



2/16/11

Installation Technical Service Bulletin

Every day we learn a little more about the Cal-Cat and its positive capabilities, much of what we learn is from installations and feedback from outside our own facility.

We are sending this TSB to make everyone aware of these installation issues to ensure the units are installed properly. We recently discovered 2 methods of installing the Cal-Cats on Large Diesel Trucks that yield no results in either power or efficiency. Both of these installations happen to be done on Caterpillar engines.

The common denominator we discovered is: 1 - the units were mounted on an extreme angle or vertical and 2 - the coolant piping on both units have a restriction in the method the coolant connections on one side are connected using 2- 90° elbows forming a hard 180° bend.

The velocity of the coolant flow is equally important as the temperature, we are not 100% sure why but we have our theories. The sharp bends become an issue in the fact that it causes a restriction in coolant flow velocity from cavitation and air pockets in the corners of the fittings.

In addition, mounting the units vertically or on a sharp angle can causes air pockets to accumulate in the fuel chamber on top of the unit or in its corners which also may affect the catalyst reaction.

****We cannot stress enough to adhere to our installation instructions as these have been proven to produce results.****

The units must be mounted horizontally, grounded properly, preferably mounted on the engine, and must not exceed more than one sharp 90° elbow in the coolant connection and have constant coolant flow .

Please see reference photos on the following pages.

- Quality Assurance Department
Panther Performance Tech

Pictures of IMPROPER mounting and coolant plumbing.





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

Notice: THIS IS A PROPER INSTALLATION

No 90 Degree Angles or Elbows at Coolant/Water Flow Ports, this causes cavitation and loss of flow speed.

There are no angles on this successfully mounted unit's Coolant Flow Ports

This unit is also properly grounded to the frame of this drip pan, and it is mounted horizontally.

