

# Installation Guide for JEGS Street Carburetors



## 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 designed to run on 4150-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.*

## TUNING

Every carburetor is run on an engine test stand and fully tuned by our technicians for optimal performance. However due to the wide variation of possible engine applications, additional fine tuning may be necessary. These carburetors are designed to utilize 6.5 PSI fuel pressure.

**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.*

## AUTOMATIC TRANSMISSION

If your installation requires the use of a transmission kick-down lever, there are a number of JEGS brackets to fit your application.

1. JEGS# 555-157202
  - Transmission Linkage Kickdown Stud <sup>3</sup>/<sub>16</sub> in.
2. JEGS# 555-157300
  - 700R4 Cable Alignment Corrector
3. JEGS# 555-157310
  - TH-350/700R4 Throttle & Kickdown Bracket

## 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 of the carburetor.

## OLD CARBURETOR REMOVAL

The following are general instructions intended to apply to all 4150 carburetors. However, due to variations in design and style, some steps may not address your particular carburetor. And in some cases 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. Remove air cleaner and all hoses or vacuum lines connected to it or the carburetor. Tag the hoses so you know where to reinstall them later.
3. 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 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.
4. Remove the electric choke connections, tag the leads for reinstallation.
5. Remove any return springs and disconnect linkage.
6. Remove the four nuts holding the carburetor to the manifold along with any lock or flat washers.

7. Now you can remove the carb.
8. Cover inlet openings in the manifold to avoid any loose parts or debris falling into the engine. A loose nut can destroy an engine.

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## NEW CARBURETOR INSTALLATION

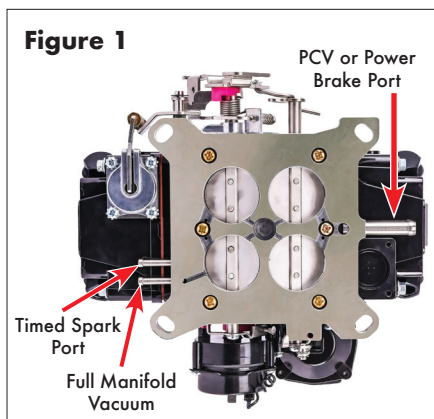
The following are general instructions intended to apply to all 4150 carburetors.

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. Now remove coverings on the intake manifold and place the carburetor gasket over the four studs in the manifold. Install the 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. Attach the throttle linkage and any kickdown linkage. Depress the accelerator pedal making sure that everything works smoothly with no interference with any components. If resistance is experienced, make sure that whatever is causing the problem is eliminated, allowing smooth operation of all linkage.

Installation instructions continued on next page. →

## INSTALLING YOUR NEW CARBURETOR CONTINUED

- Once you have the linkage operating smoothly you can tighten the four nuts. Tighten to 100 in. lbs. (8 ft. lbs.). We strongly suggest that you tighten in a criss-cross pattern in a number of steps to avoid over-tightening one corner and breaking the carburetor base flange. Broken carburetor flanges are not covered by the warranty. So use caution.
  - Note:** Over-tightening may break the carburetor base and void your warranty.
- Install a positive return spring. Cycle the linkage to make sure that the return spring is fully retracting the linkage.



**VACUUM PORTS** - The Full Manifold Vacuum port is typically used for the transmission modulator, heat and/or AC control, vacuum actuated fresh air induction, etc. It is ok to use "tees" to connect more than one of these to the port on the carburetor. The Timed Spark Port is typically used for a vacuum advance distributor, if used.

- Install vacuum hoses. (See **Figure 1** and accompanying note.) Install the PCV hose onto the  $\frac{3}{8}$ " nipple at the back of the carburetor. If the PCV hose is not used, this nipple can be used for the power brake hose.
- Install fuel inlet fittings into the two ports in the carburetor. Do not use Teflon tape on these fittings. Make sure the fitting threads and the flare portion of the fitting are clean and free of dirt or debris. Tighten adequately to avoid fuel leakage. Then install the fuel line nuts making sure the flare portion is clean. Again tighten adequately to avoid fuel leakage.
- Re-attach the electric choke connections to the carburetor. Connect the Positive (+) wire from the choke to the a 12V source on the ignition key. Do not connect to the Battery side of the ignition Coil. If possible, check the voltage with a voltmeter to assure the correct voltage. Battery voltage will be 12V or greater. Then recheck voltage with engine running to assure that voltage does not drop below 12.6V or the choke will not operate correctly. Note that certain engines incorporate a field wire from the alternator that only provides 9.5V which is not enough to allow proper function of the choke.

## STARTING THE ENGINE

1. Reconnect the Negative (-) battery cable.
2. Before attempting to start the engine, the fuel bowls must be filled with fuel. If you have an electric pump, turn on the ignition and allow about 15 seconds for the pump to fill the fuel bowls. If you have a mechanical pump, pull the coil wire from the distributor so the engine won't start, and allow the starter to turn the engine in two separate 10 second cranks. Replace the coil wire.
3. With the vehicle on level ground, check the sight glass for each bowl to confirm that the fuel level is in the middle of the glass. If not, you may not have fully filled the bowls. Give it another 10 seconds. Note that the carburetor was set-up at the factory to have the float level at the mid-point of the sight glass. If the fuel level is not in the proper location, you may have to adjust the float level. If your fuel pressure regulator is not regulating the fuel at 6.5 PSI, that may be the reason your fuel level is not at the correct position in the sight glass. Unfortunately the most accurate way to check the float level is with the engine running. So after you get the engine running, you will need to check it again and adjust as needed.
4. Once you have the float levels correctly established, cycle the throttle twice. If the ambient temperature is less than 72 degrees, the choke will close and the accelerator pump nozzles will discharge fuel. Now you can start the engine.
5. It will not be necessary to pump the accelerator pedal while attempting to start the engine. However, if it does not start on the first attempt, pump the throttle a couple more times and try starting the engine again. It should start.
6. If it doesn't start, try holding the throttle slightly open while starting. If it won't start it's possible you flooded the engine. Let it stand for 20 minutes and try again.
  - **CAUTION:** Be alert to carburetor flooding, flooding can be caused by dirt, small particles of hose cuttings, floats and inlet needles which have settled during shipping, etc. When the fuel pump is turned on or when the engine is first started, watch closely for signs of flooding. If flooding occurs, turn engine off immediately.
7. Once the engine starts the idle speed should be raised by the fast idle cam. If the initial idle speed is too low (it should idle between 1600 and 2000 rpm initially) you can raise the idle speed by adjusting the idle speed screw located behind the primary throttle lever. Then let the engine idle at this speed for about five minutes. During this time the choke should open on its own and be fully open after about three minutes of fast idle.
8. After the engine has reached operating temperature and the choke has reached the open (vertical) position, open and close the throttle quickly. The idle speed should drop down into the 700 to 1000 rpm range. If you initially had to adjust the idle speed screw, now

Starting instructions continued on next page. →

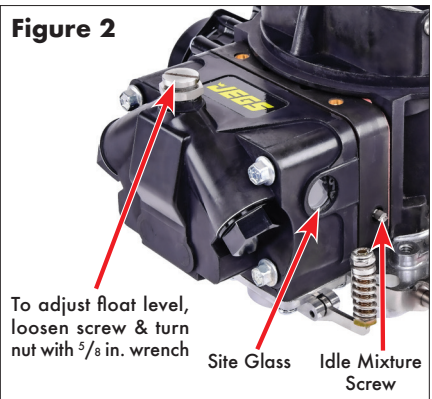
turn it counter-clockwise until the idle speed is where you want it. This may depend on various engine factors as to the desired idle speed.

9. If you have access to a manifold vacuum gauge, set the four mixture screws (see **Figure 2**) to attain the highest manifold vacuum reading with the engine idling. It is not necessary that all four screws be at the same exact number of turns but they should be close. Without a manifold vacuum gauge, you will just have to manually make adjustments until you get the best possible idle. Make adjustments in increments of about  $\frac{1}{4}$  turn each. Turning the screws in (clockwise) increases the leanness of the mixture. Backing them out enriches it. By adjusting the screws you should be able to smooth out the idle to a desired level. If three of the screws are out too far, turning in the fourth one may have no effect. If the rpm goes up when turning a screw, back it off until idle comes down. If the idle drop is too much, then the mixture is too lean and the screw needs to be turned back out.
10. After you have reached the best idle quality (or highest manifold vacuum), if equipped with an automatic transmission, put your foot on the brake and place the transmission in gear. This will likely change the idle speed due to a load being placed on the engine. If you have a performance camshaft, it may be necessary to increase the richness of the idle screws to keep the engine from dying or laboring when in gear.
11. Now you can do a test drive of the vehicle. Once you have driven it you may need to make some minor

adjustments to the mixture screws and the idle screw to achieve the ideal settings.

12. Once you are reasonably happy with the low speed drive-ability, take the vehicle out on the highway to determine how well the engine operates at a steady speed. Typically, above 2000 rpm the carburetor is operating off of the main metering system. The air/fuel ratio is controlled by the main metering jets. If the engine surges while driving at a steady speed on flat ground, the engine is too lean and the main jets need to be increased in size. But if the engine labors and has difficulty holding a steady speed then it is likely too rich and smaller main jets are required. Another way to check for correct air/fuel mixture is to check the plugs after driving at a steady highway speed for an extended period. If the plugs are white, you are too lean. If they are dark gray, black or sooty, the engine is too rich. A too lean or rich condition can also be detected by looking at the inside of the exhaust pipe at the tip. The color should be a medium tan or brown. Not white and not black.

**Figure 2**



## ELECTRIC CHOKE ADJUSTMENTS

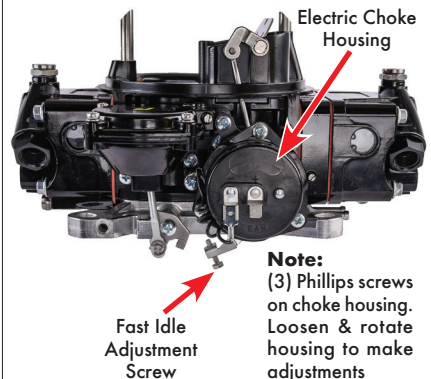
It is possible to adjust the electric choke as follows: Note that the normal choke setting is for the choke plates to just barely close at 72 degrees Fahrenheit. Loosening the three screws that hold the choke spring will allow rotation of the choke cap. (See **Figure 3**) Rotating it clockwise reduces the choke effect (lean) and rotating it counter clockwise enriches the choke effect. A lean choke (clockwise) closes at a higher temperature and opens faster. A rich choke (counter clockwise) closes at a lower temperature and opens slower. At full clockwise rotation, the choke will never close.

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## FAST IDLE SPEED

The fast idle speed can be adjusted by turning the fast idle speed screw. (See **Figure 3**) The easiest way to access this screw is with the engine off and rotating the linkage to wide open throttle. The typical fast idle speed with the engine at operating temperature is approximately 1600 rpm. The procedure to check fast idle speed is as follows: With engine off, manually open the throttle, close the choke plate with your finger, then release the throttle, and then the choke plate. This sets the fast idle cam. Now start the engine without touching the throttle linkage or accelerator pedal. The engine will start and be at the fast idle setting. Fast idle adjustments can then be made with the fast idle screw. The adjustment screw is somewhat difficult to access. If you can't access it and you know you want to increase it or decrease it. Shut the engine off and then fully open the throttle. This will give you access to the adjustment screw. Turn it clockwise to increase the idle speed or counter clockwise to reduce it.

**Figure 3**





## **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 review the list of chemicals Prop 65.
  - [www.oehha.ca.gov/proposition-65](http://www.oehha.ca.gov/proposition-65)
- Please email if you have any questions or concerns regarding the policy.
  - [prop65@jeps.com](mailto:prop65@jeps.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](http://www.arb.ca.gov/msprog/aftermkt/aftermkt.htm)

## **WARRANTY**

Please see our website, [www.jeps.com](http://www.jeps.com), for warranty information.

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

## **REPLACEMENT PARTS**

- 555-150262 - JEGS Carburetor Rebuilt Kit for 4160 Models
- 510-37-119 - Holley Carburetor Rebuilt Kit for 4160 Models

**JEGS.com**

1-800-345-4545