



2010

Electric Golf Cart (eGC)

CHARGING PROCEDURE



California Roadster



Cadillac Escalade eGC



HUMMER H3 eGC

GENERAL WARNINGS

- 1) This “*Charging Procedures Manual*” should be read completely before attempting to charge or service the vehicle. Failure to follow the instructions in this manual could result in property damage, severe personal injury, or death.
- 2) When charging the vehicle, be sure that the key switch is in the “**OFF**” position.
- 3) If the key is left in the “**ON**” position, it may damage the charger or the vehicle.
- 4) Your vehicle is equipped with an on-board UL- listed charger. When charging your vehicle, please be sure to use a proper, grounded cord to provide power to the charger. (see *Table T, Page 6* for details)
- 5) Please be sure to raise the hood of the vehicle to allow ventilation of the charger so that it does not overheat.

Please refer to the separate “*Owner’s Manual*” for further detailed information about your vehicle.

- 6) When stopping and leaving the vehicle:
 - a) Make sure vehicle has come to a complete stop.
 - b) Switch “*Forward-Neutral-Reverse Switch*” to the “**Neutral**” position.
 - c) Engage parking brake
 - d) Turn the “*Key Switch*” to “**OFF**” position and remove key.

VEHICLE CHARGING

Follow the recommended “*step-by-step*” procedure below to re-charge the vehicle.

1. **MAIN KEY SWITCH** –
turn the switch located on right of the Steering Column to “OFF” position “(0)”.
(As Shown in Picture below)



The “*Key Switch*” is mounted on the dash to the right of the steering column.
It has two positions:

1. **OFF position**- “OFF” There is no power to vehicle. (*Key is Vertical as shown above*)
2. **ON position**- vehicle is “ON” and can be driven. (*Key is turned clockwise 45 degrees*)

WARNING!

The Vehicle Power must be turned “OFF” before and during the Charging Cycle.
Failure to do so may cause Vehicle damage.

2. **PARKING BRAKE –**

Fully apply the parking brake by depressing the portion of the Brake Pedal (STOP) that is labeled “PARK”.

Verify that the Brake Pedal is in locked (PARK) position and the vehicle is stationary.



WARNING!

The “*Park Brake*” will release automatically when either the “*Accelerator Pedal*” or “*Brake Pedal*” is depressed. The park brake has multiple locking positions and should be firmly pressed and locked to prevent the vehicle from rolling.

3. Switch “*Forward-Neutral-Reverse Switch*” to the “**Neutral**” position.

4. **AC Cord** –

a.) Plug the AC Extension Cord into the vehicle charging inlet socket located at the center of the vehicle under the Front seats.

CAUTION:

AC Extension Cord must be of suitable length and proper AWG.

(See Table T on Page 6 for proper AWG wire size)



Plug the other end of the AC Extension Cord into 120V AC 3-conductor (Grounded) 120V AC household socket that is fused at a minimum of 15 Amp; 20 Amp circuit is preferable if available. *(or optionally see item “b” on next page)*

b.) Plug the other end of the extension cord into front of the **Kill-A-Watt Meter**



c.) Plug the **Kill-A-Watt Meter** into 120V AC household socket that is fused at a minimum of 15 Amp; 20 Amp circuit is preferable if available.

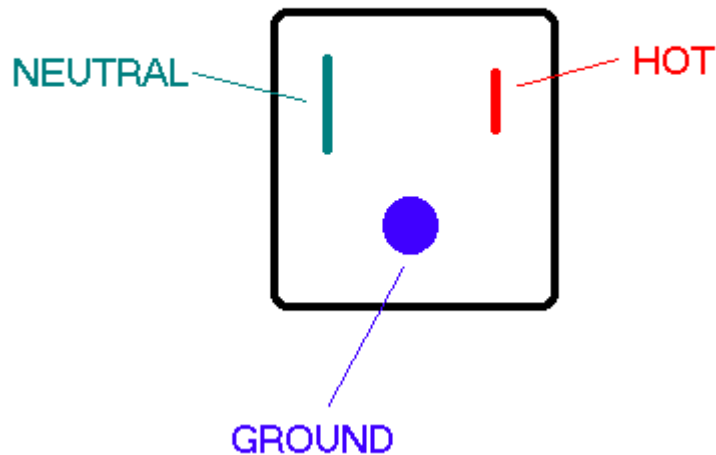
d.) **AVOID** connecting any other device or appliance into the same 15A/20A circuit or the circuit may become overloaded, which will result in tripping of the circuit breaker.

Kill-A-Watt Meter – if you use this optional device to monitor charging refer to Page 11 for operating instructions.

Table T (AWG extension cable selection)

Extension Cable Length	Minimum AWG rating (Wire Size)
100 Feet	10 - AWG
50 Feet	12 - AWG
25 Feet	14 - AWG
12 Feet	14 - AWG
6 Feet	16 - AWG
3 Feet	16 - AWG

GROUNDING AC PLUG



5.) **48 V SYSTEM CHARGER (TRACTION Batteries)**

a.) Open the Passenger Side Glove Box

b.) Locate the Front Hood Release Handle on the Right side of the Glove Box



c.) Pull on Top of the handle towards you ⇨, to release the Front Hood Latch

d.) Open the vehicle's hood to locate the on-board charger.



5. **Check the Charger LED display**



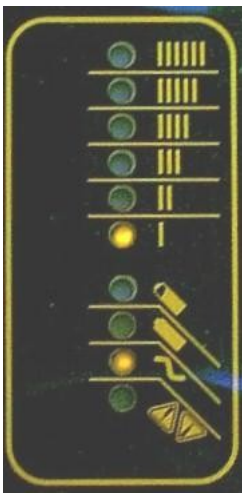
a.) verify that the charger ON telltale LED (~) on the Charger is lighted.

■ Condition YELLOW = ON

b.) verify that one of the charger charge rate telltale LEDs (I – IIIII) on the Charger is lighted

■ Condition YELLOW = ON = OK/Charging

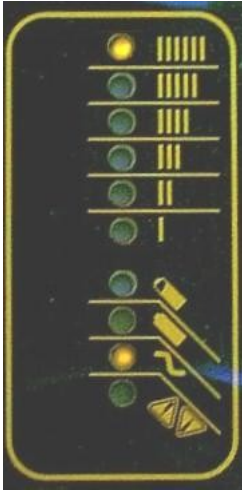
■ Condition YELLOW = FLASHING = OK/Charging at reduced rate



Charger ON
(*Start of Charge*)

NOTE:

If the Traction Battery is fully depleted the **48 V SYSTEM CHARGER** will remain in the **Minimum Charge rate mode (Yellow LED I Lighted)** for several minutes, if the Traction Battery is not fully depleted, the Charger will automatically switch to the **Maximum Charge Rate Mode (Yellow LED IHHII lighted)** in just few seconds.



Charger ON
(Max rate of Charge)

As charging progresses the Charge Algorithm reduces the charge rate either due to state of battery charge or due to excessive internal charger temperature.

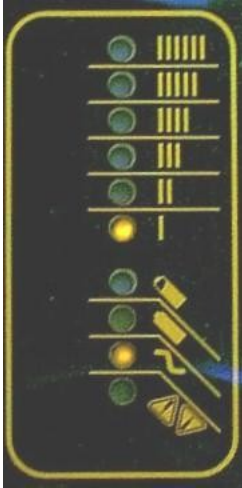
If the charging rate is reduced due to state of battery charge, one of the Yellow LEDs in the upper Six LED Ammeter section will be ON.

The Yellow LED with SIX bars (IHHII) indicates *Maximum Rate of Charge* – Charger power input of about 10 to 11 Amperes @ 120 V AC.

The Yellow LED with ONE bar (I) indicates *Minimum Rate of Charge* – Charger power input of about 1 to 2 Amperes @ 120 V AC.

If the charge rate is reduced due to high internal charger temperature the appropriate Ammeter LED will be Flashing.

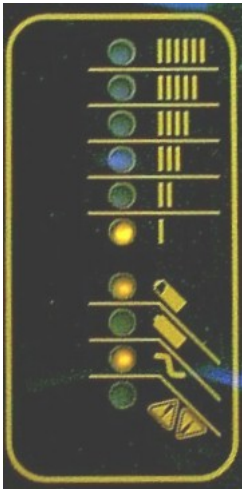
When any of the Ammeter Yellow LEDs Flashes, the Total Charging Time will be increased!



Charger ON
(Min rate of Charge)

When the “**80% state of Charge**” is reached the Yellow LED indicating 80% charge will be lighted.

Bulk charge phase is complete and the charger is now in **Absorption charge phase**.



Charger ON
(Min rate of Charge)
(80% state of Charge)

When **Absorption charge phase** is completed and the charger now enters the **Finish charge phase** Green LED indicating “**End of Charge**” charge will be Flashing.

When the “**100% state of Charge**” is reached the Green LED indicating “**End of Charge**” charge will be lighted continuously.

P3 - KILL A WATT™

Operation Manual

1. The LCD shows all meter readings: Volts, Current, Watts, Frequency, Power Factor, and VA. The unit will start to accumulate **kWh** and powered duration time (hours & minutes) after power is applied.
2. Press Volt Key for true RMS Voltage (**Volts**) display.
3. Press Amp Key for true RMS output current (**Amps**) display.
4. The Watt/VA Key is a toggle function key. Press the Watt/VA key once to display **Watt meter**, then press the Watt/VA key again to display **VA meter**. The LCD will display Watts as the active power, where VA is the apparent Power. ($VA = V_{rms} * I_{rms}$)
5. The HZ/PF is a toggle function key. Press the HZ/PF key once to display the frequency (**Hertz**), then press key again to display the **Power Factor**. HZ is the Frequency of output Voltage, where PF is the Power Factor ($PF = W / V_{rms} I_{rms}$).
6. The KWH/Hour is a toggle function key. Press the KWH/Hour key once to show the cumulative energy consumption since power was applied to the unit (**kWh**). Then press key to display the cumulative time since power was applied to the unit.
7. Consumption will be displayed in Kilowatt-Hours (from 0.01 KWH to 9999 KWH). Time will initially be displayed as Hours:Minutes (from 00:00) and switch to Hours (to 9999). Counters will recycle to zero when they reach their maximum.
8. To reset all counters to zero, remove power from unit momentarily for about 15 seconds.



WARNING: Do not exceed maximum ratings as detailed on label.

- Button 1 = Volt**
- Button 2 = Amp**
- Button 3 = Watt / VA (toggle)**
- Button 4 = Hz / PF (toggle)**
- Button 5 = kWh / TIME (toggle)**

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Cadillac ESCALADE eGC
HUMMER H3 eGC

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