



# EMPI CARBURETOR CONVERSION KIT INSTALLATION INSTRUCTIONS

PART # 47-1697 (EPC 32/36E), 47-2697 (EPC 38E)

(Legal in California only on off-road vehicles)

**THIS KIT IS FOR THE FOLLOWING APPLICATION:**

**\* ISUZU**

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.

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



(47-1697 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.
- The EGR model on some models will interfere with the EMPI carburetor. The EGR valve may be removed and replaced with the plate and gasket included in the kit. (Check local laws).
- 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.
- The electric choke requires a key hot 12-volt source.

## REMOVAL OF OLD CARBURETOR

- 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 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 and measure one inch back from the choke element and cut wire. Install the female connector supplied in the kit. This will be reinstalled on the EMPI carburetor.
- Remove the float bowl vent and plug it.
- Remove the throttle cable from the throttle lever and from the cable bracket. If you have cruise control remove the additional cable.
- Remove carburetor and all spacers and gaskets from 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 the manifold studs from the intake manifold. Double nut each stud to remove. **DOUBLE NUTTING MAY RUIN THE NUTS BUT WILL NOT DAMAGE THE STUDS.**
- 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 plates, gaskets and hardware from the packaging.
- Install the two long studs in the intake manifold closest to the fender. Install the two short studs in the adapter plate. Install the manifold base gasket on the intake manifold over the two long studs. Place the adapter plate over the studs and secure to intake manifold with the two allen head bolts. Please see photos on page 4 for orientation of gaskets and adapter plate.
- Install the EMPI carburetor on the four mounting studs. Using a criss-cross pattern tighten evenly. Linkage faces firewall. **DO NOT OVERTIGHTENED.**
- On vehicles with rod operated linkage, connect the throttle rod.
- On vehicles with cable operated linkage, attached the cable stop from the new linkage kit to the center hole of the new throttle lever. To attach the cable to the new throttle lever, remove the cable stop from the original throttle cable by cutting the cable as close to the throttle stop as possible. Connect the outer cable to the bracket. Place the inner cable into the new throttle stop. Tighten the stop screw slowly until cable is secured.
- Reinstall the throttle cable to the carburetor. Adjust cable to factory specs.
- Install the supplied return spring between the throttle lever and the bracket so that the open end of the hook faces the valve cover.
- Make sure that the throttle is operating and returning freely. Make sure that you have no binding or sticking of the throttle.
- Locate the fuel inlet pipe (See photos on page 4) on the carburetor and connect the supply line to it using the fuel line and clamps supplied.
- Attach the float bowl vent hose to the fitting on the carburetor.
- Locate the vacuum advance hose and connect it to the vacuum advance port on the carburetor. (See photos on page 4).
- Locate any open vacuum ports and hoses and plug them using the supplied vacuum caps. (Check local laws).
- Connect the original electrical connector for the electric choke and idle solenoid to the electric choke and solenoid on the new EMPI carburetor.
- 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 1200 and 1500 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 choke is pre-set. To adjust the 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:**

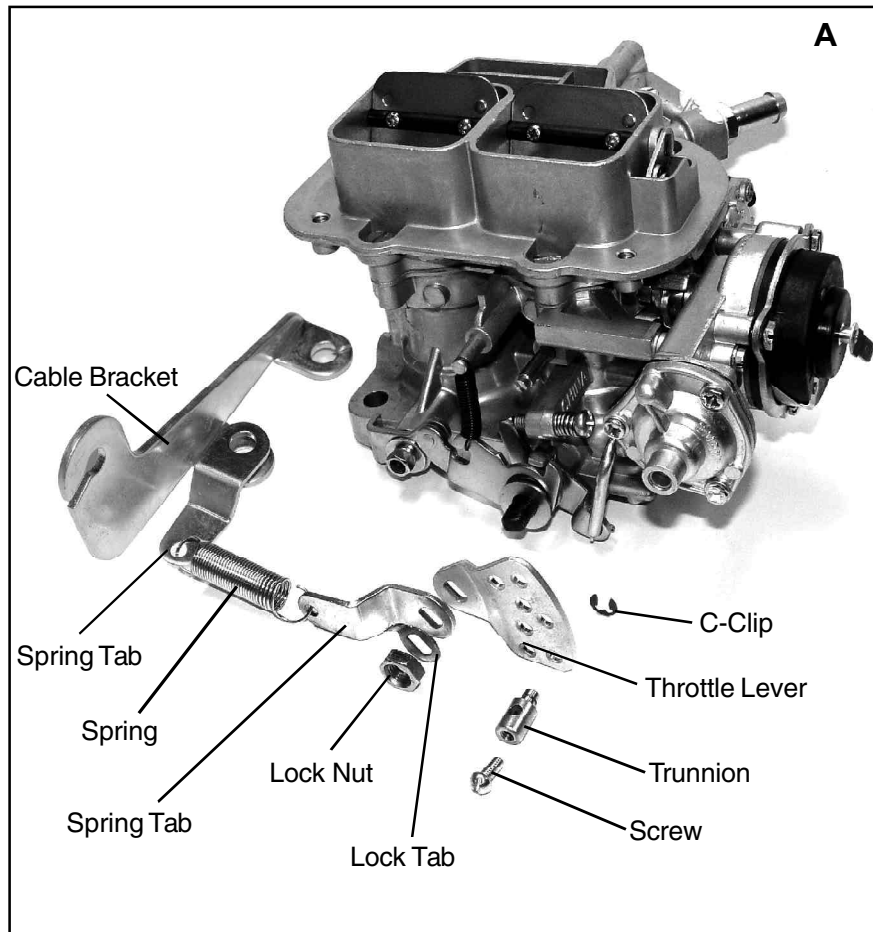
- Make sure that you have no vacuum leaks. You should check all engine vacuum line connections and at the carburetor base (including the adapter plates).
- Check all Carburetor adjustments. Idle mixture, idle speed, and fast idle. In this order.
- Check that the idle cut-off solenoid is working. You can check this by listening for a clicking noise coming from the solenoid when the key is turned on or off.

### **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).
- Check the idle mixture adjustment.
- Please remember that any additional engine modification may require that the carburetor be recalibrated.

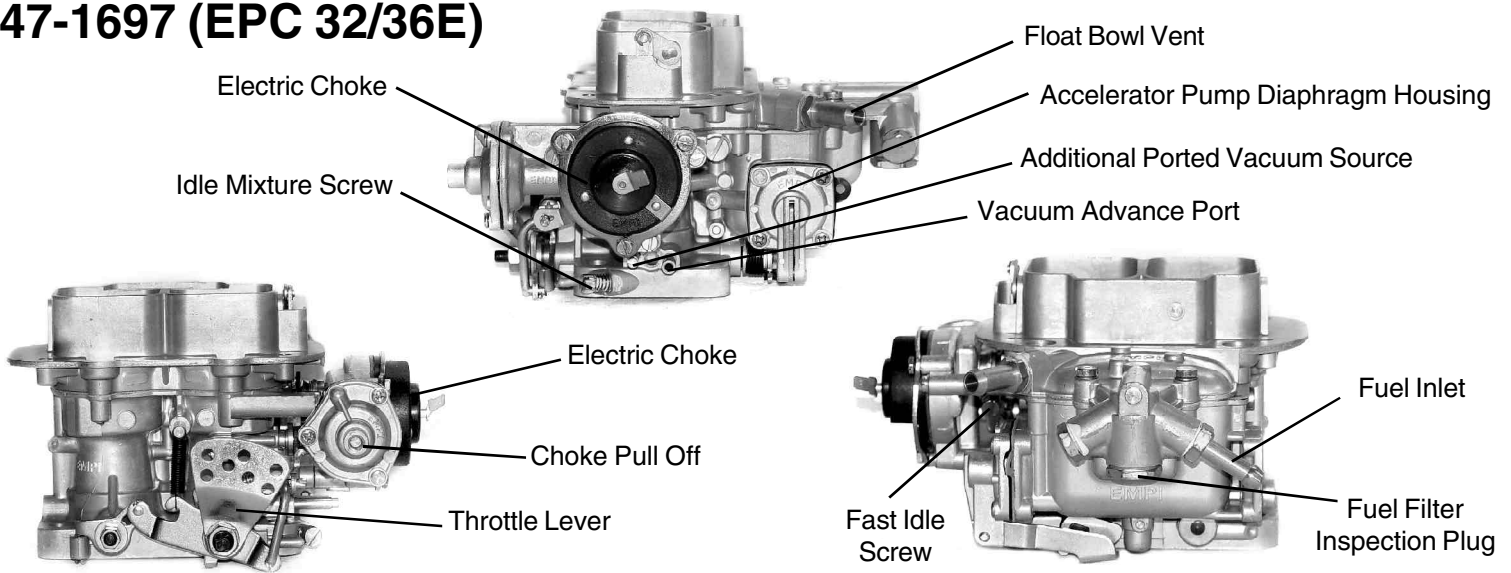


## **Throttle Lever Installation**

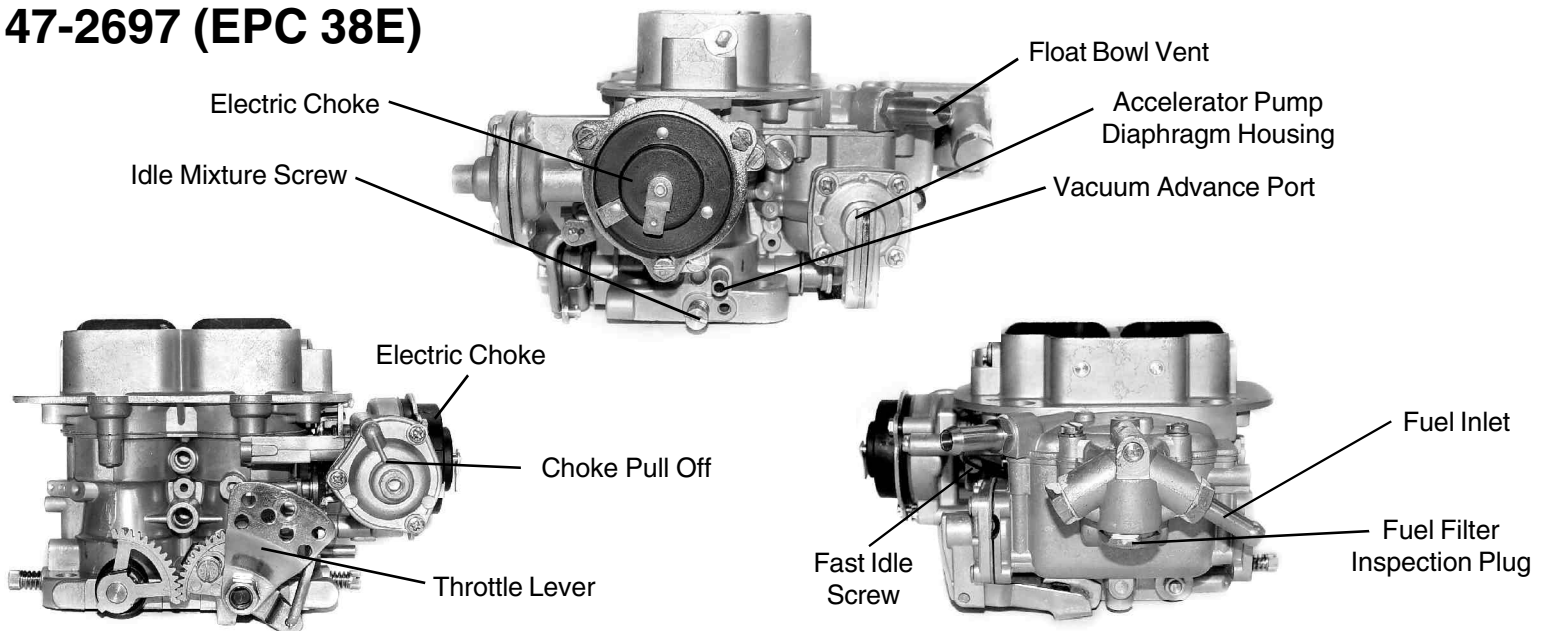
1. Connect the throttle cable to the lever. NOTE: check throttle operation for free movement. If there is any indication of sticking or binding, correct as necessary BEFORE proceeding.



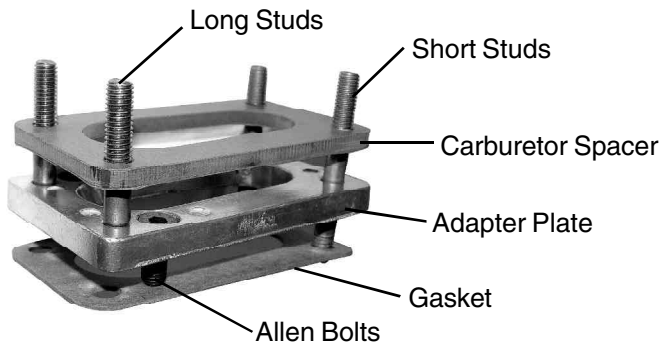
## 47-1697 (EPC 32/36E)



## 47-2697 (EPC 38E)



### Adapter ssembly



### Carburetor top with choke plates open

