

HOW TO TAKE A GOOD OIL SAMPLE

USING VACUUM EXTRACTION

This sampling method requires a Vacuum Pump (1U5718 or equivalent). Use this method for pressurized systems not equipped with sampling valves. Again, it is important to use a new piece of tubing after sampling engine oil because soot and oil additives may remain in the tubing and contaminate other samples.

STEP A

Turn the engine off. Measure and cut new tubing to the length of the dipstick. If the compartment you are sampling does not have a dipstick, cut the tubing so that it reaches about halfway into the oil depth.



STEP B

Insert the tubing through the head of the vacuum pump and tighten the retaining nut. The tubing should extend about 4 cm (1 in) beyond the base of the vacuum pump head.



STEP C

Install a new sampling bottle onto the vacuum pump and insert the end of the tubing into the oil—do not allow the tubing to touch the bottom of the compartment.



STEP D

Pump the vacuum pump handle to create a vacuum. Hold the pump upright—if you turn it over, oil may contaminate the pump. If oil enters the pump, disassemble and clean it before taking the sample. Fill the bottle three-quarters full—do not fill to the top.



STEP E

Withdraw the tubing from the compartment. Remove the bottle from the vacuum pump and secure the cap on the bottle. Then place the bottle with the completed label into the shipping cylinder.



USING A SEPARATE PUMP FOR COOLANT SAMPLES

Do not use the vacuum pump used to extract oil samples to take engine coolant samples. Although the fluid does not enter the barrel of the pump, glycol residue from a coolant sample can cause a “false positive” in oil samples taken later with the same pump. Designate a separate pump for coolant samples.

MAKING S•O•S SAMPLING EASIER

Install oil sampling valves
Most current Cat® engines and machine models are equipped with sample valves for pressurized oil compartments. Some engines and machines may not have these valves, but it is easy and inexpensive to add them. It is important to install valves in the correct location in each system and to avoid contaminating the system during installation. We can help you with specific installation procedures.

Use a tube cutting device
Cutting tubing with a pocket knife is difficult—and it allows particles that can contaminate your sample into the tubing. To avoid these problems, we recommend the Tube Cutter (1U7648), which allows you to make a quick, clean cut with just one hand. Replacement blades (1U8589) for the Tube Cutter are also available.

Keep sampling supplies clean
Keep new, empty oil bottles capped and store bottles and tubing in dust-free plastic bags. The vacuum pump and brass valve probe should also be protected from dust. If you feel a sample is contaminated, discard it and take another.