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INSTALLATION MANUAL

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ACES EFI COMMAND CENTER 2 AF4004

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AF4004 Command Center

The Command Center 2 can be used in conjunction with any EFI system.

The Command Center 2 is the ultimate in a fuel delivery system. It not only is the most efficient way to supply fuel to your EFI system, it also greatly simplifies the installation process. It uses your stock fuel tank, stock carburetor fuel pump, and stock inlet fuel lines. You simply disconnect the fuel line that runs from your pump to your carburetor and replace it from the pump to the Command Center 2 which can be mounted in the engine compartment. The only additional plumbing required is to run a line from the Command Center 2 to the inlet port on the EFI System. The second line you will need to plumb would be a return line from the Command Center 2 to your existing fuel tank.

AF4004 Kit Contents

(1)	Command Center 2
(5)	PTFE hose fitting, black,-6AN straight
(4)	PTEF hose fitting, black, -6AN 45°
(1)	Fuel tank return fitting kit
(1)	6AN nylon PTFE fuel hose 20ft
(1)	30 Micron short filter, -6 male, both ends
(2)	Ring terminal, insulated crimp #10



Most necessary hose, hose ends, and fittings are supplied. The Command Center 2

contains a 1.2 liter (1/3rd gallon) reservoir of fuel at all time to prevent starvation. A 340 LPH high-pressure fuel pump is submerged in the fuel in the sump tank. A submerged pump runs quieter, cooler, and lasts longer than external fuel pumps. The Command Center 2 is capable of providing enough fuel for engines producing up to 800 HP but is still suitable to be used on engines making as little as 200 HP.

NOTE: A Carburetor or EFI pump can be used as a supply pump, but it **MUST BE UNREGULATED** (free flow no restriction)!

A 100 micron pre filter must be used prior to the inlet of the FCC2

NOTE: Main Gas Tank Must have a proper Vent that lets air both in and out! Tanks without this can experience vapor lock due to excess pressure build up in Main Fuel tank.

Installing the Command Center 2

Locate a suitable spot to install the Command Center 2. It can be mounted on the firewall, or down on the frame if you have room. Five feet of fuel hose is supplied with this kit so the center needs to be within five feet of the throttle body. Make sure you choose a position where the fuel hose can be routed without getting too close to the exhaust manifolds or any moving parts. Please note that an in-line filter is not included in the kit and must be purchased separately. The filter should be installed in the fuel line running from the Command Center 2 to the EFI throttle body. When planning the routing of the fuel line, ensure there is a convenient place to install the filter

Additionally, a conventional carburetor-style low-pressure filter (not included) should be installed between the fuel pump and the Command Center 2. This will help prevent dirt particles from entering the tank and contaminating the fuel system. The Command Center 2 can be mounted vertically or horizontally. If mounted horizontally make sure the return fitting is located in the highest position. We recommend a vertical mounting for best performance to eliminate possible fuel starvation. It can be mounted using the four slotted holes on the base flange or the four tapped M6 holes in the side of the top and bottom end caps. Determine your necessary hose lengths. You will need three hose lengths. One will run from the stock fuel pump to the Command Center 2 with a user-supplied filter. A second will run from the Command

Center 2 to the filter and the third runs from the filter to the fuel injection throttle body. Cut the ends of the hose with a very sharp blade and make sure the end cut is square and clean. To install the hose ends, clasp the hose end in a vise using something to

protect the finish. Be careful to not overtighten the vise because it will cause damage the hose ends. Your Command Center 2 kit includes two styles of hose ends. We recommend the following configuration of the hose ends. You may find that your installation may require a different configuration.

Hose and Hose Ends Usage

There are many different ways to plumb the Command Center 2. The following is an example of one way to run the hoses for the Command Center 2. The hose that goes from the Command Center 2 to the fuel filter should be a straight hose end on both the Command Center 2 and fuel filter side. The hose that runs from the filter to the throttle body should also have a straight hose end on the filter end. On the throttle body side apply the 45° hose. The hose that goes from the stock fuel pump to the Command Center 2 should be a straight hose end on the fuel pump end and a 45° on the end that feeds the Command Center 2. Like previously stated this is just a suggested starting point. Carefully plan your plumbing and fitting requirements.

Fuel Tank Return Line

The return line is a critical part of the Command Center 2 installation and these instructions must be followed for the safe and proper operation of the system. When installing the Command Center 2 a fuel rated hose or hard line must be routed from the return fitting back to the fuel tank. Many vehicles are equipped with a return line to the tank. You can Tee into the existing line if your vehicle is so equipped. Otherwise, you can use the Fuel Tank Return Fitting to connect the return line to the fuel tank.

IMPORTANT

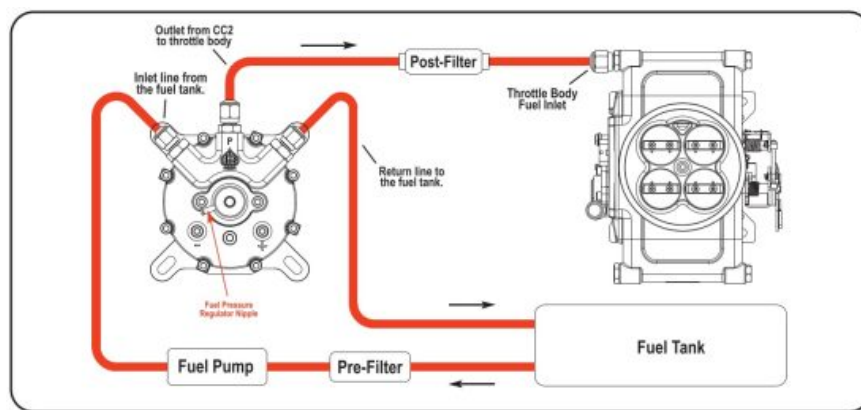
DO NOT run a return line from the Command Center 2 to the OPEN AIR in the engine compartment, pointed to the GROUND, or to the AIR CLEANER. Proper routing of a return line is not an option. It is a mandatory part of the installation,

Plumbing Stock Fuel Pump to the Command Center 2

Some stock pumps have a steel tube as the pump outlet. If your pump is so configured you can slip one end of the supplied -6 hose over the tube and secure it with a hose clamp. Other style pumps have a threaded port for the outlet. If the port has a fitting that has a barbed end where a stock fuel hose is clamped to it, you can use that fitting. If

your pump has a hard line coming from the outlet port of the pump, remove the threaded fitting and replace it with a steel adapter fitting with male threads to fit one of the supplied -6AN hose fittings. Adapter fittings are available from any fitting supplier such as Russell, Earl's or Aeroquip. Ford, Chrysler and pre-1970 Chevy pumps have 1/2-20 threads. Chevy's, 1970 and later pumps have 5/8-18 threads. If your pump has an outlet port with 3/8-NPT or 1/2-NPT threads you will need to acquire an adapter with those threads, Edelbrock pumps may require a special adapter fitting available from Russell Performance.

Plumbing the Command Center 2 to the Throttle Body



You have previously determined the lengths required for the hose from the Command Center 2 to the fuel filter and from the filter to the throttle body. Install those hoses. The supplied fuel filter is light enough that its weight can be supported by the fuel hose. However, you can secure it with an Adel clamp or a tie wrap if desired. (Clamp or tie wraps are not included in this kit.)

Wiring the Command Center 2

Positive [+]

Connect the power wire for your fuel pump from your ECU controller to the positive (+) terminal on the Command Center 2. Determine the proper length for the wire but do not connect this wire to the Command Center 2 yet. The system must be primed before this wire is disconnected otherwise you risk damaging the pump. Place some tape over the exposed end of the wire to avoid accidental contact with a metal surface.

If you are using this kit with an Aces EFI system, you must connect the loose orange wire labeled "Pump" from the Aces EFI system to the positive terminal on the pump. If

the wire is not long enough to reach, an extension wire can be used.

Negative (-)

Run a ground wire from the negative (-) terminal on the Command Center 2 to a metall grounded part of the car, If your battery is close to the Command Center 2 you can attach the wire directly to the battery ground cable. Without a good ground, the pump will not run. A self-tapping metall screw may be needed to attach the wire end to a sheet metal part of the car. Make sure any paint is removed so the ground wire makes contact with bare metal.

Fuel Pressure Regulator Supercharger or Turbocharger

The Command Center 2 has a built-in fuel pressure regulator mounted to the top. This regulator is not adjustable but is pre-set to provide 58 psi of fuel pressure to the EF system. The regulator has a vacuum nipple on it. This nipple is left open unless you are using the Command Center 2 on the engine with a blow through supercharger or turbocharger. In that case, a vacuum hose should be run from the regulator to a non-ported vacuum nipple on the throttle body.

The Command Center 2 can be used with any fuel injection system. Depending on the design of the unit being used, a different connection needs to be made to the vacuum nipple on the regulator. If the throttle body in the system you are using has the injectors under the throttle blades, you need to connect a vacuum hose to a ported nipple on the throttle body. If the injectors are above the throttle blades, leave the nipple open. On a port injection system where the injectors are in the manifold, connect a vacuum line to a ported nipple on the throttle body. On an engine with a Roots supercharger, a vacuum connection should be made between the regulator and the throttle body if the injectors are under the throttle blades. If the injectors are above the throttle blades then leave the nipple port on the regulator open. Note that a separate 43.5psi (3 BAR) regulator may be required with some aftermarket EFI systems that require this type of regulator.

Fuel Pressure Gauge on Sump Tank

The outlet gauge will show you the fuel pressure being supplied to the EFI which will be in the 58 psi range.

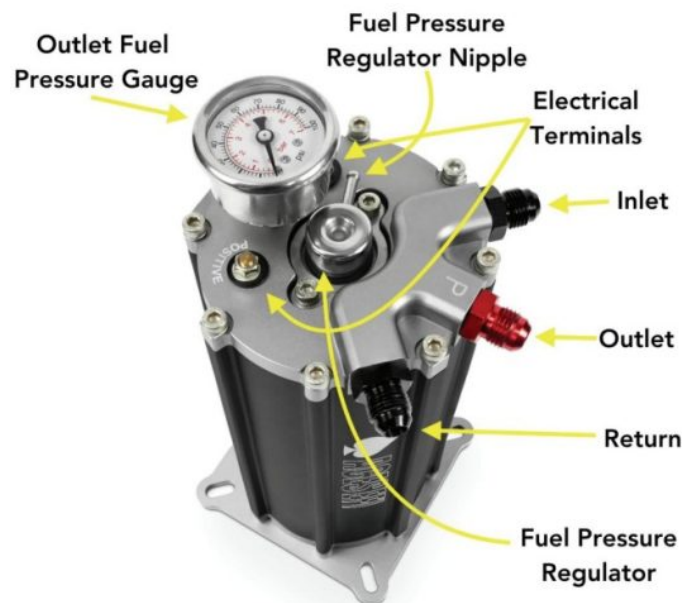
Priming the Command Center 2

Reconnect the negative battery cable. Do not connect the Command Center 2 fuel pump

power wire at this time. This is to avoid having the engine start during the priming procedure. Turn ignition key to the “ON” position and crank for ten seconds. Turn key to the “OFF” position and wait 30 seconds. Repeat this procedure a second time to fill the sump tank. This procedure allows your stock fuel pump to pump fuel to the Command Center 2 but the Command Center 2 is not pumping fuel to the EFI throttle body.

Check entire fuel system for any leaks before attempting to start the engine.

1. Be sure to install a carburetor style fuel filter between the stock fuel pump and the Command Center 2.
2. Do not connect fuel pump power wire until Command Center 2 has been primed.
CAUTION-Live wire.
3. Check all connections for leaks.



Installing the Fuel Tank Return Fitting

The Fuel Tank Return Fitting provides a threaded hole in the fuel tank without having to reach inside the tank. Please read the instructions thoroughly and follow every step. Disregarding these instructions may result in a breach of the warranty and could cause serious bodily harm.

Before starting this installation, please be sure that the fuel tank is clean and contains no fuel vapors. **DISREGARDING THIS CAN RESULT IN SEVERE PROPERTY DAMAGE AND BODILY HARM.**

Start by drilling a 1/2" hole with a step drill in your fuel tank. The hole can be drilled anywhere towards the top of the tank. Once the hole is drilled, clean any drilling debris

off the tank and make sure the hole is free of burrs, Next, slide the bung and the gasket in the holle, and screw the bolt with a washer into the bung. While holding the bung with a 1" wrench, rotate the screw to cause the bung to collapse and press against the inside of the tank. When the bung is seated (the screw gets hard to turn), unscrew the bolt and washer and remove, Install the 6 ORB return fitting by holding the bung with the 1" wrench and the fitting with a 9/16" wrench and continue with the installation.

Insert fitting with gasket, screw and washer.



Twist bolt to collapse and set bung.



Bung installed.



Install ORB fitting.



Finished installation.



IMPORTANT NOTE: The fuel tank on your vehicle must be vented to avoid pressure building up inside the tank. Do not attempt to install and operate an EFI system without a properly vented fuel tank.

⚠ California Proposition 65 Warning:

This product may contain one or more substances or chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

www.P65Warnings.ca.gov

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Documents / Resources



[ACES AF4004 Command Center \[pdf\]](#) Instruction Manual

4004-3, AF4004 Command Center, Command Center, Command

References

- [User Manual](#)

📎 4004-3, ACES, AF4004 Command Center, COMMAND, Command

📁 ACES Center

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