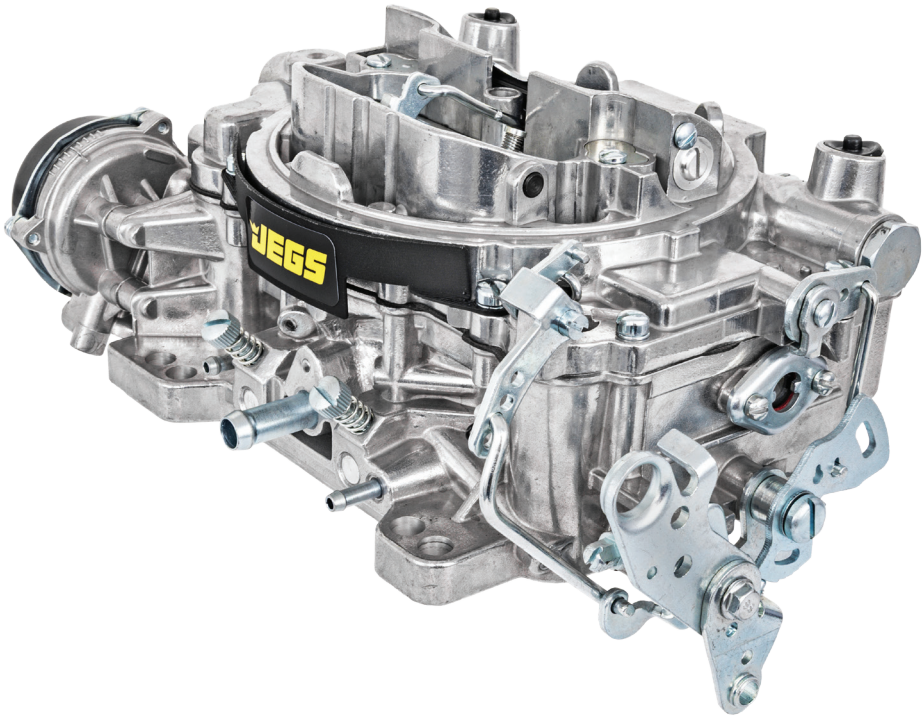
Installation Guide

650 CFM Street Carburetor

Electric Choke, Vacuum Secondaries

555-16655



JEGS Performance Products

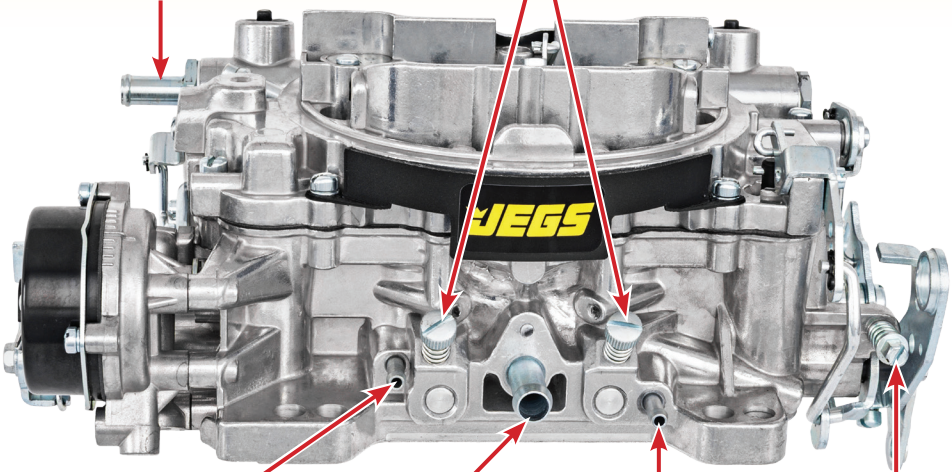
1-800-345-4545 jegs.com

Table of Contents

Carburetor Breakdown

IDLE MIXTURE SCREWS
Left screw - Left side of carb
Right screw - Right side of carb

FUEL INLET
For 3/8" hose

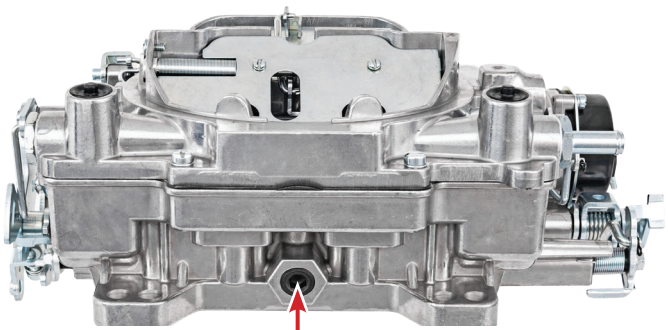


3/16" TIMED VACUUM
Distributor vacuum advance port for emission controlled engines

PCV PORT
3/8" Hose
NOT FOR FUEL

3/16" MANIFOLD VACUUM
Distributor vacuum advance port for non-emission controlled engines

IDLE SPEED SCREW



POWER BRAKE PORT
Rear Lower Side 1/4 NPT
If not in use, this port must be plugged with a 1/4 NPT pipe plug

Read Before Installation

It is important to read and understand these instructions before beginning on the installation of your carburetor. If you have access to a trusted mechanic, you might consider having the installation done by a professional. Correct fine tuning of your engine is important for the best results.

Note: *Proper installation is the responsibility of the installer. Improper installation will void your warranty and may result in poor performance along with potential engine or vehicle damage.*

Application

This carburetor is not for use in computer-controlled applications.

This carburetor is designed to run on Carter/AFB style manifolds. In order to fit a spread-bore manifold, an adapter is required.

Note: *JEGS Carburetors are not designed or calibrated for E-85, or Alcohol race fuels. Use of E-85 or Alcohol race fuel will damage your carburetor and or engine. Any use of E-85 or Alcohol race fuel will void your warranty.*

Emissions

These carburetors are not legal for street use in the state of California. Other states may have laws that preclude their use. Check with local authorities.

Warning

The use of a new fuel filter between the fuel pump and carburetor is required. Failure to do so will void the warranty.

Automatic Transmission

Use the following part if your installation requires the use of a transmission kick-down lever.

- JEGS# 555-157301
  - 700R4 / 2004R / 4L60 Throttle Cable Alignment Corrector

Fuel Line

The stock steel fuel line will not connect to this carburetor and must be converted. Use a kit such as the following.

- JEGS# 555-159200
  - Universal Fuel Line Kit

Tuning

Every carburetor is run on an engine test stand and fully tuned by our technicians for optimum performance. However due to the wide variation of possible engine applications, additional fine tuning may be necessary. The carburetor float is set with 6.5 psi fuel pressure, this is the recommended fuel pressure for best “out of the box” results

Avoid excessive under-hood temperatures as this may negatively impact performance.

NOTE:

As a result of the tuning process, you may detect a slight odor of gas when you take your carburetor out of the box. This is normal, and no cause for concern.

Installation Notes

Check and replace the following parts if necessary.

- Air Filter
- PCV valve (If clogged)
- Hoses (Look for leaks or cracks)
- Fuel Pump
- Intake Manifold Gaskets
- Cylinder Head Gaskets
- Ignition system
  - Clean and gap, or replace, spark plugs and plug wires
  - Adjust ignition timing to proper specifications.

CAUTION:

When working with gasoline, always maintain in a well-ventilated area and keep open flames, sparks, and other sources of ignition away from the work area. Failure to do so can result in a FIRE or EXPLOSION.

Before Removing the Old Carburetor

Determine if the distributor vacuum port is timed (no vacuum at idle) or full (vacuum present at idle). With the engine at operating temperature and idling, pull the vacuum advance hose off the carburetor and "feel" for vacuum by putting your finger on the Timed Vacuum port. If you **DO NOT** feel a vacuum on this port your distributor has timed vacuum advance and should be hooked up to the Timed Vacuum port, unless it has full vacuum advance, and will then be hooked up to the Manifold Vacuum port.

Old Carburetor Removal

The following are general instructions intended to apply to Carter/AFB style carburetors. However, due to variations in design and style, some steps may not address your particular carburetor. And additional steps may be necessary.

1. Disconnect the Negative (-) battery terminal to eliminate the risk of sparks in the presence of fuel or fuel vapors.

2. Take pictures of all connections (hose, linkage and electrical) before disconnecting. These will be good references during reassembly.

3. Remove air cleaner and all hoses or vacuum lines connected to it and the carburetor. Tag the hoses so you know where to reinstall them later.

4. Remove any return springs and then disconnect the linkage.

5. Disconnect the heater tube from the choke housing (if so equipped). This carburetor do not use the hot-air -style choke, so this tube may be left disconnected with no problems.

6. Remove fuel lines from the carburetor. Be careful not to twist or damage the lines or fittings Use a penetrating aerosol spray to loosen tight fittings.
   - ***Note:*** *Carefully remove the fuel line from the carburetor.* ***TAKE EXTREME CARE NOT TO SPILL ANY EXCESS FUEL.*** *Place a rag underneath the fuel line to absorb any spillage that may occur. Certain models require two wrenches*

Instructions continued on next page. →

Old Carburetor Removal Continued

to remove the fuel line; one to hold the fitting on the carburetor and the second to turn the fitting on the fuel line. Use a tubing wrench to avoid rounding the tube fitting nut.

7. Remove the four nuts holding the carburetor to the manifold along with any lock or flat washers.

8. Remove carburetor, being careful not to spill any dirt into the intake manifold.

9. Cover inlet openings in the manifold to avoid any loose parts or debris falling into the engine. A loose nut can destroy an engine.

10. Remove old mounting gasket and thoroughly clean mounting surface. Compare old carburetor gasket to the gasket included carburetor. If there is a difference in bolt pattern or bore spacing, an adapter will be required for installation.

Carburetor Preparation

1. Compare the throttle arm of your new carburetor with the old one to be sure that all required linkages will hook up.

2. Check and prepare carburetor for proper vacuum fitting installation. If some vacuum ports are not used plug them with proper sized vacuum caps or plugs.

3. On electric choke models, remove one choke housing retaining screw and install eyelet end of choke ground wire (black) to the choke housing, and reinstall the screw. Connect clip end of choke ground wire to negative (–) spade terminal on choke housing. ***(See Fig. 1 below for reference)***

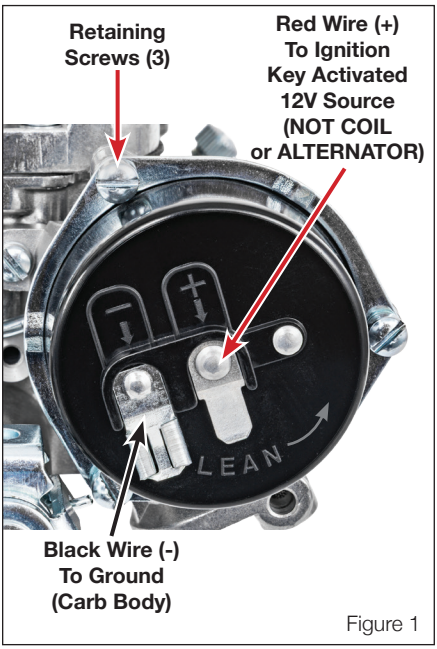


Figure 1

New Carburetor Installation

1. Put old and new carburetors side by side so that you can determine any differences between them. Transfer any linkage components from the old carb to the new one if applicable.

2. Remove coverings on intake manifold and place the carburetor gasket over the four studs in the manifold. Install new carburetor over the four studs. Install throttle cable bracket over the driver's side rear stud if applicable.

3. Install the four hold-down nuts with any washers (if used) and tighten in a cross pattern but do not fully tighten at this stage.

4. Connect all throttle and transmission linkages and throttle return springs. ***With the engine OFF, make sure that there is no interference when opening and closing the throttle. Be sure there is no binding or hanging up between idle and wide-open throttle, as this could cause the throttle to stick open, resulting in loss of engine speed control. Make sure choke is open before testing.***
   - ***Note:*** *You may have to cut, bend or modify your stock throttle cable brackets to fit the new carburetor.*

5. Once the linkage is operating smoothly tighten the four nuts to 8 ft. lbs. We strongly suggest that you tighten in a criss cross pattern to avoid over-tightening one corner and breaking the base flange. Broken carburetor flanges are not covered by the warranty. So use caution.
   - ***Note:*** *Over-tightening may break the carb base and void warranty.*

6. Connect manual choke cable to the choke lever cable mounting bracket.

7. Connect all vacuum hoses to their proper location on the carburetor. Replace hoses that appear brittle or cracked to prevent vacuum leaks.

8. Connect fuel line to carburetor.

9. Install new air cleaner gasket and air cleaner stud.

10. Install air cleaner, making sure that it does not contact the carburetor linkage or fuel line, and has proper hood clearance.

11. Recheck linkages for smooth throttle operation.

12. Reconnect the negative battery cable from the battery.

Starting the Engine

1. Pump the accelerator two or three times with the engine off.

2. Start engine and check for fuel or vacuum leaks. With engine at normal operating temperature and the choke fully open, set idle speed and mixture screws (See “Idle Mixture” Section).

Idle Mixture

1. Fully warm engine and ensure choke is fully open.

2. With the air cleaner installed.

3. Set desired speed with the idle speed screw.

4. Adjust the Idle Mixture Screw on ONE side for the maximum possible RPM.
   - If the above changed the idle speed more than 40 RPM, then re-adjust idle speed.

5. Adjust the side OPPOSITE of that in Step 4 to get maximum RPM.

6. Reset idle speed.

7. Carefully trim each Idle Mixture Screw to again get the maximum idle RPM.

8. Turn Idle Mixture Screws evenly clockwise (IN) just enough to get a 20 RPM drop in speed.

9. Reset idle speed to desired RPM.

10. This is a Lean-Best Idle Set.

Long Duration Camshaft

If the engine is equipped with a camshaft that only creates 10inHg or less of vacuum at idle it may require a compromise between a higher idle RPM and more idle spark advance. If the distributor is fitted with a vacuum advance unit, connect it directly to manifold vacuum. If not, the mechanical curve should have a low limit, which will allow you to use plenty of initial spark advance.

Air Valve Secondary

1. With two flat blade screwdrivers in place, loosen Screw 1, make sure Screw 2 is secure to prevent loss of spring pressure. (Fig.2)

2. If you lose spring pressure, turn Screw 2 counter-clockwise until the air valve just reaches the closed position, plus an additional 1 1/2 turns to achieve the factory setting.

3. The factory setting is the most common setting. If additional tuning is required, turn the air valve screw counter-clockwise to make the air valve open later, it is not recommend to go beyond one turn more than the factory setting, or more than 2 1/2 turns past the closed position.

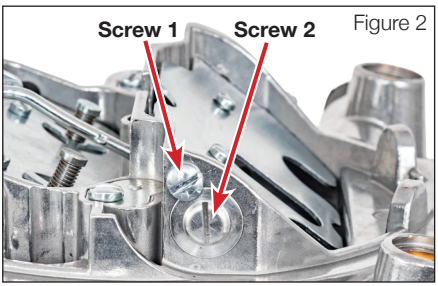


Figure 2

Pump Calibration

The pump plunger is not driven directly by the throttle, but through an intermediate Pump Drive Spring that extends the duration of the “pump shot” past the time the throttle stops moving. This carburetor has an external pump lever with three hole locations for link attachment providing three distinct pump delivery curves. If you encounter any hesitations or stumbles that do not seem to be related to the basic metering or have not responded to changes in the basic metering, move the pump drive link to one of the holes closer to the carburetor body. This will increase the stroke length of the plunger and result in more pump delivery. (See Fig.3)

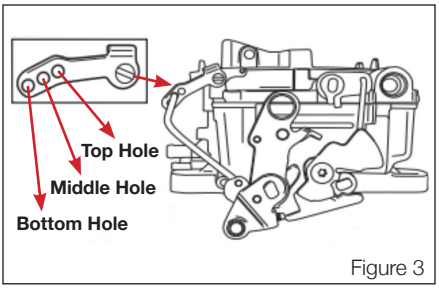


Figure 3

Float Adjustment

Both primary and secondary floats are adjusted before delivery. This is a primary setup that may require adjustment to best suit your engine. The following are the necessary steps to follow.

1. Start vehicle
2. Inspect sight glass. (Fig. 4) If no fuel is visible the level is too low. If the fuel is above the midway point the level is too high. (Fig. 5)
3. To adjust turn off the engine.

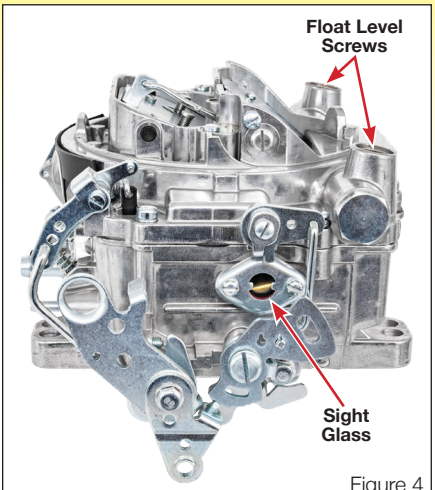


Figure 4

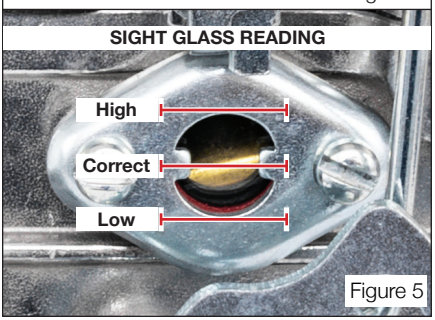


Figure 5

4. Turn float level screws to adjust.
   - Clockwise: Raise float
   - Counter-Clockwise: Lower float
5. Turn the screws in 1/4 turn increments. Adjust both screws equally.
6. Restart engine to observe levels.
7. Repeat this process as necessary until the fuel level is at the center of the sight glass.

Choke Adjustment

The length of time during which the choke will stay closed is determined by the position of the choke cap. As the choke cap is turned clockwise the choke will stay closed longer. To properly set the choke, loosen the choke cap retaining screws and turn the choke cap to the leanest notch on the choke housing.

Tighten the choke cap retaining screws, and run the engine until normal operating temperature is reached. With the engine running, slowly turn the choke cap clockwise until the choke valve begins to close. Now turn the choke housing one notch counter-clockwise (LEAN) and tighten the choke housing retaining screws. Periodic readjustment of the choke will be required as the temperature changes throughout the year. After each adjustment verify that the choke valve opens fully after the engine is warm.

To adjust the fast idle linkage place the fast idle screw A between the two notches on the cam. Close the choke valve as far as possible without forcing it. The dimension C should be $^{3}/_{64}$" between the choke valve and the air horn. To adjust bend rod D. Fast idle may be adjusted to manufacturers specifications (usually 1500 rpm) during normal choke cold operation. The fast idle screw A can be adjusted with engine off and throttle held open to allow screw head access. Recheck fast idle speed after each adjustment. (Fig. 6)

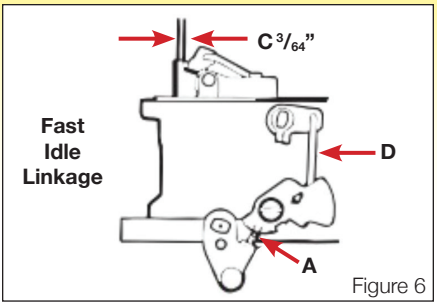


Figure 6

The California Safe Drinking Water & Toxic Enforcement Act of 1986 (Prop 65)

Prop 65 is a list of chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. This list, which must be updated at least once a year, has grown to include over 900 chemicals since it was first published in 1987. Prop 65 requires businesses to provide Californians with a clear and reasonable warning about chemicals in the products they purchase, in their home or workplace, or that are released into the environment. Due to the amount of products offered that may contain small amounts of listed chemicals as ingredients; JEGS is required to label with exact content provided by the State of California Prop 65 warning label.

- Please check the following link to view the list of chemicals Prop 65.
  - www.oehha.ca.gov/proposition-65

- Please email if you have any questions regarding the policy.
  - prop65@jegs.com

California Air Resources Board (CARB)

CARB prohibits the sale or use of parts that will modify or defeat emissions systems in any 1966 and newer vehicles. This does not restrict sale of approved replacement parts, those granted an executive order (EO) number by the California Air Resources Board or race only vehicles. Items not approved by CARB will not be sold to California residents either by mail order, customer call center or website orders. Please check the following link to ensure your vehicle compliance CARB Aftermarket Parts.

- www.arb.ca.gov/msprog/aftermkt/aftermkt.htm

Warranty

Please see our website, www.jegs.com, for warranty information.

If you have any warranty concerns please contact our Customer Service department at: 1.800.345.4545 ext. 2003.

Notes

Notes

If you have any issues, or if this carburetor is damaged, please contact customer service at: 1.800.345.4545.

Return Information: *Once this carburetor has been modified, it will not be accepted for return.*