

BASIC VEHICLE OPERATION INSTRUCTIONS:

1. Disconnect the charging cord for the vehicle before operating.
2. Master disconnect switch must be in the ON position.
3. Turn key clockwise to the ON position.
4. Fully release the parking brake.
5. Select driving mode (Reverse, Drive Low or Drive High).
6. Press accelerator pedal and go.



Battery Charging:

THE BATTERIES USED IN the GEM® CAR WILL PERFORM BETTER WHEN KEPT FULLY CHARGED. YOU CAN GIVE THE BATTERIES AN “OPPORTUNITY CHARGE” AT ANYTIME. THEREFORE, WHENEVER POSSIBLE, RECHARGE THE BATTERIES — NO MATTER WHAT STATE OF CHARGE IS INDICATED.

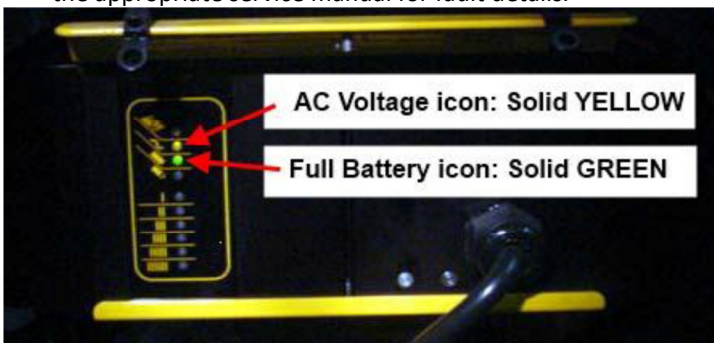
1. The Master Disconnect Switch must be in the ON position for the charger to operate and charge the batteries. The Master Disconnect Switch is located on the lower dash on the fuse panel.
2. The Battery Charger Receptacle is located on the hood. It accepts a standard, 3-wire, grounded extension cord.
3. The extension cord length should not exceed the following: 12-gauge or better wire 50 feet in length or 14-gauge wire 25 feet in length.
4. Insert the proper extension cord into the Battery Charger Receptacle.
5. Plug the extension cord into a 110-volt AC, 20 amp outlet. A Ground Fault Interrupt protected circuit (GFCI) is recommended. TO ENSURE PROPER CHARGING, NO OTHER CARS, APPLIANCES, DOOR OPENERS, ETC. SHOULD BE PLUGGED INTO THE SAME CIRCUIT.
6. A full recharge cycle can take from six to eight hours (if the state of charge indicator is indicating only one red bar) for six 12-volt batteries and approximately eight to ten hours for nine 8-volt batteries.

HOW TO KNOW IF CHARGE IS AT 100 percent:

Checking indicator lights on onboard charger method:

Most Polaris vehicles are equipped with a Delta-Q onboard battery charger. The **most accurate process** to follow to ensure a complete charge cycle has occurred is to locate the onboard charger under the hood and check the indicator lights on the charger.

1. Before unplugging the vehicle, open the hood and locate the black and yellow “Delta-Q” charger box located behind the motor and differential.
2. Once you locate the on board charger look for the indicator lights which can be found on the driver’s side of the charger box.
3. Verify that there is a solid yellow light and a solid green light on the side panel. This indicates that the charger has completed a full charge. If there is a red flashing light, a fault has occurred. If a fault has occurred review the charging tips above and refer to the appropriate service manual for fault details.



Checking the bar graph on the LCD display method:

Referring to the LCD display to check for a full charge cycle is **convenient but not the most accurate**. Refer to indicator lights found on the onboard charge for the most accurate reading. The Charger Connected Icon and State of Charge/Battery Discharge Indicator gauge turns on approximately 8–10 seconds after the extension cord is plugged in. When the vehicle is plugged in and charging, the percent of charge is displayed right on the digital LCD screen. After charging is 100 percent complete, the Charger Connected Icon (the yellow lighted power cord symbol on the digital LCD) and the bar graph will be illuminated.

GEM Car Storage:

Periods of inactivity can be extremely harmful to lead-acid batteries. Your GEM car is equipped with a SMART charge capability. Simply leave the vehicle plugged into a standard 110 VAC 15 A power outlet. The charger unit will automatically power on once every 2 weeks for gel batteries and once every 7 days for flooded, lead acid batteries, run a charge cycle and automatically shut down. The charger will repeat this procedure 24 times as long as power is not interrupted. This works best for maintenance free sealed gel batteries. Water filled lead acid batteries may still require some attention to maintain proper fluid levels.

- Avoid locations where freezing temperature is expected. Keeping batteries at a high state of charge will also prevent freezing. Freezing results in irreparable damage to battery plates and container.
- Avoid direct exposure to heat sources, such as radiators or space heaters. Temperatures above 80 degrees F accelerate the battery's self-discharge characteristics.
- Completely charge battery before storing.
- Store vehicle in cool, dry location, protected from elements.

Battery Operation:

The GEM car has a battery control and recharge system specially designed for electric vehicle usage. The charging system is designed to maximize the battery pack life while recharging the pack, in the shortest time, with available household current (110-volt, 15 amp, A/C outlet). The following guidelines will insure that you get the maximum battery life and performance out of your GEM electric vehicle.

New batteries will not deliver their full capabilities until they have been discharged and recharged 20 to 30 times. Batteries should be fully charged before first use of new vehicle and before releasing vehicle for daily use.

Typical life cycles of the Gel batteries are 600 charge cycles at a 80% rate of discharge and flooded batteries are 200 charge cycles at a 80% rate of discharge (80% rate of discharge indicates 20% operating power left in vehicle battery pack). The charge life cycles will be doubled if the vehicle is only discharged to a 50% rate. This information should be taken in to consideration when determining battery state of health, current age and life span.

When recharging, it is preferable to have the battery pack at close to room temperature. Do not have in direct sunlight, on hot pavement or in excess heat of 110 degrees F (43 degrees C) or higher. Batteries should be charged after each period of use.

Lead acid batteries do not develop a memory and need not fully discharge before recharging.