



**CARBURETOR REBUILD KITS**  
**190003 (Vacuum Secondary) & 190004 (Mechanical Secondary)**  
**Models – Demon™ Carburetors, Holley 4150™ & 4160™, & BG Claw**  
**LIT700**

**INSTRUCTIONS:**

Before getting to the actual rebuild, it should be noted that the carbs shown here are Demon™ Series carburetors. It may not be identical to the carb on your engine, but it will be very similar. All Demon™ and HOLLEY® four barrels (with the exception of the 4360 Q-Jet replacement & 4010/4011), may be disassembled the same way. A few parts differ here and there, but that doesn't alter the rebuild procedure.

You will need the following tools to complete the rebuild:

- 5/16" nut driver
- Standard & Phillips Head screwdrivers
- 5/8" open end wrench for the float adjusting nut and fuel line fitting on some models (an 11/16" open end wrench might be required in some cases)
- 1" socket for the power valve and a 1" open end to remove the fuel inlet adapter fitting
- Needle nose pliers will help in removing small retaining clips and pins
- Clutch-type screwdriver to loosen the secondary metering plate screws used on Model 4160™ carbs (the ones that do not have replaceable secondary jets)
- Open end 3/8" and/or a 7/16" wrench to adjust the accelerator pump override spring
- 1/4" and 9/64 Allen wrenches

Demon™ and HOLLEY® Four Barrels are actually an easy carburetor to rebuild because of their construction. If you group everything in subassemblies, it is hard to go wrong. When you reassemble the carburetor, install all of the parts on the metering block, and then set it aside. Do the same with the fuel bowl, main body, and the throttle body assemblies. When all of the subassemblies are completed, you will only have six pieces to bolt together to complete the assembly process.

Reassembly is done by simply reversing the disassembly steps. Before installing the carburetor on the intake manifold, rotate the idle mixture adjusting screws clockwise until they lightly bottom out in the metering block. Then, turn 1 and ½ turns to get the initial idle setting in the. Also, adjust the

accelerator pump override spring by tightening the nut until some clearance is visible between the bolt head and pump lever. Back the nut off until all clearance is removed and then rotate it another 1/8 turn. Setting the initial float level may be done easily by inverting the fuel bowl (before it is installed). Run the new fuel inlet (needle & seat) assembly in until the top of the float is parallel with the roof of the fuel bowl.

Once a Demon™ or BG Claw carburetor is in place and the engine is running, the level should be set such that it is in the middle of the sight window. Again, adjust the idle mixture screws to provide the highest manifold vacuum or engine RPM.

Once a HOLLEY® carburetor is in place and the engine is running, the level should be set so that fuel is just below the inspection hole and the mixture screws should be adjusted to provide the highest manifold vacuum reading or engine RPM.

1. Remove the primary fuel bowl. Four screws, located at each corner of the bowl (Fig. 1), hold both it and the metering block in place. When either one of the lower screws is loosened, fuel will begin seeping out, unless the carb has been drained. If the carburetor has been in service for some time, the screw gasket will tend to stick to the fuel bowl.



Figure 1

2. Once all four screws are removed, the bowl can be pulled away from the metering block. Depending upon the age of the carburetor, this may not be quite as easy as it seems. Some carburetors are assembled with composition gaskets and some were coated with a sealing resin to eliminate fuel vapor seepage. A gentle pry with a wide blade screwdriver should solve the problem. The same technique must also be applied to the metering block in order to separate it from the main body. When the fuel bowl is pulled from a carburetor with a single fuel inlet, the "O"-ring that seals the fuel transfer tube will generally remain inside the housing. It should be pulled out and discarded at this point, so that it doesn't become mixed with the new rings. The inlet fitting may be removed with an 11/16" wrench.
3. After removing the lock screw, the fuel valve & seat assembly may be rotated counter-clockwise with a 5/8-inch wrench. Once the threads are no longer engaged with the bowl threads, the entire assembly can be extracted (Fig. 2). O-rings may provide some resistance which can be easily overcome by pulling straight upward.



Figure 2

4. The plastic baffle installed in the fuel bowl should be removed and reinstalled when the carburetor is assembled. This baffle is essential to proper float operation and should not be left out. Dual feed bowls utilize the inlet cavity as a baffle, so a separate piece is not required.
5. Removal of four Phillips screws allows the accelerator pump housing to be lifted from the fuel bowl (Fig. 3). The pump diaphragm is located below this cover. This should now be discarded as a new diaphragm is included with your package. A return spring is located beneath the diaphragm and it should be saved for reuse.

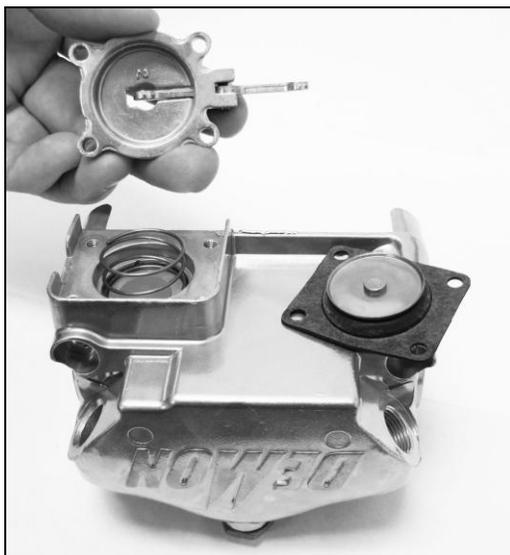


Figure 3

6. The metering block must also be stripped of its removable parts prior to being cleaned. The jets should be removed with a wide-blade screwdriver. Make a note at this time, of the jet number, so that during reassembly, the jets will be reinstalled in the proper metering block.
7. The power valve can be removed from the metering block with a 1-inch socket, open-end or box wrench (Fig. 4). However, when using either of the latter tools, care must be taken to avoid damaging the sealing beads on the block surface.

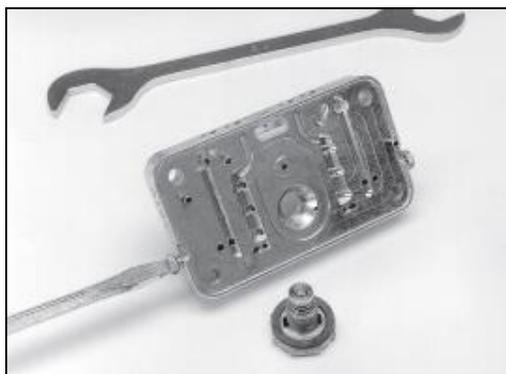


Figure 4

8. The idle mixture screws should also be removed from the sides of the metering block (Fig. 4). There is a small cork gasket surrounding each of the screws, and it should also be pulled out of the recess in the block. The Rebuild Kit comes with rubber o-rings to replace the cork gaskets for a more positive seal. Some HOLLEY® carbs contain a "reverse-idle" system and a tag is affixed to the block showing that the mixture is made leaner by rotating the screws counter-clockwise. This tag should be removed and reapplied after cleaning.
9. The secondary fuel bowl may be removed in the same manner as the primary. However, in Model 4160™, the secondary metering plate is held in place by six clutch-head screws and a special driver is necessary to remove them.
10. The next step is to begin stripping the main body and the choke assembly. Before loosening any screws, note the position of the adjustment index so that the same setting may be achieved when the carburetor is reassembled. Remove the 3 hex head screws holding the choke unit to the carburetor. Rotate the choke out of your way (Fig. 5). On integral hot air chokes, it may be necessary to scrape away the carbon deposits on the plastic cover.

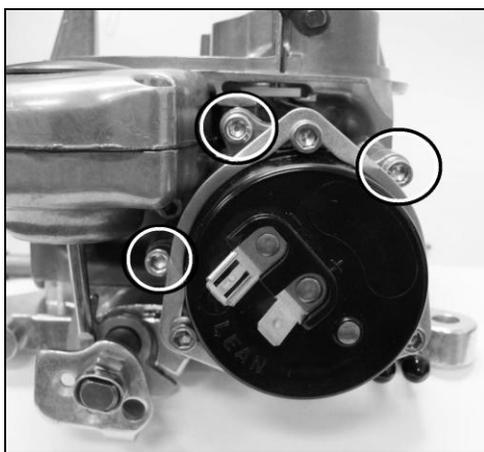


Figure 5

11. On vacuum secondary models, the diaphragm housing is attached to the main body by three screws and the diaphragm rod is held on the throttle shaft linkage by a retainer "C Clip". With these removed, the housing can be pulled from the main body (Fig. 6).

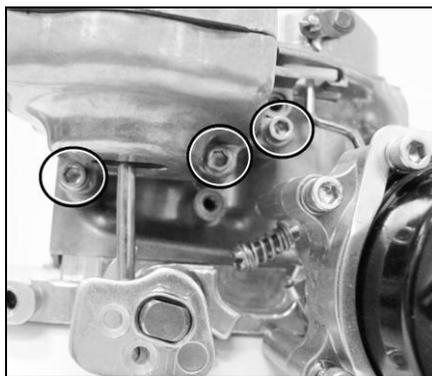


Figure 6

12. The cork gasket on the rear of the diaphragm housing is also critical to secondary operation as it seals the vacuum passage between the housing and the main body. This can be discarded at this time, as your package includes a new seal (Fig. 7).

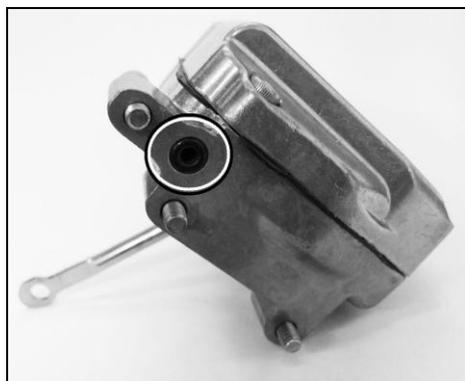


Figure 7

13. Remove the 4 hex head screws that hold the vacuum pod top to the base to be able to replace the diaphragm (Fig. 8). Assembly is the reverse of the removal.



Figure 8

14. The accelerator pump discharge nozzle may be removed by loosening the Phillips head screw and inverting the main body over your hand (Fig. 9). When this is done, the nozzle, screw, and the discharge check needle should fall out. Care should be used in reinstalling the Phillips head screw so as to not strip out the threads.

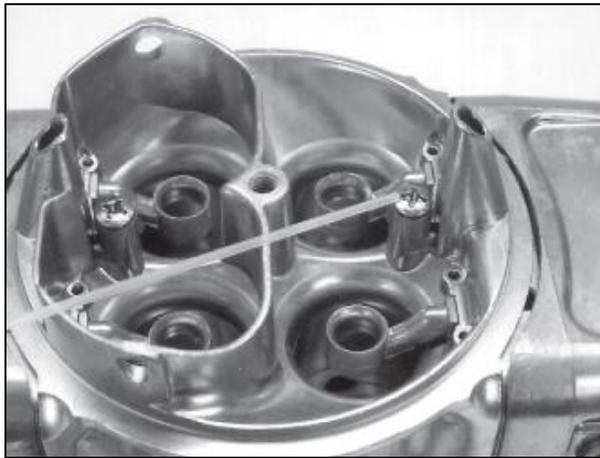


Figure 9

15. The final major disassembly step is to invert the carb and remove the six Phillips head screws that attach the throttle body to the main body. Once the two pieces are separated, the main body gasket may be removed. Before discarding the old gasket, match it up with the new one to insure that the proper gasket finds its way onto the main body during reassembly.
16. Use carburetor cleaner, available at most automotive parts stores, for cleaning.
17. When reinstalling the metering plate on the secondary side of Model 4160™ carbs, the contoured gasket is placed on the plate first. Then, the thin metal shim plate is placed on top of the contoured gasket. Finally these three pieces are placed on the large rectangular gasket (Fig. 10), and the four piece sandwich is then placed on the main body, and the six main body clutch-head screws are tightened. Gold, Silver, Sports Claw, and Demon™ carburetors, along with HOLLEY® model 4150™ carbs, which are fitted with a secondary metering block, are assembled in the same fashion as the primary metering block.

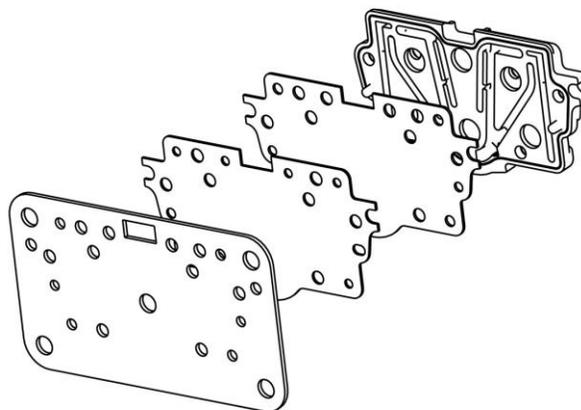


Figure 10

18. Reassemble the carburetor in the reverse order of disassembly. Ensure that all new gaskets are used and that all gasket surfaces are clean and free of any debris.

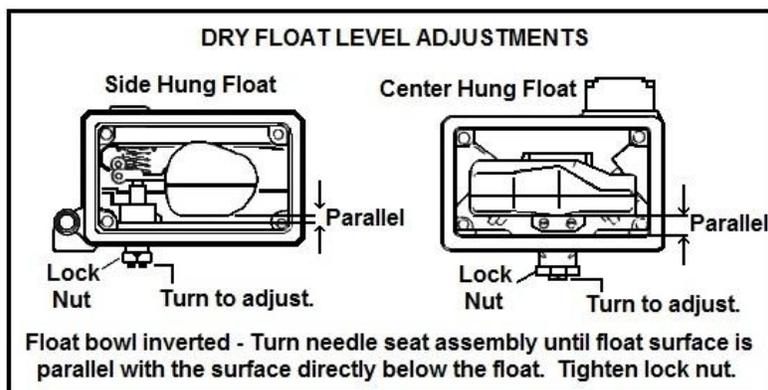


Figure 11

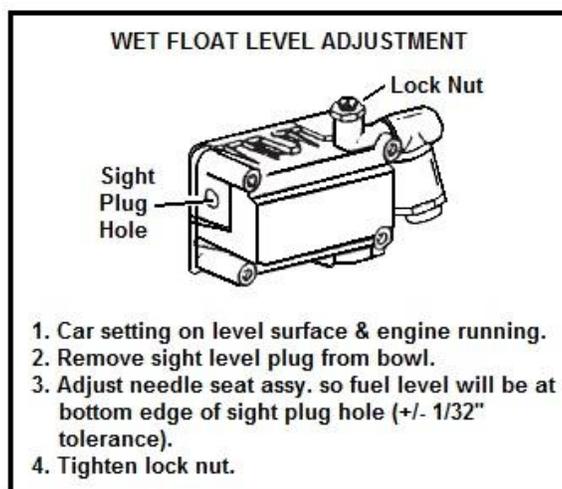


Figure 12

## **Demon Carburetion™ Limited Warranty**

All Demon Carburetion™ Limited Warranties are extended to the original consumer only. This Limited Warranty is not assignable or otherwise transferable. There are no warranties that extend beyond those stated herein. Demon Carburetion™ offers no other warranties expressed or implied beyond this Limited Warranty.

In the event of an alleged defect in material or workmanship, Demon Carburetion's™ responsibility is strictly limited to repair or replace the defective product. Demon Carburetion™ has no other obligation expressed or implied. Final warranty determination will be in the sole discretion of Demon Carburetion™. Demon Carburetion™ shall not be responsible for; (a) actual or alleged labor, transportation, or other incidental charges; or (b) actual or alleged consequential or other damages incurred by use of any product of Demon Carburetion™.

To initiate the warranty process, the consumer must return the alleged defective product to the place of purchase with a dated receipt and completed applicable warranty claim tag. Warranty claims will be rejected if the date of purchase cannot be established by the consumer. Do not send products directly to Demon Carburetion™. Demon Carburetion™ assumes no responsibility for products sent directly to Demon Carburetion™.

This Limited Warranty sets forth specific legal rights. The consumer may have other rights as a result of variations in state laws or provincial laws. This Limited Warranty supersedes all prior warranty statements.

### **DEMON CARBURETION – NEW PRODUCT**

Demon Carburetion™ warrants its new products to be free from defects in material and workmanship for a period of 90 days from date of purchase.

Demon Carburetion™ Limited Warranty specifically does not apply to products, which have been (a) modified or altered in any way; (b) subjected to adverse conditions, such as misuse, neglect, accident, improper installation or adjustment, dirt or other contaminants, water, corrosion, or faulty repair; or (c) used in other than those applications recommended by Demon Carburetion™. Demon Carburetion™ also does not warrant, and disclaims all liability for products used in racing activities and/or applications other than those specifically recommended in the current brand catalog.

### **Return Address & Contact information:**

Demon Carburetion™  
1801 Russellville Road, Bowling Green, KY 42101  
Ph: 270-901-3346  
[www.demoncarbs.com](http://www.demoncarbs.com)

© 2011 Demon Carburetion™ All rights reserved.

LIT700

Revision Date: 12-14-11