

# The Solar Powered Go Kart Project Description

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With over 22,000 views on Instructables.com, we decided to update this document with the most relevant links, ect.

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## Description:

It took us a few months to build out this solar powered, electric go kart. Most of the information on the design, layout and format of the cart are available in the videos (YouTube). This document lists the major components used in the go kart. We did a fair bit of welding to make the motor mount, the battery box and modify the throttle cable to work with our pot box, but mostly everything else was stock.

The main challenge for anyone looking to duplicate this build is the availability of the go kart chassis. We purchased the chassis from Northern Tool, and as soon as the order was completed, they removed the item from their website. When it arrived the cart came in a box that was smashed (see below) had a hole in the seat and one tire that had a slow leak. Our thinking was they sent us the last one they had stock (which was a damaged good) and then removed it from their catalog. When I asked about replacement for the damaged parts they said they couldn't get them. Considering we could seem to find another way to get the chassis, I was just happy we got the last one.



Here are a few comments about the design of the electrical system. First, the 24V battery pack is made from two 12V SLA batteries. They each have a 12V wall charger to keep them properly balanced, but the solar panel charges them as if they were a 24V battery. The charge controller works in concert with the wall chargers and does not need to be disconnected when the cart is in motion or when the chargers are plugged into the wall socket.

Second, the main electrical design came from the recommended Alltrax wiring scheme for electric vehicles using their controller, which is available at this link:

[http://www.electricmotorsport.com/downloads/dl/file/id/28/alltrax\\_axe\\_to\\_pm\\_wiring\\_diagram\\_no\\_reverse.pdf](http://www.electricmotorsport.com/downloads/dl/file/id/28/alltrax_axe_to_pm_wiring_diagram_no_reverse.pdf)

Electric Motorsport is a great resource and will answer questions you may have about the layout of the electrical drive / control system shown in the wiring diagram.

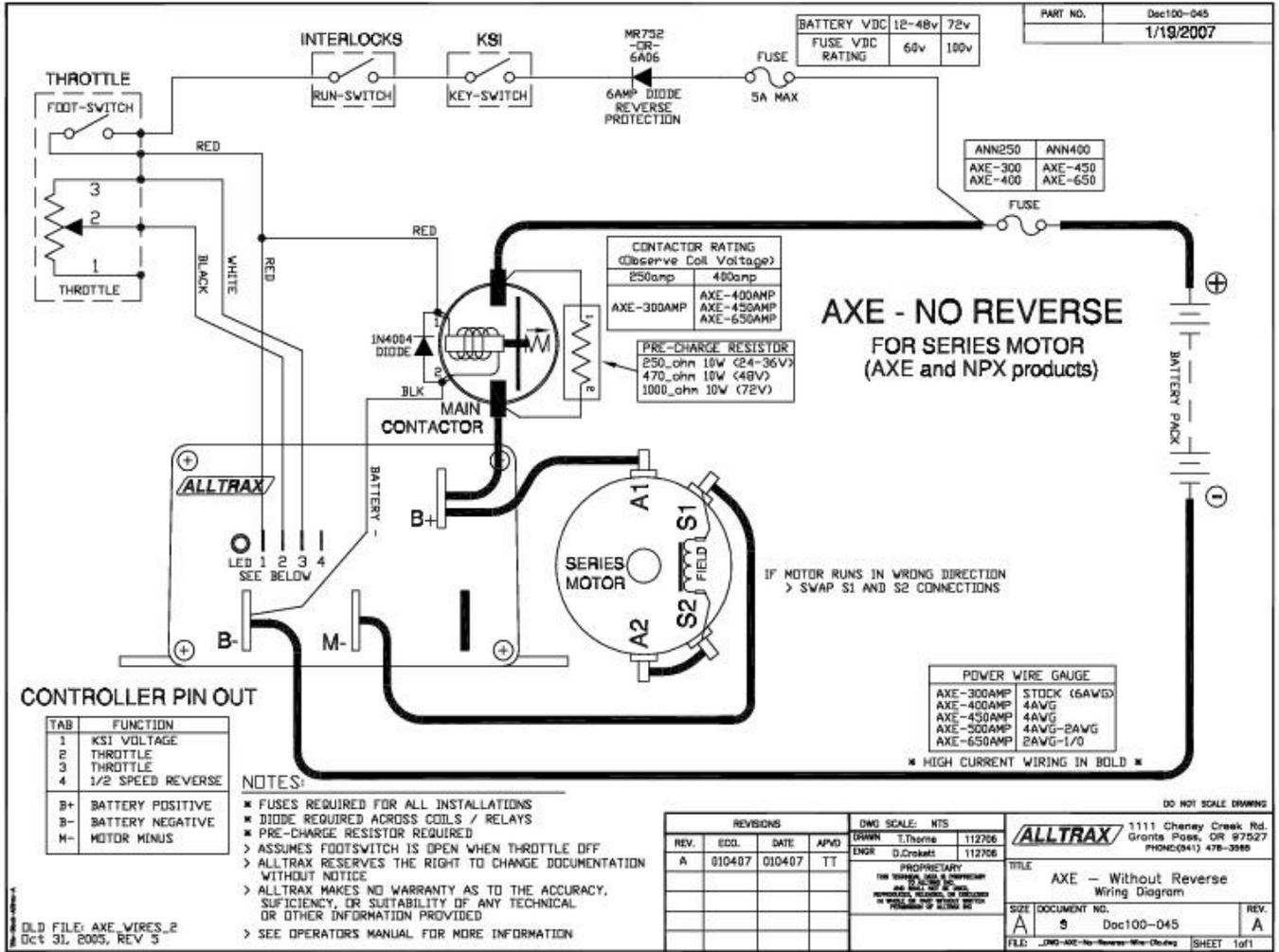
If you have any questions about the choices we made on any of the components, please contact us through the comments section of the YouTube site so they can benefit all users of the video, or email at [adam@therenewableyou.com](mailto:adam@therenewableyou.com)

**Components:**

On the next page we list the detailed components, cost and vendor for the major components we used to complete the go kart. All prices include shipping to our location in CA. Enjoy!

Electric Go Kart, Jan-June 2012			
Component	Cost	Description	Where you can get it
Go Cart	\$ 787.49	Northern Tool Stingray	<a href="http://reviews.northerntool.com/0394/13135/stingray-complete-go-kart-chassis-kit-model-stingray-go-kart-kit-">http://reviews.northerntool.com/0394/13135/stingray-complete-go-kart-chassis-kit-model-stingray-go-kart-kit-</a>
Controller	\$ 198.00	Alltrax AXE-4834	<a href="http://www.electrictorsport.com/store/ems_ev_parts_controllers_alltrax_4834.php">http://www.electrictorsport.com/store/ems_ev_parts_controllers_alltrax_4834.php</a>
Throttle	\$ 79.18	Pot Box 0-5k Ohm	<a href="http://www.ebay.com/itm/EZGO-Pot-Box-Potentiometer-Throttle-EV-Golf-Cart-PB-6-110692932799?pt=LH_DefaultDomain_0&amp;hash=item19c5d01cbf#ht_1749wt_905">http://www.ebay.com/itm/EZGO-Pot-Box-Potentiometer-Throttle-EV-Golf-Cart-PB-6-110692932799?pt=LH_DefaultDomain_0&amp;hash=item19c5d01cbf#ht_1749wt_905</a>
Chargers	\$ 63.17	Energizer 3A	<a href="http://www.amazon.com/Energizer-Sealed-3-Stage-Battery-Charger/dp/B005H3USN4">http://www.amazon.com/Energizer-Sealed-3-Stage-Battery-Charger/dp/B005H3USN4</a>
Batteries	\$ 282.58	BB Battery EB12-50	<a href="http://www.bb-battery.com/productpages/EB/EB50-12.pdf">http://www.bb-battery.com/productpages/EB/EB50-12.pdf</a>
Contactors	\$ 63.77	White Rogers 24V, 200A	<a href="http://www.electrictorsport.com/store/ems_ev_parts_contactors_whiterodgers_24.php">http://www.electrictorsport.com/store/ems_ev_parts_contactors_whiterodgers_24.php</a>
24V panel, connectors	\$ 471.40	Astronergy 190W, 24V	<a href="http://www.wholesalesolar.com/products_folder/module-folder/Astronergy/CHSM-5612M.html">http://www.wholesalesolar.com/products_folder/module-folder/Astronergy/CHSM-5612M.html</a>
Solar charge controller	\$ 88.90	Morningstar SunSaver-10	<a href="http://www.wholesalesolar.com/products_folder/controller-folder/sunsaver10L-24.html">http://www.wholesalesolar.com/products_folder/controller-folder/sunsaver10L-24.html</a>
Electric Motor	\$ 448.28	EMC- ME0909	<a href="http://www.electrictorsport.com/store/ems_ev_parts_motors_me0909.php">http://www.electrictorsport.com/store/ems_ev_parts_motors_me0909.php</a>
MMC Sproket, keystk	\$ 19.41	MMC	<a href="http://www.electrictorsport.com/store/ems_ev_parts_motors_me0909.php">http://www.electrictorsport.com/store/ems_ev_parts_motors_me0909.php</a>
Total	\$ 2,502.18		Mcmaster Carr

# Wiring diagram used for this project:



DLD FILE: AXE\_WIRES\_2  
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