

SAMPLING INSTRUCTIONS

DRAIN PLUG SAMPLING

FLUID CONDITION MONITORING

Drain-port sampling provides insights into the condition and overall health of components in operation. This form of sampling is an effective practice to assess equipment and lubricant condition, improve equipment reliability, and minimize the risks of unplanned downtime. Figure 1.1 represents the location of the drain plug in reference to the sample point.

SAMPLING MATERIALS REQUIRED

- (1) Clean sample bottle
- (1) Container for the collection of flushing fluid
- (1) Bottle label / Sample form

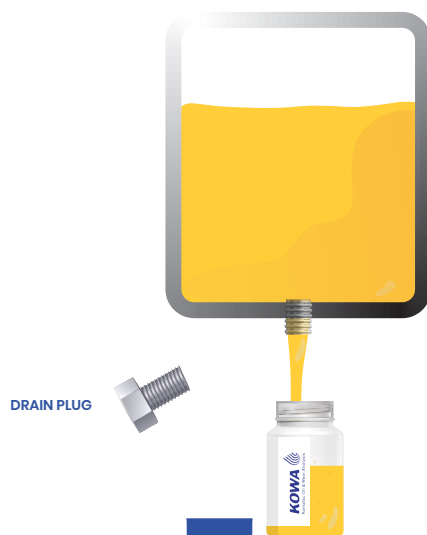


Figure 1.1 - representation of the location of the drain plug in reference to the sample point.

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STEP 1: In order to obtain oil samples representative of actual machine and lubricant operating conditions, samples should be taken at regularly scheduled intervals under normal operating conditions or within 30 minutes of shutdown. This allows for both accurate trend analysis and the proper evaluation of any change in lubricant and component condition as wear particles and contaminants will remain thoroughly mixed and suspended in the oil sample.

STEP 2: Using the sample documentation, please take the time to notate if the sample was not drawn at regularly scheduled intervals or within 30 minutes of shutdown.

STEP 3: Ensure the lube indicator is at the required level prior to sampling.

STEP 4: Ensure that lubrication starvation is avoided by observing the lube level indicator at the moment of drawing the sample.

STEP 5: Remove the drain plug

STEP 6: Flush the plug with a volume of approximately 5 to 10 times the unfilled volume space visible in the stem into a disposal bottle.

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STEP 7: Remove the lid from the sample bottle in a manner that does not touch the inner side of the lid or the interior of the bottle. Please remove the lid only when the sample bottle is ready to be filled by the sample drawn.

STEP 8: Verify that the drain plug is tightly secured to ensure a leak free seal is created.

STEP 9: Dispose the flushing fluid properly. Never reintroduce it back into the machine.

STEP 10: Complete the sample form and sample label information. Please report if the sample was drawn in cold, describe atypical conditions, include equipment ID numbers and indicate supply test point locations.

STEP 11: Remove the barcode label from your sample information form and adhere it to the the sample bottle.

STEP 12: Pack your sample jar(s) into the proper sized box, plastic envelope, or hard plastic mailer. Apply the shipping label to your package and ensure that your return address and the laboratory address are written legibly. Ship your samples!

STEP 13: Review sample results immediately, implement corrective actions, and review maintenance recommendations without delay. Sample reports and real-time oil analysis data can be accessed by downloading the LOAMS Mobile App or by visiting www.kowaonline.net on your desktop computer.

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Our Bureau Veritas oil analysis laboratories offer all the sampling supplies required to collect oil samples including:

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- Vacuum Pumps & Tubing
- Sample Ports
- Pre-Paid Return Mailers
- Bar Code Scanners

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