Schroeder Tech NOTES

Recommended Practices For Taking Oil Samples From a Hydraulic Reservoir

The following is an excerpt from "Method for Extracting Fluid Samples for a Reservoir of an Operating Hydraulic Fluid Power System". (ANSI/B93.44-1978)

Purpose:

To obtain reservoir samples representative of the particulate contaminant at the point of sampling.

Equipment and Supplies:

NOTE: Use only materials compatible with the fluid sample.

1.) Use sample bottles having a contaminant level at least two decades lower than the expected sample as qualified per the American National Standard Procedure for Qualifying and Controlling Cleaning Methods for Hydraulic Fluid Power Fluid Sample Containers, ANSI/B93.20-1972. See below for availability. (NFPA/T.2.9.2-1972, ISO 3722-1976)

2.) Use lint-free cloths, free of visible dirt.

3.) Use a device to permit withdrawal of a sample. (See figure)

4.) Provide lengths of tubing.

Sampling Procedure:

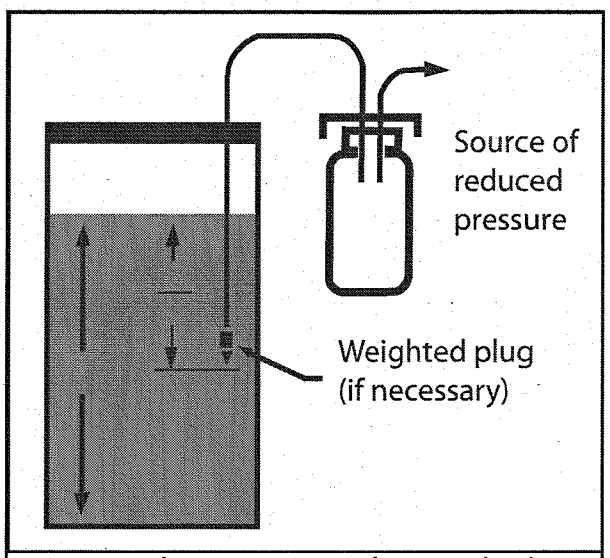
1.) Find a convenient opening above the fluid level in the reservoir through which the sampling tube can enter.

2.) Determine the approximate distance D/2 as shown to establish the depth of the reservoir sampling tube.

3.) Place a reference mark on the sampling tube at a point corresponding to the length of the tubing needed to reach D/2 from the opening through which the sampling tube will enter.

4.) Use lint-free cloth to clean all surfaces which could contribute contaminant to the fluid sample.

5.) Operate the hydraulic circuits to help diffuse particulate contaminant as evenly as possible throughout the reservoir.



Typical reservoir sampling method

NOTE: When a procedure to diffuse particulate contaminant has been established for a particular system, maintain that procedure for all similar systems. If a sample representing normal operating conditions is desired, do not operate the hydraulic circuits for prolonged periods in an artificially clean environment.

6.) Insert the sampling tube into the reservoir to the reference mark immediately after the contaminant in the reservoir has been diffused per point 5.
NOTE: It may be necessary to weight the end of the tubing to help it to be positioned at the desired level.

7.) Flush sampling tube with reservoir fluid equal to approximately five times the internal volume of the sampling line. Do not use flushing fluid or flushing bottle to obtain fluid sample per point 8.

8.) Withdraw a fluid sample from the reservoir into a clean sample bottle. Fill sample bottle to not more than 75 percent nor less than 50 percent of the sample bottle volume.

9.) Remove sample bottle and recap immediately.

NOTE: Hours of operation immediately prior to sampling is vehicle or system running time per point 5.