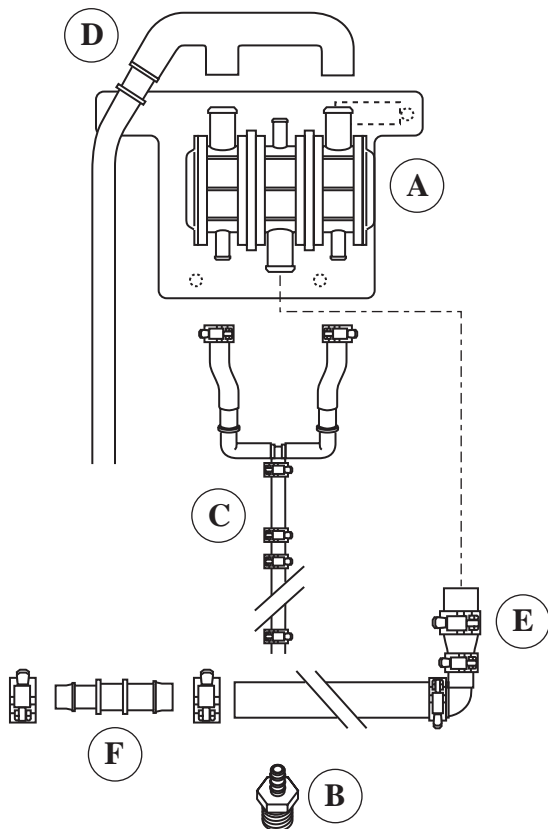


# CUMMINS ISX/QSX ENGINE SERIES APPLICATIONS



## ENVIROGUARD™ INSTALLATION INSTRUCTIONS

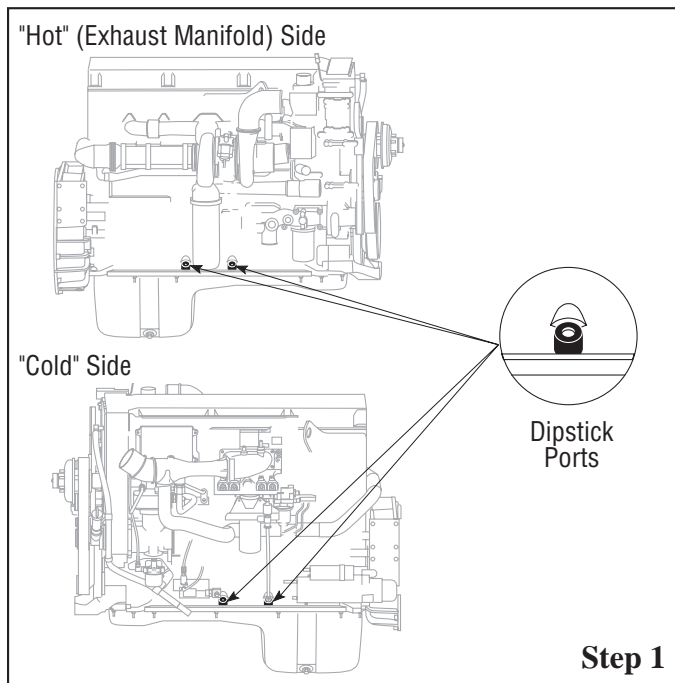
### ISX/QSX Series Applications Crankcase Ventilation Kit #CV50202 Component Parts



- A. Breather and Bracket Assembly
- B. Drain Fitting
- C. Drain Hose Assembly
- D. Vent Hose Assembly
- E. Breather Inlet Hose Assembly
- F. Reducer Fitting and Clamps

**CAUTION:** These instructions are intended for use by professional mechanics who are trained in the proper use of power and hand tools, using appropriate safety precautions (including eye protection).

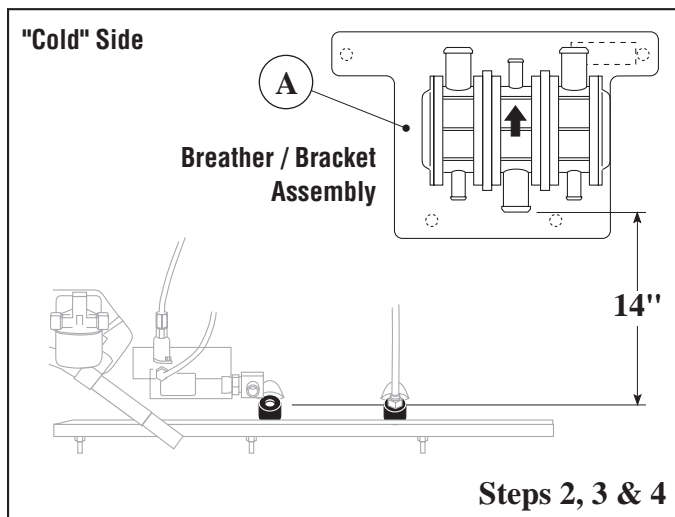
## Installation Steps - ISX/QSX Series Engines



### Locating and Mounting the Breather Assembly

**Step 1** - Check both sides of the cylinder block to determine the locations of the unused dipstick ports. Two dipstick ports are located on each side of the engine just slightly above the oil pan rail.

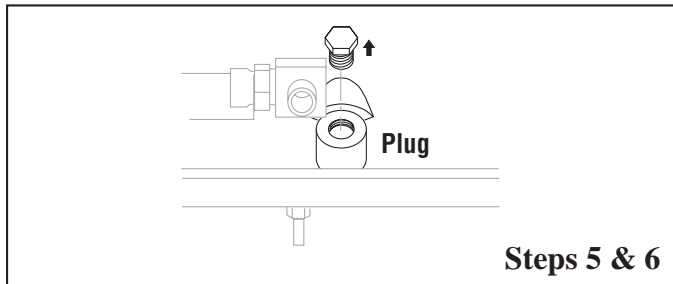
Once the unused ports are located, determine the best location for mounting the breather assembly to ensure the drain hose will run directly to the crankcase when installed. It is preferable to use the port on the "cold" side of the engine opposite the exhaust manifold. **The drain hose must be free 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 dipstick ports. The assembly must be a minimum of 4 inches (100 mm) from both the exhaust manifold and exhaust system components.

**Step 3** - The "cold" side of the engine is the preferred location for mounting. The breather assembly must be mounted vertically (as shown) for proper operation.

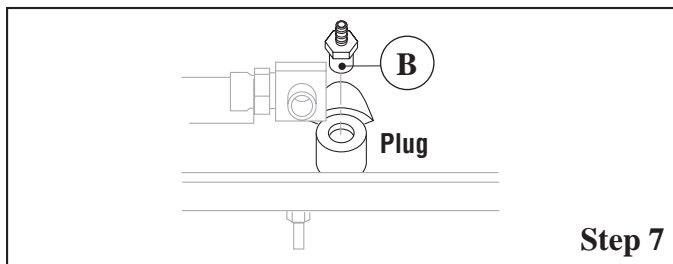
**Step 4** - Attach the bracket to the mounting location selected. When the bracket position has been determined, reverify the breather assembly is mounted vertically with the oil drain outlets directed downward.



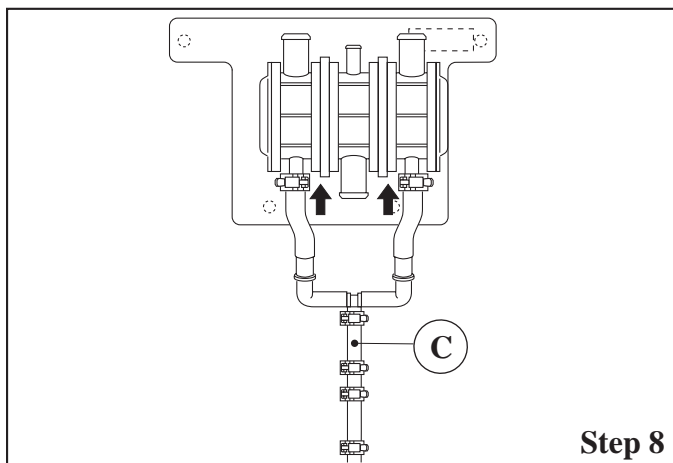
### Installing the Drain Fitting Assembly

**Step 5** - Locate the selected port plug for removal.

**Step 6** - Clean around the preexisting plug to ensure no dirt or contaminants will fall into crankcase when the plug is removed. Loosen and remove the plug fitting. **Make sure no foreign materials enter the crankcase.**



**Step 7** - Screw in the drain fitting and tighten until snug. **Do not overtighten.**

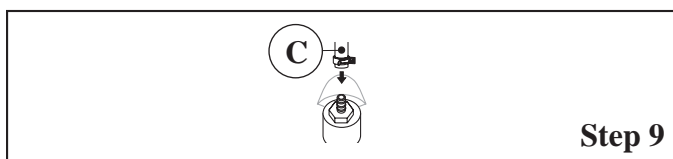


### Installing the Drain Hose

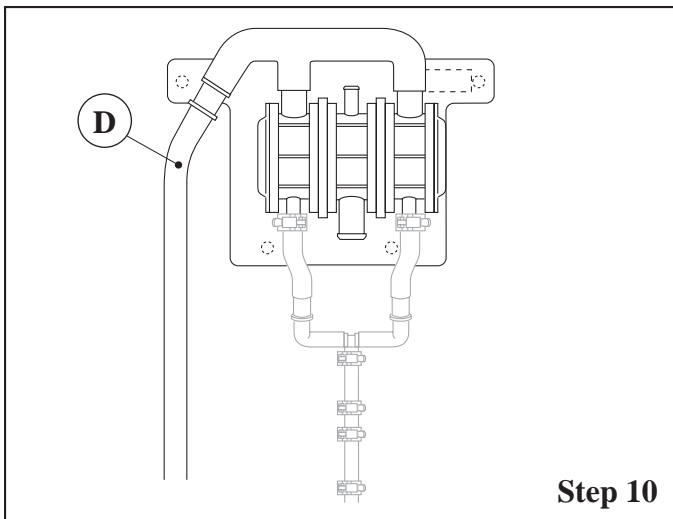
The drain hose connects the breather assembly to the drain fitting assembly.

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

**Step 8** - Attach the drain hose to the breather assembly outlet tubes. Secure with clamps.



**Step 9** - Route the drain hose to the drain fitting assembly. **If the hose is too long, trim the excess from the end of the drain hose. Ensure the check valve in the drain tube assembly is in a vertical position. Do NOT cut off the check valve or any of the hose above the check valve. Secure with clamp. Reinspect the hose and routing to verify it is free of any loops, kinks or abrupt bends.**

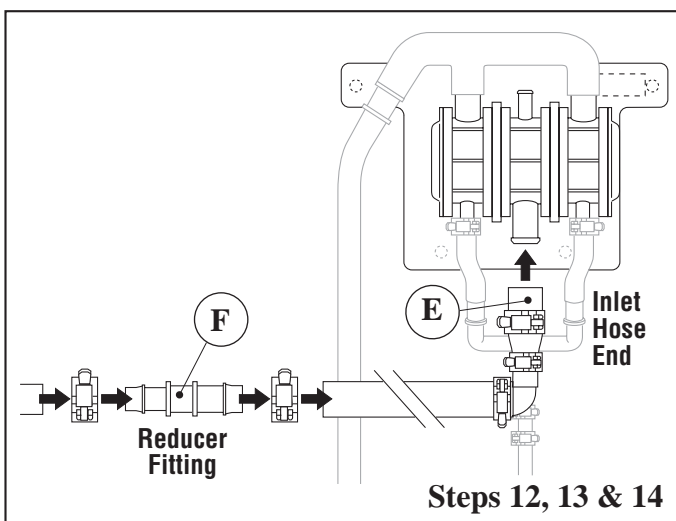


Step 10

### Installing the Vent Hose Assembly

**Step 10** - Attach the vent hose to breather assembly. Ensure the vent extension is directed downward and trim if necessary. Secure the loose hose to stabilize.

**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 an appropriate connector. Stabilize the vent hose.



Steps 12, 13 & 14

### Installing the Breather Inlet Hose Assembly

The final installation steps require routing the inlet hose from the breather assembly to the existing engine crankcase breather vent. This vent is located on the cold side of the engine's valve cover.

**Step 12** - Secure the 1 inch (25 mm) ID inlet hose end to the breather assembly using the clamp provided.

**Step 13** - Connect the 3/4 - 5/8 inch reducer fitting to the existing .625 inch (16 mm) ID engine breather vent hose located off the front of the gear cover. Secure with clamp.

**Note:** It may be necessary to remove the existing hose from its hold down in order to complete assembly.

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

**Note:** To provide a better hose routing, it may be helpful to shorten the existing vent hose before connecting to the adapter.

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

