



# EMPI CARBURETOR CONVERSION KIT INSTALLATION INSTRUCTIONS

PART # 47-1550 (EPC 32/36E), 47-1558 (EPC 38E)

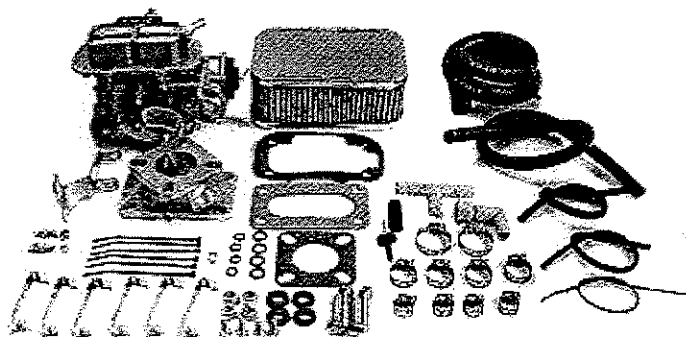
(Legal in California only on off-road vehicles)

THIS KIT IS FOR THE FOLLOWING APPLICATION:

\* JEEP MODELS ORIGINALLY EQUIPPED WITH  
THE CARTER 1BBL CARBURETOR

EMPI's (EPC) Performance Carburetors conversion kits will enhance the performance of your engine while maintaining reliability and fuel efficiency. The installation instructions cover old carburetor removal, carburetor installation, and new carburetor adjustments. Before installation please read this guide thoroughly.

\* Jeep and its associated models are registered trademarks of the Jeep Corporation.



(47-1550 Shown)

The list of tools that will be needed to install this conversion kit are as follows:

- Socket and Wrench Set
- Allen Key Sets SAE & Metric
- Screwdrivers
- Pliers (needle nose)
- Gasket Scraper
- Wire Brush

The list of supplies that are needed to install this conversion kit are as follows:

- Carburetor Cleaner
- Clean Rags
- Engine Cleaner
- Tags (these are needed to label hoses etc.)
- Thread sealer for manifold and base adapter bolts and studs

The list of optional items that are very helpful in installing this conversion kit are as follows:

- Vacuum Gauge/ Tester
- Fuel Pressure Gauge/ Tester
- Flashlight
- Magnet
- Vehicle Shop Manual

## PLEASE FOLLOW THE SUGGESTED SAFETY PRECAUTIONS BELOW:

- ALWAYS WEAR EYE PROTECTION.
- USE CLAMPS ON ALL FUEL HOSES. DO NOT ALLOW FUEL TO SPILL.
- DO NOT USE GASKET SEALERS, USE GASKETS PROVIDED.
- WHEN REMOVING OLD CARBURETOR LABEL ALL HOSES AND WIRES.
- USE THREAD SEALERS ON HARDWARE INSIDE AIR CLEANER AND INTAKE MANIFOLD STUDS.
- IF REWIRING IS NEEDED ALWAYS USE INSULATED CONNECTORS.
- NEVER ALLOW DIRT IN THE CARBURETOR.
- DO NOT OVERTIGHTEN JETS OR THROTTLE LINKAGE.
- NEVER OPERATE THE ENGINE WITHOUT A FUEL FILTER.
- BE CAREFUL NOT TO CUT OR DENT THE ALUMINUM GASKET SURFACES OF THE INTAKE MANIFOLD OR CARBURETOR.

## PLEASE PERFORM THE FOLLOWING STEPS BEFORE INSTALLING YOUR EMPI CONVERSION KIT:

- Replace or clean the fuel filter.
- Verify that the vehicle does not have any mechanical problems.
- EMPI carburetors require 3.5 p.s.i. of fuel pressure. If your fuel pressure is more than 3.5 p.s.i, obtain a fuel pressure regulator from your EMPI dealer.
- EMPI carburetors are preset at the factory. Only make adjustments to the carburetor after the installation, and running the vehicle for the first time. After the carburetor is installed record the factory settings if needed in the future.

## REMOVAL OF OLD CARBURETOR

- Remove the gas cap.
- Remove the Battery's negative cable.
- Take off the original Air Cleaner Assembly.
- Remove the Fuel Supply hose that is attached to the carburetor. Label it and temporarily plug it to prevent fuel leaks.
- Remove the Fuel Return hose (if equipped) and plug it.
- Remove the Float bowl Vent hose and plug it.

- Remove the throttle linkage from the carburetor.
- Remove and label the vacuum hoses connected to the carburetor.
- Remove and label all of the electrical connectors attached to the carburetor. Identify the electric choke wire. This wire will be reused.
- Remove and label all electrical and vacuum connections to the vacuum switching valves and remove them along with the vacuum manifold.
- Remove the PCV hose from the carburetor.
- Remove carburetor and all spacers and gaskets from the intake manifold. Save carburetor mounting nuts for use in installing the adapter to the intake manifold. Place a clean rag in the intake opening to keep dirt and tools etc. out. **PLEASE MAKE SURE THE RAG IS REMOVED BEFORE INSTALLING THE EMPI CARBURETOR.**
- Remove any excess gasket material from intake manifold. You can use a gasket scraper, wire brush and carburetor cleaner.

## EMPI CARBURETOR INSTALLATION

- Remove the adapter plate, gaskets and hardware from the packaging.
- Take the small base gasket and mount it on the intake manifold.
- Install the adapter onto the intake manifold making sure that the brass fitting faces the front of the vehicle.
- Install the EMPI carburetor on the four mounting studs using a criss-cross pattern tighten evenly. Carburetor linkage facing the firewall. Use the four 6mm bolts to secure the carburetor to the adapter using the large washers supplied between the head of the bolts and the underside of the adapter. At the same time if necessary install the linkage bracket on the two bolt holes closest to the left fender using a criss-cross pattern tighten evenly.
- Check that the linkage is not binding. Hold the choke plates open to make sure the throttle opens and closes freely. (See photos on page 3).
- Attach the cable to the ball on the throttle lever. Connect the original throttle return spring to one of the holes on the lever pre-installed on the EMPI carburetor. Make sure the throttle operates smoothly and correct if necessary. On some applications it maybe necessary to relocate the throttle cable. (See photos on page 3). Use the bracket provided and install on the back carburetor studs that face the driver side fender.
- Locate the PCV hose and attach it to the fitting in the adapter. If you have power brakes you must tee the power brake hose with the PCV.
- Plug the EGR fitting with the supplied vacuum cap.
- Locate the vacuum advance hose and connect it to the vacuum advance port on the carburetor. (See photos on page 4).
- Look at the vacuum schematic under the hood of your vehicle. Locate the anti backfire valve. Connect the 4mm and 6mm hose to the spark delay valve. Make sure that the black side of the valve faces the anti backfire valve. Secure with (6) supplied zip ties.
- Locate the small aluminum plug in the hardware bag and install it in the exhaust manifold where the choke heat pipe was installed.
- Locate any open vacuum ports and hoses and plug them (Check local laws).
- Locate the wire for the electric choke and connect it to the electric choke.
- Please make sure that all hose clamps are tightened and that all of the electrical connectors are connected and insulated.
- Reconnect the battery's negative cable.
- Crank engine without starting and check for fuel leaks.
- Remove air cleaner from packaging. Connect plastic breather tube to air filter base then bolt air filter base to carburetor using the four bolts provided.
- Attach the breather hose from the valve cover to the air cleaner.
- Put the air filter element on the air filter base and attach the air cleaner top with the clips provided.

## CARBURETOR ADJUSTMENTS (Refer to photos for identification of components)

- If necessary, make the following adjustments:
- To adjust the idle speed make sure that the engine is warm, set the speed to the vehicle manufacturer's setting. To raise the speed turn the idle screw (clockwise) in, and to lower the speed turn the speed screw (counter clockwise) out.
- To adjust the idle mixture turn the idle mixture screw in slowly (clockwise) counting the amount of turns you make until the idle speed drops off. Turn the screw out (counter clockwise) counting the turns until the idle drops off again. Turn the screw back in half the distance that you turned it out. Now the mixture is set.
- To adjust the fast idle make sure that the engine is cold. Press the accelerator pedal to the floor and let go. Start the engine (do not touch the accelerator pedal) once you touch the accelerator after the engine is running the fast idle cam is disengaged. The engine should be running between 2000 and 2500 RPM's. Turn off the engine. To adjust the fast idle speed turn the fast idle screw in (clockwise) to increase engine RPM, to decrease engine RPM turn the fast idle screw out (counterclockwise) Do not touch the accelerator and restart engine to check RPM.
- The electric choke is pre-set. To adjust the electric choke make sure that the engine is cool (below 68°F) Turn the throttle linkage all the way open to set the choke. The plates should be closed. Make a mark on the plastic choke cap and the carburetor where the two surfaces meet. Loosen the three screws one turn. Hold the throttle about one third open and start twisting the thermostat cap (counter clockwise) until the choke plates fully close, then slowly turn the cap 1/8" (you should feel the spring tension in the choke tightening). Retighten the three screws (**DO NOT OVER TIGHTEN**). You may now have to go back and check the fast idle speed and adjust if necessary.

## TROUBLE SHOOTING GUIDE (If there is a problem starting the vehicle, please perform the following:)

### If the vehicle will not start please check the following:

- Check that the fuel pump is functioning properly. Check with pressure gauge.
- Make sure that the ignition system is functioning properly.

### If the engine idles too high or too low, or stalls please check the following:

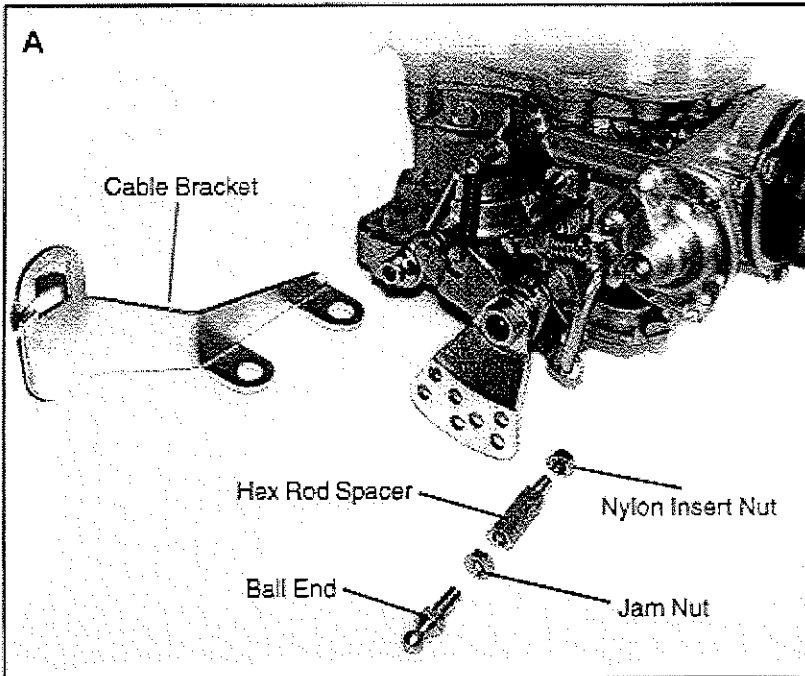
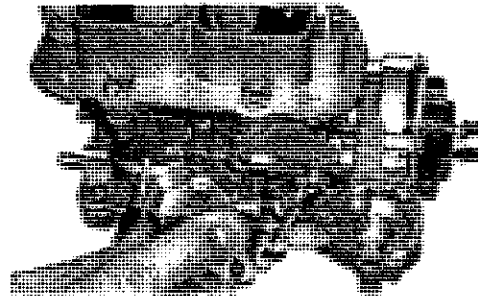
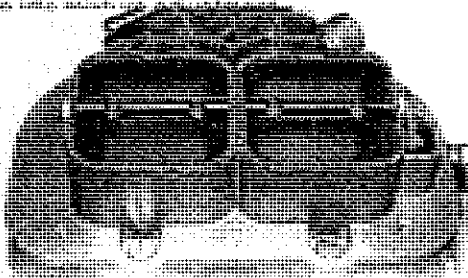
- Make sure that you have no vacuum leaks. You should check all engine vacuum line connections and at the carburetor base (including the adapter plates).
- Check all Carburetor adjustments. Idle mixture, idle speed, and fast idle. In this order.

### If the engine acts as if it is running out of fuel when driving please check the following:

- If new fuel filter was not installed install one now. The old fuel filter may be clogged.
- Check that the fuel pump is functioning properly. Check with pressure gauge.
- Check all fuel lines. Make sure that the lines are not pinched or kinked.
- Check that the vehicle has not run out of gas.
- Check the fuel tank venting system. (Refer to vehicle shop manual)

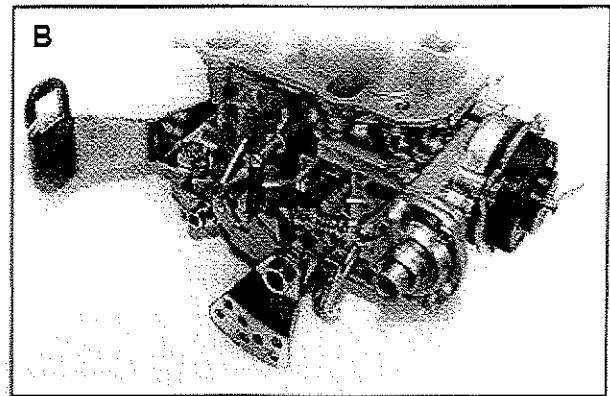
### If the engine runs rough like it is missing at idle please check the following:

- Make sure that you have no vacuum leaks. You should check all engine vacuum line connections and at the carburetor base (including the adapter plates).

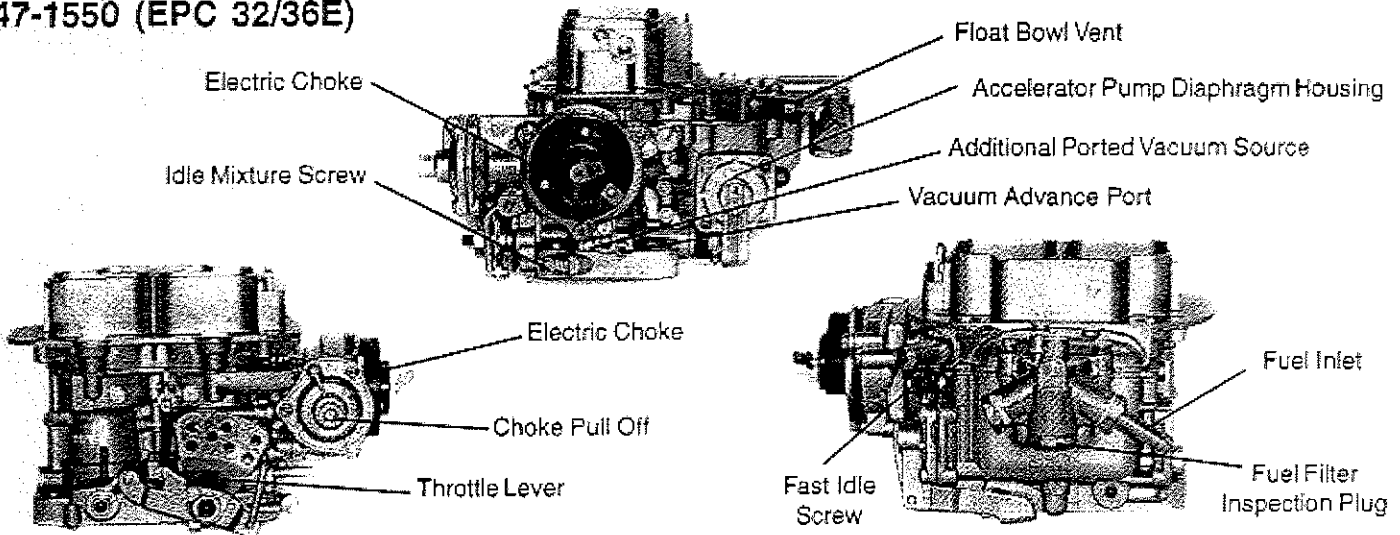


### Throttle Lever Installation

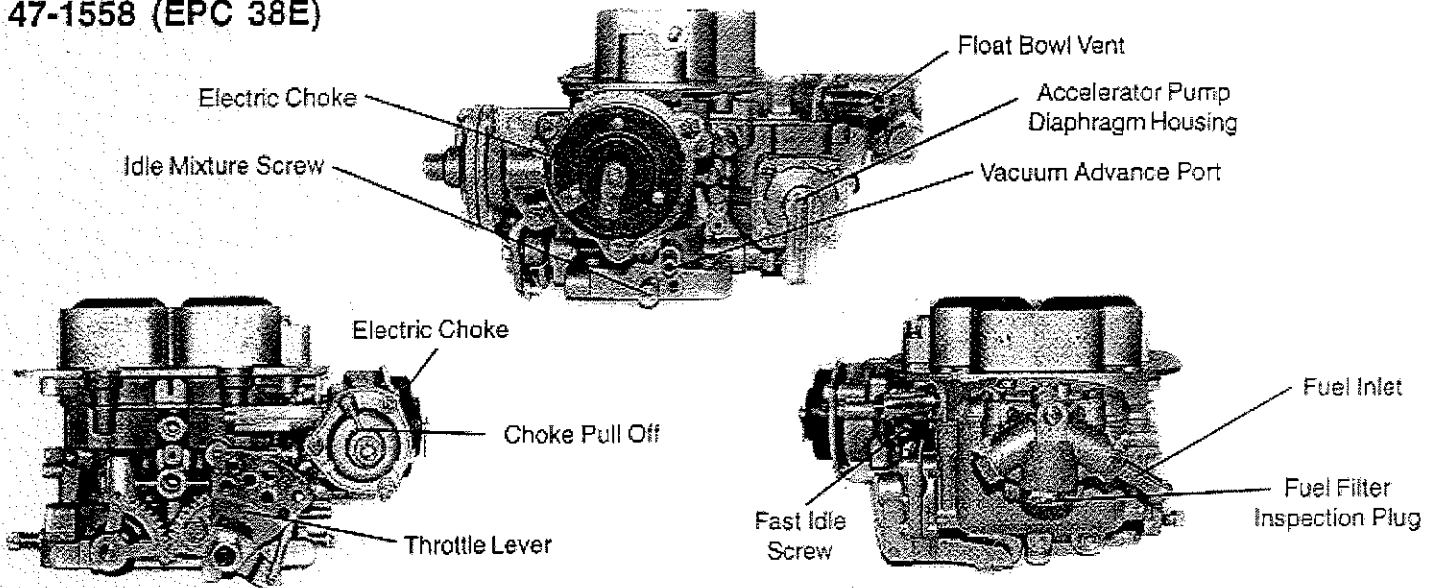
1. Install the throttle lever components on the carburetor as shown in photos A & B. Determine which hole is best for your application and install the hex rod spacer and ball end. Adjust the spacing from the throttle lever and secure the jam nut.
2. Connect the throttle cable to the ball on the throttle lever. **NOTE:** check throttle operation for free movement. If there is any indication of sticking or binding, correct as necessary



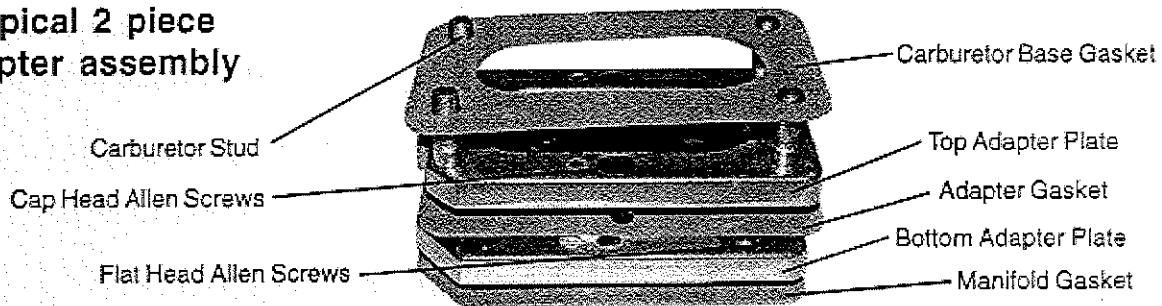
**47-1550 (EPC 32/36E)**



**47-1558 (EPC 38E)**



**Typical 2 piece adapter assembly**



# Read First

## Before installing Carburetor kit

Your EMPI EPC carburetor kit is jetted for the most common applications based on input from professional installers and technicians.

As in any case when modifying Original Equipment, results may vary. Geographic locations and their conditions such as altitude, original factory emissions or alternative fuels to name a few, may require additional analysis after installation is complete to obtain the desired results.

Regulating the fuel pressure is very important, a fuel pressure regulator must be used. Read your directions.

If needed, main jets, air corrector jets and fuel pressure regulators are available from your EMPI Dealer.

Be sure to cap, plug or remove ALL of the ports and lines as called for in your set of instructions.

99-3986 / 0207

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### Supplement to EMPI Carburetor Instructions

- A. The EMPI EPC carburetor requires a maximum of 3.5 PSI fuel pressure. Excessive pressure will have negative effects on the carburetors performance. If your fuel system produces more than the required 3.5 PSI, it will be necessary to install a regulator between the fuel pump and the carburetor.
- B. On some vehicles a return line to the gas tank exists in the fuel system. In some applications the filter in this line has a preset pressure that will restrict the fuel flow to the tank and raise the pressure in the carburetor. This line can be removed or plugged. If you choose to keep this line in the system, make sure it returns before fuel reaches the carburetor and that it has a non-restriction filter in the line.

99-4326/0606



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