



EMPI CARBURETOR CONVERSION KIT INSTALLATION INSTRUCTIONS

PART # 47-1646 (EPC 32/36E), and 47-2646 (EPC 38E)

(Legal in California only on off-road vehicles)



(47-1646 Shown)

THIS KIT IS FOR THE FOLLOWING APPLICATIONS:

*** NISSAN**

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.

Nissan® and its associated models are registered trademarks of the Nissan corporations.

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 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 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.
- Remove the vacuum control valve and both vacuum switches along with any hoses connected to them.
- Remove the large anti-backfire valve fitting from the intake manifold.
- Remove and disconnect the vacuum hoses from the EGR valve, BPT valve and thermal vacuum valve.
- Remove carburetor and all spacers including pre-heat spacers and gaskets from the intake manifold. Place a clean rag in the intake opening to keep dirt and tools 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

- Install the 1/4" fitting in the intake manifold opening where the anti-backfire valve was located.
- 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 refer to photos on page 4 for orientation of gaskets and adapter plate.
- Place the return spring bracket provided over the stud closest to the firewall and the valve cover so the bracket points straight back and up.
- Install the EMPI carburetor on the four mounting studs. Using a criss-cross pattern tighten evenly. Linkage faces firewall. **DO NOT OVERTIGHTEN.**
- Install the supplied throttle cable bracket in the same position as the original. Reuse original hardware.
- 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. (Please refer to photos on page 3). **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 (Refer to 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. (Refer to photos on page 4).
- Locate any open vacuum ports and hoses and plug them. Using the supplied vacuum caps. (Check local laws).
- Connect the male push on connector to the wire connected to the original idle cut-off solenoid. Slide the supplied shrink tubing over the female spade connectors and connect the connectors to the terminals of the idle cut-off unit and electric choke element. Slide the shrink tubing over the connections and using a none flammable heat source heat the shrink tubing over the connections until a good seal is made.
- 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 (see photos for identification of components)

- Only make the adjustments discussed here if necessary.
- 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. The mixture is now 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 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:

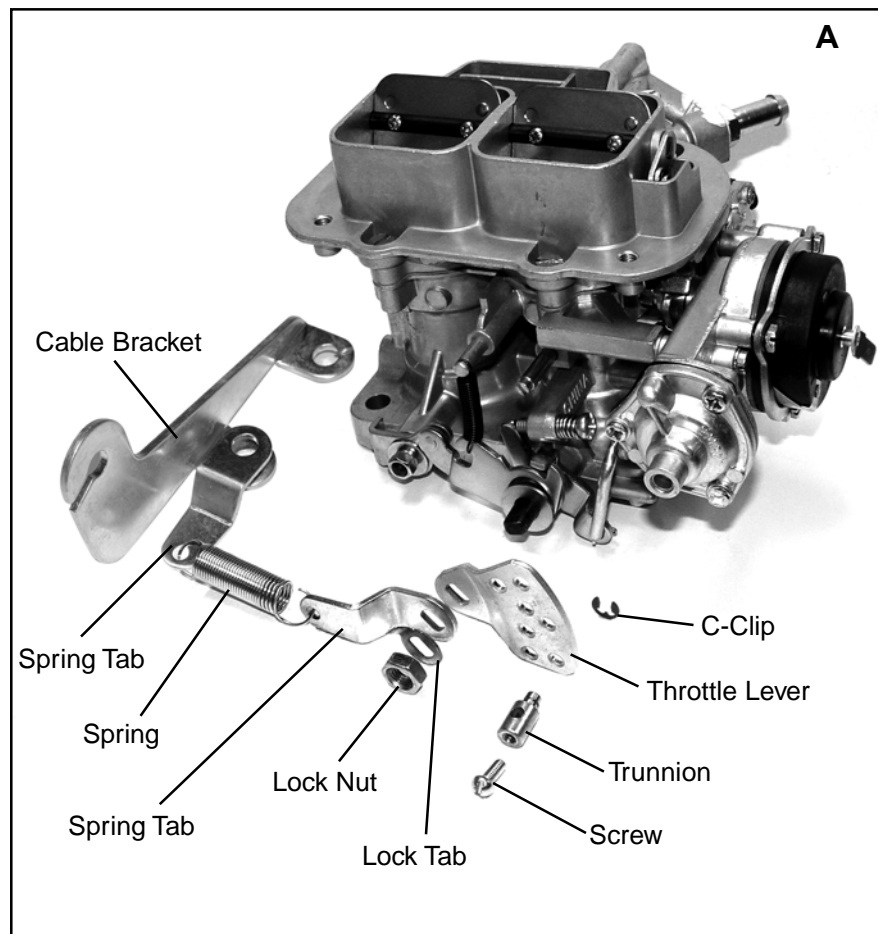
- Make sure that you have no vacuum leaks. You should check all engine vacuum line connections and at the carburetor base (including the adapter plates).
- Check all Carburetor adjustments. Idle mixture, idle speed, and fast idle. In this order.
- Check that the idle cut-off solenoid is working. You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

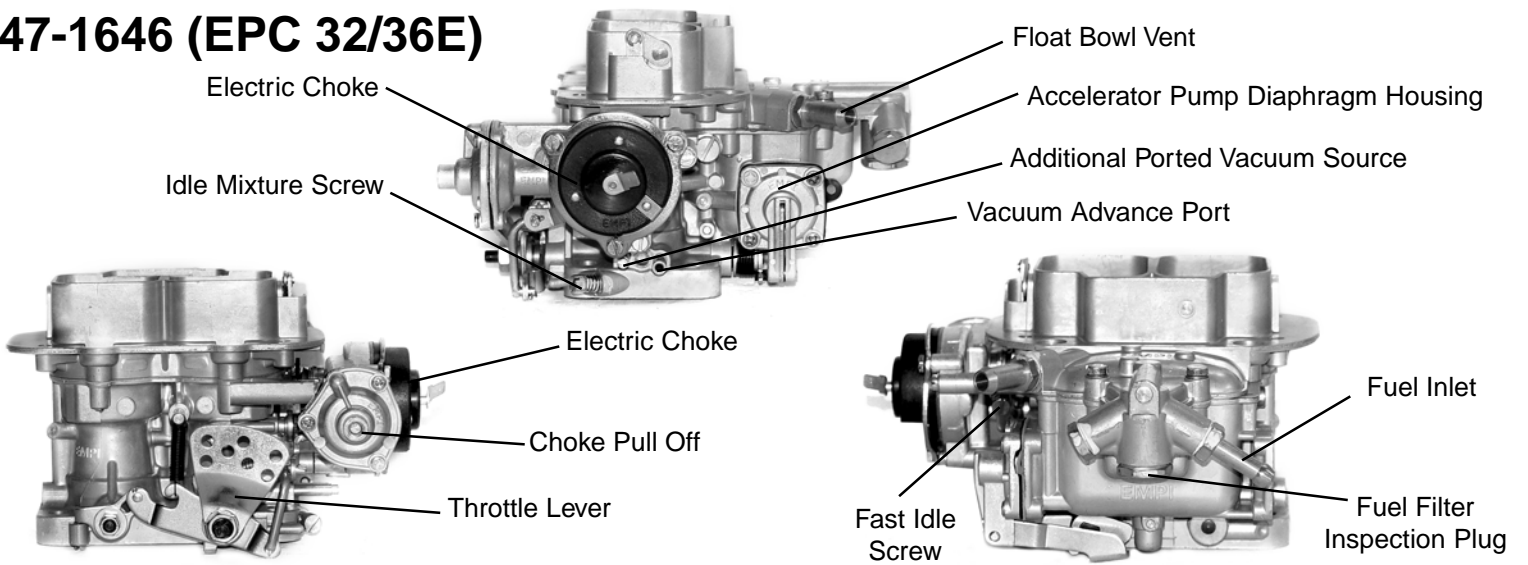


Throttle Lever Installation

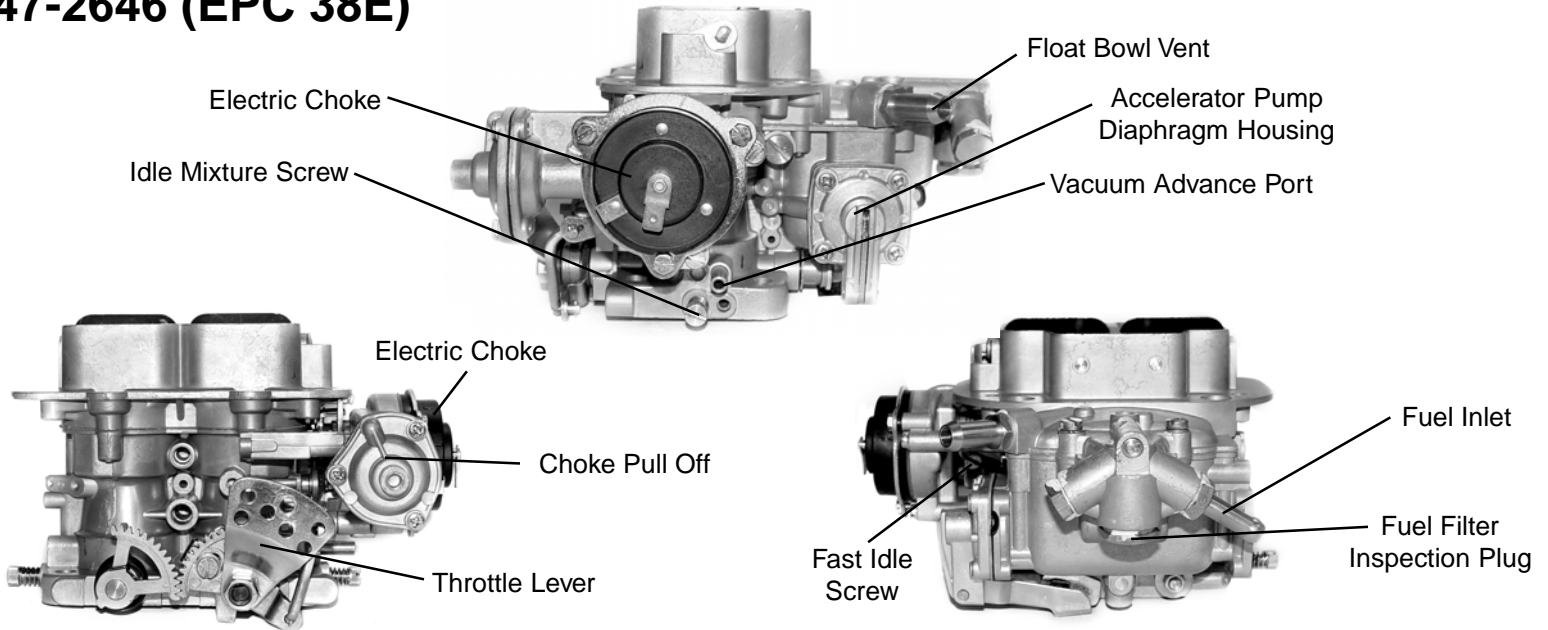
1. Remove the stock throttle lever from the Carburetor.
2. Install the throttle lever and components on the carburetor as shown in photos A & B. CAUTION: Do Not Over tighten Nut. Proper tightness can be achieved by installing nut just slightly more than fingertight. After tightening, open choke and check for full throttle operation from idle to wide-open throttle. If any sticking or binding occurs, loosen nut and re-tighten with reduced torque. If excessive torque has been applied, re-centralization of the throttle plate may be necessary. Check operation as above again. When proper tightness of the nut and centralization of the throttle plate have been achieved, secure the nut with the lock tab.
3. 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.



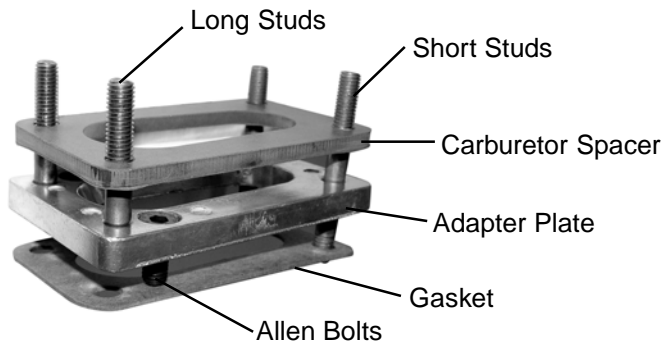
47-1646 (EPC 32/36E)



47-2646 (EPC 38E)



Adapter ssembly



Carburetor top with choke plates open

