



## 1 Liter Fuel Surge Tank

P/N 80008

Thank you for purchasing Formacars' 1 Liter Fuel Surge Tank. This kit provides protection against fuel starvation during heavy cornering.



# Fuel Lines, Routing, and Installation

IMPROPER FUEL HOSE ROUTING AND INSTALLATION DRAMATICALLY INCREASES THE RISK OF FIRE. BE SURE TO FOLLOW THE FOLLOWING GUIDELINES:

- It is important to ensure that the hoses or lines for the fuel delivery system are clean, not kinked, do not pass hot exhaust components, and are terminated correctly. Inadequate fuel delivery often is the cause of calibration errors that may be detrimental to engine life.
- NEVER route fuel hoses through the interior of a car.
- Whenever possible, use a delivery tube to make the connection from the pump discharge to the filter in the front of the car.
- The lines should be rated to withstand at least twice the maximum pressure of the EFI system. In the case of the pump included with the FormaCars P/N 80008 1 Liter Fuel Surge Tank, minimum burst pressure should be no less than 250 PSI
- When routing fuel lines, it is imperative that they are protected from road hazards and the exhaust system heat.
- The fuel line should NEVER be routed near battery cables.
- Use clamps to secure AN hose every 15 inches, or 24 inches if a rigid tube is used.

A pre-filter rated at 100 microns MUST be used. Failure to use a suitable pre-filter will result in premature failure of the pump.



## 1. Inventory Items

The following is in the box, pre-assembled. If anything is missing, please contact us before you begin.

#	P/N	DESCRIPTION	QTY
10	80038	M12x1.5 x 10mm HEX HEAD SCREW	3
9	80007	CLEAT, MOUNT FUEL SURGE TANK	2
8	80006	BRACKET, BAR MOUNT 1L FUEL SURGE TANK	1
7	80000	ASSEMBLY 1L FUEL SURGE TANK	1
6	30518	WASHER, CRUSH M12, COPPER	3
5	30517	WASHER 6.4mm ID X 18.0mm OD	2
4	30516	M6x1.0 X 30mm HEX HEAD SCREW	2
3	30515	BOLT LINER, STEEL MCMASTER 91868A230 OR EQ.	2
2	30514	GROMMET, RUBBER MCMASTER 9307K49 OR EQ.	2
1	30513	M5x0.8MM X 12mm FLAT HEAD SOCKET SCREW	2

You'll also need the following.

- (3) M12x1.5 fittings of your choice
- 10mm & 19mm wrench or socket
- 3mm hex key or allen wrench
- Power drill
- 100-micron fuel filter

Depending on your application, you'll need one of the following for mounting the tank:

- M6x1.0 nuts and washers
- M6x1.0 Rivet Nuts or similar
- M6x1.0 tap

## 2. Determine and mark location

You'll need a space roughly 4.50" wide x 12.38" long x 4.75" deep to mount the surge tank. Keep in mind the fuel lines that will need to be run to the tank.

The Surge Tank can be mounted vertically, horizontally, or anything in between. The only requirement is that the internal pump inlet, marked by the tip of the "DOWN" arrow on the base, to be the lowest point of the tank. If needed, the tank can be rotated in the mount by loosening the M5 flat head screws on the cleats.

Once you are satisfied with your location, mark the holes to be drilled and remove the tank.

## 3. Create mounting holes

The kit comes with M6x1.0 x 30mm long mounting screws. If the back side of your mounting location is accessible, you can use nuts and washers. If not, you can use Rivet Nuts or you can drill and tap for an M6x1.0 bolt. The hole spacing should be 11.125".

## 4. Mount and orient the tank

Mount your tank and verify that it's rotated properly to place the pump inlet down. Once properly placed, fully tighten the M6 mount bolts and the M5 flat heat screws on the cleats.



## 5. Electrical

The fuel pump requires a FUSED circuit capable of conducting 25 amps. Due to the high electrical demand, a separate relay harness is highly recommended, and should be switched on with ignition. Failure to meet these conditions can cause a fire hazard in the event the pump fails from contamination.

The supply voltage will affect the fuel delivery of the included fuel pump. Although the fuel pump will run at lower voltages, the flow will be less than optimal. Ensure the voltage is at least 13.5V at the pump.

12ga. TXL wiring is recommended. If the total circuit length (ground and power) exceeds 20', 10ga. must be used.

## 6. Plumbing

Four fuel lines are involved in plumbing the Surge Tank. All connections should be made using the appropriate O-rings or crush washers for the type of fitting used.

The **Overflow** line allows the trapped air, as well as excess fuel, to be returned to your main fuel tank. To achieve the maximum effective tank volume, this line should be installed in the highest available M12 port.

The **Outlet** line feeds directly off the Surge Tank pump outlet to the fuel rails. The included 8AN outlet check valve (blue) can be replaced with any 6AN ORB (9/16-18) fitting to fit your setup.

The **Inlet** line brings fuel from your in-tank fuel pump to the surge tank. A 100-micron filter must be installed in this line to maximize the lifespan of the Surge Tank pump. This line may be routed to any available M12 port.

The **Return** line connects to your FPR outlet and may be routed to any available M12 port.

All unused ports should be plugged using the included M12 plugs and crush washers.

## 7. Check for leaks

Since a fuel leak can *really* ruin your day, it's always best to double check that your fittings are tight before starting things up.

Once everything is connected and wired up, visually check for leaks at all fittings BEFORE you turn on the ignition, not just at the surge tank but at all the new lines you ran as well.

Next, turn your ignition to on and check for leaks again.

Lastly turn on the engine and check for leaks one more time.

If all looks good, you're ready to go.

## 8. Enjoy!