



STREET HP™ CARBURETOR

**0-82651SA, 0-82750SA, 0-82751SA,
0-82851SA, & 0-82951SA**



INSTALLATION, TUNING, AND ADJUSTMENT MANUAL

199R10950

NOTE: These instructions must be read and fully understood before beginning installation. If this manual is not fully understood, installation should not be attempted. Failure to follow these instructions, including the pictures may result in subsequent system failure.

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INTRODUCTION:

CONGRATULATIONS on your purchase of the Street HP™ Carburetor! We feel that you have purchased the finest street performance carburetor manufactured today. Should you need information or parts assistance, please contact our HP Technical Service Department at **1-866-464-6553**. Please have the part number and sales receipt ready when calling.

IMPORTANT: The **STREET HP™** carburetor has been factory wet-flowed and calibrated. The “out of the box” settings should be very close for all adjustments.

To preserve warranty, these instructions must be read and followed thoroughly before and during installation.

NOTE: The Street HP Carburetor kit has not been submitted for emissions testing and therefore, has not received an Executive Order Exemption from the California Resources Board. This means that your vehicle will NOT be “Smog Legal” in all 50 states with this kit installed.

WARNING: If you are using this carburetor with a GM overdrive transmission TH700R4 or a TH200R4, you must use a transmission kickdown cable bracket (Holley® P/N 20-95) and geometry corrector (Holley® P/N 20-121). Otherwise, SEVERE transmission damage WILL result. Depending on your accelerator bracket, you will need one of the following throttle studs: Holley® P/N 20-2, 20-38, or 20-40. This carburetor is not designed to work with ANY other automatic overdrive transmissions.

These carburetors have been designed and calibrated as a street performance carburetor for passenger cars and light truck applications equipped with V-8 engines. It is designed for use on “square” flange intake manifolds. Carburetor adapters are not recommended to adapt to “spread” bore intake manifolds, since adapters may have an adverse effect on cylinder-to-cylinder distribution and ultimately, total engine performance. However, some manifolds may be universal (such as Weiand® 8004). Please check with Holley’s HP Technical Service Department (1-866-464-6553) if you have any questions.

REMOVAL:

1. Remove the air cleaner, exercising care to carefully detach any vacuum lines to the air cleaner and marking them so they can be reassembled to the air cleaner in the same manner.
2. Remove the existing carburetor by the following procedure:
 - A. Carefully disconnect the fuel line.

WARNING: Carefully protect the open end of the fuel lines, so that no foreign particles can enter. Wrap the end of the fuel line with a clean lint-free cloth.

- B. Disconnect and mark all the vacuum lines to the carburetor.
 - C. Disconnect the PCV hose.
 - D. Disconnect the choke rod or heat tubes (if equipped).
 - E. Disconnect and remove the throttle linkage and automatic kickdown linkage. **SAVE ALL RETAINING CLIPS.**
 - F. Unbolt and remove the carburetor from the manifold.
3. If the intake manifold is being changed at this time, install the new manifold according to the manifold’s manufacturer’s directions. Since we are not familiar with all manifold instructions, Holley® cannot accept responsibility for their validity.

INSTALLATION NOTES:

CHRYSLER APPLICATIONS

WARNING: This carburetor is not designed for use with any Chrysler automatic overdrive transmission. SEVERE transmission damage may result from improper application use.

1. If you are replacing an existing Holley® carburetor, you may need to purchase and install a throttle lever extension (Holley® P/N 20-7) on the carburetor. Remove the throttle stud and nut from the original carburetor. You can purchase a new stud from your Holley® dealer (Holley® P/N 20-67). Install the stud in the throttle extension lever (**Figure 1**).

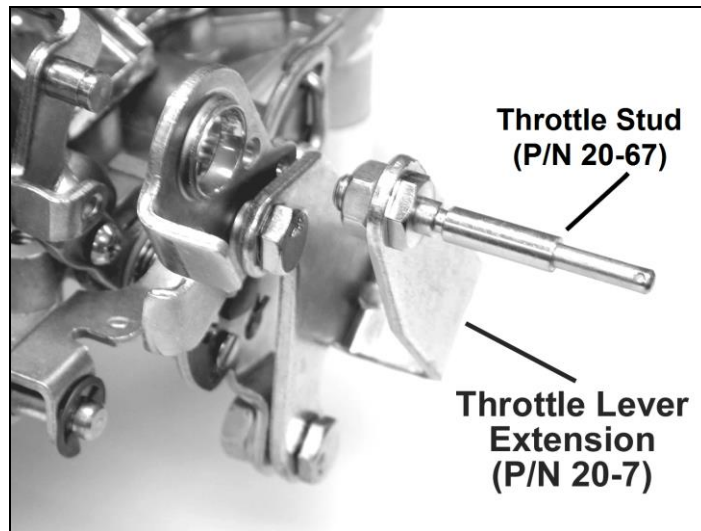


Figure 1—Chrysler applications

FORD APPLICATIONS

NOTE: Unless replacing an existing Holley® carburetor, you will need to purchase Holley® P/N 20-60, spring and perch kit, for Ford automatic transmissions.

1. Install the new throttle ball, lock washer, and retaining nut to the carburetor throttle lever in the same position as the existing carburetor.
2. Insert the transmission kickdown screw with the black retaining clip on the transmission kickdown lever (**Figure 2**). This assembly must be installed according to the detailed drawing (**Figure 3**).

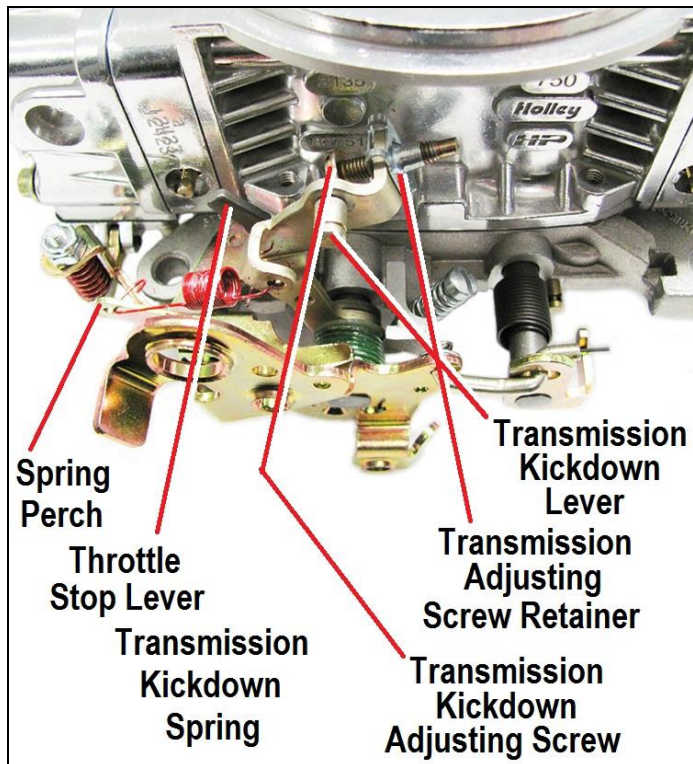


Figure 2A—Ford applications

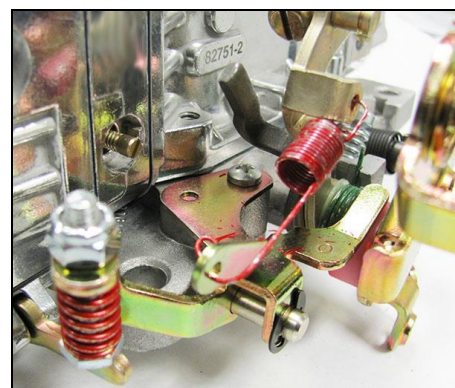


Figure 2B – Spring Perch Orientation

3. Remove the lock out screw from the kickdown lever (**Figure 4**).
4. Install the transmission kickdown spring between the transmission kickdown lever and spring perch on the solenoid/dashpot bracket (**Figure 2**).

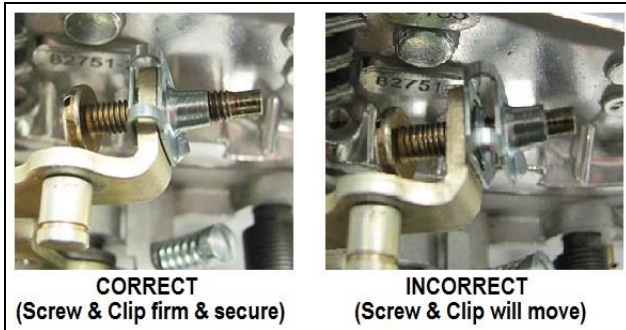


Figure 3—Ford applications

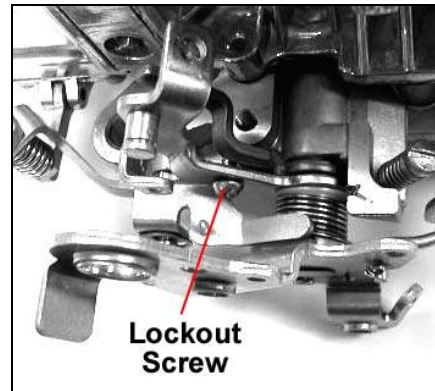


Figure 4—Ford applications

GM APPLICATIONS

WARNING: If you are using this carburetor with a GM overdrive transmission TH700R4 or a TH200R4, you must use a transmission kickdown cable bracket (Holley® P/N 20-95) and geometry corrector (Holley® P/N 20-121). Otherwise, SEVERE transmission damage WILL result. Depending on your accelerator bracket, you will need one of the following throttle studs: Holley® P/N 20-2, 20-38, or 20-40. This carburetor is not designed to work with ANY other automatic overdrive transmissions.

1. Remove the throttle cable ball and automatic transmission kickdown stud (if any) from the original carburetor, and mount these in similar locations on the Holley® throttle lever. If the original throttle cable is too large, a new throttle ball or stud is needed (Holley® P/N 20-2, 20-38, or 20-40).

INSTALLATION:

1. Install the carburetor-mounting studs in the proper location on the intake manifold carburetor flange.
2. Place the new carburetor flange gasket, provided with the carburetor, in the proper position on the intake manifold.
3. Place the carburetor on top of the flange gasket on the manifold. Install the hold down nuts and snug down progressively in a “crisscross” pattern (60-80 in./lbs.), as shown in **Figure 5**.

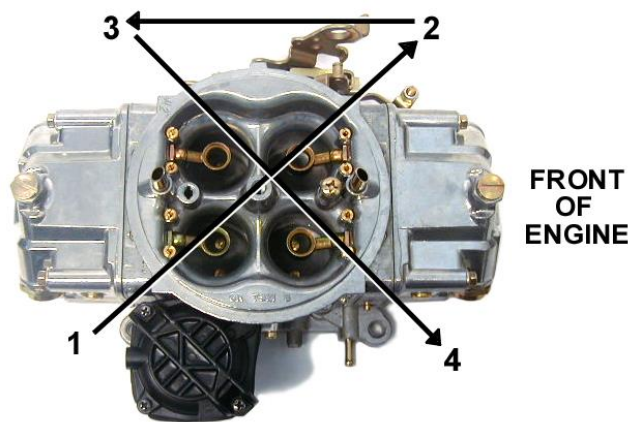


Figure 5

WARNING: Overtightening may result in warped or cracked carburetor throttle body.

4. Before connecting the linkage, operate the throttle lever to ensure the correct travel (no sticking or binding), by opening to wide-open throttle and back to closed throttle several times. Correct any sticking or binding conditions before proceeding.
5. Reconnect the throttle and transmission kickdown linkage and throttle return spring (Holley® P/N 20-89). Operate the carburetor throttle lever by hand to ensure the correct travel (no sticking or binding) by opening to wide-open throttle and back to closed throttle several times. Correct any sticking or binding conditions before proceeding.

NOTE: With the engine turned off, have an assistant slowly press the accelerator pedal to the floor, while you watch the throttle for any sticking or binding. Correct any sticking or binding conditions before proceeding. Also ensure that you are reaching full throttle. Many performance problems are traced to partial throttle openings from improperly adjusted linkage.

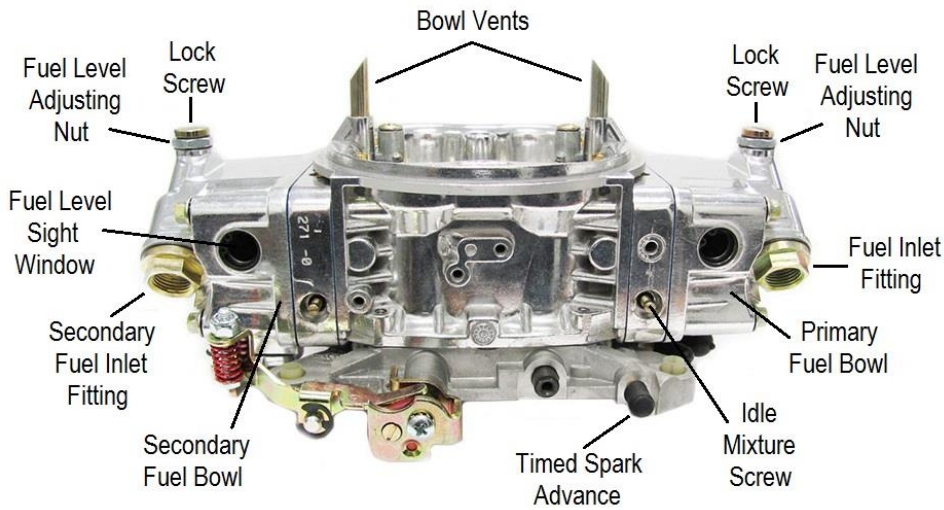


Figure 6A

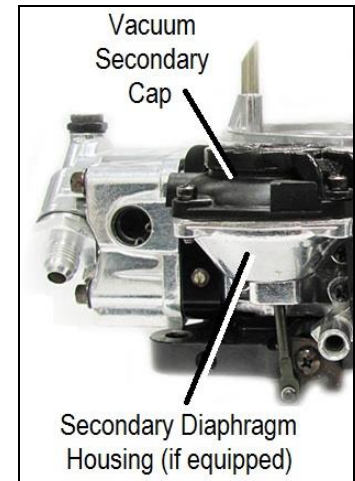


Figure 6B – 0-82750SA only

6. Reconnect the appropriate vacuum hoses to the carburetor, noting the correct fitting from **Figure 6** and **Figure 7**.
 - A. The full manifold vacuum source in the front of the throttle body provides vacuum for proper operation of the air cleaner, the pump diverter valve (if equipped), AC/Cruise, and/or the temperature sensing valve. If vacuum for more than one component is needed, use small plastic vacuum "T"s (available at most automotive stores).
 - B. The timed spark fitting in the front right corner of the throttle body provides vacuum for the operation of the distributor vacuum advance. Connect the hose to the distributor, spark delay valve, and/or temperature sensing valve as originally connected. Again use "T"s as necessary. If any questions arise about the hose connections, consult the proper service manual.
7. Connect the PCV hose to the PCV fitting in the carburetor.
8. Connect the power brake hose to the fitting as shown in **Figure 7**.
9. Install a fuel line of the correct size (Holley® P/N 34-150).

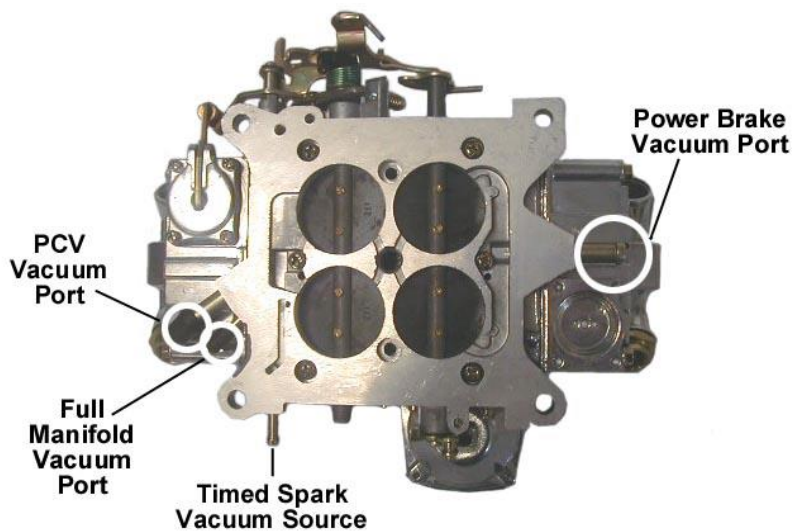


Figure 7

WARNING: During the fuel line installation, DO NOT allow any foreign particles to enter the fuel lines, which could then cause flooding and may result in a fire.

WARNING: Keep the fuel line away from the EGR valve (if equipped) on the intake manifold.

If installation requires cutting the metal fuel line, cut the fuel line with a good tube cutter. This will minimize the chance of producing metal chip particles. If a hacksaw must be used then metal chips must be removed.

WARNING: In all cases where the fuel line has been cut, it is essential that it be clean to ensure that no metal particles enter the fuel bowl after the new carburetor installation. Remove the fuel line at the pump and blow the line clean with compressed air. DO NOT use the procedure where the coil wire is disconnected, the engine cranked for a few revolutions, and the fuel collected in a container. This procedure is unsafe because sparking can occur either at the coil or at the distributor end of the coil wire and ignite any fuel spilled in the engine compartment.

CAUTION: This carburetor contains in line Moraine fuel filters. However, the use of a quality in line fuel filter, such as Holley® P/N 162-523 is mandatory as a safeguard against possible flooding, which could result from unfiltered particles becoming lodged between the fuel inlet needle and its seat. This can result in fire if a spark is present or backfire occurs in the engine compartment. Air cleaner filter elements should be blown clean with compressed air at 6,000 miles and replaced at 12,000 miles to ensure maximum protection. Now would be the perfect time to upgrade to a Holley® Powershot air cleaner filter.

10. Start the engine and check the fuel lines and inlet fitting for possible leaks.

NOTE: The recommended fuel pressure is 5-7 psi.

11. Recheck to ensure that all existing vacuum hoses are attached properly. Plug any fittings not used.

12. With the engine at operating temperature, set the idle speed to the manufacturer's specifications (see page 9 for idle adjustment).

13. Shut off the engine and readjust the throttle operated transmission linkage, if necessary. On installations that have a kickdown-actuating switch on the passenger's side of the firewall, it might be necessary to readjust it according to the manufacturer's service manual.

FORD APPLICATIONS WITH AUTOMATIC TRANSMISSIONS: With the engine off, push the transmission kickdown rod rearward until it stops and hold it in position. Push the throttle lever rearward to its wide-open throttle position and adjust the transmission kickdown screw to come in contact with the transmission kickdown lever tang.

WARNING: With the engine off, recheck the assembled linkage for sticking and/or proper return to the idle position.

14. Place the air cleaner gasket (supplied) on the sealing flange, and install the air cleaner.

15. With some air cleaner configurations, it may be necessary to use an air cleaner spacer to provide adequate clearance between the carburetor and the air cleaner. Holley® offers such a spacer (Holley® P/N 17-13). Depending on the overall height, obtain the proper length 5/16 x 18 stud and install in the carburetor airhorn. Close the hood slowly to ensure adequate clearance between the air cleaner stud and the hood.

WARNING: Inadequate clearance between the air cleaner and the throttle lever could result in throttle sticking and uncontrolled engine speed. Check the clearance between the throttle lever and air cleaner for proper operation. Check the clearance between the air cleaner and the hood before closing the hood completely.

MAINTENANCE WARNING: Fuel system components, including fuel lines and the carburetor, should be inspected periodically to ensure no fuel leakage and to ensure the soundness of the hoses. Today's clean emissions engines provide higher temperatures in the engine compartment. These high temperatures promote faster aging of non-metallic materials.

Hoses that exhibit surface cracks, when bent to 180°, should be replaced. The presence of liquid fuel demands tightening of fittings, hose replacement, and retorquing of the fuel system component flange nuts. Periodically check the torque on the fuel bowl screws to 25-30 in./lbs. to ensure proper fuel metering.

GENERAL: Some very important factors to optimize efficiency and performance include: Correct engine timing, correct spark plug gap and heat range, ignition components in good working order, and correct operation of exhaust heat valve.

WARNING: On automatic transmission vehicles only, install the transmission kickdown adjustment screw and black retaining clip, as correctly indicated. Failure to attend to this detail may result in a sticking wide-open throttle or dangerous uncontrolled engine speed.

IDLE MIXTURE NEEDLES:

Idle mixture needles control the air/fuel mixture at idle. These have been preset at the factory and SHOULD NOT need any adjustments. However, if you feel that adjustment is necessary, you can use the following procedure to do so. When tuning the idle mixture, you're actually tuning for the best manifold vacuum. Idle mixture needles are found on both the primary and secondary metering block. If you change one idle mixture needle, you must change the other (3) idle mixture needles by the same amount. Here are the proper steps for setting the idle mixture needles.

1. Attach the vacuum gauge to a manifold vacuum port on the throttle body (**Figure 7**).
2. Adjust each idle mixture screw (**Figure 9**) 1/8 turn at a time, alternating between each screw. Turn them equally, until you achieve the highest possible vacuum reading without adjusting the curb idle speed screw. Turn screws in to lean the mixture. Turn them out to richen the mixture.

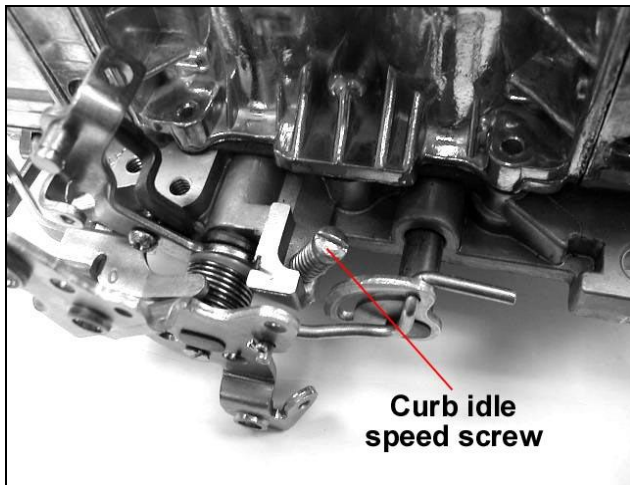


Figure 8

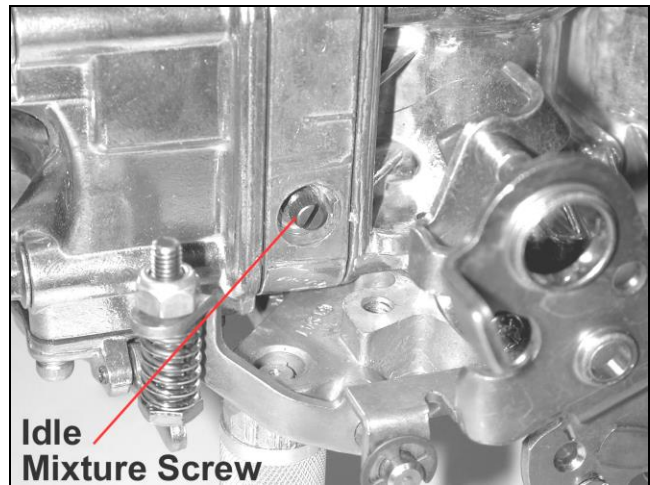


Figure 9

3. Now that the idle mixture is set, it may be necessary to go back and reset the idle speed using the curb idle speed screw, as shown in **Figure 8**.
4. If a vacuum gauge is not available, use a tachometer to obtain the highest RPM.

ROUGH IDLE AND VACUUM LEAKS: If a rough idle persists after the engine has been started and the mixture screws adjusted, check for manifold vacuum leaks. These could result from unplugged vacuum fittings or a carburetor flange gasket that was torn during installation. Recheck for proper attachment of all vacuum lines and check the lines for cracks. If the manifold was changed, a manifold vacuum leak could occur at the cylinder head/manifold surface due to damaged gaskets or improper torquing. Frequently, manifold vacuum leaks occur from the valley side of the manifold. These are very difficult to detect, unless a discernible whistle can be heard.

NOTE: In most cases, when rough idle occurs after a carburetor/manifold change, they result from manifold vacuum leaks similar to those described above. Assuring a proper manifold installation rather than assuming the carburetor is not functioning properly will ultimately save time.

FLOAT LEVEL ADJUSTMENT:

Float adjustments are set at the factory, but variations in fuel pressure could cause a change in these settings. The following procedure shows how to make these adjustments:

WARNING! Extreme caution must be exercised while adjusting the float levels, as fuel spillage may occur.

1. Start the vehicle. Turn on the electric fuel pump (if so equipped)
2. Observe the sight glass for the fuel level. If none is seen, the level is too low. A properly set float level will have the fuel level located will be in the center of the glass, as shown by the line in **Figure 10**.

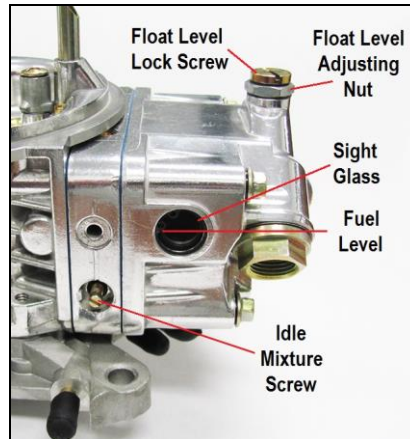


Figure 10

3. To adjust, shut down the engine.
4. Loosen the lock screw on top of the fuel bowl just enough to allow you to turn the adjusting nut. Hold the screw in position with the screwdriver.
5. Using a 5/8" wrench, turn the adjusting nut in the appropriate direction: Clockwise to lower float level and counterclockwise to raise the float level.
6. Turn the adjusting nut in increments of 1/4 of a rotation.
7. Retighten the lock screw.
8. Restart the vehicle and observe the fuel level.
9. Repeat steps 1 through 8 as necessary.

VACUUM OPERATED SECONDARY THROTTLES:

Many people have the misconception that opening the secondary throttles sooner will provide increased performance and quicker drag strip times. Others think they must "feel" a kick when the secondaries engage. Still others believe that they should disconnect the vacuum diaphragm and make the secondaries open mechanically.

Before going any further, let's discuss these points in a reverse order. First, if we could make our vacuum operated secondary carburetors perform better by opening the secondaries mechanically, it would be to our advantage to do so since all that vacuum actuating hardware is expensive and requires much time and money to calibrate. Mechanical secondary carburetors all utilize a secondary pump shot to prevent bogging when the secondaries are opened. Secondly, those who "feel" a kick when the secondaries engage are actually feeling a flat spot during initial acceleration because the secondaries have already begun to open and have weakened the fuel delivery signal to the primary boosters. The engine is struggling to increase speed and what they actually feel are the secondary nozzles "crashing in" as the engine finally reaches the speed where it provides the proper fuel delivery signal to the primary and secondary venturi. Third, opening the secondaries early causes the situation described above. The secondaries must not open until the engine requires the additional air. This allows torque to increase along the peak torque curve. Performance is compromised less by holding the secondaries closed a little longer than by opening them a little too soon. If the opening rate of the vacuum operated secondaries is properly calibrated there should not be a "kick", only a smooth increase in power should be felt.

VACUUM OPERATED SECONDARY TUNING:

The secondaries will not open by free-revving the engine. The engine needs to be under a load before they will open. If you are still uncertain if they are opening, you can take a normal paperclip and clip it onto the secondary diaphragm rod and slide it up against the bottom of the secondary diaphragm housing. Go out and drive the vehicle, making sure to get into the secondaries. When you return you will be able to look at the position of the paperclip on the rod. If it is lower on the rod, you can tell the secondaries opened and how far they opened. This is useful in determining if you need a heavier or lighter secondary spring.

1. Remove the air cleaner assembly.
2. Remove the 2 Phillips screws from the black vacuum diaphragm spring cap (**Figure 13**).
3. Lift off the cap and spring. Remove the spring from the cap. Replace with a spring from kit P/N 20-13.
4. The lighter springs will allow the secondaries to open sooner (for light cars) and increase performance.
5. The heavier springs will force the secondaries to open later (for heavier cars) and increase fuel economy.



Figure 11

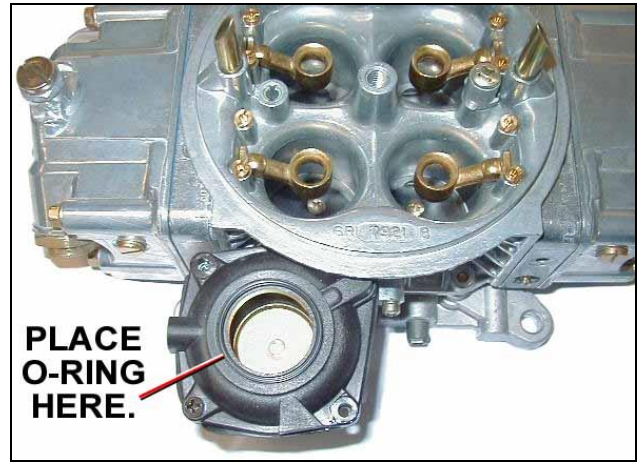


Figure 12

6. The silver spring that comes in the Street HP Carburetor kit has been calibrated to give the best performance and fuel economy in most applications.
7. Once you have selected a spring, attach it to the cap (**Figure 11**) by placing the small end of the spring over the center post on the cap. Check the O-ring seal and place the cap and spring back into the vacuum diaphragm housing.

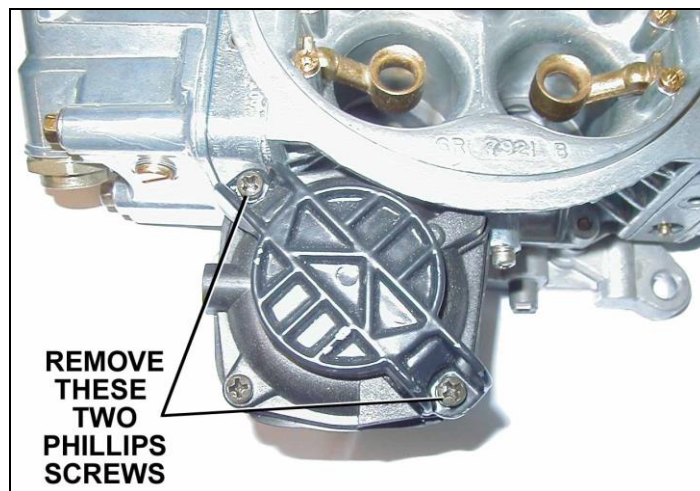


Figure 13

8. Tighten the two Phillips screws securely and reinstall the air cleaner, as shown in **Figure 13**.
9. Test drive the vehicle.

JETTING (MAIN JETS):

Due to varied applications that a universal performance carburetor will work with, a few tips on jetting are provided to help you understand their purpose.

1. Out of the box jetting is extremely close for most applications.
2. Carburetors are calibrated at sea level. Decrease the jet size primary and secondary, one number for every 2000 ft. increase in altitude.
3. Holley® jets are broached, flowed, and stamped according to flow rate. **NEVER** drill jets, as this seriously alters flow characteristics. Stamped numbers are reference numbers and **DO NOT** indicate drill size.
4. In most cases it will be **unnecessary** to increase jet size more than four numbers greater than out of the box jetting. Exceptions could arise when the carburetor is mounted on a very large volume, plenum-ram manifold.
5. Spark plugs provide the best indication of proper jetting. Consult an ignition manual for proper reading of spark plugs.

CARBURETOR SPECIFICATIONS:

Use this as a place to record the carburetor specs out of the box so you will have a record of the original calibration

CARB #	PRIMARY METERING JET	SECONDARY METERING JET	PUMP DISCHARGE NOZZLE	PRIMARY POWER VALVE	SECONDARY POWER VALVE	SECONDARY DIAPHRAGM SPRING



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**For online help, please refer to the Tech Service section of
our website: www.holley.com**

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