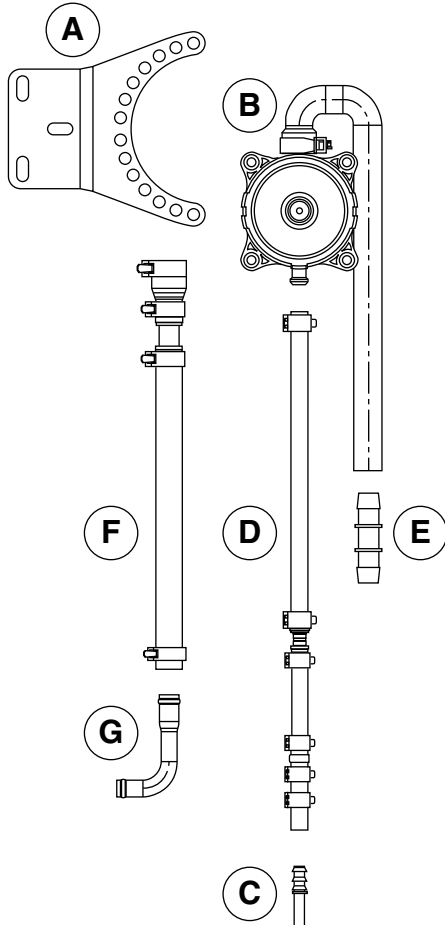


# Fleetguard® Open Crankcase Ventilation (OCV) Kit Installation Instructions



## Installation Instructions for: CV50116 Cummins® ISC Engines

### Parts List

Part	Description
A	Mounting Bracket
B	Breather Assembly and Mounting Hardware
C	Cylinder Block Insert Fitting
D	Drain Hose Assembly
E	Vent Hose Connector
F	Inlet Hose Assembly
G	Elbow Adapter Assembly (ISC engine application only)

### Tools Required

Description
Hose Clamp Pliers
Hose Cutter
3/8" to 1" Ratchet and Socket Set
3/8" to 1" Wrench Set
Rubber or Wooden Mallet

## Crankcase Ventilation Kit Installation

### Locating and Mounting the Breather Assembly

1. Check both sides of the cylinder block to determine the location of the unused dipstick port boss. Only two port bosses are located on the C engine. One boss is used for the oil dipstick; the other will be used for this installation. Once the unused boss is located, determine the best location for mounting the breather assembly to ensure the drain hose when installed will run directly to the crankcase. **The drain hose must be free of any loops, kinks or abrupt bends to ensure proper oil drainage.**
2. Find a mounting location for the breather assembly and bracket at least 14" (350 mm) above the oil level in the crankcase and a minimum of 4" (102 mm) from both the exhaust manifold and exhaust piping.

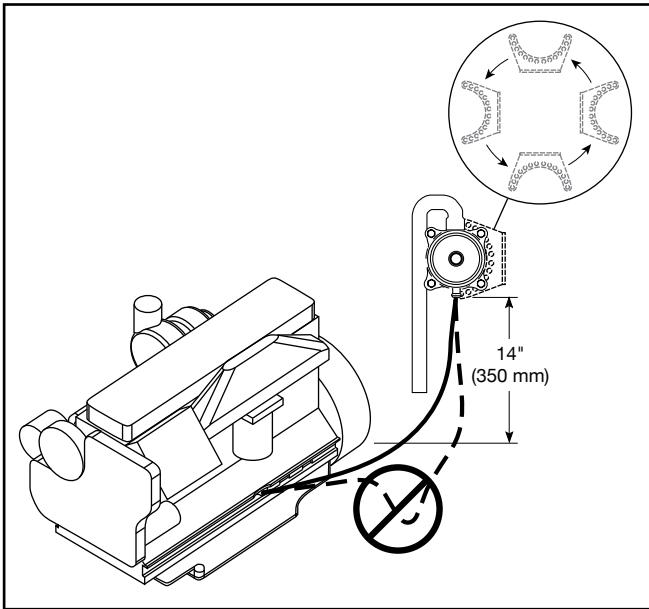


Figure 1 – Mounting Location

3. The “cold side” of the engine is the preferred location for mounting. See illustration for alternate mounting location options (preferred #1, #2, #3, and #4). The breather assembly must be mounted vertically (as shown) for proper operation.

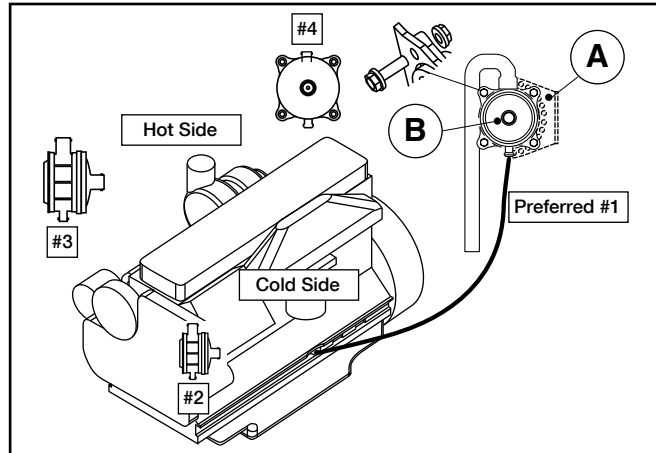


Figure 2 – Mounting the Breather Assembly

4. Install the service part bracket to the mounting location selected. The mounting bracket can be attached to the breather assembly at four different positions by simply rotating the bracket. When the bracket position has been determined, reverify the breather assembly is mounted vertically with the oil drain outlet directed downward. Attach the breather assembly to the bracket using the hardware provided.

### Installing the Insert Fitting

5. Locate the selected oil dipstick port boss at the bottom of the cylinder block (above the pan rail) for installation of the barbed insert fitting. The OD of the fitting is 0.375 inches (9.5 mm).

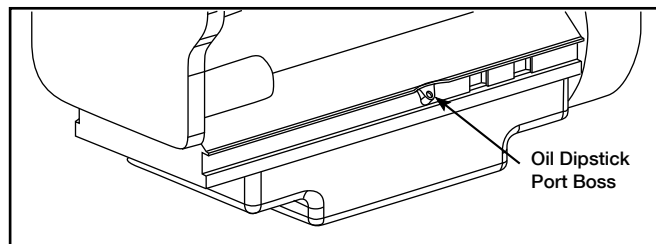


Figure 3 – Installing the Insert Fitting

6. Remove the frost plug from the boss carefully to ensure no contaminants enter the crankcase.

7. Install the insert fitting into the boss by tapping it lightly with a rubber or wood mallet to ensure it is properly seated. **The knurled end of the fitting goes into the boss; the barbed end protrudes outward.**

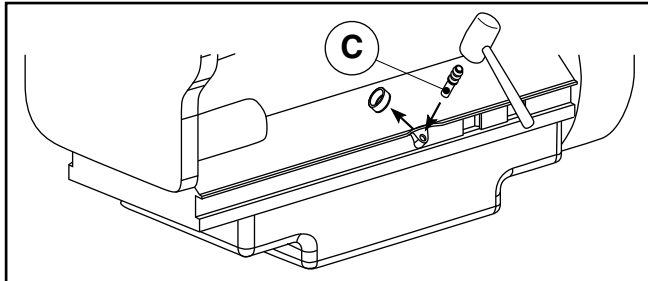


Figure 4 – Seating the Insert Fitting

### Installing the Drain Hose

The drain hose assembly is three sections of hose with plastic connections. The smaller ID hose (0.375" (9.5 mm)) connects to the barbed insert fitting at the crankcase; the larger ID hose (0.5" (13 mm)) connects to the breather assembly.

8. Attach the small ID drain hose to the insert fitting. Secure with clamp.

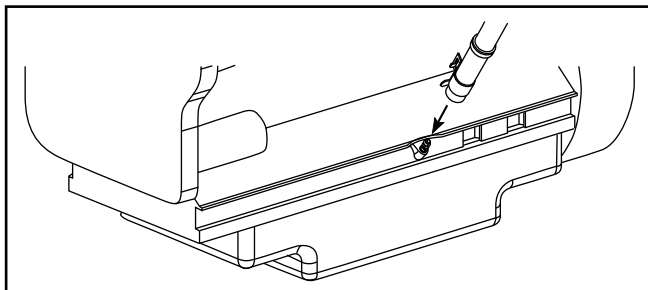


Figure 5 – Attaching the Drain Hose to the Insert Fitting

9. Route the drain hose to the breather assembly to determine the proper length.

**⚠ CAUTION:** The drain hose must be free of any loops, kinks or abrupt bends to ensure proper drainage.

10. If the hose is too long, trim the excess from the larger ID section of the hose. Attach to breather assembly, secure with clamp. **Reinspect the hose and routing to verify it is free of any loops, kinks or abrupt bends.**

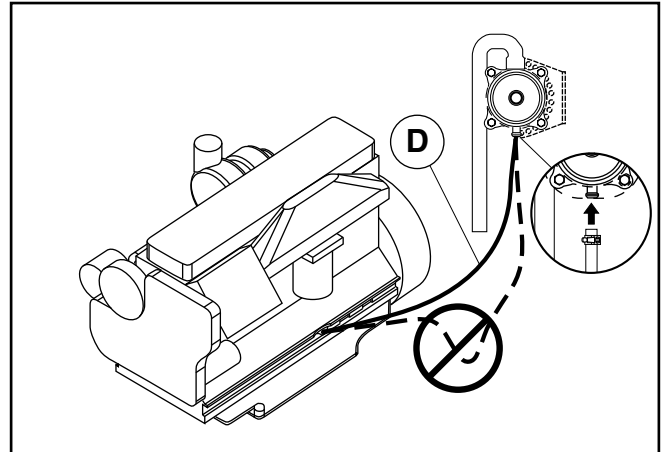


Figure 6 – Routing the Drain Hose

### Installing the Vent Extension to the Breather Assembly

11. Ensure the vent extension is directed downward.
12. **(Optional)** - If a longer vent extension hose is needed, attach a .75 inch (19 mm) ID hose (not included in the kit) to the vent extension using the .75 inch (19 mm) OD plastic connector. If an extension is added, stabilize by attaching a tie wrap or clamp from the hose to a secure point in the engine compartment.

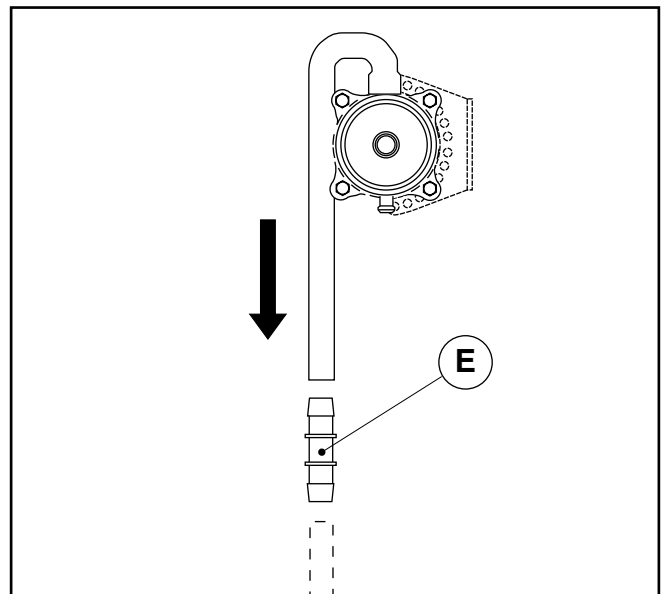


Figure 7 – Installing the Vent Extension

### Installing the Breather Inlet Hose Assembly

13. The final installation steps require routing the inlet hose from the breather assembly to the existing engine breather vent. The vent is located on the “hot (exhaust manifold) side” of the engine. The existing vent hose (0.625" (16 mm) ID), is located behind the oil filter.
14. Secure the 1" (25 mm) ID inlet hose end to the breather assembly using the clamp provided.

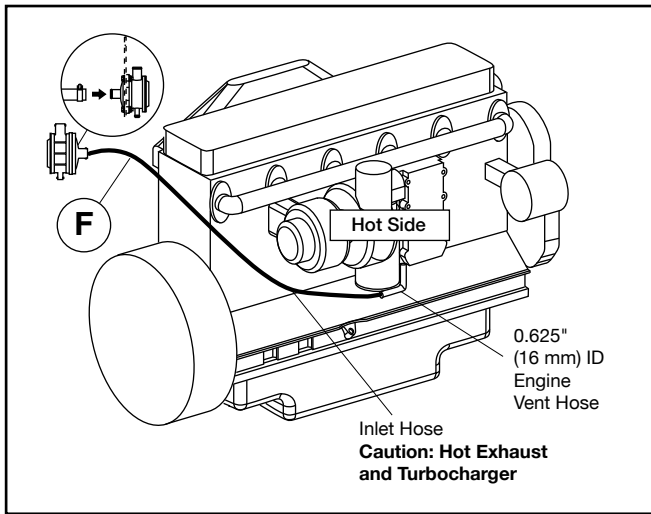


Figure 8 – Routing the Inlet Hose

15. Connect the elbow adapter assembly to the existing 0.625" (16 mm) ID engine breather vent hose. Secure with clamp.
16. Route the new inlet hose from the breather assembly to the elbow adapter assembly. Trim the 0.75" (19 mm) ID hose end to proper length and secure with clamp.

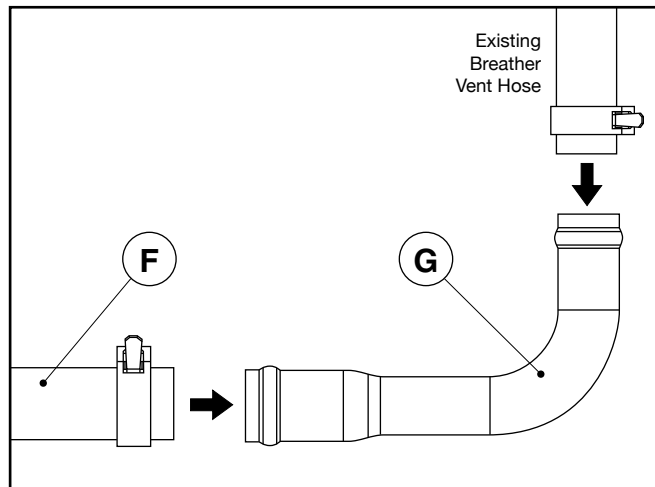


Figure 9 – Installing the Elbow Adapter

**⚠ CAUTION:** Ensure the hose routing is a minimum of 4" (100 mm) from any hot surface. Avoid trimming too short to prevent hose kink after installation.

### Ordering Information

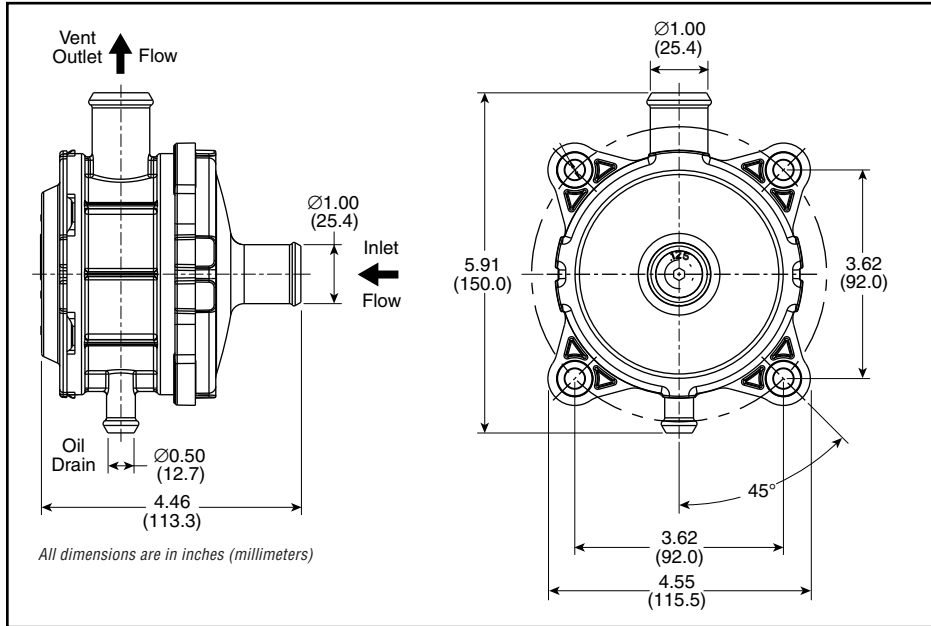
Part Number	Description
CV50116	ISC OCV Kit
Q157449	Mounting Bracket

### Specifications

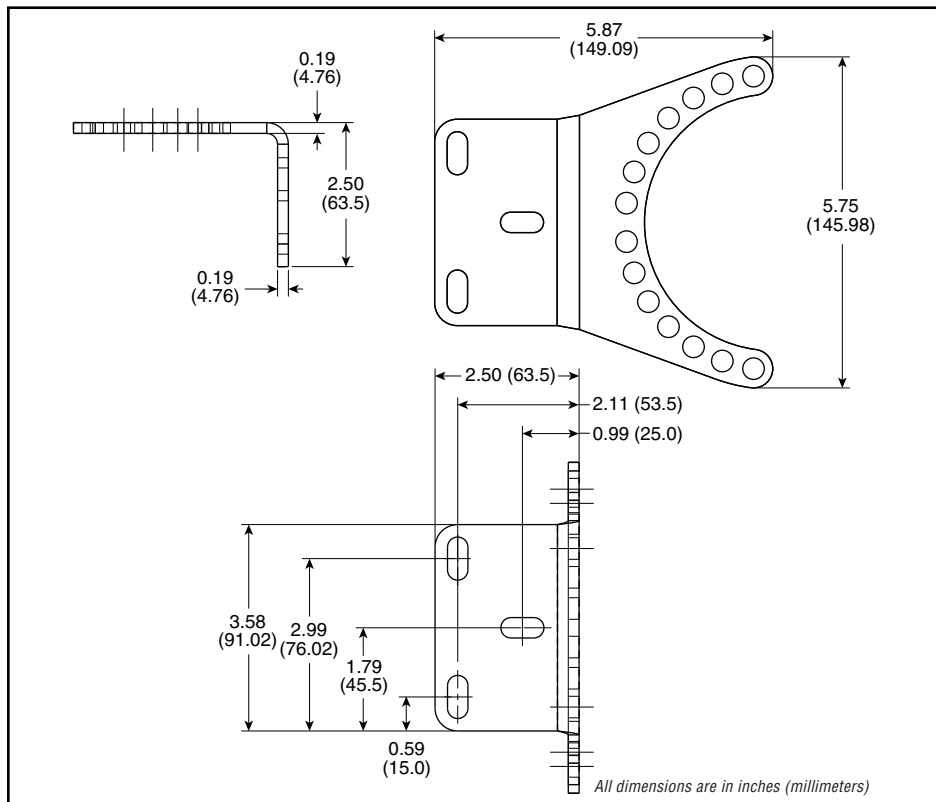
Part Number	Minimum Flow	Maximum Flow	Maximum Restriction	Kit Weight (Dry)
CV50116	3.75 ft <sup>3</sup> /min (106 L/min)	7.5 ft <sup>3</sup> /min (212 L/min)	9 inH <sub>2</sub> O (229 mmH <sub>2</sub> O)	9.9 lbs (4.5 kg)

# Dimensions

## Breather Assembly



## Mounting Bracket





**Filtration**

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