Reduce costs from the inside out

S·O·S™ Fluid Analysis
for Cat® Commercial Engines
Maintaining your Cat Commercial Engines is one of your top priorities. Whether the engine is in a Cat Gen Set, a commercial or industrial application, or a marine application, a good place to start is with S·O·S fluid analysis from your Cat Dealer. It’s the fastest, most accurate, most reliable way to see what’s going on inside any Cat Commercial Engine. S·O·S oil analysis and S·O·S coolant analysis are important steps toward increased productivity, fewer serious repairs, less downtime and lower operating costs.

**Minimize operating costs.**

S·O·S fluid analysis is one of the most useful and important maintenance support programs available.

- Detects problems early, avoiding shut-downs and unplanned repairs.
- Helps you schedule downtime to fit workloads.
- Monitors positives and negatives, so you won’t have to pay for unnecessary repairs.
- Allows you to monitor routine maintenance schedules.
- Documents engine service history, which is invaluable when evaluating performance and planning replacement purchases.

**Customized maintenance plans.**

We can help you develop a plan uniquely suited to your operation, taking into consideration the models of Cat Commercial Engines you operate and your current maintenance practices. S·O·S fluid analysis can also be used for engines manufactured by other companies.

**Manage maintenance, maximize value.**

S·O·S analysis is inexpensive, quick, and easy to perform, yet it can result in substantial overall savings. By combining S·O·S analysis with the higher performance standards of Cat Fluids and Filters, you form the foundation of the best possible preventive maintenance program. In the bottom-line analysis, you’ll get more work done at a lower cost while protecting the value of your engine investment.
A complete fluid management program.

Using sophisticated analytical technology, our technicians perform a variety of procedures to determine if engine oil and coolant are protecting your engines properly. In addition, they will compare and interpret test data, reference engineering data and factory service publications, and study engine history, maintenance and repair records. Your S-O-S interpreter can also access Caterpillar technical and engineering information, something other fluid analysis services cannot provide.

You can take samples yourself using supplies and instructions we provide, or we can do it for you as part of a Customer Support Agreement. Results and recommendations are usually available in a written report within 24 hours of receipt of sample.

**S-O-S Oil Analysis**

Following are the tests typically included in the S-O-S oil analysis program. Additional tests can be performed if necessary.

- **Wear Rate Analysis** monitors component wear by detecting, identifying and assessing the amount and type of metal wear elements in the oil. The rate at which wear metal particles increase from sample to sample is as important as the quantity. Regular sampling at specified intervals helps establish wear rate trends for rings (chromium), liners (iron) and bearings (copper/zinc).

- **Oil Cleanliness Analysis** uses a Particle Count test to detect metallic and non-metallic debris from wear and outside sources. This test can detect potential failures not identified by Wear Rate Analysis alone.

- **Oil Contamination Analysis** detects silicon (which indicates dirt entry) using a spectrometer. Additional tests are conducted for contamination by fuel, water and coolant.

- **Oil Condition Analysis** uses an infrared instrument to measure loss of the oil's lubricating properties. Technicians can then determine how much the oil has deteriorated during use due to oxidation or nitration, and verify that the oil is performing up to specification.

**S-O-S Coolant Analysis**

S-O-S coolant analysis is a two-level program that checks the condition of your coolant and determines the overall condition of the cooling system. It can also identify problems with maintenance procedures and operational practices.

- **Level 1: Basic Coolant Maintenance Check For DEAC** looks at general system condition and determines whether your coolant has the right chemical balance for proper heat and corrosion control.

- **Level II: Comprehensive Cooling System Analysis For DEAC and ELC** is an extensive evaluation of the coolant and its effects on the inside of your cooling system. This series of tests can identify subtle cooling system problems, determine probable causes, and help in planning corrections.
A clear plan of action.

S-O-S analysis results are presented in a clear, concise, easy-to-understand report that calls for specific, immediate action and/or makes carefully outlined recommendations. We’re always available to answer questions or discuss report specifics. If a critical situation is identified, you will be notified immediately.
Spotting a sudden increase or decrease in a fluid component, wear metal or chemical compound can be as important as measuring the quantity. Trend Analysis Module (TAM) is a Windows-based computer application that lets you record, organize and display S·O·S analysis results to your specifications. You’re able to spot trends quicker, take corrective action faster and prevent costly repairs.

Instead of organizing S·O·S reports and performing calculations manually, you direct TAM to automatically analyze data to your specifications. As a result, information is easier to understand and more useful in your preventive maintenance program. Test results can be automatically downloaded from our lab to your computer, or results can be mailed to you on disk. A written report can also be provided.
Caterpillar builds commercial engines to deliver the highest possible performance for the life of the engine. Maintenance is essential to achieving that performance, and S·O·S analysis is a good first step. Call us for information on complete preventive maintenance products, programs and Customer Support Agreements.

**Cat Fluids:** Formulated to provide new standards in performance and life.

**Cat Fluid Filters:** System-engineered for optimal performance and protection.

**S·O·S Analysis:** The ultimate detection and diagnostic tool for Caterpillar equipment.

**Maintenance Software:** Trend Analysis Module (TAM) for S·O·S results, Maintenance Control Systems (MCS) for scheduling and recordkeeping, and Preventive Maintenance Planner (PMP) for comprehensive maintenance checklists.