

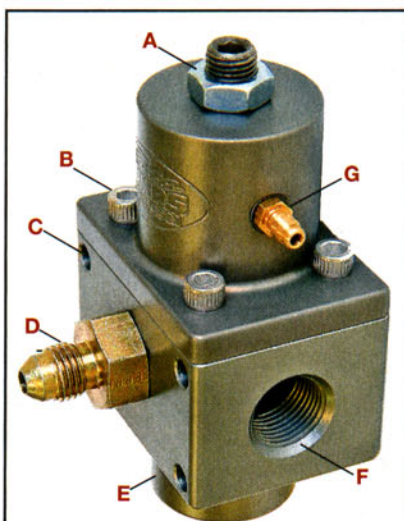
# Race Pumps Fuel Pressure Regulator

## A New Regulator Solves Pressure Problems

**R**ace Pumps has developed a new fuel pressure regulator to complement its piston fuel pump, which addresses the specific needs of the circle track racer. Most fuel pressure regulators are designed for drag race cars running on gasoline with electric fuel pumps. Several problems occur when using those pumps with methanol-fueled circle track cars.

For one thing, the fuel pressure is the same at idle as it is at wide-open throttle, making it difficult for the engine to idle. Also, the off-throttle (corner entry) fuel pressure is the same as it is at wide-open throttle, causing the carburetor to spill over and the engine to load up in the corner. The low-speed and idle fuel pressure can fluctuate due to the weight of the regulator valve, and methanol tends to corrode the body and all of the internal components of most regulators.

The new Race Pumps fuel pressure regulators are designed specifically for circle track race cars that run on methanol using a mechanical



- A** Adjusts the Fuel Pressure
- B** 3/8 NPT Outlet Ports to Carburetor
- C** Mounting Holes
- D** Optional Idle Bleed Return Line to Fuel Tank
- E** 1/2 NPT Fuel Inlet Port
- F** Vent or Vacuum Reference Port
- G** 3/8 NPT Outlet Ports to Carburetor

The parts of the new Race Pumps fuel pressure regulator are shown. Note the idle bleed return line and the vacuum reference port.

fuel pump. The Race Pumps idle fuel pressure is reduced by a unique idle bleed that bleeds off excess fuel, thereby reducing the fuel pressure.

A No. 4 port that accepts standard Holley jets allows the racer to adjust the idle pressure separately, and a No. 4 line from the idle bleed port returns the excess fuel to the fuel cell.

The off-throttle (corner entry) fuel pressure is reduced in the new RP regulator by a vacuum reference port. A vacuum hose is routed from the regulator to either the carburetor baseplate or the carburetor spacer, or directly to the intake manifold. The high vacuum that occurs at a high-rpm, off-throttle condition brings the fuel pressure down to a more manageable 2-3 psi. This prevents the engine from loading up in the corner and makes the throttle response much crisper on exit.

The valve used in the Race Pumps regulator is made of lightweight ceramic and is the same material that NASA uses in aerospace ball bearings. This valve is one quarter of the weight of a steel valve that is used in some of the popular drag race regulators, and this helps make the low-speed and idle fuel pressure more steady.

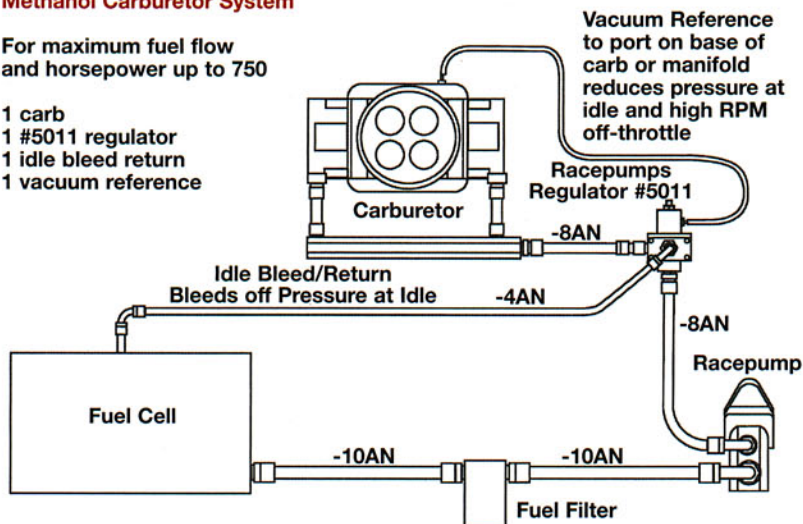
The body of the new Race Pumps regulator is machined from hard anodized aluminum billet. The internal components are stainless steel, so methanol will not corrode the regulator or its internal parts.

The new Race Pumps fuel pressure regulator also works great on gasoline-powered circle track cars. The idle bleed is simply eliminated because gasoline carburetors don't need the reduced idle pressure. **CT**

### Methanol Carburetor System

For maximum fuel flow and horsepower up to 750

- 1 carb
- 1 #5011 regulator
- 1 idle bleed return
- 1 vacuum reference



For gasoline applications, the idle bleed return line would be eliminated.

### SOURCE

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