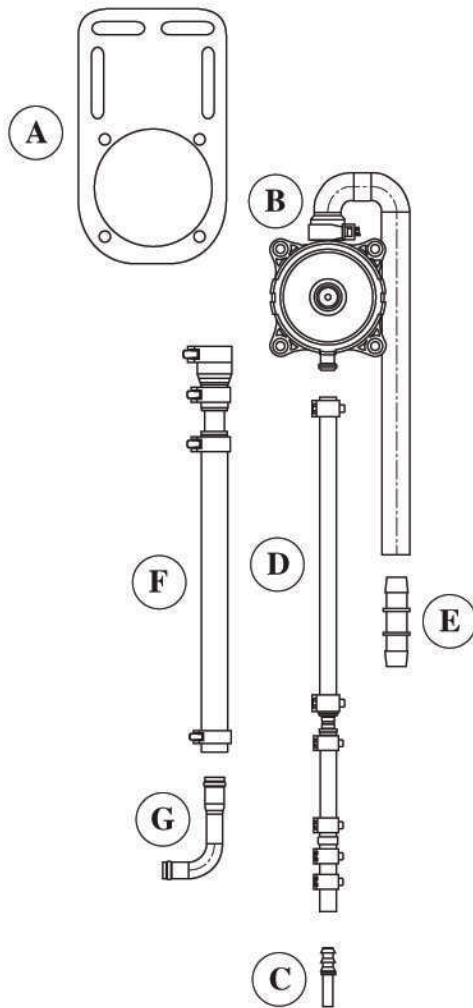# CUMMINS ISB ENGINES

Fleetguard®

INSTALLATION INSTRUCTIONS
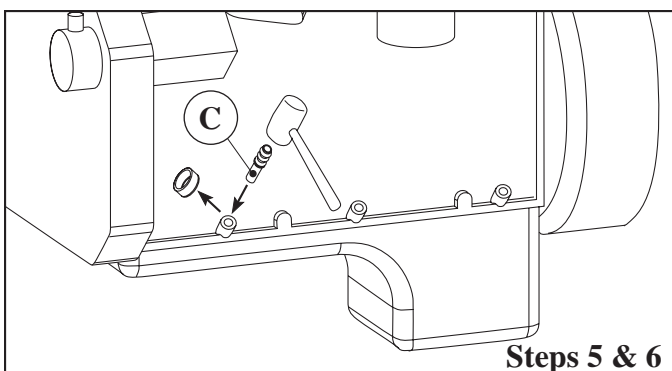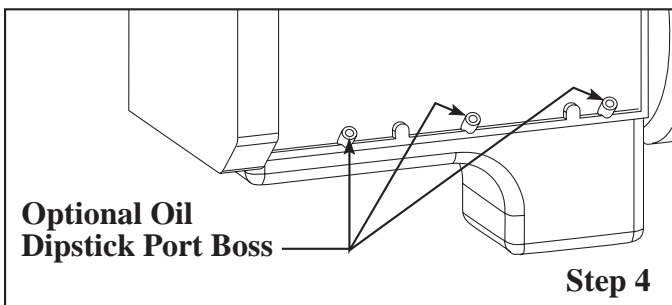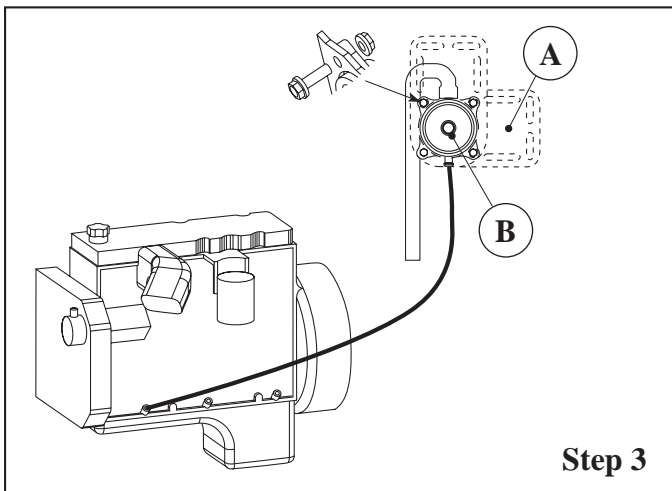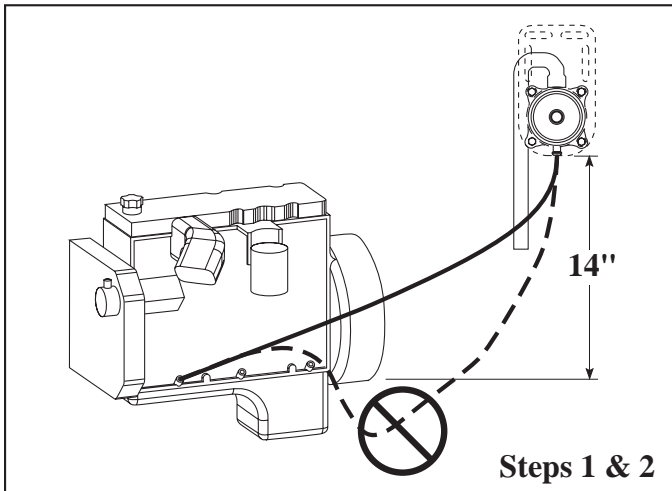
Crankcase Ventilation Kit #CV50106
Mounting Bracket #393814000S
Component Parts

A. Mounting Bracket
    (Not included in the kit)

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)

Installation Steps - ISB Series Engine

Steps 1 & 2

Step 3

Optional Oil
Dipstick Port Boss

Step 4

Steps 5 & 6

Locating and Mounting the Breather Assembly

Step 1 - Check both sides of the cylinder block to determine the best unused dipstick port boss option. Select a boss that will allow the drain hose, when installed, to run directly from the breather assembly to the crankcase. **The drain hose must be free of any loops, kinks or abrupt bends to ensure proper oil drainage.**

Step 2 - Find a mounting location for the breather assembly and bracket at least 14 inches (350 mm) above the oil level in the crankcase and a minimum of 4 inches (100 mm) from both the exhaust manifold and exhaust piping. The "cold side" of the engine is the preferred location for mounting. The breather assembly must be mounted vertically (as shown) for proper operation.
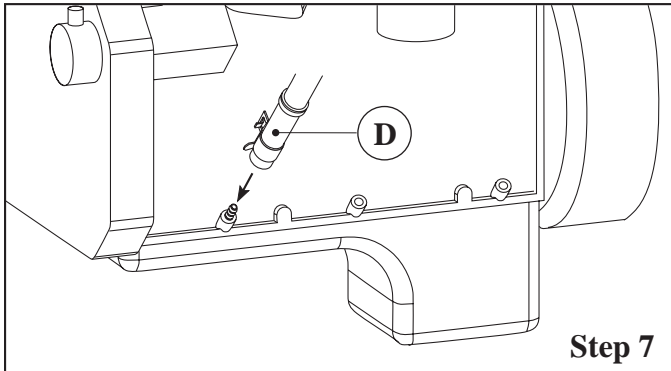
Step 3 - Install the service part bracket to the mounting location selected. The mounting bracket can be attached to the breather assembly at four different positions by simply rotating the bracket. Attach the breather assembly to the bracket using the hardware provided, ensuring the breather assembly is mounted vertically and the oil drain outlet is directed downward.

Installing the Insert Fitting

Step 4 - 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 .375 inches (9.5 mm).

Step 5 - Remove the frost plug from the boss carefully to ensure no contaminants enter the crankcase.

Step 6 - 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.**
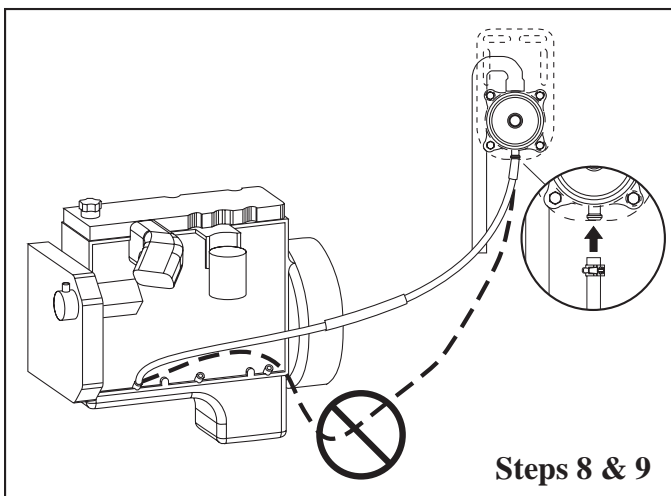
Step 7

Steps 8 & 9

Steps 10 & 11

Installing the Drain Hose

The drain hose assembly is three sections of hose with plastic connections. The smaller ID hose (.375 inch, 9.5 mm) connects to the barbed insert fitting at the crankcase; the larger ID hose (.5 inch, 13 mm) connects to the breather assembly.

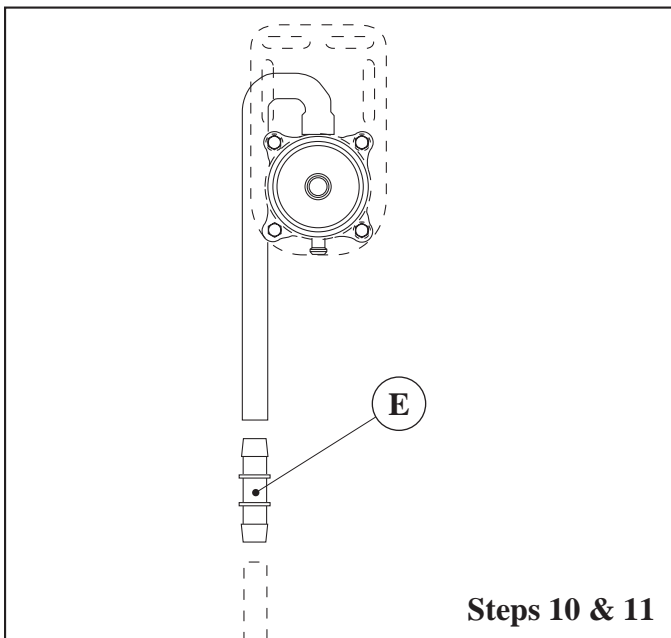**Step 7** - Attach the smaller ID drain hose to the insert fitting. Secure with clamp.

Step 8 - 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 oil drainage.

Step 9 - If the hose is too long, trim the excess from the larger ID section of the hose. Attach to the breather, secure with clamp. **Reinspect the hose and routing to verify it is free of any loops, kinks or abrupt bends.**
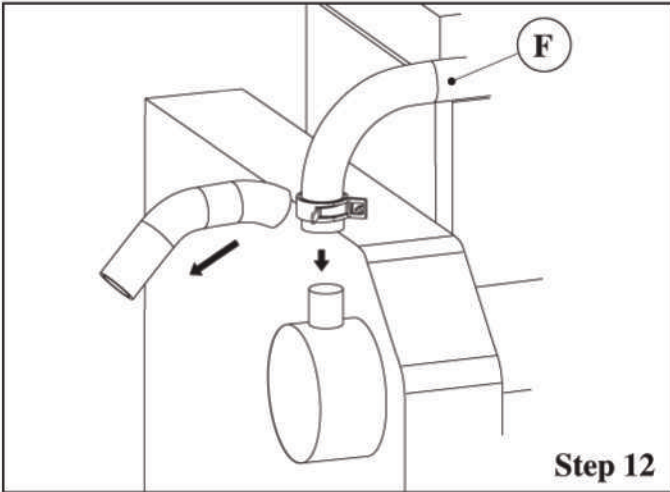
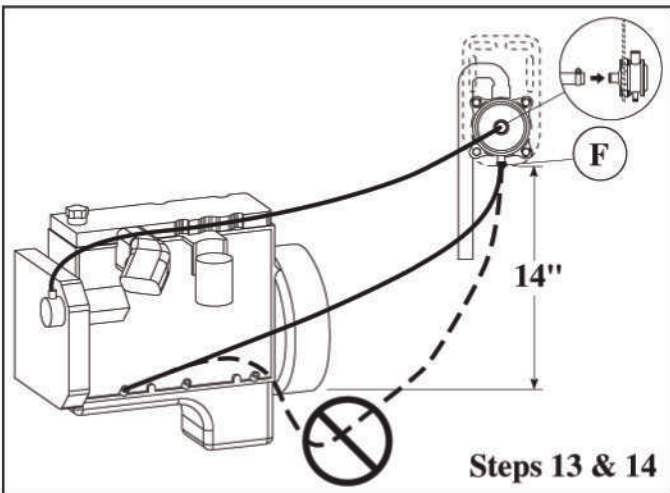## Installing the Vent Extension to the Breather Assembly

Step 10 - Ensure the vent extension is directed downward.

Step 11 (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 plastic connector provided. If an extension is added, stabilize by attaching a tie wrap or clamp from the hose to a secure point in the engine compartment.

Step 12

Installing the Breather Inlet Hose Assembly

Step 12 - Remove the existing .75 inch (19 mm) ID hose from the engine breather vent on the front of the engine.

14"

Steps 13 & 14

Step 13 - Secure the 1 inch (25 mm) ID inlet hose end to the breather assembly using the clamp provided.

Step 14 - Route the new inlet hose assembly to the existing breather vent. Trim the .75 inch (19 mm) ID hose end to proper length and secure with clamp.

CAUTION: Ensure the hose routing is a minimum of 4 inches (100 mm) from both the exhaust manifold and exhaust piping. Avoid trimming too short to prevent hose kink after installation.

Filtration