



# SPEED SHOP SCHOLAR

Welcome to another installment of the "Speed Shop Scholar." Our mantra all along has been to share tips and tricks in effort to educate you, the racer, and help your racing experience to be a better one every time out. This month we are going to take an in-depth look at the fuel delivery system of today's kart.

Fuel, especially today's gasoline, dramatically shortens the life of our fuel lines and fuel filters. It seems like only a matter of hours sometimes that the



lines begin to harden. Once they harden to a certain point, fuel and air leaks start. Either of these can take you out of a race, and worse yet, create a safety concern. The only real cure for this is replacement of the lines, but the goal here is to extend the time as much as possible and to lessen the possibility of an issue while in use.

The point of origin of any fuel system is the tank. Regularly inspect the tank for any leaks, and remove and flush to remove any possible contaminants. Insure that the cap fits securely and the vent system properly functions. Many racers have fought an issue with a kart that would only run a bit before shutting off, only to find the vent for the tank was sealed off, and would cut off the fuel supply.



Begin with new fuel line and connect to the tank. With smooth arcs, route the line along the frame rail and up to the fuel pump on the engine. At a point about halfway between the frame and the fuel pump, cut the line and add a quality in line filter. Most filters have a directional arrow imprinted on them, so be certain to install correctly.

Secure the fuel line to the throttle cable with zip ties to avoid contact with the racing surface, being careful not to crimp the hose at any point, we don't want any obstructions of flow. If satisfied with the hose routing, re-inspect and remove any excess line.

Secure connections on the hose nip-





ples will prevent air leaks, even once the hose has hardened. Some choose to use zip ties at the connection points. Take a piece of fuel line and slip over a hose nipple. Pull a zip tie tight and look at the end of the hose. Many times this oblongs the hose. This will create an air leak that will drive you nuts until you find it. The two best methods of securing the line is with safety wire, or with a small hose clamp. The safety wire method is my personal choice, as I feel it is more secure as well as more professional in appearance. However, if you simply loop the wire around the hose and twist, your result will be just like the zip tie method. The trick is to completely circle the hose with the wire, this will give even pressure all the way around. Twist just tight enough to secure and snip the excess.

The lines on the engine need to be treated the same way. Again, make smooth arcs with the fuel line, this

will allow for a freer flow and less possibility of any leaks. Adding a secondary fuel filter between the fuel pump and the carburetor is additional insurance against any trash reaching the engine.

Disconnecting the supply line from the pump and pushing the fuel back into the tank, along with running the engine out of fuel will also extend the life of your hoses. It will also keep the fuel from souring in the carb. Empty hoses have a longer life than ones that remain full of fuel.

Frequent inspection along with regular maintenance is essential to keep your program at its best. Races are won and lost in the shop during the week, every bit as much as they are on race day. A sharp eye will keep you on the track and out of the pits.

Be fast, see you next month!



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