Cal-Cat Installation for Caterpillar Engines

Please Read Entire instructions before installation.

****Never put lead based additives in the Fuel tank as this will poison the catalyst.****

This installation should be completed by a competent mechanic familiar with Diesel engines.

All safety procedures and methods must be followed when working with fuel lines and coolant systems. It is recommended that you have a fire extinguisher handy while performing the installation. Wear safety goggles and mechanic's gloves for protection. Make sure that the engine has cooled before beginning installation. Before installing it is advised to disconnect the ground from the batteries.

***The Cal-Cat was designed to enhance engine performance through better combustion and in most cases positively effects fuel economy. We make no guarantees of increased fuel economy. The Cal-Cat has been shown to reduce emissions every time. For the optimum results we suggest you follow these directions explicitly as they have proven to be the most successful.

The basic premise of the installation is to hook the Cal-Cat unit between the fuel out fitting of the fuel filter and the fuel in fitting of the injector pump. This is the low pressure transfer from the fuel tank to the injector pump. This is the only place where the Cal-Cats can be installed and function to the way they were designed***

One of the hardest parts of installing the Cal-Cat on your Caterpillar engine is finding a mounting location. Here is our chosen location using the existing engine loop with ¼" washers or spacers secured with nut and bolt to bridge

the loop, and a bolt on the timing chain cover. **See Pic 1 and 2**

Pic: 1

Pic:2

The Cal-Cat does not have to be mounted on the engine; it can be mounted on the frame, fenders, really any place that can support its weight.

**** Note: If the Cal-Cat is not mounted on the frame or engine make sure it is grounded properly. An additional ground wire can be installed on one of the bolts securing the Cal-Cat to the engine or frame and to a good grounding point.**

***An important detail of the installation that must not be overlooked is to make sure that the Cal-Cat has plenty of water flow, this means

NO 90 DEGREE ANGLES ON THE COOLANT FLOW PORTS, SEE BELOW FOR A 100% SUCCESSFUL INSTALLATION.

***(Note: NEVER USE WATER HOSES FROM THE COMPRESSOR IN CONJUNCTION WITH THE CAL CAT. THE WATER MAY GET TO HOT & CAUSE POWER LOSS.)

The Cal-Cat needs to be installed in the heater hoses. If there are shut off valves installed, the system needs to have a “T” adapted inline so the water will flow through the Cal-Cat even when the heater is shut off.

The Cal-Cat comes with 3/4”NPT water couplings welded to each side, and 3/8” NPT fuel bungs, this is so it can be adapted to your application easily with fittings and hoses found almost anywhere.

See the picture sequence below of the routed heater hoses. **1:** Heater hose supply to heater core from the side of the block cut and mounted to

the side of Cal-Cat. **2:** Out of Cal-Cat , **3 and 4:** routed over the engine to the heater core, **5:** connected to the heater core.

1) 

2) 

3) 

4) 

5) 

In situations where there are no heater hoses you will need to remove a water plug from the front of the engine nearest the water pump & one in the rear of the block or head and install heater hose adapters.

The Cal-Cat fuel lines must be installed between the last fuel filter and the injector pump. (See Picture Sequence 1- 6) 1: out of fuel filter housing, 2: into Cal-Cat, 3: to the injector pump

1) 

2) 

3) 

If your Caterpillar engine has this fuel heater block you will need to bypass it. **(See Pics 4, 5,and 6)** Remove both the fuel lines from the heater block and re-route them directly to the Cal-Cat. The fuel outlet from the Cal-Cat needs to enter the injector pump/engine block fuel cavity as soon as possible after leaving the Cal-Cat. The closer you can hook up to that point the better the Cal Cat will perform.

Pic:4  **Pic:5** 

Pic:6 

IT IS ADVISABLE TO FILL THE CAL-CAT WITH FUEL TO AVOID ANY AIR LOCKS WHEN STARTING THE ENGINE!)

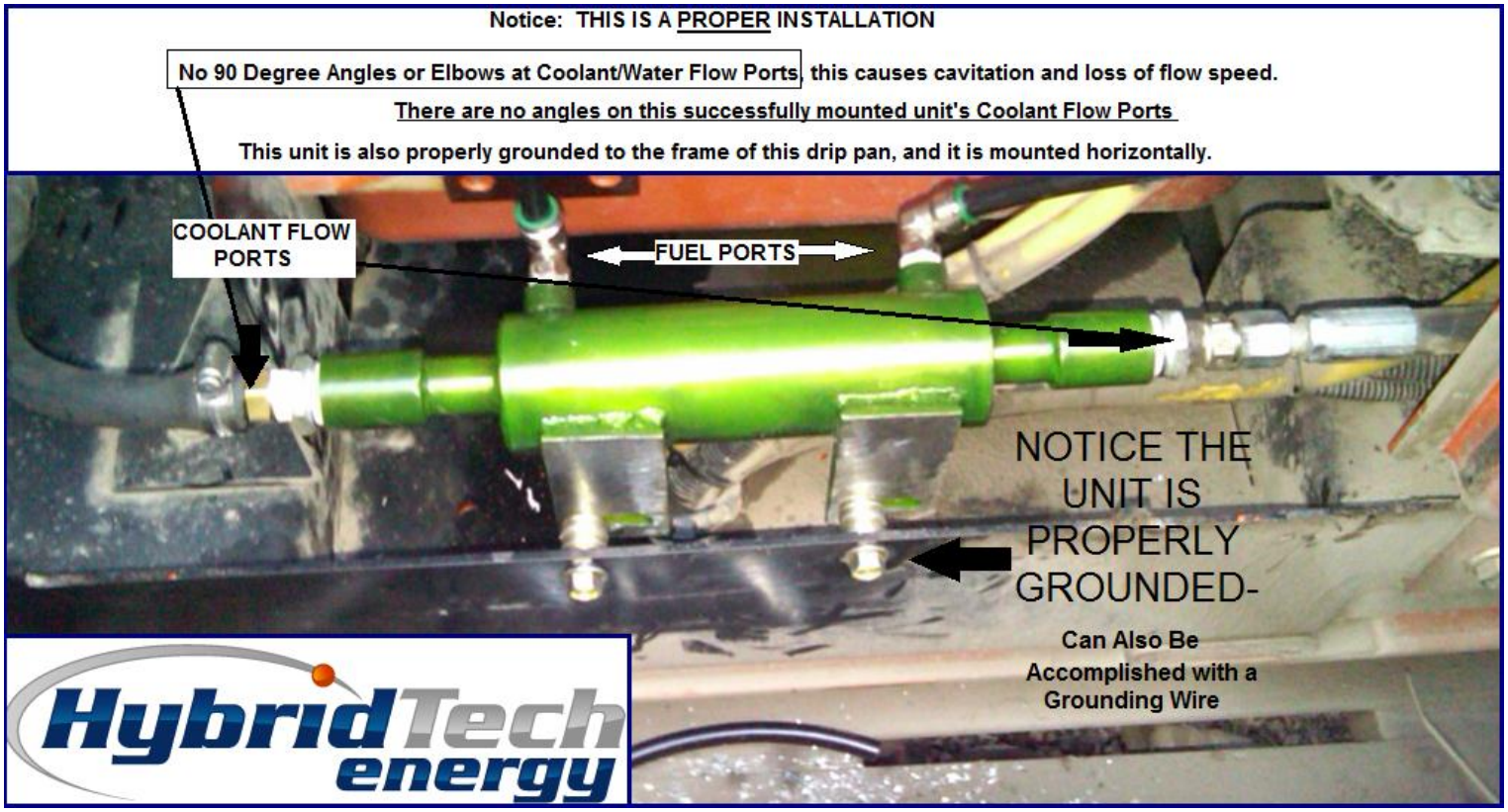
Now top off the coolant in your radiator and finish mounting the Cal-Cat assembly. Start your engine. Bring the engine up to full operating temperature, constantly checking for leaks. Once it has been leak checked after operating at full temperature drive vehicle to make sure everything is normal. The Cal-Cat has a break in period of usually 3-6 driving cycles. Results vary vehicle to vehicle.

PROPER MOUNTING AND PLUMBING

Important Factors for a Successful Installation:

1.) Horizontal Mounting
2.) No Right or Acute Angles at the Coolant Flow Ports
3.) Proper Grounding, Metal to Metal (Can use a grounding wire)

The unit pictured below is an example of a perfect and successful installation



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