

# Solar Sprint FAQs



## Why is a SPDT (Single Pole Double Throw) switch required?

This switch permits the switching between the two possible power sources for the solar sprint vehicle, solar power or battery power.

## What is the best method to attach the electrical components together?

Electronic soldering is the preferred method of connecting electrical components. Soldering reduces unwanted electrical resistance which negatively impacts vehicle performance. Properly soldered connections are secure and will not come apart.

## What is the purpose of the NC push button?

This component allows the vehicle to start moving (racing) with just the release of pressure on the button. This is similar to the uncovering of solar panel, when vehicles are solar powered. With this system there is less likelihood the vehicle could be unfairly pushed off the starting line.

## Why are mini or micro switches recommended?

One of, if not, the most important considerations when designing and fabricating a solar vehicle is to make it lightweight. The lower the weight the less energy is needed to move the vehicle.

## May the switch that some battery holders have be used?

The switch on those battery holders is an SPST switch. In other words, it is an on-off switch. It cannot be used to switch between the solar panel and battery power. Leave that switch on or remove it to reduce weight and the possibility of inadvertently switching off power.

## Does the solar panel have to be on the vehicle if racing is done under battery power?

Yes, and the rationale for this is that a pair of AA Alkaline batteries produces more power than the solar panel. Therefore, to replicate the performance of the vehicle under solar power the battery powered vehicle carries the unconnected solar panel as dead weight.

## Why is the SSS vehicle required to have the panel angle adjustable?

The SSS students have the added challenge to design a lightweight system to allow the panel to be positioned more perpendicular to the sun. This allows more electrical energy to be created.

## What is the reason that the SSS vehicle had to carry two ping pong balls?

This is another challenge for the SSS students. How can the ping pong balls be carried securely in such a way as to not add weight or interfere with vehicle performance or panel adjustment.

## Why are screw eyes not allowed to connect the vehicle to the guidewire?

To have a level playing field all vehicles use panels and motors with the same specifications. This event is, by its very nature, a design challenge. To challenge students to be designers they are asked to create a reliable, easy to use, device to attach the vehicle to the guidewire.

