

# Carburetor Class at Drag Racer Magazine

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Each year, as the racing season draws to a close, we receive lots of questions about rebuilding four-barrel carburetors: questions like, how complicated is this job, do I have the necessary skills to undertake it, what are the implications, will the carburetor benefit from a rebuild? The answers are simple, carburetors need to be inspected and serviced periodically, and the task of refurbishing a four-barrel performance carburetor, such as a Demon or a Holley, is straightforward. Here are the simple steps to a successful carburetor rebuild. In the next issue of *Drag Racer* magazine, we'll explain the tuning process that follows the rebuild.



*Good quality rebuild kits contain all the necessary gaskets, seals, O-rings, needle-and-seat assemblies and replacement diaphragms for the accelerator pumps.*

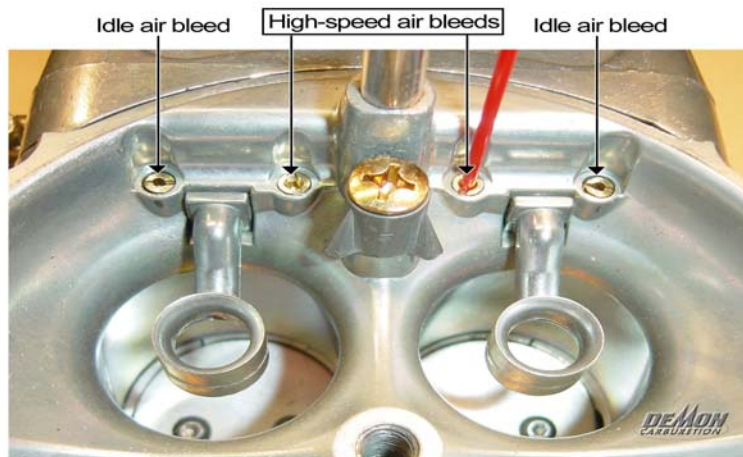
## **Q: What's involved in the rebuilding of my four-barrel carburetor?**

**A:** For the unfamiliar, allow yourself a couple of hours to do the job (perhaps, 40 minutes for those with experience) and acquire a good quality carburetor rebuild kit. Use a service kit like those from BG Fuel Systems. The kits (use PN 190004 for four-barrel carbs with mechanical secondaries) are complete and include all the necessary gaskets, seals, O-rings, replacement diaphragms for the accelerator-pumps, needle-and-seat assemblies, power valves (if necessary); in fact, everything you'll need. Also, it's prudent to replace the fuel filter element at this time. These tasks are not complicated

and the results are satisfying as the engine and fuel system are restored to peak performance.

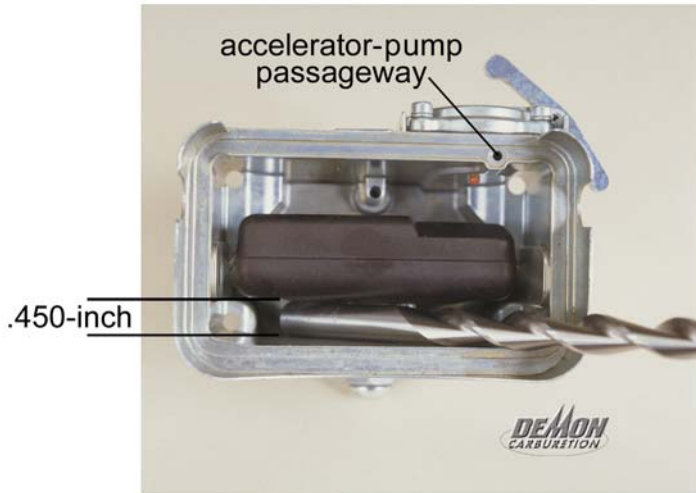
## **Q: What are the procedures?**

**A:** Begin by removing the air cleaner, disconnecting the throttle linkage and fuel and vacuum lines, and loosening the four nuts and washers that secure the carburetor (and, if fitted, disconnecting the transmission kick-down mechanism). The required tools are a 1/4-



*Clean air bleeds with carburetor cleaner. Air bleeds become clogged from dirt and dyes in the fuel, which can cause hesitation or a high-speed miss in an otherwise perfect carburetor.*

inch Allen wrench (float bowl retaining bolts, Demon) or 5/16-inch nut driver (Holley), Phillips-head screwdriver (needle-and-seat assemblies), 5/8-inch wrench (needle-and-seat assemblies), and a 1-inch wrench (power valve).



*Incorrect float levels allow the carburetor to either flood or to run out of fuel. Float levels are subject to two settings: the initial factory setting (shown here) and a final adjustment once the carburetor is mounted on the manifold with the engine running.*

Once dismantled, wash the components and clean the orifices—especially the air bleeds—with carburetor cleaner and compressed air. Replace the old, small parts with new ones, including quality, red non-stick gaskets and the accelerator-pump diaphragms and needle-and-seat assemblies. With the float bowl turned upside-down, adjust the floats to be approximately 0.450-inch from the top of the bowl. A 7/16-inch drill bit will act as a practical guide. This “dry” setting is a preliminary step; the final float-level settings will be completed when the carb is installed and the engine

running.

Next, adjust the idle-mixture screws to their initial setting, which is one and a half turns out from their bottoming position. Also, check the position of the throttle plates relative to the transfer slots. The throttle plates (butterflies) and transfer slots are located in the bores of the baseplate and should be adjusted such that only 0.020-inch of each slot is visible from the bottom. With the throttle plates correctly



Transfer slot at idle

*Note the vital positioning between the throttle plate and the transfer slot at idle. As the primary throttle plates open, the transfer slots are uncovered and provide the fuel for the initial surge of air entering the manifold.*

adjusted, the transfer slots will give the appearance of a square. Incorrect adjustment of the transfer slots is one of the most common causes of poor idling. If too much of the slot is exposed, the idle-mixture screws cannot control the idle quality. Using the new baseplate gasket, refit the carburetor, and connect the linkages and lines. **DR**