Caterpillar Magazine

Winter 2001

- Pilot controls for new BHL's
- Meeting the emissions challenge
- 988G production study
- 20,000th H-Series Motor Grader

CATERPILLAR®

VGN301SV

In this issue

3 News

The new D-Series backhoe loader line includes two high-spec models with low-effort pilot controls for the loader and backhoe.

4/5 Emissions Challenge

Caterpillar is meeting the forthcoming emissions regulations with a new range of electronically controlled engines. These engines offer increased performance, while having reduced noise levels and the lowest emissions levels ever.

7/8/9 Systems & Solutions

An independent production study has shown that the 988G is more productive and efficient than the earlier 988F Series II in typical loading and hauling applications.

10 Minerals 2002

Caterpillar is helping the recently formed European Minerals Foundation to show how minerals enhance the lives of the 650 million people that live in Europe.

12/13 Panorama

A Challenger 55 tractor has provided an innovative solution for a Belgian soil stabilisation project, and a 345B excavator is helping a Norwegian shipping company to shorten its loading and unloading times.

18 Customer Support

Customer Service Agreements are providing a UK aggregates company with an adaptable support package

19 Milestones

A French contractor has taken delivery of the 20,00th Cat H-Series motor grader.

CATERPILLAR®

Increased Backhoe Loader Offering

The new D-Series increases Caterpillar's offering in the backhoe loader market with five side-shift models designed to meet the needs of customers in Europe, Africa and the Middle East. These include the entry-level 424D and two high-spec models with low-effort pilot controls for the loader and backhoe.

Increasing product differentiation on the 432D and 442D, the new control layout comprises a multi-function loader control and excavator-style backhoe controls with pod mounted joysticks.

"This arrangement allows the backhoe controls to be moved independently of the seat, ensuring that the operator always remains in a comfortable and safe operating position, even during deep excavation jobs," says Paul Ross, product manager at Caterpillar (UK) Ltd. "It represents a significant advance in backhoe loader design and offers clear benefits over other BHL manufacturers."

The new backhoe loaders retain the proven C-Series design features, including a fuel-efficient Cat® diesel engine and a power-shuttle transmission that allows on-the-go speed and direction changes. An auto-shift transmission option with five forward gears and a useful kick-down facility allows operators to match gear ratios to road and site conditions for increased comfort and efficiency.

Backhoe performance is improved by a 10 percent increase in boom and stick forces (not on 424D); and a high rotation bucket linkage that improves the digging envelope. A 'narrow frame' backhoe option makes the 424D and 428D ideal for applications where space and access are limited. New longer life, self-lubricating wear pads reduce maintenance on the stabilisers and optional extending stick.

Operator comfort is enhanced by a new cab interior that offers reduced sound levels, an air suspension seat, an improved heating and ventilating system, pilot operated stabiliser controls and easy-to-read, white face gauges.

D-Series Backhoe Loaders

Number of models	7 (5 side-shift)
Rated power	55 to 70 kW
Loader bucket capacity	1.0 to 1.03 m^3
Backhoe dig depth	4.85 metres
Operating weight	7.5 to 7.8 tonnes

Diesel Engines For New Emissions Challenges

Caterpillar is meeting the forthcoming emissions regulations with a new range of electronically controlled engines. These engines offer increased performance, while having reduced noise levels and the lowest emissions levels ever.

Governments on both sides of the Atlantic are committed to reducing the effects of man-made air pollutants.

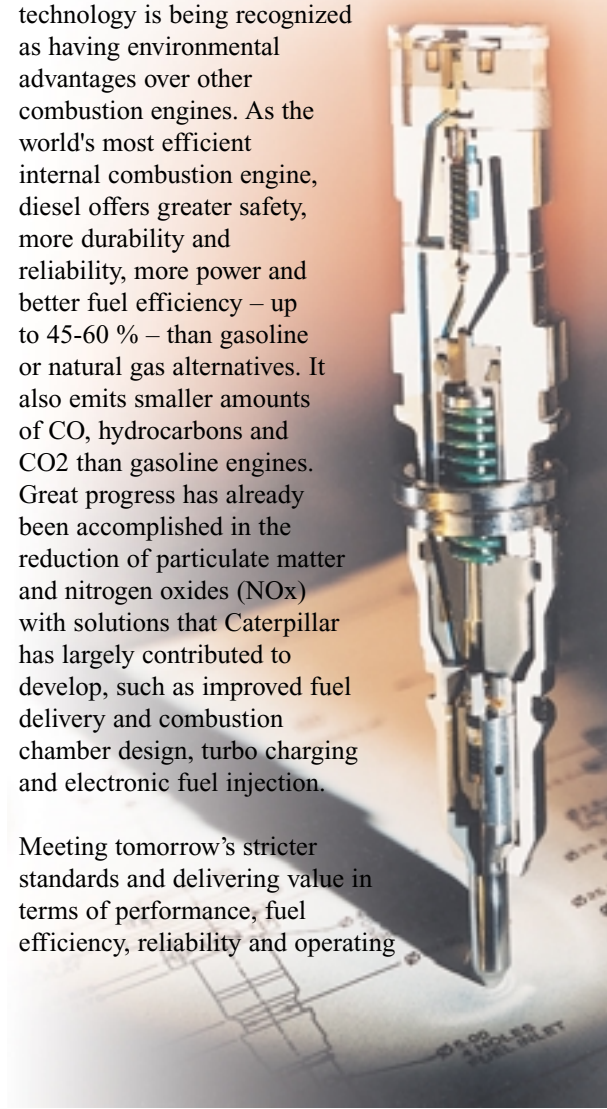
Today, climate change and air quality are two major concerns. Governments on both sides of the Atlantic are committed to reducing the effects of man-made air pollutants. More stringent standards are being put in place to limit emissions of noxious gases and particulates released by industries and combustion engines. The aim is to reduce carbon dioxide emissions and greenhouse gases to 1990 levels.

To support this goal, the US Environmental Protection Agency (EPA), the California Air Resources Board (CARB) and the European Commission have enacted similar standards that have led to a staged introduction of emissions regulations. In Europe, Stage I began in 1999, Stage II in 2001. By 2004, all new off-highway equipment from 18 to 560 kW sold into the European Union must conform to Stage II emissions regulations.

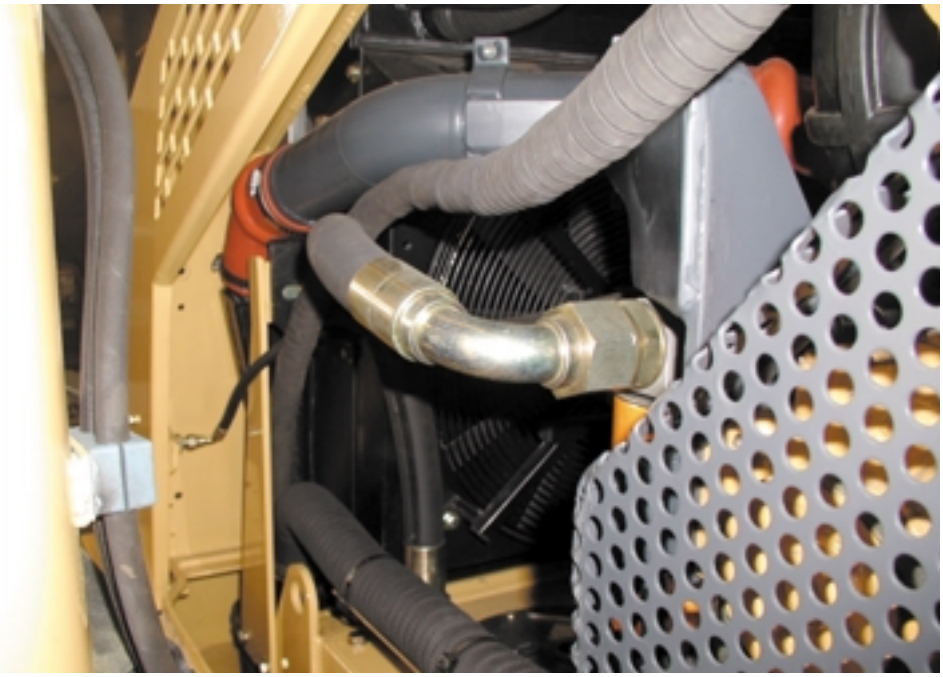
Stage II standards set unprecedented engine emission limits. Technological changes brought about by these new standards represent the most important development in industrial diesel engines for many years.

Diesel is ubiquitous and plays a vital role in a wide range of activities of critical importance to the economy. The challenge for construction equipment and engine manufacturers is to maintain and improve power and performance levels of diesel engines whilst achieving the lower emissions standards. The greatest step for significant advances in fuel economy and emissions reduction is the use of next-generation "clean diesel engines".

Increasingly, the latest diesel technology is being recognized as having environmental advantages over other combustion engines. As the world's most efficient internal combustion engine, diesel offers greater safety, more durability and reliability, more power and better fuel efficiency – up to 45-60 % – than gasoline or natural gas alternatives. It also emits smaller amounts of CO, hydrocarbons and CO2 than gasoline engines. Great progress has already been accomplished in the reduction of particulate matter and nitrogen oxides (NOx) with solutions that Caterpillar has largely contributed to develop, such as improved fuel delivery and combustion chamber design, turbo charging and electronic fuel injection.



Meeting tomorrow's stricter standards and delivering value in terms of performance, fuel efficiency, reliability and operating



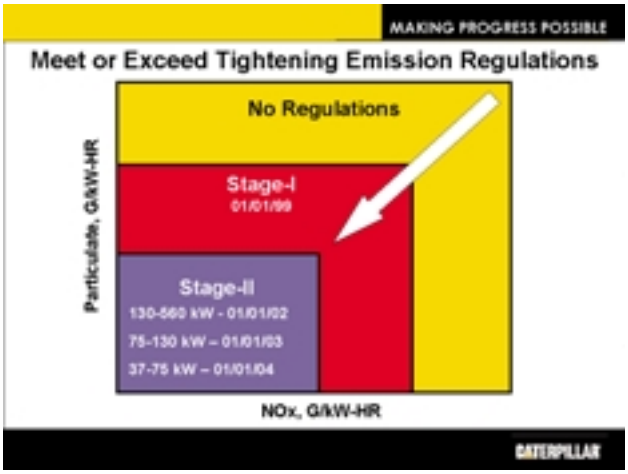
cost will be best achieved with advanced electronic engine controls technology. For its part, Caterpillar has spent over $250m to develop electronic engines for non-road equipment that are compliant with both European and US emission standards. This major investment is recouped by Caterpillar's important participation in the on-road market, where equivalent regulations are being enforced.

Electronics built into Caterpillar's new diesel engines are the core component of an unprecedented system solution for our customers. Caterpillar supports electronics because they represent a long-term solution. With electronics, Caterpillar engines provide maximum value to customers with such features as integrated power management, improved fuel efficiency, easier maintenance and reduced associated costs.

To date, Caterpillar has developed two major innovations for its electronically controlled engines: Electronically-controlled Unit Injectors (EUI) and the Electronic Control Module (ECM) that improve engine performance and efficiency. Caterpillar has also pioneered the use of air-to-air after-cooling, resulting in significantly reduced NOx emissions.

The output and performance of new Caterpillar engines has increased. Yet, these engines have reduced noise levels and the lowest emissions levels ever. Their advanced electronic systems have been designed to meet worldwide emission requirements through 2004, and beyond – with the introduction of the new ACERT technology.

Caterpillar has developed two major innovations for its electronically-controlled engines



New Loaders Feature Emissions-Compliant Electronic Engines

The 950G Series II through to the 980G Series II are all powered by new electronically controlled diesel engines that meet the EU Stage II emissions regulations.
The new emissions compliant engines feature high-pressure unit injection fuel systems, air-to-air aftercooling and an advanced electronic engine management system. This provides levels of performance, reliability, fuel economy and operating flexibility well beyond the capabilities of traditional mechanically controlled engines.
One example of the benefits of electronic engine management is the facility to integrate all engine/transmission controls, for maximum system efficiency and increased protection from operator abuse. Serviceability is also improved by the use of advanced troubleshooting and diagnostics, and a filter/oil change interval that has been doubled to 500-hours.

The five new 134 to 231 kW class wheel loaders feature an improved cooling system and an uprated cab. Cab enhancements include a wider front windscreen, a new seat, an improved air conditioning system and a new instrument panel with the latest EMS III electronic monitoring system that features an easier to read display and indicator lights. Functionality is also improved on machines with the optional electro-hydraulic implement controls, for increased operator comfort and efficiency.

New 45 Tonne Excavator

The 345B Series II offers a number of new design features to increase productivity, fuel and operator efficiency. These include: 10 percent more horsepower from the Stage II emissions-compliant Cat 3176C engine; a boom lowering control device that ensures more precise and smoother control of the boom in lifting applications; and the Cat exclusive Smart BoomTM.
The Smart Boom allows the 45/50 tonne class excavator's boom to go down under its own weight, simultaneously increasing the pump flow to other machine functions. This provides superior operator comfort, reduced cycle times and enhanced fuel efficiency in most applications including truck loading, rock-scraping and hammer work.

Caterpillar Supports Minerals 2002

Minerals are an essential part of today's society. In fact, almost everything that is built, manufactured or grown is produced with the aid of minerals. Everything from the bricks in our homes, to the cars that we drive and the crops we eat.

The importance of minerals is, nevertheless, often overlooked by the public and governments when it comes to the siting of a new quarry or mine.

It is with this in mind that the recently formed European Minerals Foundation has set out to put the record straight. The foundation's objective is to show how minerals enhance the lives of the 650 million people that live in Europe.

Known as Minerals 2002, the Europe-wide initiative aims to build on the success of a similar UK-based event in 1998 that attracted around 100,000 people to a year-long program of conferences, special events and quarry open days.

Having been launched at the Hillhead 2001 Quarry and Recycling exhibition in June, the Minerals 2002 program is now being rolled out across the UK, Ireland, France, Germany, Spain and Scandinavia. Associations in other countries are also being approached.

The initiative has also attracted the support of Caterpillar that has announced its participation as the principal sponsor.

Speaking at the launch of Minerals 2002, Minerals 2002 chairman John Mortimer welcomed Caterpillar's decision to back the initiative. He also said that explaining what it does and why it does it is essential to the future success of the European minerals industry.

This observation was echoed by Caterpillar's Quarry and Aggregates Industry manager Jim Hawkins.

"The European minerals industry has a vital role to play in achieving sustainable development," said Hawkins. "Everyone uses minerals and yet often they do not make the link to the mines and quarries where they are produced. Explaining the positive role of the industry will be a core objective of this initiative and we are pleased to be associated with it."

minerals 2002
making more of life

New Loader Demonstrates Productivity Advantage

An independent production study has shown that the 988G is more productive and efficient than the earlier 988F Series II in typical loading and hauling applications.

First seen at MinExpo 2000, the 988G is Caterpillar's all-new wheel loader in the 335 to 373 kW class.

Larger and more powerful than the 988F Series II, it is designed for production loading and bulk materials handling duties where users are looking for the lowest cost per tonne. This is achieved with a machine that offers many innovative design features that result in: increased performance and efficiency; improved reliability and durability; and new levels of operator comfort and serviceability.

The 988G is designed for production loading and bulk materials handling

Design features like the boom-style loader linkage that has three times the torsional strength of the parallel linkage layout, while offering an increased dump clearance, higher digging and lift forces, and improved visibility to the corners of the bucket.

Then there are the electronically controlled engine, transmission and hydraulic system that increase the 988G's fuel efficiency by up to 15 percent over the 988F Series II; and the spacious new cab with its electro-hydraulic loader controls and the now familiar STIC control system that combines all the transmission and steering functions into one joystick-type lever, eliminating the need for a steering wheel.

These design features have proved popular with the first 988G customers with the earliest machines having already recorded over 8,000 hours in tough quarry applications. They also attracted the interest of the UK construction magazine Building Trade and Industry that invited Caterpillar to put the machine through a BTI site test.

This involved BTI testing the 988G in a series of typical quarry applications at the Cat proving ground in Tucson, Arizona.

The test program enabled BTI to measure the

50 tonne machine's productivity in both face and stockpile loading applications where it was expected to load 38/40-tonne-payload Cat® 769D and 771D off-highway trucks.

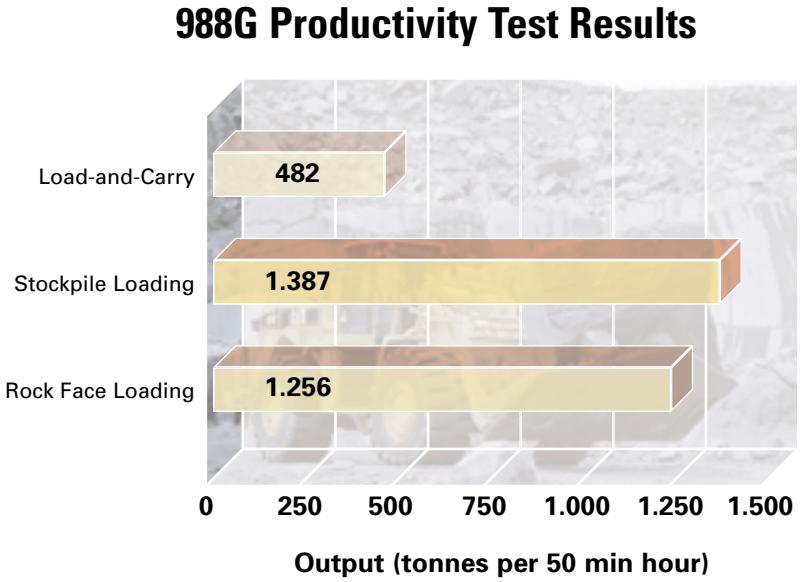
A third test provided figures for load-and-carry operation where the loader was working over a one-way haul distance of 71 metres with an adverse gradient of 3 to 4 percent. This increased to 14 percent over the last 15 metres as the loader approached the trucks that were sited to represent a crusher hopper.

The 988G was equipped for the tests with a 6.4 m3 quarry bucket and operated by an experienced Cat demonstrator. A productivity reference point was provided in the shape of a Cat 988F Series II equipped with a 6.3 m3 rock bucket.

Accurate measurements of the two machines' productivity and fuel economy were ensured by the use of auxiliary fuel tanks and on-site weigh scales to calculate the amount of material moved. BTI worked all the production figures back to a 50-minute hour to simulate the conditions of a typical quarry application where time would be needed for spotting the trucks and cleaning the quarry floor.

The BTI test report showed that when the two loaders performed the face-loading test the 988G's extra power and higher breakout forces really showed through with the new machine able to get a far more impressive bucket fill factor. This resulted in the 988G being 17 percent more productive and using eight percent less fuel than the 988F Series II, giving the new machine an efficiency advantage of 36 percent more tonnes per litre of fuel.

With the machine's hydraulic system switched to its loose material mode, the 988G was five



The 988G was equipped for the tests with a 6.4m3 quarry bucket

Continue on next page ⟶

The 988G bristles with new technology that makes it more productive and efficient than its predecessor

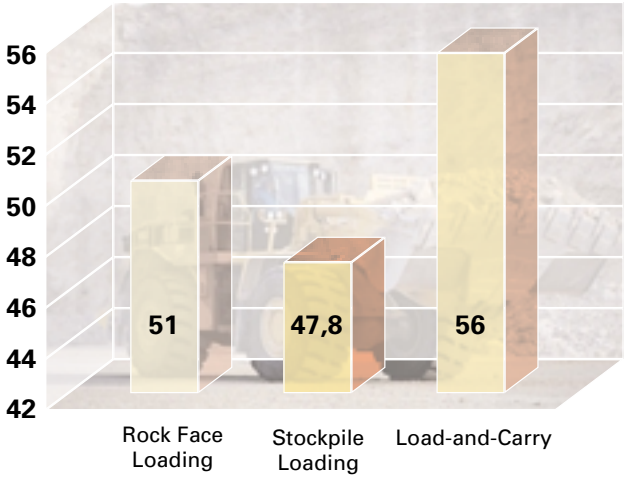
percent more productive than the 988F Series II in the stockpile loading test and eight percent more productive in the load-and-carry test. When these figures were combined with the two machines' fuel consumption in the two tests, it resulted in a 23 percent fuel efficiency advantage for the 988G in the stockpile loading test and a 14 percent advantage in the load-and-carry test.

So what does all this mean for customers that are looking for a new 6.0 to 7.0 m3 class wheel loader. "Quite a lot," according to BTI editor Dan Gilkes.

"The 988F Series II was a competitive machine, but the 988G offers quarry owners a lower cost per tonne in typical loading and hauling applications," says Gilkes.

"The 988G bristles with new technology that makes it more productive and efficient than its predecessor. It is also easier to operate and cheaper to maintain. You can't ask for more than that."

988G Fuel Consumption Test Results



Redefining Clean Power

ACERT will greatly benefit Caterpillar's commercial engine customers

While some engine manufactures strive to meet the requirements of the Tier 2/Stage II emissions regulations for diesel engines, Caterpillar has turned its attention to meeting the even more exacting Tier 3 standards.
This dedication to safeguarding the environment has delivered a significant breakthrough in emissions technology that will allow Cat engines to meet Tier 3 and anticipated Stage III regulations without cooled exhaust gas recirculation (EGR) systems.
Technical details of the new ACERT (Advanced Combustion Emissions Reduction Technology) system have not been disclosed. But Caterpillar explains that it combines advanced combustion technology, next-generation fuel systems, advanced integrated controls and after treatment to improve on the excellent emissions standards of Caterpillar engines.
By controlling emissions through the improvement of engine combustion performance, Caterpillar also succeeds in reducing noise emissions. ACERT also improves engine performance and has the capacity to eliminate exhaust odour without affecting engine reliability and durability. Of particular interest to Original Equipment Manufacturer customers will be the minimal amount of change required in application engineering when switching to ACERT-equipped engines to comply with Tier-3 / anticipated Stage-III regulations.
"ACERT offers an optimal emissions solution to our European engine customers and global engine market," says Roberto Dionisio, Power Systems manager for Caterpillar SARL (Europe, Africa and the Middle East).
According to Dionisio, the simplicity of the installation will greatly benefits Caterpillar's commercial engine customers, while offering a smooth and rapid transition to comply with the next generation of emission regulations.
"The ACERT system leverages Caterpillar's expertise in the latest engine design technology, next generation fuel system technology, and integrated electronic control systems. Since ACERT-equipped engines have significantly fewer components than EGR-based engines, the new hardware requirements for our industrial customers are minimized during the transition to Tier-3 and anticipated Stage-III compliant engines."

Rising to the Challenge

A Challenger 55 tractor has provided an innovative solution for a Belgian soil stabilisation project,

The versatility of the Caterpillar track-mounted Challenger tractor has seen it work in many diverse applications from agriculture to construction. But a specialist Belgian contractor is using a 168 kW Challenger 55 in an innovative and possibly unique application: soil stabilisation.

The family-owned Cloet company from Pittem, Flanders specialises in soil stabilisation using lime or cement to provide a firm, stable base for earthworks and construction projects. "Traditionally, wet ground conditions can hamper the progress of earthmoving work," explains Daniel Cloet. "By treating the soil with lime and cement, we can ensure that work can continue in very poor weather conditions, without the need for large quantities of imported fill material."

Soil stabilisation in such poor ground conditions requires a very special machine, according to Cloet; a machine that is powerful, manoeuvrable and, above all, with low ground pressure characteristics. "We use the Challenger 55 to tow a heavy milling machine with a 2.5 metre wide rotor that treats the soil to a depth of up to 500 mm," Cloet explains.

Cloet believes that the pulling power of the tractor combined with a ground bearing pressure of just 300 gr/cm2, makes it ideally suited to this application. "In the past, we have used a traditional tractor but that had to use half its engine power simply to move across a muddy site," Cloet continues. "The high tractive force of the Challenger 55 means there is more power available to mill and mix the soil for greater productivity."

Cat Materials Handler Improves Port Efficiency

The 345B has a maximum reach of 16 metres and a lifting capacity of 4.1 tonnes

A 345B excavator is helping a Norwegian shipping company to shorten its loading and unloading times.

Shipping companies like Norway's Rolf Wagle only earn money when their ships are at sea. When the ships are in port, the company is effectively losing revenue.

For this reason, the company recently purchased a new Cat 345B Material Handler from local dealer Pay & Brinck. Equipped with a clamshell bucket and a logging grapple, the machine is shortening loading and unloading times on the company's largest ship, the 4,500 tonne "Liv" that transports timber and wood chips between Tallin in Estonia and the Borregards timber yard at Sarpsborg, Norway.

The Material Handler is based on a Caterpillar 345B hydraulic excavator but incorporates many unique features that make it ideally suited to materials handling and long reach duties. It has a maximum reach of 16.0 metres and a lifting capacity of 4.1 tonnes on a straight linkage. This configuration, combined with the 1.5 m2 logging grapple and 4.5 m3 capacity clamshell allows the Cat 345B MH to unload the Liv at a rate of around 350 m3 per hour. Other important features of the machine include an under-mounted stick cylinder for greater lift capacity; reinforced upper structure; air conditioning; and automatic lubrication and corrosion resistant fluids to protect it from the effects of seawater.

The machine will be expected to clock up more than 2,200 hours per year and has already proved a highly productive solution to Ralf Wagle's needs. "The productivity of the Cat 345B MH is limited only by the timber processing capacity in the harbour," the company reports.

Getting to the Next

There are many important points to consider when you are preparing to transport equipment between jobs. Caterpillar Magazine provides a list of simple guidelines that will help make the job as simple and efficient as possible

Increasingly stringent safety and transport regulations impose tight controls on movements of equipment

The efficient transport of construction machines between job sites is an integral part of every equipment owner and operator's work duties. But there is more to equipment transportation than merely ensuring that the right machine arrives at the right time. Increasingly stringent safety and transport regulations impose tight controls on movements of equipment. And with the increase in cross-border working, a clear understanding of different countries' legislation is often essential. While it would be impractical to produce an exhaustive list of all the regulations in force across Europe, Africa and the Middle East, we offer the following guidance.

The first step is to measure the width and height of the machine to be transported. Your local road haulage association or police force will be able to advise you on local regulations governing width restrictions on your chosen route. A critical step is to measure the machine's height, particularly if you will be travelling under bridges and overpasses. Generally, keep the overall height from the ground to the highest point of the machine below 4.0 metres. Removal of exhaust stack or ROPS may be required to stay below this height.

When loading the machine onto a low loader or trailer, wear a hard hat, gloves, safety glasses and proper footwear. Most importantly, wear your seat belt. If something goes wrong, this will keep you on the machine, the safest place to be. The following tips will help ensure personal safety:

- Make sure the trailer or low loader is on level, firm ground before loading.
- Check all brake and light connections
- Ensure the trailer or low loader can handle the machine weight and check safety chains at the hitch.
- Remove loose objects such as wood blocks from the trailer bed. Likewise, clean rocks and debris from the machine.
- Balance the machine's weight evenly across all axles for optimum stability. Use a "spotter" to assist with proper placement.
- After balancing the machine on the trailer, lower all implements, lock the controls and apply the parking brake. As always, use three points of contact

Job Site

when getting off the machine.
- Tape over the exhaust stack port to prevent possible damage to the turbo.

Equally important in the safe transportation of equipment is the way a machine is fixed to the trailer. Your machine's Operation and Maintenance Manual will identify the proper tie-down locations. The number of chains required will vary with each machine but Caterpillar recommends the use of one 9.5 mm grade seven chain for every 3,855 kg of machine weight.

As you tie down the machine, ensure that chains do not come into contact with hydraulic or electric lines, suspension components or any other items that might be damaged. For optimum chain strength and to prevent unnecessary wear, a chain should be straight and not wrapped around itself.
An oversize long or wide load will require both front and rear signs and will almost certainly require special permits and, in extreme cases, a police escort.

For more details of proper chaining techniques please consult the Caterpillar Prime Product Handling Guide (TIR 89-G2), available from your local dealer.

Equally important is the way a machine is fixed to the trailer.

The Emissions Mission

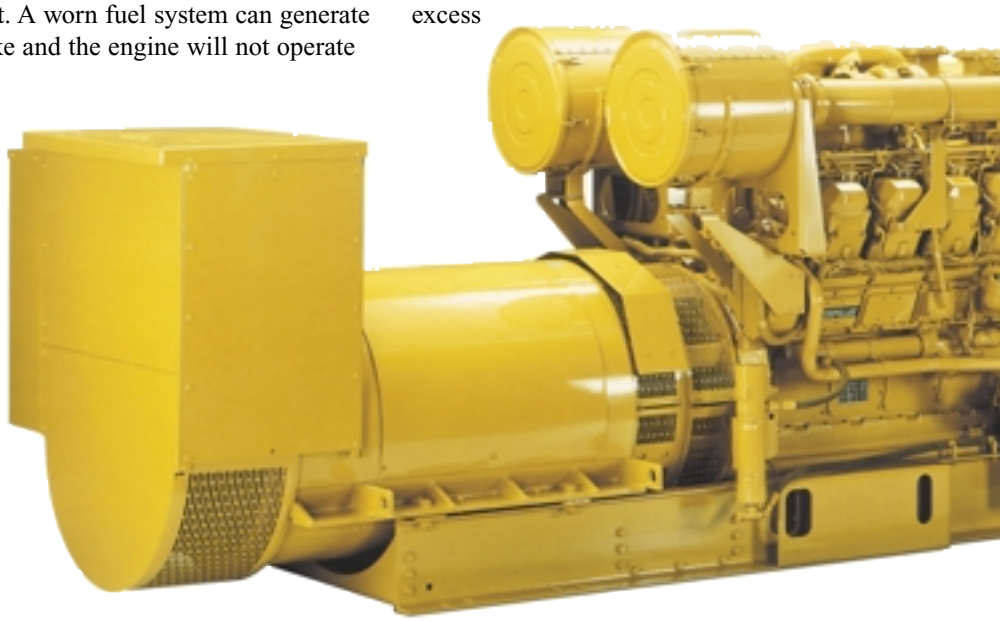
Good management is essential your want your machines' engines to keep operating at the lowest possible emissions.

Operating your engine on lower sulphur fuel will extend the engine life, extend the oil change interval and benefit the environment

In previous editions, we have explored the many ways in which Caterpillar is striving to meet and exceed the increasingly stringent engine emissions regulations being enacted throughout the world. But it is equally important for you, the equipment user, to understand the role you can play in keeping your engines operating at the lowest possible emissions.

Particulates are the biggest single contaminant problem in your engine's fuel system and should be tackled with an efficient filter. Caterpillar recommends a two-micron fuel filter to ensure maximum protection from smaller contaminants that can cause damage with today's tighter engine tolerances. For further protection, you should avoid pouring fuel into the fuel filter element when installing a filter; and keep all filters in their packaging until they are needed to limit the ingress of dust and dirt. A worn fuel system can generate excess smoke and the engine will not operate at peak efficiency.

Off-highway fuel regulations require that the fuel contain no more than 0.5 percent sulfur. Many off-highway fuel suppliers provide fuel similar to on-highway fuel, or 0.05 percent sulfur. Operating your engine on lower sulfur fuel will extend the engine life, extend the oil change interval and benefit the environment by reducing the sulfur in the air. We all know that water is corrosive. Excessive water in your fuel can lead to pump damage in fuel systems that use fuel oil to lubricate the pump. Water can find its way into your fuel system either during shipment or as a result of condensation during storage. To avoid this, fuel should be purchased from a reputable source; and fuel/water separators should be used whenever possible. As a further tip, fuel tanks should be filled at the end of each day to minimise condensation. Corrosion of the fuel system can generate excess



smoke and the engine will not operate at peak efficiency.

To further reduce engine emissions, it important to understand the types of emissions a diesel engine can produce and the role that parts wear plays in emissions and, ultimately, engine performance.

Diesel engines produce emissions that include oxides of nitrogen (NOx) and hydrocarbons (HC), both of which contribute to the destruction of the Earth's ozone layer; carbon monoxide (CO); sulphur dioxide (SO2); particulate matter (PM); and smoke. Your engine is designed to meet the regulations for each of these emissions, both when the engine is new and during the useful life. Eventually, engine wear will result in reduced engine efficiency and increased emissions. Increased oil consumption is usually the first sign of engine wear. You should monitor your turbocharger seals and check for blowby to make sure your piston rings are in good condition.

There are many other steps you can take to help control engine emissions, many of which can be found in your owner's instructions. Most important among these is to practice good maintenance procedures; and use good operations practices like warming the engine before putting it under a load.

Caterpillar engine design improvements such as electronic controls and unit injected fuel systems have reduced emissions greatly. But the way you maintain and operate your engines will have an equally big impact on emissions and will have the added benefit of making your engine run longer and more efficiently."

To further reduce engine emissions, it is important to know the types of emissions a diesel engine can produce

CSAs Provide Adaptable Support Package

Somebody then has to accept responsibility for keeping the equipment serviced and maintained.

The world has changed a lot since Robert Brett started his fledgling haulage and road maintenance business in Kent, south-east England, at the beginning of the last century. The basic factors affecting the purchase and operation of construction machines are nevertheless the same today as they were back in 1909 when the company, now known as the Brett Group, purchased its first steam-powered wagons and excavators.

"You must first ensure that you buy the right equipment at the right price," says the Brett Group's chief buyer Colin Smith. "Somebody then has to accept responsibility for keeping the equipment serviced and maintained. "Otherwise it will be less productive, less reliable and more costly to own. The equipment will also have a lower residual value when the time comes for it to be replaced."

Smith also believes that the advanced design features of today's construction machines make it increasingly impractical for companies like the Brett Group to look after their own maintenance. "The machines are generally more reliable and much easier to service and maintain, but the tooling and specialist knowledge that is needed makes it difficult to justify having your own workshops and engineers."

The Brett Group has, therefore, turned to its equipment suppliers for the all-important support services needed to keep its large fleet of trucks, wheel loaders and excavators correctly maintained.

Smith reports that the most recent example of the company's new approach to equipment maintenance was its purchase of eight new Cat® machines, including a 322B Excavator and seven Wheel Loaders, from a 938G to a 980G. These machines, which have gone to work in the company's quarries, landfill sites, concrete and aggregates plants, are all covered by a Customer Service Agreement (CSA) supplied by the local Cat dealer.

"Finning (UK) Ltd. provides a complete support package, which can be tailored to our specific operational requirements," says Smith. "This gives us the flexibility we need, while allowing us to focus on what we do best."

Colin Smith of the Brett Group (right) with Finning (UK) Ltd's Customer Service Salesman Bob Willmore

Graders Pass Major Milestone

The H-Series builds on the proven reputation for performance and reliability established by the earlier G-Series

In June this year, French Caterpillar dealer Bergerat Monnoyeur sold the 20,000th Cat H-Series motor grader. This milestone was achieved with the delivery of a 138 kW Cat 140H to GTM Construction in Marseilles, one of the largest contractors in France and a long-time advocate of Caterpillar motor graders.

The H-Series comprises 10 models including two with all-wheel drive and has been available since 1998. In that time they have been sold across the globe, providing high performance in applications as diverse haul road maintenance on construction and mining sites, the construction and maintenance of dirt roads in developing countries and snow clearance.

Manufactured at Caterpillar's Piracicaba, Brazil and Decatur Illinois plants, the H-Series machines incorporate improved hydraulics, efficient direct drive and an Engine Power Management (EPM) system that helps reduce tyre wear and fuel consumption.

The H-Series machines build on the proven reputation for performance and reliability established by the earlier G-Series units launched by Caterpillar in 1973. Together, almost 100,000 machines from these families have been sold in the past 28 years, confirming Caterpillar's position as a world leader in motor graders.

Caterpillar's involvement in this industry sector stretches back to the turn of the last century with the Holt self-propelled motor grader built in 1906. Rigid frame motor graders became an integral part of the Caterpillar product line in 1931 with the introduction of the Cat Auto Patrol.

These machines clearly carried the Caterpillar stamp of reliability and durability. A 1937 Auto Patrol grader is still being used on a daily basis by Gordon Cornish in Klekdorp, South Africa, more than 64 years since it rolled off the Caterpillar production line. The big question is then, where in the world will GTM's 2001 vintage Cat 140H be working and who will it be at its controls in 65 years time.