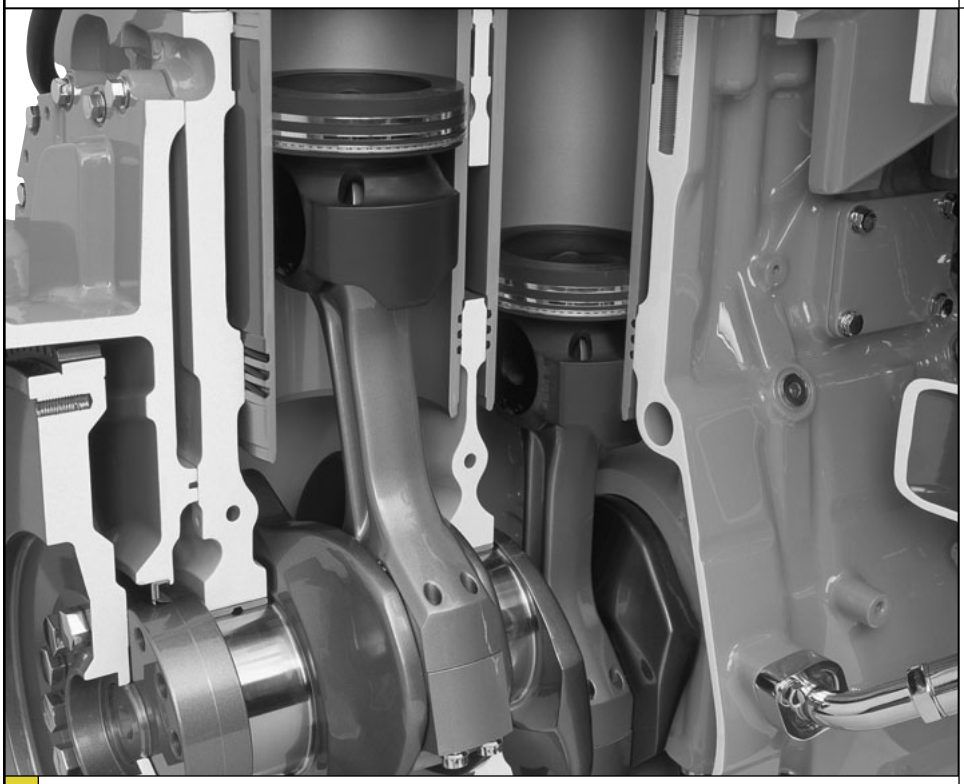
Your Engine Management Guide

Management Guide

Caterpillar. The difference counts.™



Your engine plays a major role in equipment operation. To keep productivity up and owning and operating costs down, you need to understand the two types of engine wear. Normal wear is expected and predictable. Abnormal wear may be the result of improper maintenance or operating techniques, and it can adversely affect your productivity and your operating costs.

The Engine Management Guide allows you to plan for and predict normal wear and avoid abnormal wear. It will help you and your operators manage your engine by:

- outlining preventive maintenance techniques.
- explaining the importance of S·O·S℠ fluid analysis.
- providing routine and in-depth inspection information.
- exploring repair management options.
- detailing training, scheduling, and record-keeping procedures.

The Engine Management Guide will help you lower your costs by highlighting how we work with you to manage and maintain your engine effectively—for maximum productivity and life.

CATERPILLAR®

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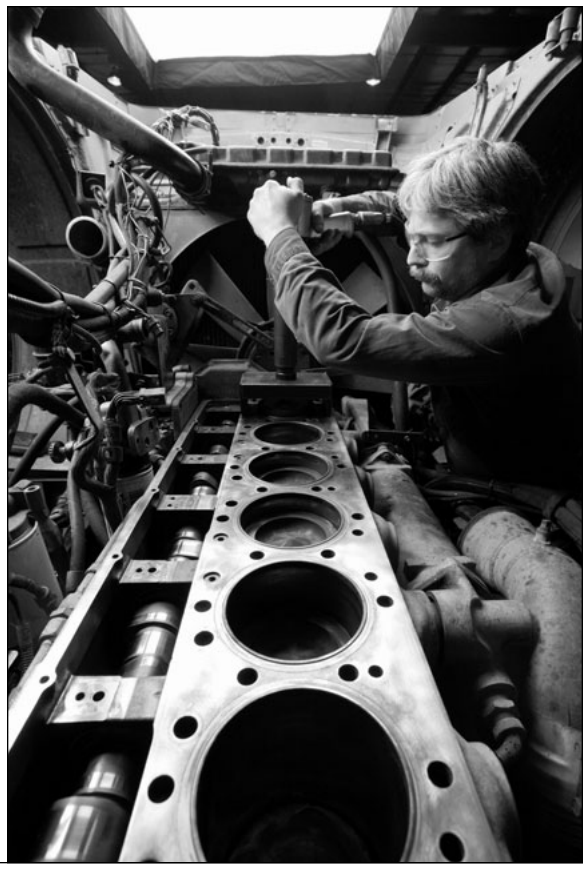


Introduction

Manage and maintain your engine

Caterpillar designs and manufactures engines to deliver unmatched performance and long life, which ultimately increases engine productivity and lowers your owning and operating costs. Improper maintenance and operating techniques, however, can adversely affect engine life, productivity, and profits.

The Engine Management Guide will help you properly manage and maintain your engine by highlighting the five stages of equipment management and outlining the seven elements of effective engine management: preventive maintenance, S·O·S fluid analysis, inspections, repair management, training, scheduling, and record keeping.

The Engine Management Guide offers information, tips, and ideas you can share with your staff. It is not a technical manual or a substitute for the advice and recommendations of our parts and service experts. You can find specific engine maintenance requirements in service publication SEBU6250.

Lower your costs with a Customer Support Agreement

Another way we can help you manage and maintain your engine—or your entire fleet of Caterpillar® equipment—is with a Customer Support Agreement. CSAs are flexible agreements that enable you to focus on and grow your business, while we focus on maintaining your equipment and providing comprehensive service and support.

We'll work with you to customize a CSA that meets your specific needs. Following are a few of the more common CSA options.

- Preventive Maintenance Agreements include on-site services performed to factory specifications.
- Custom Hydraulic Service includes contamination control, S·O·S fluid analysis, and technical inspections.
- Total Maintenance and Repair provides all maintenance and repair for a guaranteed cost per hour for a specified period of time.

Five Stages of Equipment Management

Make the right decisions at the right time for your operation

Even before you put your Cat® machine and engine into operation, you make important decisions that affect your long-term profitability. Using Caterpillar's five-stage equipment management system, we can provide the consultations, products, services, and computer programs that help you make the right choices at the right time for your operation. This comprehensive system helps you get more and better performance from your equipment—and keep your operation running at maximum profitability.

Understand the five stages

1 Selection

Choosing the right equipment requires understanding the work to be done. We can help you find the Cat machines and engines that meet your specific needs.

2 Acquisition

We can help you decide if buying, leasing, or renting is the right choice for you.

3 Operation

The way you operate and manage your equipment determines how you achieve the highest productivity.

4 Maintenance

Proper maintenance is vital in achieving the lowest cost per hour.

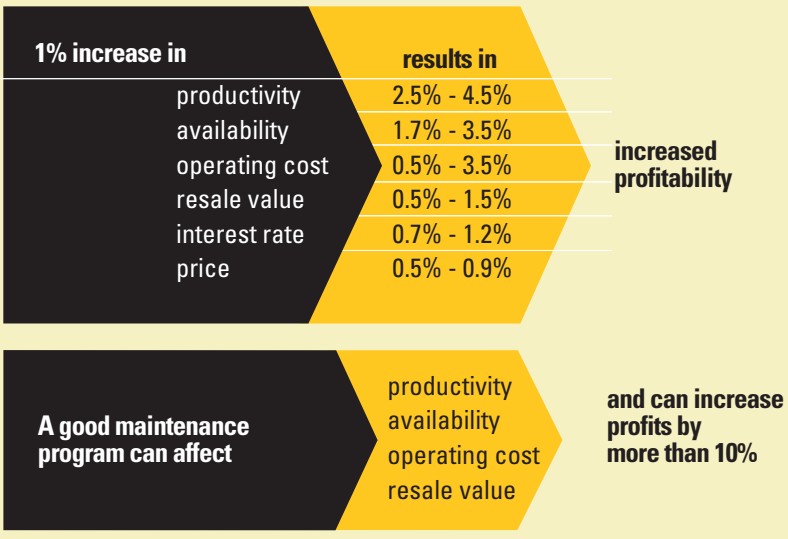
5 Replacement

We can help you determine if your Cat machine or engine should be repaired or replaced.

Focus on stage four—Maintenance

Of the five stages, the fourth—maintenance—has the greatest impact on your profits over time. An effective maintenance program lengthens machine life, keeps equipment running productively, increases resale value, and allows you to schedule service and repair. A comprehensive, consistent maintenance program can help you maximize uptime and machine availability—and in the process, increase your bottom line.

Effects of maintenance on total life-cycle costs



Data acquired from the Equipment Investment Analysis Program

Seven Elements of Engine Management

Include all seven elements in your management program

Preventive maintenance

Preventive maintenance includes techniques that help you keep small problems from becoming major repairs. (Always refer to your operation and maintenance manual for recommended maintenance and intervals.)

S·O·S fluid analysis

S·O·S fluid analysis is the best way for you to monitor what is happening inside your engine. It consists of tests that enable you to forecast wear-related problems.

Inspections

Inspections combine your daily walkaround checks and our periodic technical analyses. They allow you to detect potential problems and impending failures, so you can schedule maintenance and repairs.

Repair management

Repair management helps you select before-failure and after-failure repair options and control repair costs. It allows you to plan and schedule repairs, getting your machines back to work quickly and reliably.

Training

Our training assistance helps you improve the maintenance practices of your staff. It reduces the chance of failures caused by faulty maintenance and helps you lower your owning and operating costs.

Scheduling

A good scheduling system ensures that maintenance, inspections, and planned repairs are done on time. It helps you prevent the failures caused by overlooked maintenance.

Record keeping

Record keeping consists of full documentation on machine history, component life, and cost information. It helps you identify high-cost or problem areas, track work flow, control costs, and increase machine resale value.

Preventive Maintenance

Clean, cool, and lubricate engine parts with proper oil use

Engine oil performs three main functions: cleaning, cooling, and lubricating engine parts.

- Engine oil cleans parts by carrying away damaging metal particles and deposits.
- Engine oil cools parts by absorbing and carrying away heat.
- Engine oil lubricates parts by forming a thin film to support and separate them.

To ensure your engine oil correctly performs these functions, it is important to change the oil regularly and properly and to select the right engine oil.

Change oil regularly

When fluids are pushed beyond recommended change periods, contaminants develop, causing oil to break down. These contaminants embed themselves in bearing surfaces and other moving parts to cause wear.

To avoid contamination, we recommend that you change oil every 250 and/or 500 hours. (Check the maintenance manual for specific information about your machine.) That is just a guideline, however, because actual oil life is determined by many factors—including operating conditions. By monitoring S·O·S results, we'll help you determine if the recommended interval is right for your engine.

Proper intervals will also help you optimize the lubricating and protecting properties of oil and maximize component life. Change oil too early, and you waste money by throwing away useful life. Change oil too late, and you risk incurring even greater costs through shortened component life.

Change oil properly

It's also important to change oil properly. You can reduce the chance of contamination during oil change by:

- draining when oil is warm and agitated.
- draining dirty oil as completely as possible.
- using a filtered transfer cart to add new oil.

Select the right oil

High-quality engine oils provide maximum protection and life for today's low-emission, high-performance engines. Using an inadequate oil means vital engine parts aren't protected, which can result in unnecessary wear. To avoid these problems, Caterpillar engine oil has been developed and tested in order to provide the full performance and service life that has been designed and built into Caterpillar engines.

Using Caterpillar oil is the safest way to ensure top engine performance. We can help you determine the right oil for your Cat engines, or you can refer to service publication SEBU6250.

Engine wear and failure causes

Problems in the lube system can cause accelerated abrasive wear or catastrophic failure of core engine components. The common causes of engine wear and failure are:

- excessive soot in the oil.
- poor quality/low performance engine oil.
- extended oil change intervals.
- poor maintenance practices.
- fuel dilution.

Regular preventive maintenance is the most cost-effective way to keep your engine operating at peak performance. Preventive maintenance:

- allows you to schedule downtime and plan for maintenance and repair costs.
- helps prevent major failures and failures of related parts.
- saves you money because you can often repair before failure.
- maximizes parts reusability.
- optimizes equipment life to keep your machines on the job.
- increases machine resale value.

Control contamination with proper filter use

Air, oil, and fuel filters are designed to control contamination inside your engine. By changing filters regularly and properly and by selecting the right filters, you can maintain engine cleanliness and reduce component wear.

Change filters regularly

Air filters should be changed at least once a year, although some applications require more frequent changes. The Air Filter Service Indicator will help you determine the most accurate period. This easy-to-read indicator shows progressive air restriction caused by dust and soot build-up. By glancing at the indicator, you can tell how much filter life is used and how much remains.

Refer to the Operation and Maintenance Manual (OMM) for your machine or engine for the recommended change interval.

Change filters properly

Old filters contain contaminants, so it's important to remove them carefully at change time. Proper removal ensures contaminants do not reenter engine oil or fuel. You should also keep new filters in their packaging until you are ready to install them. The packaging will help keep them free of contaminants. It is also important not to prefill fuel filters.

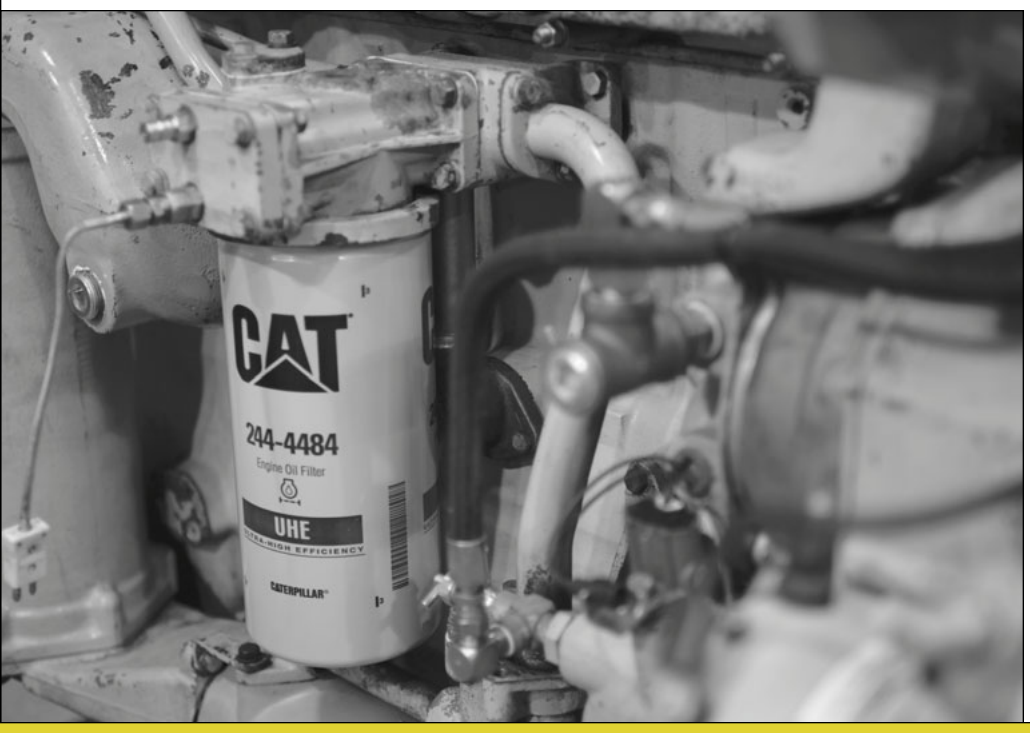
Select the right filters

Air filters—Inadequate filtration can reduce horsepower, rob performance, and ultimately damage your engine. Most Cat air filters feature a radial seal design that prevents dirt, soot, sand, and other contaminants from entering your engine. Plus, the quick change element enables you to change your filter and get your machine back to work fast.

Cat Ultra High Efficiency Filters are designed for environments filled with fine dust, soot, or both and can last two to four times longer than standard filters in these conditions.

Oil filters—Quality oil filters work in unison with fluids to provide the highest levels of filtration cleanliness, performance, and protection. Cat oil filters are manufactured to meet the most demanding specifications, providing increased performance and lower costs.

Fuel filters—Fuel filters prevent fuel system wear caused by dirt in fuel. Cat High Efficiency Fuel Filters feature special media that trap even very fine particles. They are essential to maximizing fuel injector and fuel pump life and prevent hard starting caused by premature injector wear.



Reduce the chance of cooling system problems

The cooling system maintains correct engine temperatures by taking away unwanted heat generated by combustion and friction. Over 40% of engine failures are caused or aggravated by cooling system problems, so properly maintaining your cooling system and selecting the right coolant can significantly reduce the chance of engine problems.

Maintain the cooling system properly

Overheating and overcooling can cause excessive wear and engine failure, so it is important to recognize and react quickly to indicators of each.

Signs that your engine may be overheating include S·O·S fluid analysis results that indicate high-wear metals and oxidation or high temperature gauge or label readings. Signs that your engine may be overcooling include a lack of heat in the cab, S·O·S fluid analysis results that indicate high-wear metals and no oxidation, or low temperature label readings.

To avoid overheating and overcooling, always use proper start-up procedures —never start operating until the engine has reached the correct temperature.

To avoid other cooling system problems, remember to clean debris from the radiator and fan, check the radiator cap seal to ensure the rubber seal is in good condition, and inspect the water pump daily for dripping coolant or oil.

Select the right coolant

Cat Extended Life Coolant helps prevent overheating, overcooling, and other cooling system problems and lasts twice as long as traditional coolant. It also eliminates the need for supplemental coolant additives, resulting in as much as a 45% reduction in engine coolant maintenance costs.

Cooling system wear and failure causes

Problems in the cooling system can cause accelerated erosion or catastrophic damage to the core engine components. The single most common problem is poor coolant quality, which causes accelerated cavitation erosion of cylinder liners, corrosion and failure of waste pump seals.

Poor coolant quality is due to:

- Not maintaining adequate levels of coolant additives.
- Using coolant that does not meet Caterpillar's minimum recommendations.
- Not keeping the cooling system topped off.
- Using coolant past its useful life.

Engine Fuel Systems

The fuel system is the most sophisticated, expensive and critical of all engine systems. Engine performance, economy and durability depend on proper performance of the fuel system. Keeping fuel clean and using high quality, high efficiency fuel filters will allow the fuel system components to perform properly until the engine reaches overhaul life.

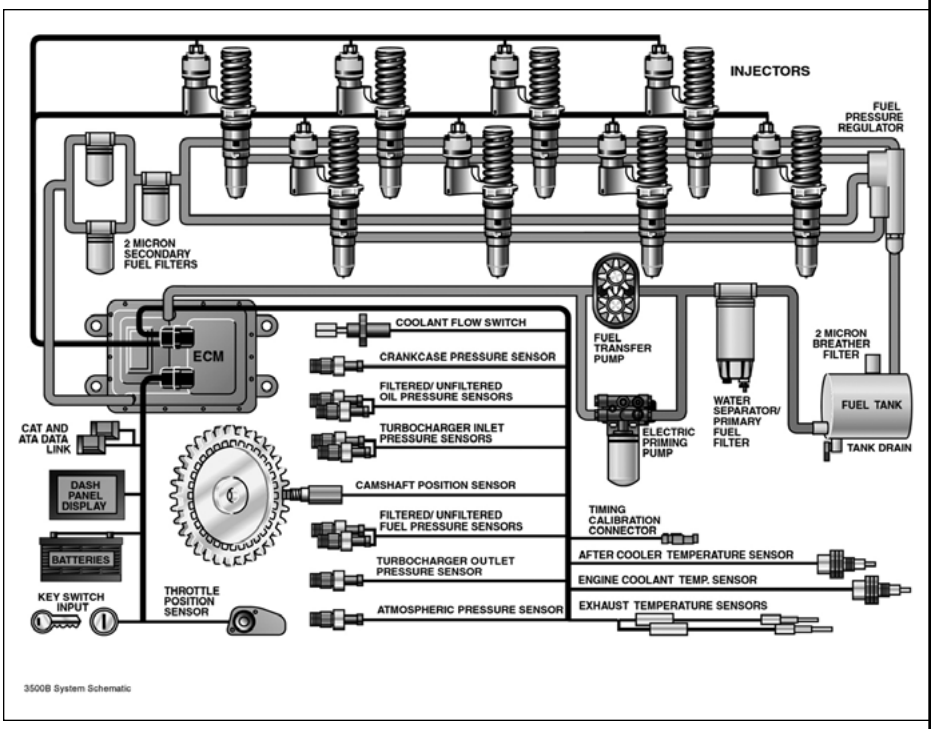
Engine fuel system wear and failure causes

Fuel system problems are largely confined to accelerated abrasive wear or seizure of unit injectors. Injector seizure may also result in contingent damage to valve train components. The single largest problem is:

- Short unit injector life due to excessive abrasive particles in the fuel.
    - Microscopic abrasive particles damage surfaces in the injector, causing internal leakage of high pressure fuel and low engine power
- Abrasive particles are inherent in most fuels. Some fuels have very large amounts of abrasives
- Most abrasive contaminants can be removed by using high efficiency secondary fuel filters and installing new filters before plugging occurs

Other problems which can damage unit injectors include:

- injector seizure due to excess water in the fuel.
- injector sticking or seizure due to fuel overheating.
- poor quality fuel.



S·O·S Fluid Analysis

Understand S·O·S fluid analysis

S·O·S analysis is the most comprehensive oil monitoring program available for your Cat engine. By monitoring your engine and forecasting wear-related problems, it helps you avoid unnecessary repairs and reduce downtime. Each S·O·S fluid analysis test provides these specific types of analysis.

- Oil condition analysis uses infrared technology to compare the lubricating properties of your used oil to those of the same oil when new. We use this technique to ensure lubricating properties remain optimal throughout the oil change period.
- Wear metal analysis detects, identifies, and quantifies the amount and type of wear elements found in oil.
- Physical tests detect the presence of contamination by fluids like water, fuel, and antifreeze. If undetected, these contaminants can cause rapid failure.

While other fluid analysis programs focus only on oil condition, the S·O·S program also focuses on component condition. Since we understand your Cat engine, we can help you more accurately interpret and react to the results.

Inspections

Locate potential problems with thorough inspections

A good inspection program combines your daily inspections with our periodic in-depth analysis. These inspections allow you to:

- locate potential problems before they lead to major repairs.
- schedule engine maintenance and repairs.
- plan and control your operating costs and downtime.

Perform regular inspections

Your daily visual inspection routine should include a complete visual and operational check of your engine. Cat engines generally indicate problems with advanced warning signs, such as excess smoke, loss of power, hard starting, and overheating. It is important that you and your staff recognize and understand these repair indicators.

We can help you with these inspections by:

- providing customized machine checklists.
- training your operators to perform daily walkaround inspections.
- teaching your operators to recognize repair indicators (see chart on pages 12-13).

Utilize our inspection services

We offer a number of diagnostic and repair services to help you understand engine warning signs and make informed repair decisions.

- The Technical Analysis Inspection program (TA) is a proactive evaluation of the health and condition of all engine systems. The TA is made of two sub-components, the TA1 and TA2.
  - TA1: Visual/Walk-Around Inspection conducted by a PSSR or Service Technician
  - TA2: Detailed Engine Inspection conducted by a dedicated inspector or Service Technician
- Component Inspection/Repair is a critical step when inspections show the need to repair or replace a component, such as a water pump, starter, or turbocharger. We can often remanufacture the component to get your engine back to work quickly at a low cost.

Follow an inspection schedule

- Service meter hours provide the best way to structure checks and inspections. These scheduled checks can help you identify potential problems before they become serious. Do not, however, substitute these checks for the specific information located in the operation and maintenance manual for each machine model.

Inspections

Recognize repair indicators

Indicator	Possible Causes	Options
S·O·S Fluid Analysis results	S·O·S Fluid Analysis is the single best indicator of internal engine wear and potential failure.	Customer/Dealer Discussion
S·O·S Coolant Analysis results	S·O·S Coolant Analysis ensures that coolant is protecting your engine from erosion and corrosion, as well as providing freezing and boil protection.	Customer/Dealer Discussion
Site Operations and Maintenance Advisor (SOMA)	Indicates estimated life to engine overhaul and how you can extend that time by changing operating and maintenance factors.	Customer/Dealer Discussion
Engine service meter hours	Service meter hours are a good indicator of when certain repairs are needed.	S·O·S Fluid Analysis Customer/Dealer Discussion
Excess black smoke at full load (hot, unburned fuel)	Dirty primary/secondary air cleaner Operating in too high a gear Overfueling Overloading	Technical Analysis Inspection Customer/Dealer Discussion Faulty turbocharger
Increased fuel consumption	Malfunctioning fuel nozzles/injectors Malfunctioning turbocharger Dirty air cleaner Improper set point Fuel leak	Technical Analysis Inspection Customer/Dealer Discussion Tune-up
Total fuel consumption	The gallons of fuel consumed by an engine can be an indicator of worn parts.	Customer/Dealer Discussion
Blue smoke (oil consumption)	Worn turbocharger seals Worn rings/liners Worn valve guides Hours on engine	S·O·S Fluid Analysis Component Inspection/Repair Repair Determination Inspection Customer/Dealer Discussion
White smoke (steam: water in combustion chamber)	Cracked head and/or liners Leaking head gasket	Technical Analysis Inspection
White smoke (on start-up: unburned fuel)	Incorrect starting procedure Incorrect fuel injection timing Faulty injector Low quality fuel	Customer Dealer Discussion Tune-up

Indicator	Possible Causes	Options
Increased oil consumption (excess blow-by)	Worn or broken rings/liners Worn turbocharger seals Worn valve guides Hours on engine	S·O·S Fluid Analysis Component Inspection/Repair Repair Determination Inspection Technical Analysis Inspection Customer/Dealer Discussion
Unusual noises	Malfunctioning fuel nozzles/injectors Malfunctioning turbocharger Worn piston pin bushings Worn rod/main bearings Too much valve lash	Technical Analysis Inspection Repair Determination Inspection Component Inspection/Repair Customer/Dealer Discussion Tune-up
Lack of power	Incorrect adjustment of governor linkage Malfunctioning fuel nozzles/injectors Slipping torque converter Improper set point Dirty fuel filter Dirty air cleaner Low quality fuel	Technical Analysis Inspection Customer/Dealer Discussion Tune-up
Overheating	Malfunctioning temperature regulators Incorrect adjustment or worn belts/pulleys Incorrect operator technique Plugged radiator core *(external and internal)* Low coolant level Dirty air cleaner	Technical Analysis Inspection Customer/Dealer Discussion Cooling System Maintenance
Hard starting (engine missing)	Malfunctioning fuel nozzles/injectors Improper starting technique Worn fuel injector pump Slipping torque converter Low cranking speed Low quality fuel *(low cetane rating or water in fuel)*	Customer/Dealer Discussion Tune-up
Oil level over full	Coolant/fuel leak into crankcase Improper oil fill	S·O·S Fluid Analysis Customer/Dealer Discussion
Debris in oil filter	Coolant/fuel leakage into crankcase Extended oil change period Damaged bearings Incorrect oil use Dirty entry	S·O·S Fluid Analysis Customer/Dealer Discussion

Repair Management

Control costs and downtime with repair management options

Preventive maintenance, S·O·S fluid analysis, and regular, thorough inspections help you catch problems in their earliest stages. With a good engine management program that includes these three steps, you can make informed decisions about repairs—optimizing repair timing and minimizing repair costs.

Repair management helps you control repair costs and downtime by giving you options at the time of repair. To take advantage of repair management, you must respond to repair indicators quickly—so you can repair before failure.

Respond to repair indicators quickly

Cat engines are built to help you avoid costly failure. Certain components are designed to wear, and your engine will indicate when they need replacement. By responding quickly to these repair indicators (see chart on pages 12-13), you can choose before-failure repair options and replace worn components before they cause major damage.

Site Operations and Maintenance Advisor

Site Operations and Maintenance Advisor (SOMA) is a computer based application developed to help Cat Dealers access their Customer's Site Operations and Maintenance practices.

In addition to assessment, SOMA performs component life analysis, estimating how long machines can be operated before major components require preventive repairs.

SOMA's primary purpose is to illustrate the importance of good maintenance and operating practices for customers. Users accomplish this by performing a gap analysis of the customer's capabilities, a process which involves two steps: First, the user evaluates and rates the severity of conditions at a particular customer site (load factors). And second, the user evaluates and rates the maintenance and operating practices that the equipment is subjected to.

Contact our parts and service professionals to schedule a

Maintain the three levels of Cat parts

Cat engine components are built tough to provide maximum durability and extended life—and many are designed for multiple lives. (Components fall into the three levels shown at the right.)

Following proper engine management guidelines helps you get maximum life from all of your Cat engine parts. By properly maintaining Level I parts, you can help prevent more severe and expensive damage to Level II and Level III parts.

Level I parts

Piston rings
Main and rod bearings
Valve guides
Turbocharger cartridge

These parts wear the fastest and are not designed to be reused—but in most cases, they're also the least costly to replace.

Level II parts

Pistons
Liners
Valves
Camshafts

These parts wear more slowly than Level I parts and can be reused if they're properly maintained during their "first life." However, if Level I parts fail, Level II parts may not be reusable.

Level III parts

Engine blocks
Cylinder heads
Crankshafts
Connecting rods

These parts are designed to last your engine's entire life. They're also the most expensive parts to replace. However, if you follow proper maintenance and repair practices, you should never have to replace Level III parts.

Repair Management

Control repair expenses with engine electronics management

Engine electronics offer performance, power, serviceability, fuel economy, emissions control, and durability not possible with most mechanically controlled engines. They also help you control engine repair expenses.

Electronic Control Module (ECM)

Caterpillar's Electronic Control Module (ECM) and sensors control and monitor key engine functions, including:

- fuel temperature.
- engine oil temperature.
- oil pressure.
- atmospheric pressure.
- coolant temperature.
- injection actuation pressure.

Sensors relay messages about these engine functions to the ECM, which analyzes the data and adjusts engine operation to optimize power and economy. The results are increased fuel savings and productivity.

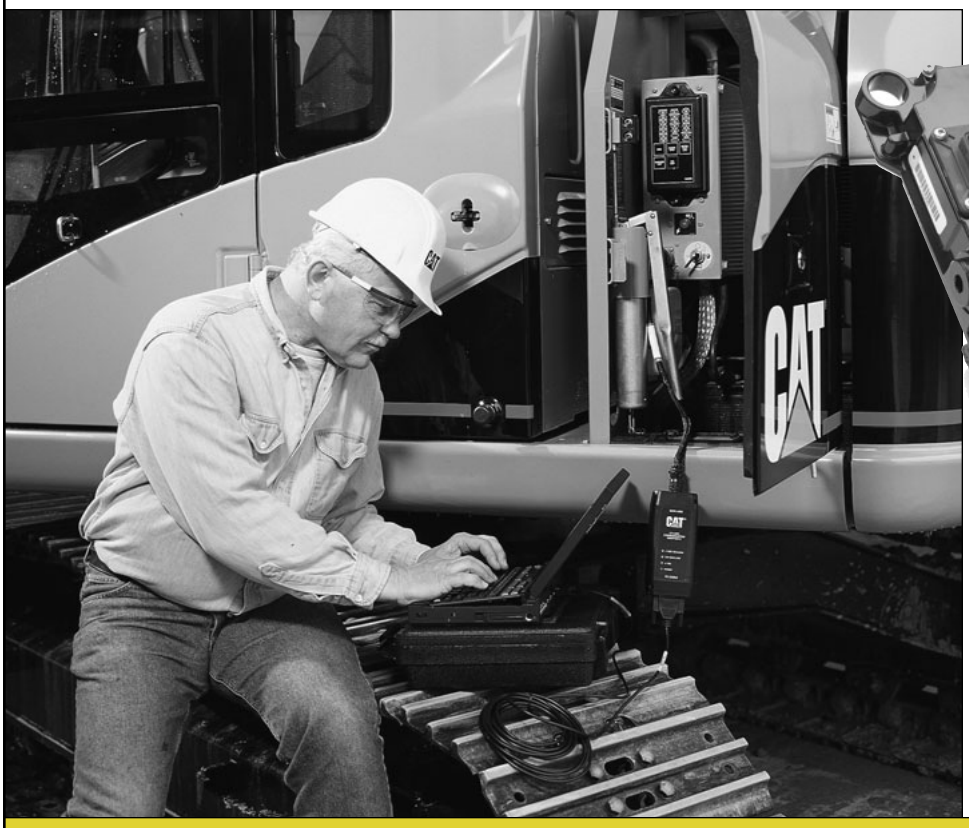
Electronic Technician (ET)

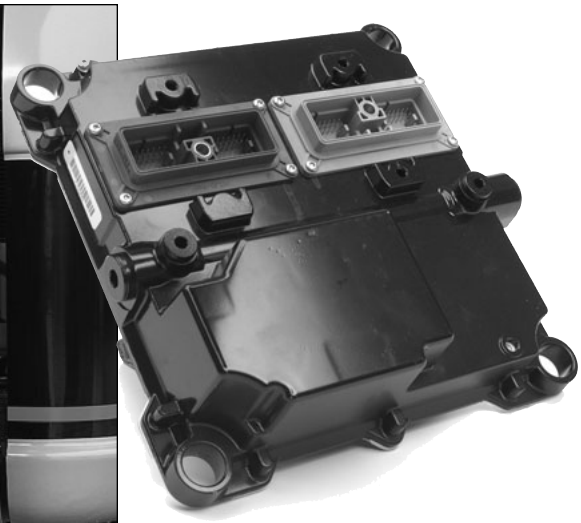
Engine electronics also help prevent expensive failures by alerting your operators to abnormal operating conditions. We can use the Electronic Technician (ET) to read engine "faults," enabling you to repair before failure and helping you get your machine up and running as quickly as possible.

Managing your engine involves troubleshooting potential problems. To troubleshoot electronic problems, it is important to:

- eliminate all other potential problems first (more often than not, performance problems are caused by something other than computer system electronics).
- begin with a preliminary inspection for signs of obvious trouble, such as part damage, loose connections, and broken wires.
- use the Electronic Technician to study conditions before failure.
- look at diagnostic codes, which direct attention to service requirement areas for ease of maintenance and repair.

We offer a variety of services and expertise to help you get the most from your engine and its electronics.





Repair before failure to save time and money

Before-failure repairs can get your engine back to work sooner and cost as little as one-fifth the price of after-failure repairs. In addition, repairing before failure:

- reduces damage or failure of related parts.
- allows you to schedule repairs at your convenience, minimizing downtime and work disruption.
- minimizes part replacement, because we can analyze individual components to determine reusable value.

Summary of wear and failure causes

Actual defects in the quality of core engine parts and components are seldom the root cause of accelerated wear or premature failure. The vast majority of problems are caused by:

- ***Poor Quality Oil***
  - Inexpensive new oil with inadequate oil additives
  - New oil that does not meet the minimum required performance standards
  - Extended oil change intervals which exceed the usable life of the oil
  - Oil contaminated with dirt or failure debris
  - Poor quality oil filters

- ***Other contributors to accelerated wear and failure include:***
  - Dirt ingestion
  - Poor filter element maintenance
  - Excessive valve lash
  - Lack of engine tune-ups
  - Engine overheat
  - Engine overspeed
  - Poor quality fuel
  - Poor quality fuel filter

All of these causes are directly related to operation and maintenance practices and are avoidable. Proper engine operation and high quality maintenance can virtually eliminate most causes of accelerated wear and failure.

After-failure repair options

Repairing before failure is the best way to reduce your downtime and costs. If your engine does fail, however, we can help you control costs and save time. We use Cat Parts Reusability Guidelines and replace only damaged components to keep replacement costs down. We can also rework parts or install Cat Exchange parts—Reman components that carry the same warranty as new Cat parts but cost much less.

Training, Scheduling, and Record Keeping

Lower costs with effective training, scheduling, and record keeping

Training, scheduling, and record keeping may be the most important elements of engine management because of their impact on other elements.

We offer a variety of training, scheduling, and record-keeping tools that will help you manage your engine and lower your costs.

Train your staff

An effective, ongoing training program ensures that your staff operates and maintains your engine properly. It will help you lower owning and operating costs by reducing the chance of engine failure caused by faulty maintenance practices.

We work with you to customize a training program for your operation by:

- making sure your operators know proper start-up and shut-down procedures.
- reviewing maintenance procedures to ensure your operators follow recommended lube and maintenance guidelines.
- teaching your operators how to recognize and react to repair indicators.
- demonstrating the correct method for taking S·O·S samples (oil and coolant).
- explaining proper oil, filter, and coolant change procedures.
- outlining daily walkaround inspections.

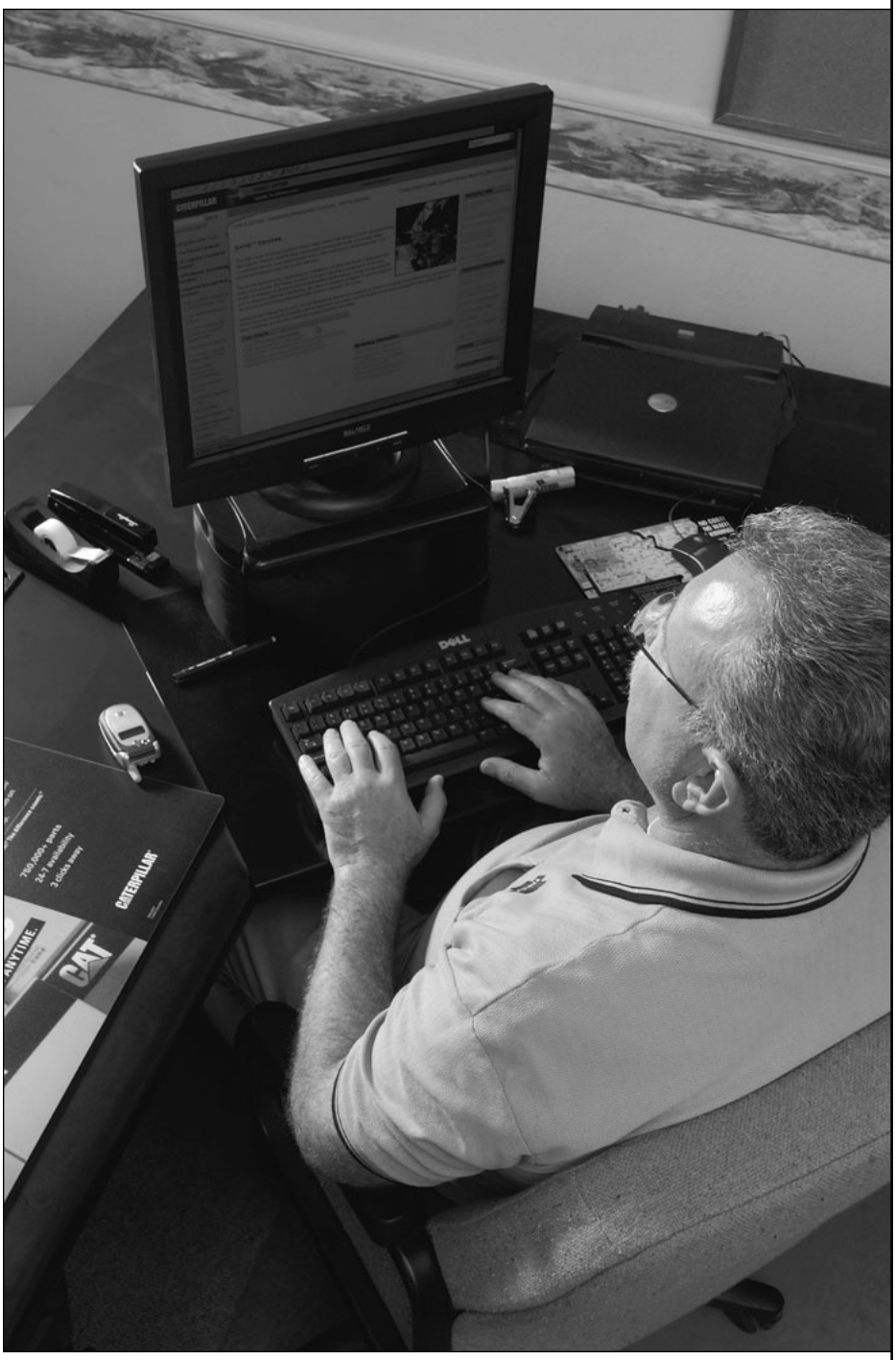
Scheduling and Record Keeping

Scheduling

Good scheduling means maintenance, inspections and planned repairs are done on time to prevent drive train failures caused by overlooked maintenance. You can also view S·O·S Oil Analysis results on-line by using Dealer StoreFront.

Record-keeping

By developing and accurate engine record-keeping system, you can identify high-cost or problem areas, track work flow, control costs and increase engine resale value. An accurate record-keeping system documents drive train history by detailing component life and cost information. We can help you set up manual record-keeping and work order systems, or we can help you install computer software programs to perform scheduling, checklists and other record-keeping functions.



Keys to Long Component Life

Clean lube oil

The use of poor quality/low performance oil, maintenance intervals which exceed the usable life of the oil, and excessive soot levels dramatically shorten engine life. Where it's use is permitted, the Oil Renewal System can keep soot within acceptable levels and extend oil change intervals to as much as 4,000 hours.

Good maintenance practices

Thorough inspection and problem correction during PM service is the best way to prevent emerging problems from causing damage. Correct problems identified by S·O·S or VIMS reports before they become failures. Insure repairs are performed correctly and in a quality manner. Perform regular inspections, tune-ups and adjustments.

Avoid abusive operation

Operating practices that cause engine overheating, overcooling or overspeed inevitably result in catastrophic damage or failure.

For more information, see us today.

Caterpillar. The difference counts.™

Cat Dealers define world-class product support. We offer you the right parts and service solutions, when and where you need them.

The Cat Dealer network of highly trained experts keeps your equipment up and running to maximize your equipment investments.

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