



INSTALLATION INSTRUCTIONS FOR EMPI 40K TYPE 4 DUAL CARB KIT - Part Number 43-4431

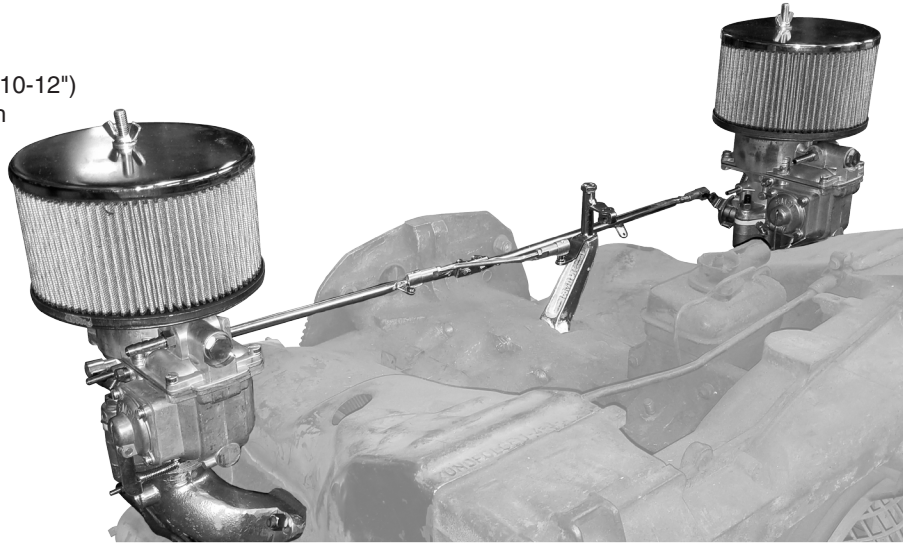
READ THOROUGHLY ALL STEPS OF THESE INSTRUCTIONS BEFORE BEGINNING THIS INSTALLATION.

TOOLS AND EQUIPMENT NEEDED:

Combination, box or open end wrenches (metric + U.S.)
Socket set metric
Screwdriver (Regular and Phillips)
Pliers 3/8" Drive Ratchet
Gasket Scraper 3/8" Drive Swivel
Rags 3/8" Drive Extension (10-12")
Cleaning Solvent 3/8" open-end Wrench
Knife Allen Wrenches
Gasket Sealer Wire Cutters

PARTS SUPPLIED WITH INSTALLATION KIT:

1 - Gasket set
1 - Hardware Kit
1 - Linkage Mount
2 - EMPI 40K 40mm Carburetors
2 - Intake Manifolds
2 - Air Filter Assemblies
1 - Linkage Assembly
1 - Fuel Line
1 - Equalizing Line
1 - Throttle Cable



The following instructions are based on an engine in stock condition. If you have made modifications to your engine, some of the following steps may not apply to your application.

NOTE: ON CARS WITH ORIGINAL FUEL INJECTION, A LOW PRESSURE FUEL PUMP (41-2000-8) AND CENTRIFUGAL ADVANCE DISTRIBUTOR (00-9443-B) MUST BE USED. ALL APPLICATIONS WILL BENEFIT FROM USING A CENTRIFUGAL ADVANCE DISTRIBUTOR.

BENCH ASSEMBLY

1. Remove the throttle levers included on each carburetor and install the throttle levers in the hardware kit (See Figures 1). Re-install throttle shaft nuts on each carburetor. **(DO NOT OVER TIGHTEN NUTS, 4-5 FT/LBS MAXIMUM)**. Bend lock tab against nut to hold nut tight.
2. Install air cleaner brackets to carburetors with M5 x 30 bolts and lock washers provided in the kit (Disregard left and right stickers on carburetors. These are used in different applications).

FINAL INSTALLATION

1. Remove the rags from the intake ports and install the manifold gaskets supplied in the kit. Install the manifolds using the brass nuts and lock washers from the kit. Screw a 90° fitting into each manifold and connect balance hose between fittings. If vehicle is equipped with power brakes, tee into this hose for vacuum source.
2. Install carburetor mounting studs into manifolds. Place carburetor gaskets onto manifolds and install left (drivers side carburetor). Fasten using M8 nuts and lock washers from the kit. Before the right carburetor is installed a dimple must be made in the cylinder tin to provide clearance for the accelerator pump arm (See Figure 2).
3. Place the carburetor on the manifold to find the exact location to dimple. Remove carburetor and use a small ball peen hammer to dimple the metal a small amount. Refit the carburetor then operate the throttle arm on the carburetor making sure the accelerator arm clears the tin through its full range of motion. If not, repeat step 3 until clearance is achieved. Once completed fasten carburetor using M8 nuts and lock washers from kit.
4. Locate the two pieces of linkage rod. Assemble together so that the spring tab and linkage ball are on the same side of the assembled rod (See Figure 3). Locate the two ball socket ends and screw one onto each end of linkage rod. Leave the lock nuts loose at this time.
5. Hold the linkage rod up to the carburetor linkage balls. Adjust ball sockets on rod until each snaps straight onto each ball without moving carburetor linkage arms. Snap sockets onto balls and position rod so that the linkage ball is upright (ball bracket parallel to top of engine) and tighten the lock nuts at each socket (See Figure 3).



Figure 1

6. Locate the linkage pivot bracket and pivot. Mount pivot onto bracket using the M8 x 60 bolt and M8 nut from kit. Insert bolt from top (cable mount end) of pivot, screw on the nut and then screw onto top of the pivot bracket. Adjust to remove play and allow free movement of pivot, then tighten the nut against the pivot bracket to lock bolt tight (See Figure 3).
7. Remove center top case bolt from engine and install linkage pivot bracket on the right (passenger) side with arm offset to the right using the M8 x 90 bolt, nut and lock washer from the kit. Hook the return spring from the linkage rod through the hole in the linkage pivot bracket. Install the small linkage rod to ball on the pivot and on the linkage rod. Tighten the lock nuts so the small linkage rod is parallel to the large linkage rod (See Figure 3). Check throttle operation for free movement. If there is any indication of sticking or binding, correct as necessary before proceeding.
8. Reinstall the distributor cap and ignition wires.
9. Remove the plug from the fuel pump outlet and install the new fuel lines supplied in the kit. **BEFORE STARTING ENGINE, BE SURE CARBURETOR LINKAGE MOVES FREELY AND IGNITION PLUG WIRES HAVE BEEN REPLACED IN PROPER FIRING ORDER.**
10. Replace the cap and reconnect the battery.
11. Start the engine and check for fuel and vacuum leaks. Correct, if necessary, before proceeding.
12. Adjust idle speed and idle mixture per shop manual for stock carburetors.
13. After carburetor adjusting is completed, turn off engine and proceed with throttle cable installation.
14. Install the throttle cable shortener and trunion on pivot. Position the throttle cable next to the shortener (Some vehicles will require relocation of the cable to align with the pivot. A new cable is included if existing one is short) and measure excess cable to cut.
15. Once you have correctly measured the amount of cable to be removed, cut the cable. Install the cable end into the shortener. Lock the cable in place by tightening down the set screw. **NOTE: WHEN SETTING ADJUSTMENT AT PIVOT, BE SURE TO SET AT "FULL THROTTLE POSITION". THIS MEANS ACCELERATOR PEDAL SHOULD BE AT "FULL STOP" AND THEN CABLE IS SET AT CARBURETOR "FULL THROTTLE STOP". THIS WILL KEEP YOU FROM OVER-EXTENDING THE CARBURETOR LINKAGE AND THROTTLE SHAFTS.**
16. Complete the installation of the air filter assemblies.

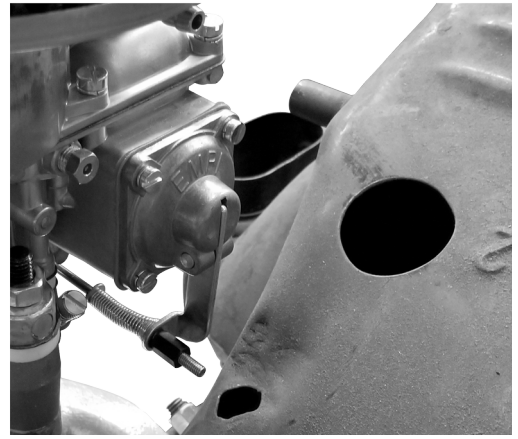


Figure 2

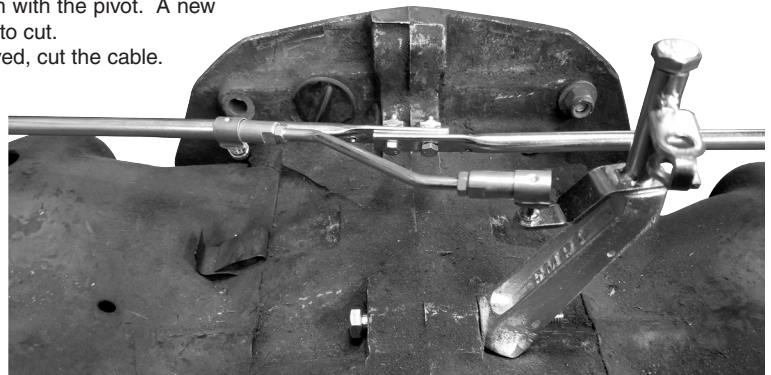


Figure 3

TUNING INSTRUCTIONS

1. The first step for tuning your 40K carburetors is to make sure that there are no fuel leaks. You can do this by unplugging the positive lead on the coil and turning the key to the "on" position so the fuel pump is activated. Inspect all of your fuel lines and fittings. You will want to also inspect under the car to make sure that there are no fuel leaks that cannot be seen from above. Now that you have completed your inspection and have found no leaks, you can reattach the positive lead back on the positive side of the coil.
2. Check your fuel PSI. These carbs can hold a maximum of 2psi before the needle valve is overpowered and you flood the engine.
3. Now start the engine and warm it up to operating temperature. Once it is up to operating temperature you can start the tuning process.
4. First start with adjusting the idle mixture (See Figure 4). You will find the mixture screws on the throttle bodies. The one on the left is the easiest one to access with the long flat screw driver. The one on the right will be a bit difficult to get to. You may need a stubby flat screw driver for this side. Work on one carburetor at a time. Turn the mixture screw clockwise until the engine begins to stumble or want to go dead. Now back the screw out in ¼ turn increments, pausing after each ¼ turn and listening for the engine RPM's to increase. Do this to both sides, alternating between sides. What you change on one side will affect the other side. Repeat this step twice to make sure your carbs are in tune with each other.
5. Once the mixture screw is adjusted you will want to adjust the idle speed (See Figure 5). Turn the idle speed on each carburetor until you get the engine sustaining 1000 RPM. Now reconnect the linkage and go for a test drive. If further tuning is required repeat these steps. **Note: for larger than stock engine combos custom jetting will be required.**
6. These carburetors offer the option of using a 009 centrifugal advance distributor or a single vacuum advance distributor. The vacuum port can be found on the left carburetor. If you are using a 009 distributor, set your timing at 28° to 32° total advance. If you are using a single vacuum advance, set the timing with the vacuum off to 28° to 32°. Then reconnect your vacuum line to the vacuum port on the left of the carburetor. Reset your idle speed if needed and go for a test drive. Make adjustments as needed. **Note: on lower than 8 to 1 compression engines you will need to set the timing higher than 32°.**



Figure 4



Figure 5