



# EDELBROCK PERFORMER SERIES EMISSIONS LEGAL CARBURETOR 600cfm, Electric Choke, EGR, Square-Bore Carburetor Part #1400 INSTALLATION INSTRUCTIONS

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

**DESCRIPTION:** Edelbrock Performer Series carburetor #1400 is 50-state street legal for all 1980 and earlier General Motors V8 engines. All Performer Series Carburetors have been calibrated, factory flow-tested, and preset. Edelbrock Performer Series carburetors are designed to give you excellent performance, fuel economy, and maintenance-free operation. To ensure that you enjoy these benefits, please read all instructions prior to installation.

**ATTENTION: EDELBROCK CARBURETORS ARE NOT CALIBRATED FOR OR COMPATIBLE WITH ALCOHOL RACE FUEL OR E85 PUMP FUEL. USE OF ALCOHOL OR E85 IN YOUR EDELBROCK CARBURETOR WILL DAMAGE YOUR CARBURETOR AND VOID YOUR WARRANTY. THESE FUELS CAN ALSO DAMAGE OTHER FUEL SYSTEM COMPONENTS, UNLESS SPECIFICALLY DESIGNED FOR USE WITH ALCOHOL FUELS.**

**NOTE: Edelbrock Performer Series carburetors are not for computer-controlled applications. That includes some 1981 & later GM vehicles with Q-Jet carburetor and some 1981 & later Ford vehicles with automatic overdrive (AOD) transmissions.**

**Vehicles equipped with C.E.C. solenoids will require the use of Edelbrocks Idle Compensator Solenoid. Use part #8059. The factory C.E.C. solenoid will not fit our throttle lever. However, the Edelbrock Idle Compensator Solenoid will allow you to retain the C.E.C. function and to pass visual emissions inspection in California. See "C.E.C. Function" in the "Adjustments and Troubleshooting" section for installation and adjustment of the Idle Compensator.**

## KIT CONTENTS:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> 1 Installation instruction sheet      | <input type="checkbox"/> 2 5/32" Vacuum caps            | <input type="checkbox"/> 1 3/16" Internal star washer |
| <input type="checkbox"/> 1 Warranty card                       | <input type="checkbox"/> 1 5/32" Vacuum "T"             | <input type="checkbox"/> 1 Red choke positive wire    |
| <input type="checkbox"/> 1 Square-bore, heat-insulating gasket | <input type="checkbox"/> 1 1/4" NPT pipe plug           | <input type="checkbox"/> 1 Black choke ground wire    |
| <input type="checkbox"/> 1 Air horn gasket                     | <input type="checkbox"/> 1 Throttle cable ball end stud | <input type="checkbox"/> 1 E.O. Decal                 |
| <input type="checkbox"/> 1 Air cleaner stud                    | <input type="checkbox"/> 1 10-32 Hex nut                |   |

## **CHECK THE FOLLOWING BEFORE BEGINNING INSTALLATION**

**WARNING: WHEN WORKING AROUND GASOLINE, ALWAYS WORK IN A WELL VENTILATED AREA, AND KEEP ALL OPEN FLAMES, SPARKS AND OTHER SOURCES OF IGNITION AWAY FROM THE WORK AREA. FAILURE TO DO SO CAN RESULT IN A FIRE OR EXPLOSION.**

- |   |   |
|---|---|
| <input type="checkbox"/> Replace fuel filter. Dirt (i.e. corrosion residue or other debris) found in carburetor voids warranty. | <input type="checkbox"/> Check fuel pump for proper operation and replace, if necessary.  |
| <input type="checkbox"/> Check and replace the air filter, if necessary.  | <input type="checkbox"/> Check the intake manifold and cylinder head gaskets for leaks and replace, if necessary.                 |
| <input type="checkbox"/> Check PCV valve and replace, if clogged.   | <input type="checkbox"/> Check the ignition system: clean and gap or replace spark plugs, plug wires, and adjust ignition timing. |
| <input type="checkbox"/> Check all hoses for leaks or cracks and replace, if necessary.   |   |

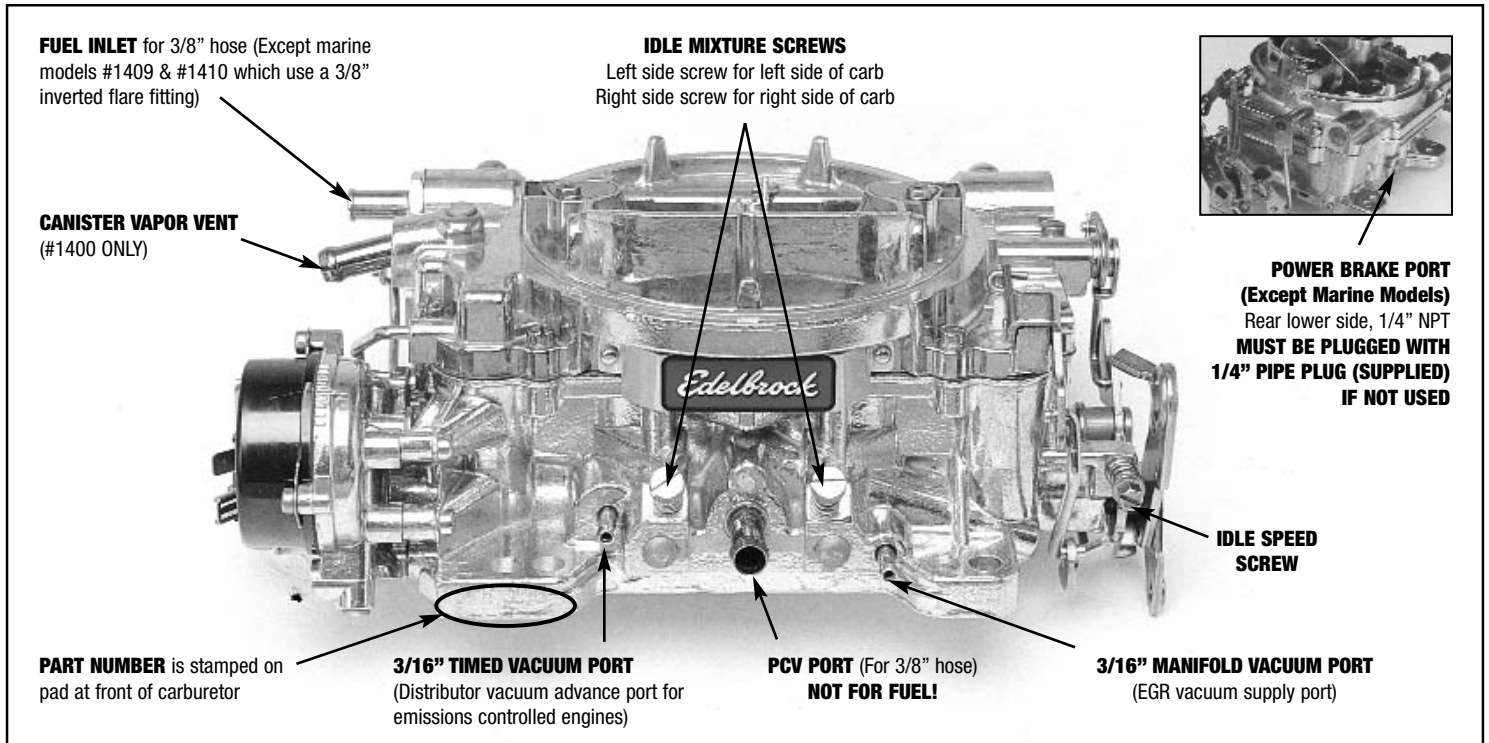
## **ACCESSORIES (REVIEW THE FOLLOWING AND USE PARTS AS NECESSARY FOR YOUR APPLICATION)**

- |  |  |
|--|--|
| <input type="checkbox"/> Carburetor Adapter and Fuel Line Kit #2697 (Used to mount Edelbrock carburetors to stock Quadrajets manifolds. Includes 4-hole carb adapter #2696, fuel filter and fuel line kit #8135 for 3/8" and 5/16" OEM steel fuel lines. Both also available separately) | <input type="checkbox"/> GM cruise control adapter #1484   |
| <input type="checkbox"/> 90-degree banjo fuel inlet fitting kit #8089 (For use with low profile air cleaner bases), #6 AN fuel inlet fitting #8087, or Inverted Flare fuel line fitting #8090 (3/8")   | <input type="checkbox"/> Throttle cable, transmission, and cruise control bracket #8031 or 8036 ('79 and earlier) for small-block or big-block Chevy (Some applications may require modification to stock bracket) |
| <input type="checkbox"/> In-line fuel filter #8873   | <input type="checkbox"/> EGR adapter #1476 (For Chevy small-block V8's. Required for all EGR applications to provide clearance for Performer Series carburetors)   |
| <input type="checkbox"/> Fuel pressure regulator #8190 (If stock fuel pressure is greater than 6.5 psi)  | <input type="checkbox"/> Universal throttle return spring kit #8005 (If original return spring cannot be used)   |
| <input type="checkbox"/> Chevrolet throttle cable stud #8009 ('77 & later)   | <input type="checkbox"/> 3/4" Air Cleaner spacer #8092 (For low profile air cleaner bases to clear electric choke)   |
| <input type="checkbox"/> Transmission kick-down stud #8018 (TH350 type)  | <input type="checkbox"/> Electrical connectors (For electric choke connection)   |

## RECOMMENDED TOOLS

- ❑ Sockets/wrenches/tubing wrenches
- ❑ Pliers
- ❑ Screwdrivers
- ❑ Hacksaw and/or tubing cutter
- ❑ #20 Torx Driver (for electric choke models)
- ❑ Wire crimpers (for electric choke models)
- ❑ Test Meter or Test Light (for electric choke models)

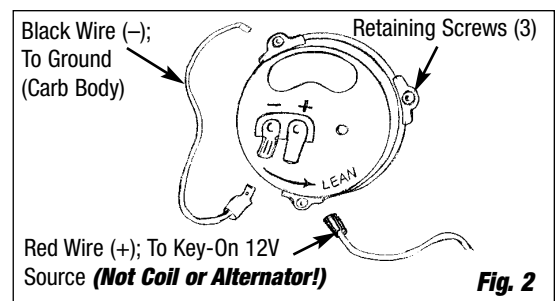
## INSTALLATION PROCEDURE



**Figure 1 - Fittings and Vacuum Port Locations**

### CARBURETOR PREPARATION

1. Install proper throttle and transmission linkage for your particular application. Make sure all linkage is properly secured to carburetor and works freely.
2. Check and prepare carburetor for proper vacuum fitting installation (EGR, power brakes, PCV, distributor, transmission, etc.) using supplied vacuum caps, "T", and hose when applicable. Before removing old carburetor, determine if distributor vacuum advance port is "timed" (no vacuum present at idle) or "manifold vacuum" (vacuum present at idle), and use the matching vacuum port on your Edelbrock carburetor (**See Figure 1**). If vacuum port at rear of carb is not used, plug with a 1/4" pipe plug.
3. For electric choke hook-up (**See Figure 2**), remove one choke housing retaining screw and install eyelet end of choke ground wire (black) to choke housing and reinstall screw. Connect clip end of choke ground wire to negative (-) spade terminal on choke housing. Connect red wire spade terminal to positive (+) terminal on choke housing. Connect other end of red wire to an ignition key activated 12-volt source. **DO NOT ATTACH TO COIL OR ALTERNATOR.** Ensure this source maintains 12 volts with engine running.



**Fig. 2**

### INSTALLATION OF CARBURETOR

1. Disconnect all linkages and lines from old carburetor, noting their purpose for reassembly on new carburetor.

**CAUTION:** When disconnecting fuel line, avoid any exposure to sparks or open flame. Note position of all throttle and transmission linkages and/or cables for reassembly. Remove old carburetor and flange gasket. Do not allow gasket or other material to fall into manifold.

2. Place new carburetor gasket and adapters (when applicable) on the manifold. Install carburetor and cross tighten nuts. Be sure not to overtighten nuts.

3. Connect all throttle and transmission linkages and throttle return springs.

**CAUTION:** At this point, make sure all throttle and transmission linkages operate smoothly from idle to wide open throttle (WOT) and check return springs for proper pressure.

4. Connect all vacuum hoses to their proper location on carburetor (**See Figure 1**). Replace hoses that appear brittle or cracked.
5. Connect fuel line to carburetor (**See Figure 1**). Avoid contact with any sharp edges or areas of extreme heat. For best results, use Edelbrock in-line fuel filter #8873 and fuel line kit #8135.
6. Install new air horn gasket and air cleaner stud (supplied). Install air cleaner making sure it does not contact linkage or fuel line and has proper hood clearance. Extremely low profile air cleaners will not fit without #8092 (due to choke interference).
7. Trim air cleaner stud to proper length.
8. Re-check all linkage for smooth throttle operation.

9. Start the engine and check for any possible fuel or vacuum leaks.

**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. 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 and lightly tap on the side of the carburetor that is flooding, in the rear needle and seat area with a rawhide mallet or wooden handle of a hammer. Start engine and see if flooding continues. If flooding continues, stop the engine. Clean up any raw gasoline and refer to the **"Adjustments and Troubleshooting"** section of the Instruction Sheet.

**WARNING: NEVER POUR FUEL DIRECTLY DOWN THE CARBURETOR WHEN ATTEMPTING TO START THE ENGINE! THIS MAY CAUSE A BACKFIRE AND POSSIBLE ENGINE COMPARTMENT FIRE, RESULTING IN ENGINE OR VEHICLE DAMAGE, PERSONAL INJURY AND/OR DEATH.**

10. With engine at normal operating temperature and choke fully open, set idle speed and mixture screws. This procedure is outlined in the Instruction Sheet.

## ADJUSTMENTS AND TROUBLESHOOTING

### IDLE MIXTURE

The Edelbrock Performer Series carburetor has conventional Idle Mixture Screws (IMS) that provide a leaner A/F when turned clockwise and richer A/F when turned counter clockwise. The idle air flow is controlled by a conventional screw that opens the Primary Throttles. The following procedure should be used to set the idle mixture and speeds:

1. Fully warm engine and ensure choke is fully open.
2. Air cleaner in place.
3. Set desired speed with the air screw.
4. Adjust the IMS on ONE side to get the maximum possible RPM. Do not go rich beyond the maximum speed point.
5. If the above changed the idle speed more than 40 RPM, then re-adjust the speed.
6. Adjust the side OPPOSITE of that in Step 4 to get maximum RPM.
7. Reset the speed.
8. Carefully trim each IMS to again get the maximum idle RPM.
9. Go leaner just enough to get a 20 RPM drop in speed.
10. Reset the speed to the desired RPM.
11. This is a Lean-Best Idle Set. Setting richer than this will not improve idle quality or performance, but could tend to foul spark plugs.

### WINTER FUEL IDLE SETS

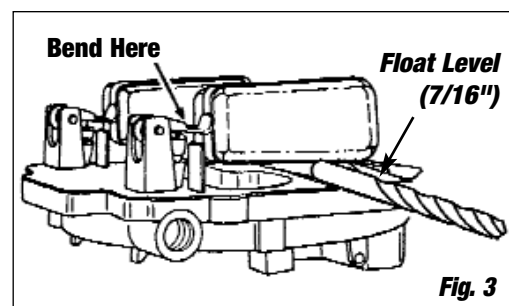
During the winter months (in most parts of the country) the local fuel will be a "winter" blend that is very volatile, as an assist to cold-engine starting and driveability during warm-up. However, the high volatility has the disadvantage of allowing excessive vaporization of the fuel if the vehicle is operated in a heated area such as a garage. This can result in problems in the idle-set procedures since the carburetor's internal vents will allow this excess vapor to be drawn into the throats and enrich the mixture. The idle will be erratic and not seem to be able to hold a set. To resolve this type of problem, it is advisable to perform the final settings outdoors after the vehicle has been stabilized with a drive of several miles.

### CALIBRATING THE ACCELERATOR PUMP

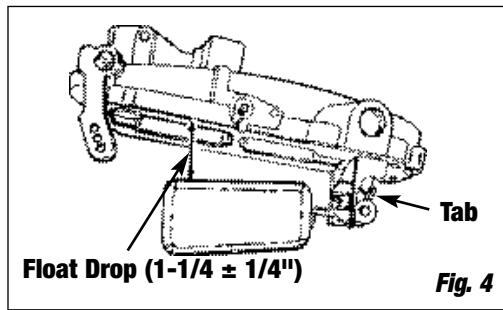
If you encounter any hesitations or stumbles that do not seem to be related to the basic metering or have not responded to changes in the basic metering, move the pump drive link to one of the holes closer to the carburetor body. This will increase the stroke length of the plunger and result in more pump delivery.

### FLOAT ADJUSTMENT

To properly adjust the floats in the EPS carburetor, two procedures must be followed. First, the metering rod/power piston assemblies should be removed from the top of the carb airhorn. Next, remove the accelerator pump connecting rod and the choke connecting rod. After removing all the airhorn retaining screws, turn the airhorn upside down with the gasket in place (**See Figure 3**). Use a scale, or a 7/16" drill bit (as shown) to measure the float level. There should be 7/16" between the airhorn gasket and the top of the outer end of the float. To adjust the float level, bend the float lever until the recommended level is attained. DO NOT press the needle into the seat when adjusting the float lever. Next, you should check the float drop (**See Figure 4**). Hold the airhorn upright and let the floats hang down. There should be 1-1/4" ± 1/4" between the airhorn gasket and the top of the outer end of the float. To adjust the float drop, bend the tab on the back until the recommended float drop is attained.

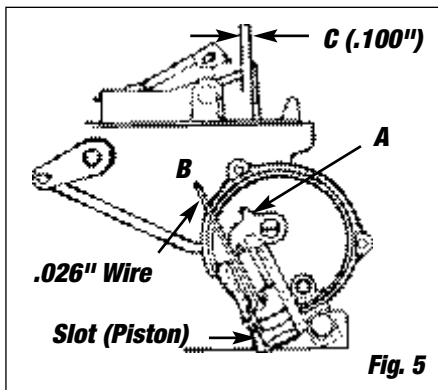


**Fig. 3**

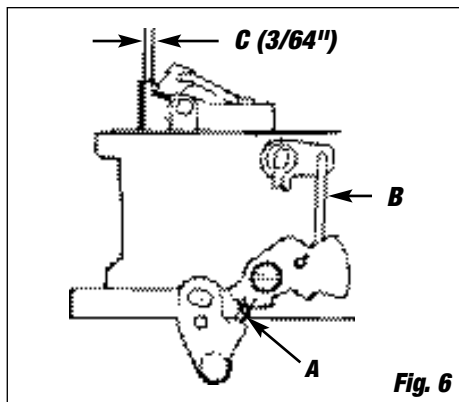


### CHOKE ADJUSTMENT

To adjust the choke piston linkage (See Figure 5), open the choke valve and insert a .026" wire, with a 90-degree bend 1/8" from the end, between the top of the slot in the choke piston cylinder and the bottom of the slot in the piston. Hold the wire in position and close the choke valve by pressing on piston lever "A" until resistance is felt. The dimension "C" should be .100" between the top edge of the choke valve and the air horn. To adjust, bend rod "B".



To adjust the fast idle linkage (See Figure 6), 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 B. Fast idle may be adjusted to manufacturer's 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. Re-check fast idle speed after each 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, turn the choke cap to the leanest notch on the choke housing, tighten the choke housing 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 counterclockwise (LEAN) and tighten the choke housing retaining screws. Periodic re-adjustment 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.

### CAUTION!!!

*Do not overtighten the small Power Piston Cover screws when servicing metering rods. They should only be tightened to 12 to 17 inch/pounds. Excessive torque will weaken or snap off the screw heads. If this happens, they may fall into the carburetor causing serious engine damage. If an inch/pound torque wrench is not available, snug the screw until it just touches the plate, then tighten 1/16th turn more.*

### C.E.C. FUNCTION

**Vehicles equipped with C.E.C. solenoids will require the use of Edelbrock's Idle Compensator Solenoid. Use part #8059. The factory C.E.C. solenoid will not fit our throttle lever. However, the Edelbrock Idle Compensator Solenoid will allow you to retain the C.E.C. function and to pass visual emissions inspection in California.**

Remove front driver's side carb stud and replace with longer stud supplied in this kit. Place bracket over the stud and install nut and washer on stud. Position solenoid in bracket and install large washer (locking tabs face the solenoid) and locknut. Tighten firmly, but be careful not to over-tighten due to the large size (1-1/4") of the wrench used. Bend locking tabs on special washer over flats of the nut to prevent loosening. Attach the wire from the solenoid to the existing C.E.C. wiring connector.

If the factory connector does not fit, you will need to splice into the wire from the connector. Use a 1/4" female receptacle and at least 18-20 gauge wire. Some receptacles will require that the locking tab on the solenoid be flattened before the receptacle will fit.

### ADJUSTMENT

With the Idle Compensator Solenoid disconnected, adjust the Idle Speed Screw until you reach the desired idle RPM.

With the Idle Compensator Solenoid connected and the ignition in the "On" position, adjust the solenoid until it just contacts the throttle lever. Next, start the engine and turn the Idle Speed Screw counter-clockwise to make sure the idle speed is maintained by the solenoid. If necessary, adjust idle speed by turning solenoid plunger in or out with a 1/2" wrench. Shut off the engine.

Turn the Idle Speed Screw counter-clockwise until the throttle lever is completely closed and the Idle Speed Screw is not touching the throttle lever. Turn the Idle Speed Screw clockwise until it just makes contact with the throttle lever. Continue turning 1/4 turn more. This will make sure the throttle blades will not bind in the bore when the solenoid is turned off.

## TROUBLESHOOTING CHART

(Refer to the chart below for reference)

<b>Possible Solutions</b>	<b>Symptoms</b>														
	Carburetor doesn't adjust properly	Carburetor floods	Fuel leaks at shaft	Internal fuel leak	Misses or surges	Stumbles or loads up	Engine won't idle	Rough idle	Backfires	Bogs	Hard starting	Lack of power	Pinging at moderate cruise just off idle	Engine stalls on hard braking	Low fuel economy
Check for air leaks. Make sure carburetor and manifold gaskets seal properly. All outlets must be plugged or connected.	X				X		X	X	X	X		X	X		X
Check ignition system. Replace parts as necessary. Adjust timing to proper specifications.	X				X		X	X	X		X		X		X
Check choke adjustment.					X	X	X	X	X		X				X
Change carburetor fuel filter and/or in-line fuel filter.		X				X					X	X	X		
Check float level and drop.		X	X			X								X	X
Check idle mixture screw adjustment.	X						X	X							X
Increase accelerator pump stroke. Pump squirter size change may be needed.						X						X			
Off-road vehicle may need spring-loaded needle and seat kit		X	X												
Check for dirt or metal in needles and seats. Needles and seats may need replacement.		X		X											X
Check for dirt blocking the low speed circuit. Clean unit and apply air pressure. Install in-line fuel filter #8873.	X						X						X		X
Check floats for leakage. Replace, if necessary.		X		X										X	X
Check air horn gasket. Replace, if deterioration or breakage is present.		X		X										X	X
Fuel is boiling due to excessive under hood temperature.			X								X				X
Fuel pressure too high. Fuel regulator may be needed.		X		X										X	X
Fuel pressure too low. Check fuel system.					X						X				
Check secondary latching device and rod for proper movement.											X				
Lower float level from 11/32" to 7/16".														X	