.**
b. If the vehicle is not going to be used daily it is best to leave the charger plugged in. Moto Electric Vehicles uses a smart charger that will turn itself on/off.
c. When the vehicle is in motion, the driver will notice the battery fuel gauge will adjust and start to diminish. It is the driver's responsibility to monitor this gauge on the dash. When the battery charge is starting to get to the bottom of the gauge, it is best to get to an outlet and charge the vehicle. Brining the charge extremely low is not good for the batteries and can cause issues with the charger charging the batteries.

WARNING! During recharging, the vehicle should be parked in a well-ventilated area with the battery filling caps tightly secured. When charging, keep the vehicle away from any fumes or fire to prevent explosion. Moto Electric Vehicles is not responsible for the location of the vehicle and where the end user decides to charge the vehicle.

5) WATERING

Flooded batteries need distilled water. Watering must be done at the right time and in the right manner. If done in the wrong manner, the battery's performance and longevity will suffer.

- Distilled water should always be added after fully charging the vehicle.
- Prior to charging, there should be enough water to cover the plates in the batteries.
- If the battery has been discharged (partially or fully), the water level should be above the plates.

NOTE: Depending on the local climate, charging methods, and application, etc., Trojan recommends that the end user checks the batteries once a month.

Important things to remember:

1. Do not expose the plates in the batteries to the air. Keep the Fluid Caps on the batteries at ALL times.
2. Do not fill the water to the top of the cell tube. This will cause the acid to flow outside of the battery, causing it corrode the terminals, leading to a failure of the battery.
3. Do not use water with a high mineral content. Use distilled or demonized water only.

CAUTION:

The electrolyte is a solution of acid and water so skin contact should be avoided.

Step by step watering procedure:

1. Open the vent caps and look inside the filling wells.
2. Check electrolyte level; the minimum level is at the top of the plates.
3. If necessary add just enough water to cover the plates.
4. Put batteries on a complete charge before adding water (refer to the Charging section).
5. Once charging is completed, open the vent caps and look inside the fill wells.
6. Add water until the electrolyte level is 1/8" below the bottom of the fill well.
7. A piece of rubber can be used safely as a dipstick to help determine this level.
8. Clean, replace, and tighten all vent caps.

WARNING! Never add acid into the battery.

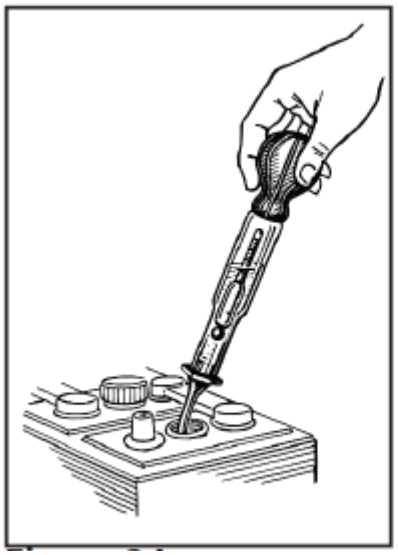
6) TESTING

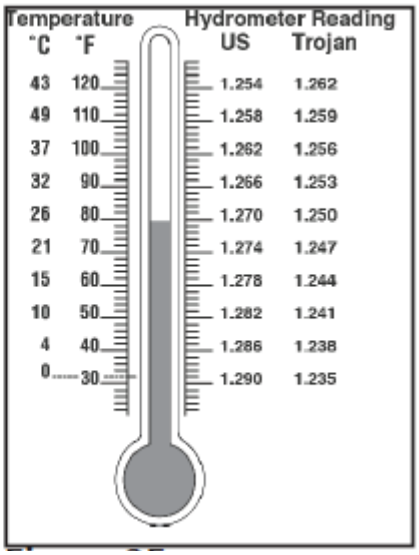
Visual inspection alone is not sufficient to determine the overall health of the battery. Both open-circuit voltage and specific gravity readings can give a good indication of the battery's charge level, life span, and health. Routine voltage and gravity checks will not only show the state of charge but also help spot signs of improper care, such as undercharging and over-watering, and possibly even locate a bad or weak battery. The following steps outline how to properly perform routine voltage and specific gravity testing on batteries.

I. Specific Gravity Test

(Flooded batteries only)

1. Do not add water.
2. Fill and drain the hydrometer 2 to 4 times before pulling out a sample.
3. There should be enough sample electrolyte in the hydrometer to completely support the float.
4. Take a reading, record, and return the electrolyte back to the cell.
5. To check another cell, repeat the 3 steps above.
6. Check all cells in the battery.
7. Replace the vent caps and wipe off any electrolyte that might have been spilled.
8. Correct the readings to 80^{o} F: Add .004 to readings for every 10^{o} above 80o F, Subtract .004 for every 10^{o} below 80^{o} F.
9. Compare the readings.
10. Check the state of charge using Table 1.





The readings should be at or above the factory specification of 1.277 +/- .007. If any specific gravity readings register low, then follow the steps below.

1. Check and record voltage level(s).
2. Put battery(s) on a complete charge.
3. Take specific gravity readings again.

If any specific gravity readings still register low then follow the steps below.

1. Check voltage level(s).
2. Perform equalization charge. Refer to the Equalizing section for the proper procedure.
3. Take specific gravity readings again.

If any specific gravity reading still registers lower than the factory specification of 1.277+/- .007 then one or more of the following conditions may exist:

1. The battery is old and approaching the end of its life.
2. The battery was left in a state of discharge too long.
3. Electrolyte was lost due to spillage or overflow.
4. A weak or bad cell is developing.
5. Battery was watered excessively previous to testing.

Batteries in conditions 1 - 4 should be taken to a specialist for further evaluation or retired from service.

II. Open-Circuit Voltage Test

For accurate voltage readings, batteries must remain idle (no charging, no discharging) for at least 6 hrs, preferably 24 hrs.

1. Disconnect all loads from the batteries.
2. Measure the voltage by a DC voltmeter.
3. Check the state of charge with Table 1.
4. Charge the battery if it registers 0% to 70% charged.

If the battery value is lower than that in Table 1, the following conditions may exist:

1. The battery was left in a state of discharge too long.
2. The battery has a bad cell.

Batteries in these conditions should be taken to a specialist for further evaluation or retired from service.

TABLE 1. State of charge as related to specific gravity and open circuit voltage

Percentage of Charge	Specific Gravity Corrected to 80^{o} F	Open-Circuit Voltage					
		6V	8V	12V	24V	36V	48V
100	1.277	6.37	8.49	12.73	25.46	38.20	50.93
90	1.258	6.31	8.41	12.62	25.24	37.85	50.47
80	1.238	6.25	8.33	12.50	25.00	37.49	49.99
70	1.217	6.19	8.25	12.37	24.74	37.12	49.49
60	1.195	6.12	8.16	12.24	24.48	36.72	48.96
50	1.172	6.05	8.07	12.10	24.20	36.31	48.41
40	1.148	5.98	7.97	11.96	23.92	35.87	47.83
30	1.124	5.91	7.88	11.81	23.63	35.44	47.26
20	1.098	5.83	7.77	11.66	23.32	34.97	46.63
10	1.073	5.75	7.67	11.51	23.02	34.52	46.03

7) Battery installation

WARNING!

When working with the battery, DO NOT put wrenches or any other metal objects across the battery terminals, otherwise, an arc can occur, and it may cause explosion of the battery and physical injury.

Batteries should be installed or replaced only by a qualified electrician.

8) BATTERY CHARGING

FOR CHARGING INSTRUCTIONS, PLEASE VISIT THE CHARGING MANUAL: CLICK HERE

Common Mistakes with Charging:

- Dedicated 20 AMP Outlet is needed to Charge the Vehicle. Please make sure the Outlet is not shared with any other devise. The Vehicle should be the only devise plugged in
- Heavy Duty Extension Cords are to be used with these chargers. Please do not use a low rated gauge cord.
- Do not leave the vehicle unplugged for long periods of time. This will cause the charger to not recognize the battery pack. If this happens, a force charge cycle will need to be done.
- DO NOT OPEN THE CHARGER FOR ANY REASON, THIS WILL VOID THE WARRANTY
- DO NOT CUT THE PLUG ADAPTER FOR ANY REASON, THIS WILL VOID THE WARRANTY

- DO NOT REMOVE THE YELLOW WARRANTY LABEL, THIS WILL VOID THE WARRANTY.

Maintenance of the Traction DC Motor

1) For DC motors, the carbon brush should be checked every 6 months to see if there has been any excessive wear. If it is not replaced in time before it is worn out, it will damage the motor badly.
2) Removal of mud, sand and other clinging objects shall be done frequently to facilitate the heat-radiation.
3) Periodically use low pressure air to remove the dust from the carbon brush and the commutator. Periodically check the connections of the carbon brush and the commutator.

Main malfunction and possible reason of DC motor

Item	Symptoms	Possible Causes
1	All copper plates turn black.	The pressure of brush is incorrect.
2	The commutating copper turns black in a certain order and in groups.	Short circuit happens between the commutating copper or among the armature coil; poor welding or disconnection happens between the commutating copper and the armature coil.
3	The commutating copper turns black.	The central line of the commutator deviates or its surface is not round and not smooth.
4	The brush wears out, changes colors and breaks.	The motor vibrates; the clearance between the brush and its holder is too big; the clearance between the brush and commutator is too big; the mica between the different commentators extrudes; the brush is made from the wrong materials; the brush type is wrong.
5	Sparking From Motor	The motor is over-loaded; the commutator is not clean, not round or not smooth; mica or some commutator extrude; the brush is not grounded properly; the brush is big in pressure; the brush is not the right type; the brush is jammed in the brush holder; the brush holder became loose or is vibrating; the polarity and sequence of magnetic poles is wrong.
6	The brush and its wires get hot.	Big sparks from the brush; poor contact between brush and soft wires; small section area of soft wires.
7	The brush is noisy	The surface of the commutator is not smooth.

Caution: Only a Qualified Electrician Can Change And Adjust The Carbon Brush And Commutator.

Maintenance of the Traction AC Motor

If your vehicle is equipped with AC motor, then the motor is maintenance free!

Maintenance of the Controller:

CAUTION

Only a qualified electrician is allowed to do the maintenance for the controller.

WARNING!

Do not open the controller for any reason. Moto Electric Vehicles does not sell internal components for the controller. If the controller becomes faulty, a new controller is needed. Opening the controller will void the warranty on the controller.

CLEANING

It is recommended to keep the controller clean at all times. The fault history should be checked and cleared periodically.

Please use the following cleaning procedure for routine maintenance:

1) Turn the power key to the OFF position.
2) Remove power by disconnecting the battery.
3) Discharge the capacitors in the controller by connecting a load (such as a contactor coil or a horn) across the controller's B+ and B- terminals.
4) Remove any dirt or corrosion from the connector areas. The controller should be wiped clean with moist rag. Dry it before reconnecting the battery. The controller should not be subjected to pressured water flow from either a standard hose or a power washer.
5) Make sure the connections are tight, but do not over tighten them.

Faulty History File

The handheld programmer (to be ordered separately) can be used to access the controller's fault history file. The programmer will read out all the faults the controller has experienced since the last time the history file was cleared. Faults such as contactor faults may be the result of loose wires; contractor wiring should be carefully checked. Faults such as over temperature may be caused by operator habits or by overloading.
After a problem has been diagnosed and corrected, it is a good idea to clear the fault history file. This allows the controller to accumulate a new file of faults.

Please note that the Curtis brand of controllers have a flashing light on the outside of the controller. These flashing lights can be translated to fault codes if a hand held is not present. Please look up the model of controller your cart has online for the service manual. The controller service manual will container the fault code readings.

Trouble-Shooting Guide (For Series System):

Symptoms	Possible Causes
The vehicle cannot be started.	A. The controller has no power； a. There is something wrong with the battery or wire connections. b、the fuse of the power connection is burnt; c、the resistance for pre-charging is broken.

	B. No signal is transmitted to the controller: a. The power key is damaged or its wiring might be disconnected. b. There is something wrong with acceleration pedal c. The polarity diode is broken or has short cut. d. The green wire connecting the acceleration pedal and the controller KSI is disconnected; C. The contacting point of the contactor is stuck. D. The controller of the motor is damaged.
The vehicle can only move forward and cannot be reversed, or vice versa	a. The switch is damaged. b. The inserts on the commutators is loose. c. The commutators are damaged.
The vehicle can only run at slow speed	a. Insufficient Battery; b. Handbrake is engaged or brake shoe is faulty. c. Accelerator Defect; d. Controller Defect

Trouble Shooting Guide (For SEPEX System)

Please refer to Troubleshooting Chart of Curtis SEPEX controller.

Please contact your local dealer or a qualified electrician to work on the problems related to the motor, controller or electrical system of the vehicle when you are not able to fix them.

Maintenance of Rear Axle:

1) Clean any dust or debris daily that can cause any harm to the rear axle.
2) Make sure all the connections are in good condition and tight.
3) Periodically check the gear oil in the rear end; if low please add gear oil.
4) Check to see if there is any “play” in the connection/ gear units. Please note a small bit of “play” is okay.
5) Check the brake drum on the rear of the cart. If the temperature if hot to the touch or a burning smell is present, please adjust the brake right away.
6) Check if the breather valve to ensure an oil leak is not present.
7) Check the parking brake cables to make sure they are intact. If not, replace immediately.

6. Main Trouble and troubleshooting

Symptom(s)	Possible cause(s)	Troubleshooting
The axle housing gear or bearing are damaged and there is too much noise when driving the vehicle.	1. The gear oil is low/wrong gear oil was used	Add Gear Oil or Replace Gear Oil
	2.The bearing is not adjusted properly	Adjust Bearing
	3. Adjust the brake shoe pin shim or the interval.	Adjust or replace
	4.The gear between axle 1 and 2 is not a tight fit	Adjust accordingly

	5. The final drive is too noisy: Check to see if the gear is damaged.	Replace the gear
	6.Axle 1 strikes strongly	Adjust or replace
	7.The rear axle is out of shape（check if it is over loaded）	Replace the rear axle
Low Braking Force	1. There is an interval between the brake shoes and drum.	Adjust the interval
	2. There is oil or dirt on the Brake Shoes or Drum	Remove Debris from Component. Check and Make Sure the Wheel Cylinder is not Faulty.
	3.There is air in brake pipes	Bleed the Brakes
	4. The brake pipe leaks.	Repair the leakage or change the brake pipe
	5. The brake shoes are worn.	Replace Brake Shoes
	6. The brake cable is too long or is stuck.	Adjust the brake cable or Replace
The brake is Sticking/Stuck	1.The brake pedal cannot disengage smoothly	Replace
	2.The brake shoe is out of line	Refit or replace
	3.The is a blockage at the transmission	Refit or replace
Oil Leaks	1.The Oil Seal is damaged	Replace a new one
	2.Too much Oil	Adjust the oil level

Wheel Replacement

WARNING!

Before doing anything to the wheel and tire, please make sure the power key is positioned to the OFF position.

Protect your face and eyes from escaping air when removing the valve core.

Be sure the mounting/demounting machine is anchored to floor.

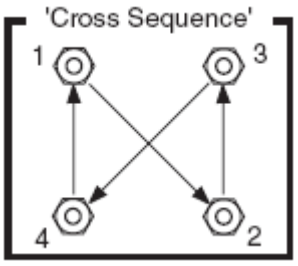
Wear safety equipment when mounting/demounting the wheel and tire.

To remove a wheel on the vehicle: (Jack Not Included)

1) Use a jack to lift the vehicle. Loosen Wheel Nuts and Remove the wheel from the Hub.

To install a wheel on the vehicle:

1) Use a jack to lift the vehicle. Put the wheel onto the wheel hub and add lug nuts.
2) Finger tighten the lug nuts, then tighten lug nuts to 50-85ft.lbs.(70-115Nm) in 20ft.lbs.(30Nm) increments following the ‘cross sequence’ pattern



3) Remove the jack.

If the tire is flat, remove the wheel and inflate the tire to the maximum recommended pressure for the tire. Immerse the tire in water to locate the leak and mark with chalk. Place tire plug according to the manufacturer’s specifications.

Brake Adjustment

① Step down on the brake pedal with a force of 66 lbs or so, keeping the vehicle at a speed of 2/3 its max speed

②The clearance for the brake plate is self-adjusting. Under a force of around 44 lbs, the parking brake handle should be fixed in one gear from 5 to 10 ratchets. When the parking brake handle is released completely, the brake function will stop.

③ Inspect and/or change the brake shoes. Add lubrication into the brake bearing periodically if needed.

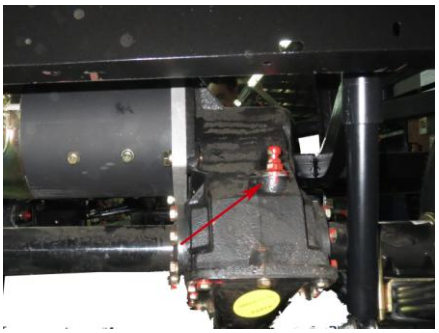
Before you operate the vehicle, please press down on the brake pedal several times to make sure the brakes are functioning properly.

7. Lubrication

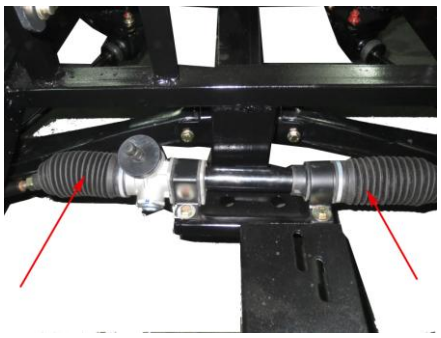
① Use 901 car brake oil DOT3 as brake oil;

② Use 1L of 90GL hypoid gear oil for the rear axle;

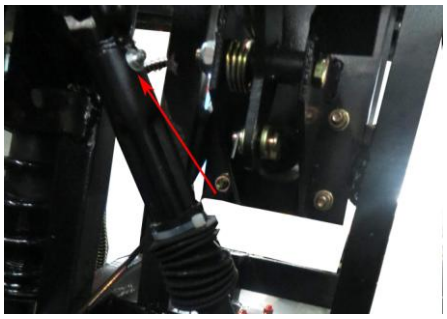
③ Lubrication points (use butter): a. steering gears; b. middle shaft; c. horizontal bars; d. steering ball joints; e. bearings;



Rear End



Steering Gear



Middle shaft

8. Periodic Maintenance Charts

Regular maintenance is required for the best performance and safe operation of this vehicle.

WARNING!

Make sure to turn off the power key and apply the parking brake when doing maintenance. If the owner is not comfortable doing the maintenance; a local dealer should be consulted to do the work.

1D – per day **1W** – per week **1M** – per month **1Q** – per quarter **1Y** – per year

item	Descriptions	1D	1W	1M	1Q	1Y
Battery	1. Check the liquid level. Please add the distilled water if necessary.	Y				
	2. Charge the battery	Y				
	3. Tighten the nut on the battery cable		Y			
	4. Check to see if the batteries are severely discharged. (the battery power meter flashing)	Y				

	5. Check the liquid density of the battery, standard density should be 1.277±0.007g/ cm^3 (80^o F. or 25℃) when the battery is fully charged.		Y			
	6. Check if the battery is charged fully	Y				
	7. Clean the surface of battery		Y			
Charger	8. Observe the charging status, check if the charger plug becomes hot.	Y				
	9. Clean the surface of the charger. Do not get any water inside the charger.		Y			
Controller	10. Check if all terminals are tightened properly. Please do this with the power off.				Y	
	11. Clean the surface of the controller.				Y	
	12. Check if the solenoid is working properly, checking the connections.					Y
Motor	13. Check to make sure the motor is not too hot. Check to make sure water didn't enter the motor.	Y				
	14. Check if the carbon brush should be replaced.					Y
	15. Check if the accelerator pedal works well and doesn't stick.				Y	
Chassis and body	16. Check if the brake drum and the brake shoes should be replaced or not.				Y	
	17. Check if the hand brake functions well. (Applicable for vehicle with hand brake).				Y	
	18. Check for leaks at the brake fluid tank.(Applicable for vehicle with hydraulic brake).			Y		
	19. Check to see if the brake fluid needs to be filled. (Applicable for vehicle with hydraulic brake).			Y		
	20. Check the air pressure inside the tire. Check for any wearing of the tire.		Y			
	21. Check the shocks for any oil leaks or noise.			Y		
	22. Check for any oil leaks at the rear end.		Y			
	23. Add the lubricant inside the wheel hubs and steering system.				Y	
	24. Adjust the toe-in of the front end				Y	
	25. Clean the body and seat				Y	

9. Storage

Please follow the steps as below when the vehicle is stored.

1. Check the liquid level inside the batteries; recharge the vehicle fully before storing the vehicle.

WARNING!

Please keep your vehicle's charger plugged in at all times. We use a smart charger that will turn on/off when a charge is needed. Not plugging in your vehicle for a long period of time will result in low voltage and failure of the batteries.

2. Turn the power key to the OFF position, remove the key, and store the key in a safe place.
3. Move the tow switch into the TOW position. (Switch located under Dash)
4. Check the tire pressure to make sure all the tire's pressure is set to the recommended pressure.
5. Clean the exterior of the vehicle and apply a rust inhibitor.
6. Cover the vehicle with a breathable cover and store it in a dry, safe and well-ventilated place.
7. If you plan to not use the vehicle within 30 days, please make sure to monitor the liquid levels in the batteries and keep the charger plugged in!