

## TECHNICAL UPDATE ON PMO CARBS

There are more than 1,000 pairs out being used in different applications. Here's what we've learned:

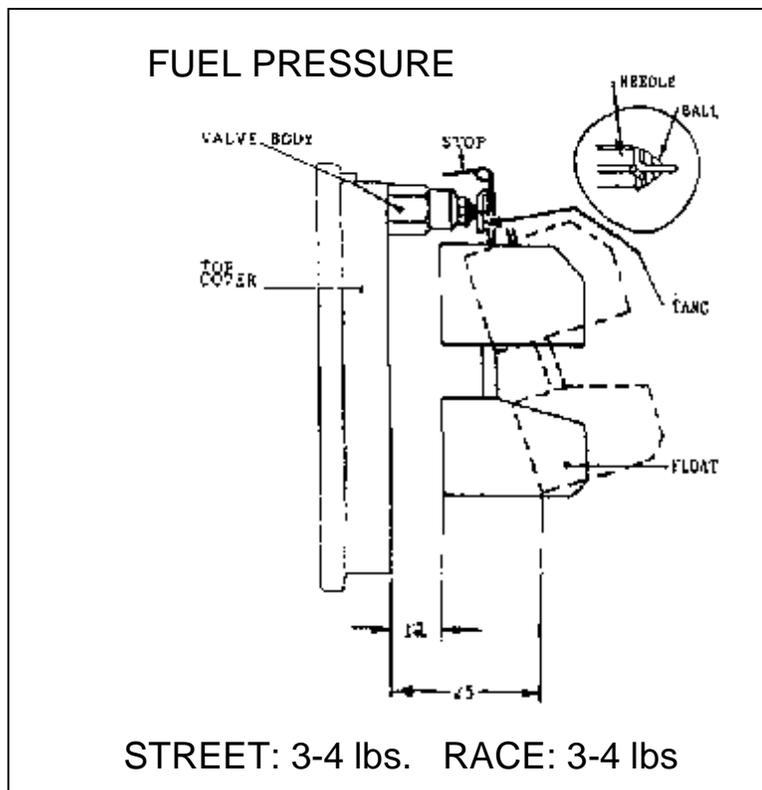
In most applications the tall 4.5 auxiliary venturies work fine. The shorter 5.0 auxiliary venturies are sometimes used with the 50mm carbs on 3.6 – 3.8 liter full race engines. With the 50mm PMO carbs using 45mm venturies, the main jets can be as small as 1.80 and the air jets could be as large as 2.00 and still provide the correct air fuel ratio.

The idle circuit is more adjustable because of the replaceable Idle Air Jets. Good results have been achieved with 1.00-1.30mm idle air jets. The Mixture Screws should be at least two turns out; any less calls for larger idle air jets or smaller idle fuel jets. Racing engines often need .60 idle fuel jets along with 1.30 idle air jets. We usually use the same 60;1.30 setup with smaller engines along with 32mm venturies. The current small (2.0 to 2.4 liter) engine setting.: 32 Vens., 125 Mains, 180 Airs, F11 E. Tubes, 60/130 Idles and 3 Transition Ports.

For mild cams and street cars, the F11 tubes seem to be best. F16 emulsion tubes work well on race cars with high-performance cams. Sometimes the F16 tubes will give a rich midrange and lean top end. In those cases, the F2 emulsion tubes will usually correct those conditions. The richest emulsion tubes, the F7s, work well on the largest race engines. For most applications, main jets are .05 or .10 smaller and the air correctors usually .10 larger than the jetting that would normally be used with Webers.

When we started this project our goal was to build a better, longer lasting carburetor than the 3 bbl Weber. Another goal was to build a bigger carburetor that could compete with racing EFI on bigger engines. These goals have been attained. Some of the larger 911 engines with 50mm PMOs have produced close to 450 horsepower, surpassing EFI or MFI.

### SETTING FLOAT LEVEL



1. When removing TOP COVER the LONG GASKET has to stay with the TOP COVER (it's caught by the floats). Make certain that the weight of the FLOAT is correct (11.8 grams) and that the float can pivot freely on its axis and that the TANG does not show any pitting or other signs of wear.
2. Check that the VALVE BODY is screwed tightly into the carburetor top cover and that the spring-loaded BALL is not jammed.
3. To check the float level, keep the carburetor TOP COVER vertical as shown in the accompanying illustration, making certain the TANG makes light contact with the spring-loaded BALL without compressing the spring inside.
4. Using a millimeter ruler, check that the distance from the carburetor TOP COVER to the FLOAT is 12mm. If necessary adjust the float level with different thickness (.010, .020, .040) gaskets under the float needle valve. The idea is to keep the TANG level with the TOP COVER and perpendicular with the FLOAT NEEDLE VALVE NEEDLE. Minor adjustments to the TANG may be necessary using needle nose pliers (with the float removed). Depending on the rendition of the top covers, it may take 14mm to achieve a center of window level for the fuel in the float bowls. But in most cases, the 12mm float height will be correct.
5. After the float height is set, adjust the float drop to 25mm by carefully bending the STOP with a pair of needle nose pliers. Recheck height (12mm).
6. Fit the carburetor TOP COVER to the carburetor while insuring that the FLOAT can move freely.

**Set Floats** at 12 mm and 25 mm with long gasket in place. The fuel level should be close to the sandblasted dot in the window with engine running. If there is no dot, adjust to middle of window. The fuel level will not stabilize on cars with solid motor-transmission mounts.

**Note:** 46 and 50 mm PMO carbs use 1.75 needle valves in the single main jet float bowls and 2.50 needle valves in the double main jet float bowls. The 40MM PMO carbs use the 1.75 needles and seats in both float bowls.

**Note:** We've recently made available an assortment of washers to set the 12 mm float height. They come in .010, .020, and .040 thicknesses. The whole purpose is to keep the float tang parallel to the rest of the float metal stamping and perpendicular with the float needle valve. Depending on the manufacturing date of the top cover, various washers will have to be used under the float needle valve to achieve the desired result.