

# Installation Instructions - Single Deluxe EMPI D Carburetor Kits

## Type 1 44-1025 & 44-1026



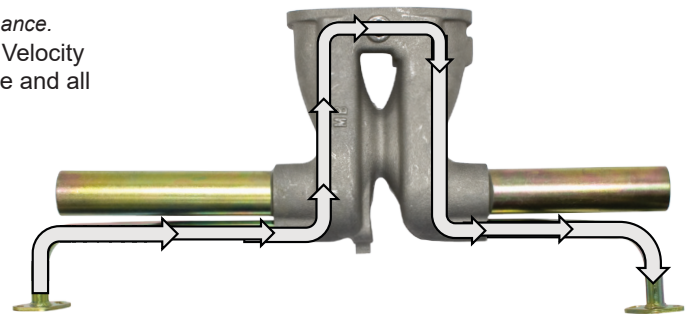
These instructions are specific to the installation of this Manifold Kit. These instructions should be accompanied by a good VW Repair Manual. Follow the basic steps for Automotive Repair, i.e.; disconnect battery, removal of existing carburetor & manifold, etc.

Specifically jetted and prepared **EMPI D** Carburetors mated to a specially designed and race-proven Isolated Runner Manifold make for a perfect torque-monster combo. Designed for off-road, but functions just as well on the street. Single Carburetor Applications require a Vacuum-Assisted Distributor to achieve proper performance.

Single Carburetors feature a 2mm port in each butterfly to improve idle performance. Each Kit comes complete with a specifically prepared **EMPI D Carburetor**, Velocity Stacks, Manifold, Aluminum Air Cleaner w/Gauze Air Filter, complete Linkage and all necessary Gaskets & Hardware.

### EMPI Deluxe Isolated Runner w/ Pre-Heat System Manifold

This Race-Proven manifold has excellent fuel delivery at Wide Open Throttle while allowing a smooth transition and low end performance. Aiding fuel atomization and helping to prevent icing, this manifold features a specially designed Pre-Heat System to warm the Manifold Center Section.



Pre-Heat System to warm the Manifold Center Section.

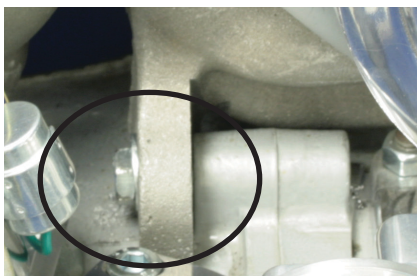
Installation will require Manifold End Castings, Gaskets, Couplers and Clamps. OE End Castings can be used or EMPI Pt# 3236, 3238 or 3237. If OE End Castings are used, purchase EMPI Pt# 3230 or 3412 Dual Port Installation Kit.

A Vacuum-Assisted Advance Distributor is recommended for proper performance.

The Intake Runners on the Manifold are long to accommodate wide engines (longer cylinders, cylinder spacers, etc.). You will need to trim the Intake Runners to fit your engine as well as the Pre-Heat Tubes. Always start by trimming the Driver's Side tubes first. Fit the manifold and Pre-heat Tubes and trim until the Intake runners fit into the End Castings and Couplers for a good seal. The lower support on the Manifold Center Section (where it bolts to the engine case) should fit flush against the engine case while the upper part of the Manifold Center Section and Carburetor clear the Alternator.

Pre-Heat Tubes must extend into the Manifold Center Section while still aligning with the Pre-Heat Flanges on your exhaust system. If the Pre-Heat Flanges on your exhaust system are not open into your exhaust primary tubes, you must drill to open the flow of exhaust to run thru the Pre-Heat Tubes and Manifold Center Section.

1. First lay out all of the Kit components on a clean work area. Make certain that no small parts are lost in the packing material.

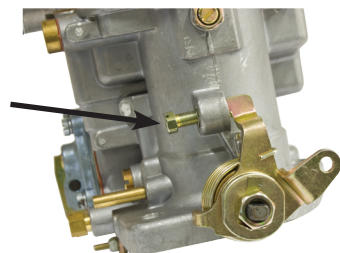
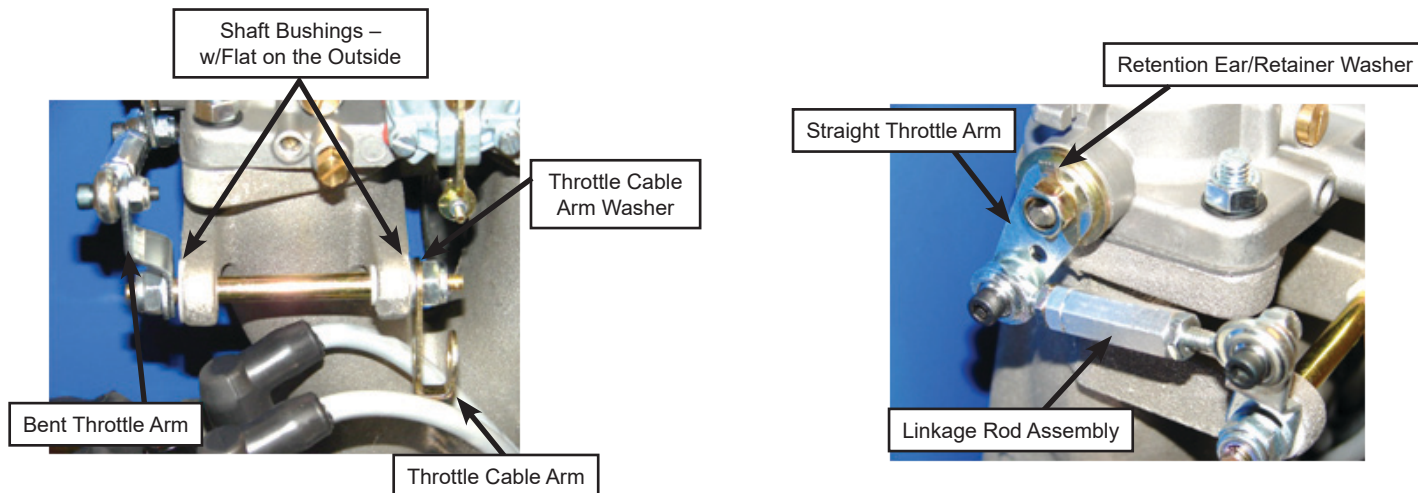


2. Mount the Manifold to the engine case using the existing case stud if it is long enough. If the stud is not long enough, remove the stud and use the M8 Bolt and Washer provided with the Installation Hardware. Some mechanical fuel pumps may not clear the manifold, if that is the case then change to an early-style or electric fuel pump.

3. Install the End Castings and Couplers loosely to the Cylinder Heads and Manifold (review your VW Repair Manual for details).
4. Straighten the Retention Washer Ear on the Carburetor Shaft Nut Retainer. Remove the Shaft Nut and Retainer. Install the Straight Linkage Arm to the Shaft (see photo on Pg. 2) then replace the Retainer and Nut. Tighten the Shaft Nut to only 4 Ft. lbs. Max. DO NOT OVER TIGHTEN. Bend the Retention Washer Ear over the Shaft Nut. Make sure there is no throttle shaft binding.
5. Install four (4) studs in the Manifold. Using just a drop of Blue Thread Sealer, run the studs into the manifold until one or two threads protrude thru the bottom of the flange. Install the Gaskets (do not use sealer) – then install the Carburetor to the Manifold using the supplied Nuts and Wave Washers.

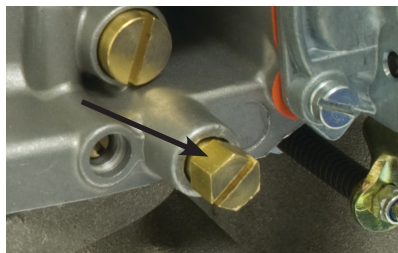


5. Install four (4) studs in the Manifold. Using just a drop of Blue Thread Sealer, run the studs into the manifold until one or two threads protrude thru the bottom of the flange. Install the Gaskets (do not use sealer) – then install the Carburetor to the Manifold using the supplied Nuts and Wave Washers.
6. Install the two Bushings into the Manifold Linkage Bosses (see Page 2). Install the rod thru the bushings. Install the Throttle Cable Arm Washer, Throttle Cable Arm and Lock Nut to the inner end of the Throttle Shaft. Install the Bent Linkage Arm and Lock Nut to the outer end of the Throttle Shaft.
7. Assemble the Linkage Rod Assembly – Linkage Hex Rod, Left & Right Threaded Heim Ends with Nuts. Using the supplied Allen Bolts and Lock Nuts, install the Linkage Rod Assembly to the Straight Throttle Arm. Then while holding the Throttle Cable Arm in a position that will allow for installation of your throttle Cable to achieve Wide Open Throttle and still return to Completely Closed Throttle, adjust the linkage Rod Assembly to fit the Allen Bolt thru the other Heim Joint and into the Bent Throttle Arm.
8. Attach your Throttle Cable using the Cable Barrel Clamp supplied. Be sure to set at Wide Open Throttle with the Accelerator Pedal fully depressed. This will keep you from over-extending the Carburetor Linkage and Throttle Shaft. Test for Open and Closed throttle and adjust by turning the Linkage Hex Rod accordingly. Then tighten the nuts on the Heim Ends to the Hex Rod to hold adjustment.



Turn Idle Speed Screw 1 full turn in, with Idle Speed Screw barely touching throttle arm.

More adjustments may be needed later, once carb is installed and ready to be synchronized.



Idle Mixture Screws: 3 turns out from seat. Turn each Mixture Screw IN until LIGHTLY seated. Then, counting by half-turn, turn the Mixture Screw OUT 3 complete turns.



9. The Fuel Inlet (Banjo) can be clocked at any angle to accommodate your fuel line. Loosen the Banjo Bolt and turn the Fuel Inlet to the desired location then tighten the Banjo Bolt. Install fuel line and confirm that there are no leaks. Disable the ignition and pump fuel into the carburetors. Check for fuel leaks.
10. Install Vacuum Advance line to End Casting (preferred) or Carburetor Vacuum Port
11. Install the Air Cleaner Gasket, Air Cleaner Base and Velocity Stacks using the 4 lock nuts and washers provided. Then install the Air Filter and Air Cleaner Top with two screws included. Use a drop of Blue thread locker on the Air Cleaner Screws and do not over tighten so not to bend or crush the Air Filter.
12. Check for any fuel leaks. Pre-adjust the carburetor by adjusting the idle speed screw so that it is barely touching the throttle arm, then turn screw in 1 ½ - 2 turns in. Idle mixture screws should be screwed in until lightly seated and then about 3 turns out. Start the engine and check for any vacuum leaks.
13. Optimal idle speed for EMPI D carburetors is 1000RPM, so adjust the idle speed screw accordingly. Adjust the Idle Mixture Screws for Best Lean Idle Setting. Be certain that the engine is at operating temperature. Start the engine and starting at the Passenger Side turn the Mixture Screw in slowly until the engine RPM begins to fluctuate or a noticeable drop in speed is heard. Turn out the Mixture Screw slowly until the engine idle becomes smooth. If you turn out more with no better idle, turn it back to just where the best idle was achieved then turn out ½ turn. You want the leanest setting without affecting the idle speed. Repeat on the Driver Side. Results are usually between 3-5 full turns out. Depending on the size of the engine, camshaft, compression ratio etc. Re-jetting of the carburetor may be necessary.
14. Once idle mixture is set, adjust the idle speed if necessary with the Idle Speed Screw.
15. We are adding a few extra Idle and Main Jets in this kit. If more tuning is needed for certain engine applications, further jets may need to be purchased.

#### Factory Baseline Jetting

**44-1025** *EMPI D 40mm Deluxe Single Carburetor Kit,*  
 Type 1 – to 1835cc Stock to Mild Build  
**Factory Jetting:** .162 Main, .170 Air, .65 Idle, 1.50 Inlet Valve, .55 Pump, #2 E-Tube & 30mm Venturis

**NOTE:** We have added the following jets to your kit if further tuning is needed: .150 Main, .70 Idle

**44-1026** *EMPI D 45mm Deluxe Single Carburetor Kit,*  
 Type 1 – Everything Else, Large CC Engines and Most Race Applications  
**Factory Jetting:** .162 Main, .160 Air, .70 Idle, 1.50 Inlet Valve, .60 Pump, #2 E-Tube & 32mm Venturis

**NOTE:** We have added the following jets to your kit if further tuning is needed: .170 Main, .75 Idle

#### IMPORTANT NOTE:

The EMPI D Carburetors, like most Performance Carburetors, require a Fuel Pressure Regulator. Maximum fuel pressure must not exceed 3lbs. Excessive fuel pressure can cause poor performance, fuel over-run, premature failure of the needle & seat and could result in an engine fire.