

# SPEED SHOP SCHOLAR

Welcome to another edition of the "Speed Shop Scholar." Over the last few months, we have taken our chassis from a very primitive state to a ma-



chine that is almost ready to head out and win races.

We have mounted our seat, mounted our body, and gotten all of our foundation work completed. Now, it's necessary to get our engine mounted, our cables run, and the plumbing for our fuel system finished.

Step one is to mount the fuel tank. Several options are available with differences in volume and the way they mount. Gasoline engines burn low volumes of fuel, so the smaller two quart tanks are more than sufficient. Alcohol burning engines will require

larger tanks of three or even four quarts. Make the choice that best suits your needs and available floor space.

Securely mount the tank, being aware of the driver's legs (particularly with junior drivers). Another important factor to consider is the position of the filler neck. Often the best placement of the tank leaves the worst location of the cap, and makes refueling a real challenge. Relocate as needed.

Go ahead and mount an engine onto the kart, this is necessary to properly locate our cables, sen-



sors, and fuel lines and determine the proper lengths as well.

I choose to run my fuel lines first. This way, I can make nice smooth arcs and curves without concern over pinching or crimping and I follow that path with the other cables. Be sure to use an inline filter and to install in the



correct direction. Most quality filters have a direction of flow arrow molded into the body. Tie wrap or safety wire all connecting points.

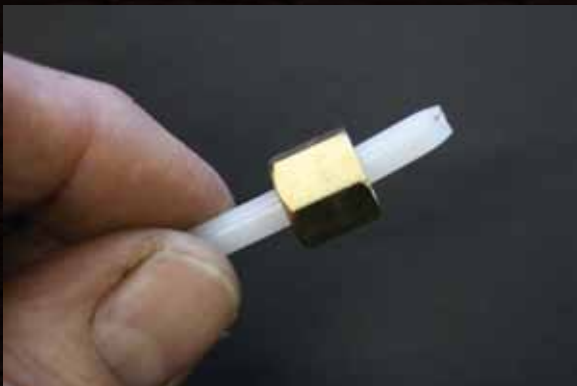
Next step is to attach the throttle cable assembly. The cable housing is attached at the floorpan, or the frame



depending on chassis model, with a compression fitting.

A compression fitting is a three piece assembly that joins the plastic tubing to a solid mounting point on the kart. The fitting is made up of a compression nut, a ferrule, and the body of the fitting. These are the same fittings used on the brake system as well.

To use, thread the end away from the cap into the chassis point. Securely tighten. Slide the cap onto the end of your cable housing, then slide the ferrule onto it as



well. Often, it is necessary to use pliers and squeeze the housing to make it round again after cutting. Slide the exposed part of the housing as deep into the body of the fitting as you can, then securely tighten the cap. This will crimp the ferrule onto the housing locking it into place.

Mount the throttle bracket onto the engine, then route the housing alongside the fuel line, and trim to length at the engine, and repeat the procedure with the compression fitting.

Insert and attach the inner cable, beginning at the floorpan, and push through the cable housing. Once the cable exits the fitting at the engine, slide the cable clevis onto the cable. Connect the clevis onto the throttle blade on



the engine, remove all slack, and securely tighten the clevis onto the cable. For those who (like me) hate those small setscrews, the slotted head screws from a flathead carburetor diaphragm cover will replace the small allen screw. They can even be removed with a pair of pliers if the need arises.

With the plumbing and the throttle cable properly routed, let's top off our cable work with the RPM and temperature leads from the MyChron, or your instrument of choice.

With the instrument mounted, connect both sensors and start down the steering upright. Once you reach the throttle cable, attach with a tie wrap and stop. Stretch out the sensors and connect to the engine. Now, tie wrap the sensor cables to the throttle cable and work back down. Working from both ends to the center allows us to neatly loop and access cable in a convenient location under the front edge of the seat, as opposed to an unsightly mess on either end.

Go over all your work, and make sure everything is neatly tied up to prevent dragging on the track. Snip all the ends from the tie wraps, and any excess wire and throttle cable. A little extra care and time will pay huge dividends at the track.

Almost there! Next month we will make a few final tweaks and we will be ready for the scales. The dust will be flying soon now. See you next month!